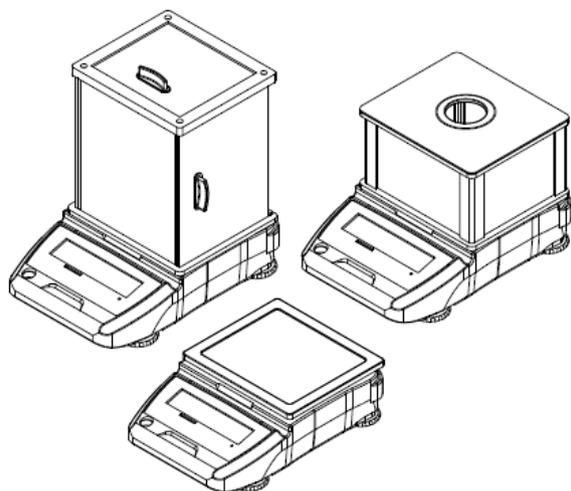


# User's Manual

DN/EC Series



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Precision Balance

Thanks for you buy our  
company's product!  
Please read this user's  
manual before you use !

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# Purpose

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DN/EC Series electronic balance ensure the accuracy and reliability of the weighing results.

- Appearance style hale, fashion and brief, sporty powerful;
- Scale pan is made of high quality stainless steel 304, simply and fluency;
- Large screen LCD display, backlight is soft and easy to read;
- Stable and good repeatability
- Sturdy structure

DN/EC Series electronic balance: fast response, easy to operate, greatly simplifying and accelerating the conventional weighing process.

Additional function:

- Weighing unit conversion
- Counting
- % Weighing
- Solid density

# Warning and safe instructions

## Safety precautions

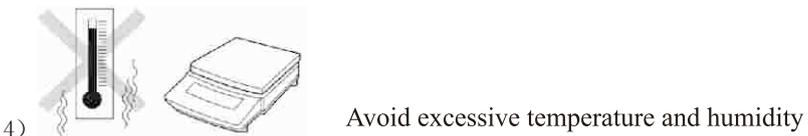
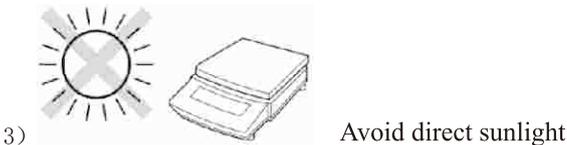
Please read this manual before use the balance to avoid unnecessary damage.

- Verify that the AC Adapter input voltage matches the local AC power supply
- Install and dismantle the balance, need to cut off the power
- Using the balance only in correct environment , work temperature 10°C -40°C
- Avoid strong wind and vibration
- Don't operate the balance in harmful environment
- Don't drop object to the scale
- Don't inversion the balance by tray or supporting
- Service should be performed only by authorized personnel
- Before using the balance, should warm-up 20-30 minutes

Please don't open the shell of balance, otherwise the manufacturer will not provide the warranty service.

## Avoid installing and using occasion

Assure that the stability and reliability, Please to avoid follow occasion:



# Prepare

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## Warranty service

Please fill out the warranty card and return to company, then can enjoy a one-year warranty service, Otherwise it will be gave up by yourself.

## Storage and transportation conditions

Don't place the instrument in an environment where the temperature is too high or too low, easy to crash, violent vibration, humidity and airflow.

