Navigator™ Series Balances
Instruction Manual

Balanzas serie Navigator™
Manual de instrucciones

Balances de la série Navigator™
Manuel d'instructions

Bedienungsanleitung
für die Waagen der Navigator™-Serie

Bilance Serie Navigator™
Manuale per l'utente

1. INTRODUCTION

This manual contains installation, operation and maintenance instructions for the Navigator™ Series. Please read the manual completely before using the balance.

1.1 Definition of Signal Warnings and Symbols

WARNING	For a hazardous situation with medium risk, possibly resulting in injuries or death if not avoided.
CAUTION	For a hazardous situation with low risk, resulting in damage to the device or the property or in loss of data, or injuries if not avoided.
Attention	For important information about the product
Note	For useful information about the product
	General hazard
	Electrical shock hazard

1.2 Safety Precautions

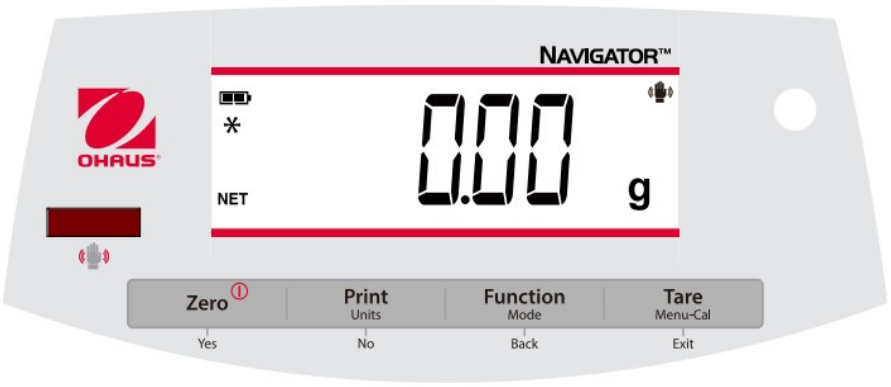
CAUTION: Read all safety warnings before installing, making connections, or servicing this equipment. Failure to comply with these warnings could result in personal injury and/or property damage. Retain all instructions for future reference.

- Verify that the AC adapter's input voltage range and plug type are compatible with the local AC mains power supply.
- Position the instrument such that the AC adapter can be easily disconnected from the wall socket.
- Position the power cord so that it does not pose a potential obstacle or tripping hazard.
- Operate the equipment only under ambient conditions specified in these instructions.
- The equipment is for indoor use only.
- Do not operate the equipment in hazardous or explosive environments.
- Only use the equipment in dry locations.
- Only use approved accessories and peripherals.
- Disconnect the equipment from the power supply when cleaning.
- Service should only be performed by authorized personnel.

1.3 Intended Use

Use the instrument exclusively for weighing as described in the operating instructions. Any other type of use and operation beyond the limits of technical specifications without written consent from OHAUS, is considered as not intended. This instrument complies with current industry standards and the recognized safety regulations; however, it can constitute a hazard in use. If the instrument is not used according to these operating instructions, the intended protection of the instrument may be compromised and OHAUS assumes no liability.

1.4 Controls



Button	Functions
Zero ⓘ **Yes**	Short Press (when on): Sets display to zero (when off): Turns balance on Long Press (when on): Turns the balance off Short Press (in Menu): Selects/accepts displayed setting
Print **Units** **No**	Short Press: See Interface Manual for operation description. Long Press: Toggles through active units Short Press (in Menu): Toggles through available settings
Function **Mode** **Back**	Short Press: Selects function setting Long Press: Selects active Mode Short Press (in Menu): returns to previous settings
Tare **Menu-Cal** **Exit**	Short Press: Enter / clear a Tare value Long Press: Enters User Menu Short Press (in Menu): Quickly exit User Menu
IR Sensor *	IR Sensors can be programmed to act as a “touchless” button. See the User Menu section 4.3 for the available settings.

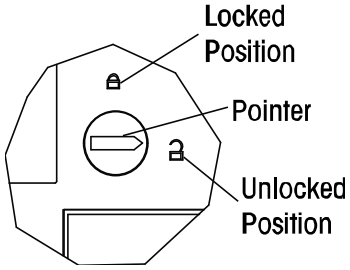
The IR Sensors can be activated by a hand or other object that is placed about 12mm (½ inch) above the sensor location. The sensor activation distance will vary based on the reflective nature of the object. If unwanted activations occur due to unique situations the sensor can be turned off.