## Open-package

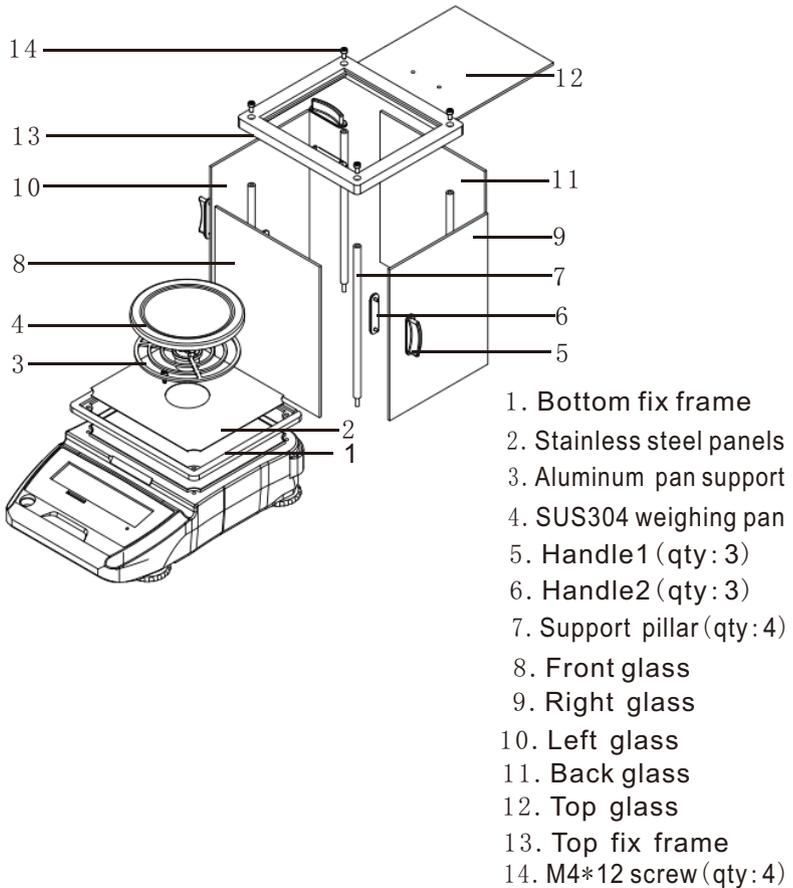
- After unpacking, check the appearance of the instrument immediately, to find if there is any damages caused during transport by improper handling.
- If it was found damaged, please contact the factory in time.

## Packing list

- Balance
- SUS304 weighing pan
- Aluminum pan support
- Plastic windshield' s support and glass(only for DNB, DND,DNE,ECA,ECB model)
- Mass weight (Optional)
- Power adapter
- User' s manual
- Warranty card and certificate

# Install

## DNA series precision balance(with glass windshield)

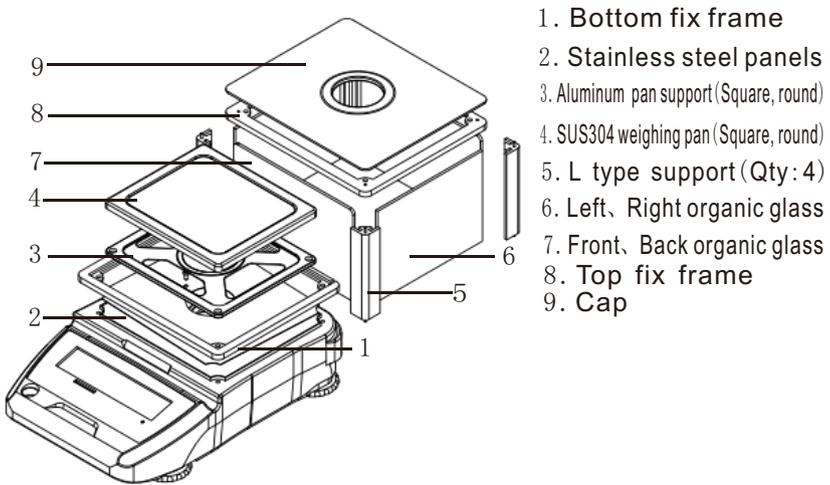


To install the glass windshield of balance, following parts in sequence:

- ① Aluminum pan support
- ② M4\*10 screw (qty: 2)
- ③ SUS304 weighing pan
- ④ Glass windshield(view the paper of installation diagram)