*Availability of IR Sensor is dependent on model and region.

2. INSTALLATION

2.1 Transportation Lock

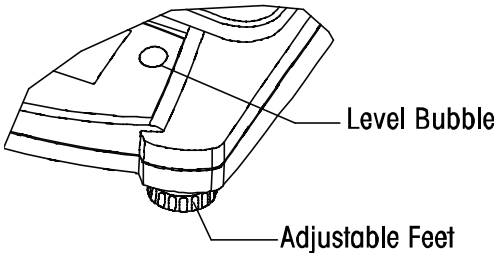
The Transportation Lock is located under the balance. Rotate the pointer to the unlocked position.

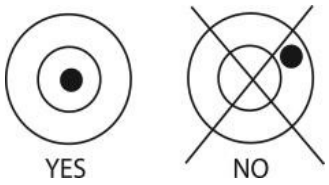


2.2 Location

Use the balance on a firm, steady surface. Avoid locations with excessive air current, vibrations, heat sources, or rapid temperature changes.

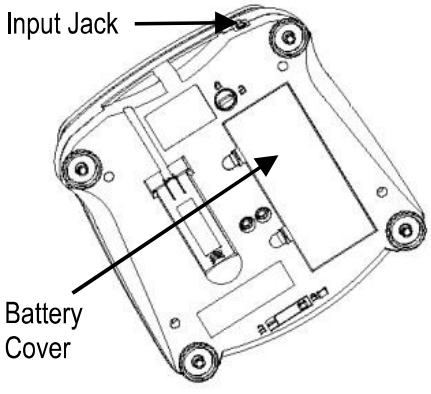
Adjust the leveling feet so the bubble is centered in the circle.



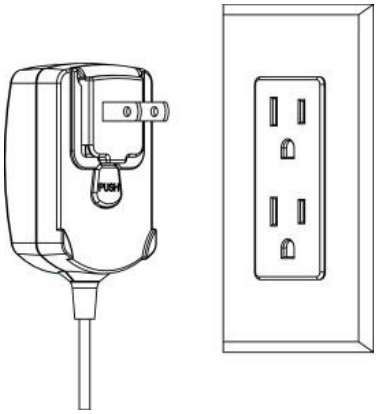


2.3 Power

The AC Adapter is used to power the balance when battery power is not needed.



Connect the AC Adapter plug to the input jack.



Connect AC Adapter to the proper AC supply.

Battery installation (without optional internal battery)**:**
Remove battery cover and install 4 batteries using the polarity indications as shown in the compartment.

Optional rechargeable battery*
Balances with the optional rechargeable battery will need to be charged for 12 hours before the balance can be operated on battery power for the first time. The battery is protected from overcharging so the balance can remain connected to the AC power. When the battery is fully charged the battery indicator on the display will stop blinking.

To remove the rechargeable battery option and install C cell batteries, reference the Recharging Battery Option instruction manual for step by step instructions as well as disposal instructions.

CAUTION: Risk of explosion can occur if the rechargeable battery is replaced with the wrong type or if it is not properly connected.

Note:
After power on, it is recommended to warm up the balance for at least 5 minutes before using it.
*Availability of IR Sensor is dependent on model and region.

2.4 Initial Calibration

When the balance is first installed it should be calibrated to ensure accurate results.

Press and hold **Menu-Cal** until [MENU] (Menu) is displayed. When the button is released, the display will display [.C.A.L.]. Press **Yes** to accept, [SPAN] will then be shown. Press **Yes** again to begin the span calibration. [--C--] blinks while zero reading is stored. Next, the display shows the calibration weight value. Place the specified calibration mass on the pan. [--C--] blinks while the reading is stored. The balance returns to the previous application mode and is ready for use.

3. OPERATION

All modes except for weighing must be activated in the User Menu before they are available, see Section 4.

3.1 Weigh Mode

1. Press and hold **Mode** until [WEIGH] (Weigh) is displayed.
2. If required, place an empty container on the pan and press **Tare**.
3. Add material to the container. The display shows the weight of the material.

3.2 Parts Counting Mode

This mode counts large numbers of items based on the weight of a reference count.

1. Place an empty container on the pan and press **Tare**.
2. Press and hold **Mode** until [Count] (Count) is displayed. [CLr.APW] (Clear Average Piece Weight) will then display.
3. Press **No** to use the stored APW. Proceed to step 6.
4. Press **Yes** to establish an APW. The balance will then display the stored sample size, i.e. [Put 10]. Press **No** or **Back** to toggle the choices (5, 10, 20, 50 or 100).
5. Put the indicated number of pieces on the pan then press **Yes** to calculate the APW. The display shows the piece count. Note: Press **Function** to view the current APW.
6. Add additional pieces until the desired count is reached.
7. To clear the stored APW press and hold **Mode** until [Count] is displayed. Press **Yes** when [CLr.APW] is displayed.

3.3 Percent Mode

This mode measures the weight of a sample as a percentage of a reference weight.

1. Place an empty container on the pan and press **Tare**.
2. Press and hold **Mode** until [PErcnt] is displayed. [CLr.rEF] (clear reference) will then display.
3. Press **No** to use the stored reference weight and proceed to step 6.
4. Press **Yes** to establish a new reference. Balance will now display [Put.rEF].
5. Add the desired reference material to the container. Press **Yes** to store the reference weight. The display shows 100%.
   Note: Press **Function** to view the current reference weight.
6. Replace the reference material with the sample material. The display shows the percentage of the sample compared to reference weight.
7. To clear the stored reference press and hold **Mode** until [PErcnt] is displayed. Press **Yes** when [CLr.rEF] is displayed.

3.4 Checkweigh Mode

This mode sets low and high weight limits for portion control processes.

1. Press and hold **Mode** until [CHECK] (Check) is displayed. [CLr.rEF] (clear references) will then display.
2. Press **No** to use the stored reference weight limits and proceed to step 5.
   Note: Press **Function** to view the low and high reference weight limits.
3. Press **Yes** to establish new reference values. The balance will then display [SEt. Lo]. Press **Yes** to view the "Low" limit value. Press **Yes** to accept or **No** to edit the "Low" limit value. The stored value then displays with the first digit highlighted [000.000 kg]. Repeatedly press **No** until the desired number appears. Press **Yes** to accept and highlight the next digit. Repeat until all the digits are correct. Press **Yes** to accept the "low" limit value, [SEt. Hi] will be displayed.
4. Repeat the same procedure to accept or edit the "high" value.
5. Place sample material on the Pan. The "Accept" indicator will now show that the sample weight is within the acceptable range.
6. To clear the stored reference values press and hold **Mode** until [CHECK] is displayed. Press **Yes** when [CLr.rEF] is displayed.

4. SETTINGS

The User Menu allows the customizing of balance settings.
Note: Additional Sub-Menus may be available if Interface Options are installed. See Interface User Manual for the additional setting information.

4.1 Menu Navigation

User Menu:

Sub-Menus:	***.C.a.l.***	***.S.e.t.u.p.****	***.M.o.d.e.***	***.U.n.i.t.****	***.E.n.d.***
Menu Items:	*Span* *Lin* *End*	*b.light* *A-OFF* *IR*** *Filter* *AZT* *Stab* *Stab.C* *End*	*Count* *Percnt* *Check* *End*	*g* *kg* *…* *End*	

* Note: Available settings vary by models and regions
**Availability of IR Sensor is dependent on model and region.

Press and hold Menu until [MENU] (Menu) is displayed. When released the first sub-menu [.C.A.L.] (Cal) will be shown.
Press **Yes** to enter the displayed sub-menu or press **No** to advance to the next.
Selecting a sub-menu will display the first menu item. Press **Yes** to view the menu item setting or press **No** to move to the next menu item. When viewing the setting, press **Yes** to accept the setting, or press **No** to change the setting. When [End] is displayed, press **Yes** to return to the sub-menu selections or **No** to return to the first item in the current menu.

4.2 Cal Sub-Menu

- Span [SPAn] (yes, no) - Initiates a span calibration procedure (zero and span). A span calibration is important when initially setting up the balance.
- Lin [L in] (yes, no) - Initiates a linearity calibration procedure (zero, mid-point and span).