# Install

## DNB,DND,ECA,ECB series balance(plastic windshield)

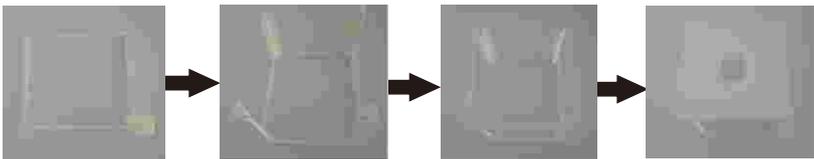


To install the plastic windshield of balance, following parts in sequence:

- ① Aluminum pan support ( Square, round)
- ② M4\*10 or M4\*20 screw (Qty: 2)
- ③ SUS304 weighing pan ( Square, round)
- ④ Plastic windshield

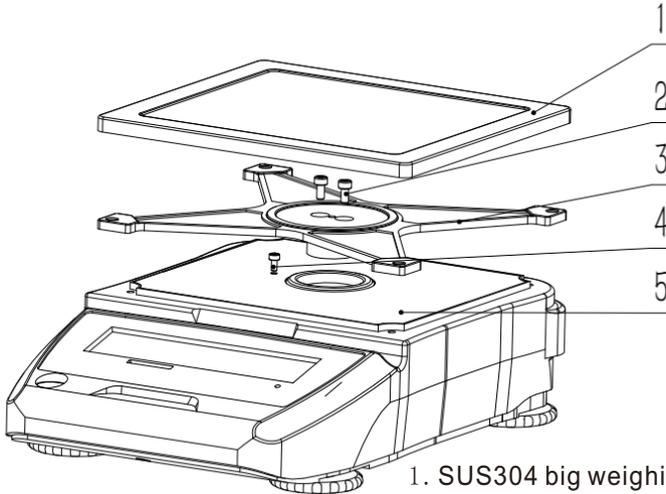
Install process of plastic windshield :

- ① Install L type support
- ② Install organic glass into the groove
- ③ Press the top fix frame
- ④ Put down the cap



# Install

## DNC,ECC series balance



1. SUS304 big weighing pan
2. M4\*20 screw (Qty: 2)
3. Aluminum pan support
4. M3\*12 screw (Qty:1)
5. Stainless steel panels

To install the balance, following parts in sequence:

- ① Aluminum pan support
- ② M4\*20 screw (Qty: 2)
- ③ SUS304 big weighing pan

## Adjust level

Level the balance on a stable desk. When the bubble is in the center of the circle, balance is leveled.

## Connect to power

Please use our company power adapter.  
Power adapter one end is connected to balance, the other end to AC base.

# Operation panel and keyboard functions definition

## Operation panel introduction



## Keyboard definition

Key	Operation	Function description
	Short press	In the mode of PCS/%/‰ / BG to operate
	Long press 3s	Initiates Span Calibration by long press 3s
	Short press	Tare the weighing
	Short press	Turns balance on/off,
	Short press	sets display to zero
	Short press	Steps through active units and modes
	Short press	Sends data

## Powerboot

Short press  on/off switch, LCD、EL、LED all light,

Screen display about 1.5s, as follow: , Then screen display from 9999999 to 1111111, with beeper, need on 600ms, Off 400ms, then display “version”, “model”, finally LCD show: 

## Time setting

1) On the opening state, press  3sec, enter the user setting, LCD display:

rtc-5Et (RTC-SET), then display “year 00”, press  set Years, press  change digital position to set years, press  confirm;

2) LCD jump to set Months, display “mon 00”, press set months, press  change digital position to set months, press  confirm;

3) LCD jump to set Days, display “day 00”, press  set days, press  change digital position to set days, press  confirm;

4) LCD jump to set hours, display “hour 00”, press  set hours, press  change digital position to set hours, press  confirm;

5) LCD jump to set minutes, display “min 00”, press  set minutes, press  change digital position to set minutes, press  confirm, finish the time setting.