4.3 Setup Sub-Menu

- Back Light [b.L iGht] (on,off,**Auto**)-When Back light is set to "on" the balance will always "on". When Back light is set to "Auto" the balance will turn on when a button is pressed or the display weight changes.
- Auto Off [A-OFF] (on, **off**) - When Auto Off is set to "on" the balance will turn off automatically after 5 minutes of inactivity. Auto off is used to save battery power.
- IR Sensor [Ir.Func] (Off, Tare, Function, Print, Zero, **Display**) - These settings determine the role of the IR Sensor. "Zero", "Print", "Function" or "Tare" allows the IR sensor to act the same as the related button. "Display" activates the display if Display-Auto is set. "Off" disables the sensor.*
- Filter [F iLtEr] (L1,**L2**,L3,L4) – set the amount of signal filtering

	L1——————————————————>L4
Stability	Less————————————— > Greater
Stabilization time	Faster———— >Slower

- Auto Zero Tracking[A2t] (OFF,0.5d,1d,3d,5d,8d,10d) – Set the automatic zero tracking functionality. The display will maintain zero until a change of "0.5d,1d,3d,5d,8d,10d" divisions per second has been exceeded.
- Stable [StAb] (0.5d,**1d**,2d,5d) – Set the amount of the reading can vary while the stability symbol remains on.
- Stable Compensation [StAb.C] (on**,** off) - Set the automatic stable tracking functionality. Set it "off" for dosing or filling application.

Note: Bold always represents factory default Value

*Availability of IR Sensor is dependent on model and region.

4.4 Mode Menu

This sub-menu activates modes so they will be available for use with the Mode button. Weigh mode is always active.

- Parts Count [Count] (on, off) - Set on for the mode to be active.
- Percent [PErcnt] (on, off) - Set on for the mode to be active.
- Check Weigh [CHECk] (on, off) - Set on for the mode to be active.

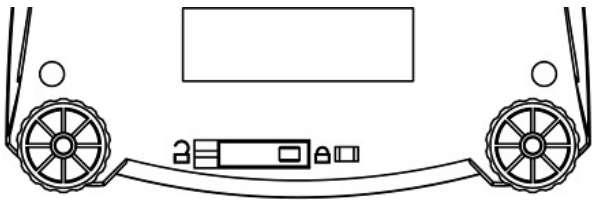
4.5 Units Menu

This sub-menu activates units so they will be accessible with the **Units** button. The units in the menu must be turned "on" to be active.

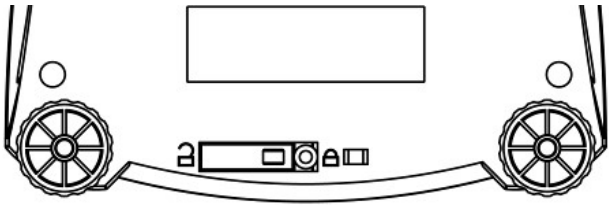
Note: Available units and modes vary by model and local regulations.

4.6 Sealing access to balance settings

You can use the Menu Lock switch to limit changes to the user menu. The switch in type approved models may set some balance settings as required by the approval agency. The switch may be secured using paper seals, wire seals or plastic ties.



Locked



Unlocked

5. MAINTENANCE

5.1 Cleaning

WARNING: Electric Shock Hazard. Disconnect the equipment from the power supply before cleaning.
Make sure that no liquid enters the interior of the instrument.

Attention: Do not use solvents, harsh chemicals, ammonia or abrasive cleaning agents.

The exterior surfaces of the instrument may be cleaned with a cloth dampened with water and a mild detergent.

5.2 Troubleshooting

The following table lists common problems and possible causes and remedies.
If the problem persists, contact OHAUS or your authorized dealer.

Symptom	Possible Cause	Remedy
Cannot turn on	No power to balance	Verify connections and voltage
Poor accuracy	Improper calibration Unstable environment	Perform calibration Move balance to suitable location
Cannot calibrate	Unstable environment Incorrect calibration weight	Move the balance to suitable location Use correct calibration weight
Cannot access mode	Mode not enabled	Enter menu and enable mode
Cannot access unit	Unit not enabled	Enter menu and enable unit
Lo rEF	Reference weight is too low	Increase reference weight.
rEF Err	Parts counting– sample weight <1d.	Shows error - exits mode or goes to [CLr.APU].
Err 3.0	Incorrect calibration weight	See section 2.5 for correct weights
Err 4.4	RS232 buffer is full	Set Handshake on, see Interface User Manual.
Err 8.1	Power on zero range exceeded	Clear pan, check Shipping Lock setting
Err 8.2	Power on zero under range	Install pan, check Shipping Lock setting
Err 8.3	Overload (>cap+9e)	Load exceeds balance maximum capacity
Err 8.4	Under load	Reading below min. range - Re-install pan.
Err 8.6	Displayed value >999999	Result exceeds display capability.
Err 9	Internal data error.	Contact an authorized service agent
Err 13	Fail to write EEPROM.	Contact an authorized service agent
Err 53	Invalid checksum data	Contact an authorized service agent