## Initial calibration

To assure the balance accuracy, The first time to using the balance, must to do calibration, This product calibration with external, Before calibration, it need to adjust the balance level.

Calibration as follow:

1) Press  to open balance , firstly warm-up 20-30 minutes;

2) Calibration, press  3sec, LCD display “CAL 0”, waiting for a sign “-----”, then LCD display twinkling numerical data (Remark: press  can change different corresponding weights), At this time, put down the corresponding weight, then waiting for a sign again “-----”, then LCD display corresponding weight, when LCD display “0”, remove weight, LCD display 0, completed calibration.

## Unit setting

1) Started balance, long press  3sec, enter the user settings, LCD display “unit-5Et” (UNITSET), then LCD display “00”;

3) Then press  changing weighing unit, if confirm, press  to confirm. When changing weighing unit, can press  to close or open the unit, after setting the unit, press  to confirm.

# Basic weighing operation

## Unit detail

- |                                 |                         |
|---------------------------------|-------------------------|
| 1) g                            | 12) H.tl HONG KONG TAEI |
| 2) ct MET.CARAT                 | 13) S.tl SINGAPORE TAEI |
| 3) lb AVORIRDUPOIS POUND        | 14) t TOLA              |
| 4) oz AVORIRDUPOIS OUNCE        | 15) M Mesghai           |
| 5) ozt TROY OUNCE               | 16) cl Tical            |
| 6) dr AVOIRDUPOIS DRAM          | 17) PCS                 |
| 7) GN GRAIN                     | 18) %                   |
| 8) dwt PENNY WEIGHT             | 19) ‰                   |
| 9) mom MOMME                    | 20) B/G                 |
| 10) K.tl HONG KONG JEWELRY TAEI | 21) Kg                  |
| 11) T.tl TAEI (TWN)             |                         |

## Zero

No load on the balance, short press , LCD firstly display “” (ZERO), then display 0, Zero effect is inside of the maximum 4%

## Taring

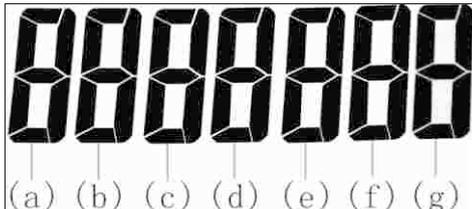
When there is a load on the balance, short press , LCD firstly display “” (TARE), then display 0, Have the full range taring function.

## Sample

1) On the opening state, At the mode of PCS, %, ‰ to sample, short press , LCD display “”, short press , chose numerical data, place specific objects, press , then load-off the objects, finish sampling.

## RS232 print setting

- 1) Connect RS232 to the adaptor, Analysis weighing data, through RS232 sending out. Press  3sec, enter the user settings, LCD display “” (rs—set), then LCD display  ;
- 2) Press  to set numerical data, press  to change the digital position. According to the definition about (a), (b), (c), (d), (e), (f), (g) to setting. after setting, press  to confirm.  
(a), (b), (c), (d), (e), (f), (g) definition:





# Technical instructions

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## Technical data

Working Temperature: 10°C-40°C

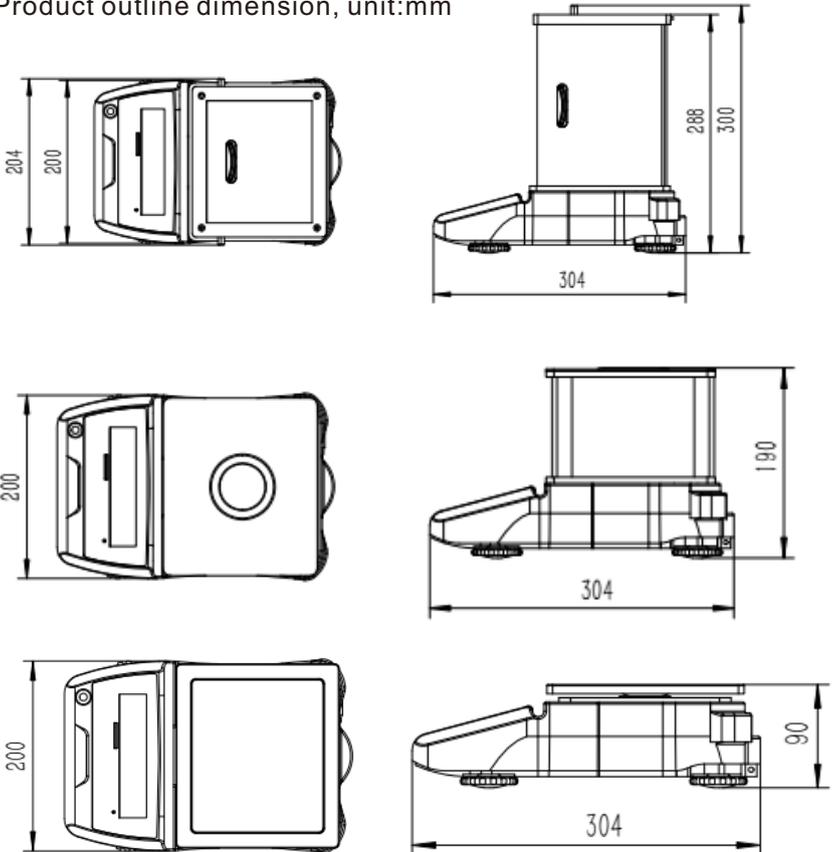
Working Voltage: DC12V

Working humidity range: 40%-85%

Adaptor data: Input: AC100-240V 50/60Hz 0.3A, Output: DC12V 1000mA

## Product dimension

Product outline dimension, unit:mm



# Technical instructions

## Specification

Item No.	DNA123	DNA223	DNA323	DNA523
Capacity (g)	120	220	320	520
Readability (g)	0.001			
Repeatability (g)	±0.001			
Linearity (g)	±0.002			
Working Temperature (°C)	10-40			
Working voltage	DC12V			
CAL	External calibration(weights option)			
RS232 connector	have			
Warm-up time (min)	20-30			
Frame Size(LxWxH) (mm)	304×204×300			
Packing Size(LxWxH) (mm)	400×310×220			
Pan Size (mm)	Ø115			
USB interface	Optional			
Gross weight (kg)	4.95			
Net weight (kg)	4.05			
Leveling	have			

Item No.	DNB322	DNB622	DNB1202	DNB2202	DNB3202
Capacity (g)	320	620	1200	2200	3200
Readability (g)	0.01				
Repeatability (g)	±0.01				
Linearity (g)	±0.02				
Working Temperature (°C)	10-40				
Working voltage	DC12V				
CAL	External calibration(weights option)				
RS232 connector	have				
Warm-up time (min)	20-30				
Frame Size(LxWxH) (mm)	304×204×300				
Packing Size(LxWxH) (mm)	400×310×170				
Pan Size (mm)	157×136×8				
USB interface	Optional				
Gross weight (kg)	3.75				
Net weight (kg)	3.05				
Leveling	have				

# Technical instructions

Item No.	DNC1202	DNC2202	DNC3202	DNC5202
Capacity (g)	1200	2200	3200	5200
Readability (g)	0.01			
Repeatability (g)	±0.01			
Linearity (g)	±0.02			
Working Temperature (°C)	10-40			
Working voltage	DC12V			
CAL	External calibration(weights option)			
RS232 connector	have			
Warm-up time (min)	20-30			
Frame Size (LxWxH) (mm)	304×200×90			
Packing Size (LxWxH) (mm)	400×310×170			
Pan Size (mm)	192×171×8			
USB interface	Optional			
Gross weight (kg)	3.55			
Net weight (kg)	2.85			
Leveling	have			

Item No.	DND322	DND422	DND522	DND622
Capacity (g)	320	420	520	620
Readability (g)	0.01			
Repeatability (g)	±0.01			
Linearity (g)	±0.02			
Working Temperature (°C)	10-40			
Working voltage	DC12V			
CAL	External calibration(weights option)			
RS232 connector	have			
Warm-up time (min)	20-30			
Frame Size (LxWxH) (mm)	304×200×190			
Packing Size (LxWxH) (mm)	400×310×170			
Pan Size (mm)	Ø115			
USB interface	Optional			
Gross weight (kg)	3.65			
Net weight (kg)	2.95			
Leveling	have			

# Technical instructions

Item No.	ECA322	ECA422	ECA522	ECA622
Capacity (g)	320	420	520	620
Readability (g)	0.01			
Repeatability (g)	±0.01			
Linearity (g)	±0.02			
Working Temperature (°C)	10-40			
Working voltage	DC12V			
CAL	External calibration(weights option)			
RS232 connector	have			
Warm-up time (min)	20-30			
Frame Size(LxWxH) (mm)	304×200×190			
Packing Size(LxWxH) (mm)	400×310×170			
Pan Size (mm)	Ø115			
USB interface	Optional			
Gross weight (kg)	3.15			
Net weight (kg)	2.45			
Leveling	have			

Item No.	ECB322	ECB422	ECB522	ECB622	ECB1202
Capacity (g)	320	420	520	620	1200
Readability (g)	0.01				
Repeatability (g)	±0.01				
Linearity (g)	±0.02				
Working Temperature (°C)	10-40				
Working voltage	DC12V				
CAL	External calibration(weights option)				
RS232 connector	have				
Warm-up time (min)	20-30				
Frame Size(LxWxH) (mm)	304×200×190				
Packing Size(LxWxH) (mm)	400×310×170				
Pan Size (mm)	157×136×8				
USB interface	Optional				
Gross weight (kg)	3.35				
Net weight (kg)	2.65				
Leveling	have				

# Technical instructions

Item No.	ECC1201	ECC2201	DNC3201	DNC6201
Capacity(g)	1200	2200	3200	6200
Readability(g)	0.1			
Repeatability(g)	± 0.1			
Linearity(g)	± 0.1			
Working Temperature(°C)	10-40			
Working voltage	DC12V			
CAL	External calibration(weights option)			
RS232 connector	have			
Warm-up time(min)	20-30			
Frame Size(LxWxH) (mm)	304×200×90			
Packing Size(LxWxH) (mm)	400×310×170			
Pan Size (mm)	192×171×8			
USB interface	Optional			
Gross weight (kg)	3.55			
Net weight (kg)	2.85			
Leveling	have			

## Unit conversion

No.	Unit	Symbol	Conversion(g)
1	gram	g	1
2	MET. CARAT	ct	0.1999694g
3	AVOIRDUPOIS POUND	lb	453.59237g
4	AVOIRDUPOIS OUNCE	oz	28.349523125g
5	TROY OUNCE	ozt	31.1034768g
6	AVOIRDUPOIS DRAM	dr	1.7718451g
7	GRAIN	GN	0.06479891g
8	PENNY WEIGHT	dwt	1.55517384g
9	MOMME	mom	3.749996g
10	HONG KONG JEWELRY TAEI	K. t.l	37.4290018g
11	TAIWAN TAEI	T. t.l	37.49995g
12	HONG KONG TAEI	H. t.l	37.799375g
13	SINGAPORE TAEI	S. t.l	37.799366256g
14	TOLA	t	11.6638038g
15	Mesghai	M	4.6083162g
16	Tical	c.l	16.3293g
17		kg	1000g
18		GSM	0.01g
19		PCS	
20		%	
21		‰	