5.3 Service Information

If the troubleshooting section does not resolve or describe your problem, contact your authorized OHAUS service agent. For service assistance or technical support in the United States call toll-free 1-800-526-0659 between 8:00 AM and 5:00 PM EST. An OHAUS product service specialist will be available to provide assistance. Outside the USA, please visit our web site, **www.ohaus.com** to locate the OHAUS office nearest you.

6. TECHNICAL DATA

Equipment Ratings:

- Pollution degree 2;
- Installation category II;
- Altitude 2000m;
- Humidity: Maximum 80% for temperatures up to 31°C decreasing linearly to 50% at 40°C; non-condensing;
- Electrical supply: Rated 12VDC 500mA for use with a Certified/Listed power adapter or battery operated;
- Indoor use only;
- Temperature range: 10°C to 40°C, Approved models (M) 0°C to 40°C
- The mains supply voltage fluctuations are not to exceed ± 10 % of the nominal supply voltage.

6.1 Specifications
Non-approved Models

Model	NV123	NV223	NV323	NV222	NV422	NV622	NV1202
Capacity (g)	120	220	320	220	420	620	1200
Readability (g)	0.001	0.001	0.001	0.01	0.01	0.01	0.01
Repeatability (Std. Dev.)	2d	2d	2d	1d	2d	2d	2d
Linearity	±3d	±5d	±5d	±2d	±2d	±2d	±3d
Span Calibration Mass (Not Included)	100	200	300	200	200	300	1000
Linearity Calibration Mass	50, 100 g	100, 200 g	150, 300 g	100, 200 g	200, 400 g	300, 600 g	500 g, 1 kg
Stabilization Time (s)	2.5			1	1.5	1.5	2
Construction	ABS housing & stainless steel pan						
Draftshield	Yes			No			
Calibration	User-selectable external span or linearity calibration/Digital with external weight						
Tare Range	Full capacity by subtraction						
Weighing Units**	g, kg, N, oz, ozt, dwt, lb, lb:oz, ct, grain, taels (3), Tical, Tola						
Application Modes	Weighing, Parts Counting, Percent Weighing, Checkweighing						
Power Requirement	AC adapter (included) or 4 C batteries (not included)						
Typical Battery Life	200 hours			270 hours			200 hours
Specified Temperature Range	10°C (50°F) to 40°C (104°F) at 10% to 85% relative humidity, non-condensing						
Storage Conditions	-20°C (-4°F) to 55°C (131°F) at 10% to 90% relative humidity, non-condensing						
Communication	RS232, USB, or Ethernet (available as accessories)						
Display Type	Liquid Crystal Display (LCD) with backlight						
Display Size	0.78 in / 20 mm digits						
Pan Size (W x D)	Ø3.7 in / Ø93 mm			Ø5.7 in / Ø145 mm			7.5 x 5.7 in / 190 x 144 mm
Balance Dimensions (W x D x H)	204 x 230 x 107 mm with draft shield 204 x 230 x 74 mm without draft shield			8 x 9.1 x 2.8 in / 204 x 230 x 70 mm			
Shipping Dimensions (W x D x H)	15.2 x 13.2 x 6.7 in / 385 x 335 x 170 mm			11.8 x 9.8 x 5.3 in / 300 x 250 x 134 mm			
Net Weight	2.2 lb / 1.0 kg			2.2 lb / 1.0 kg			
Shipping Weight	3.3 lb / 1.5 kg			3.3 lb / 1.5 kg			

Model	NV2202	NV3202	NV221	NV621	NV1201	NV2201	NVT2201
Capacity (g)	2200	3200	220	620	1200	2200	2200
Readability (g)	0.01	0.01	0.1	0.1	0.1	0.1	0.1
Repeatability (Std. Dev.)	2d	2d	1d	1d	1d	1d	1d
Linearity	±5d	±5d	±2d	±2d	±2d	±2d	±2d
Span Calibration Mass (Not Included)	2000	3000	200	300	500	1000	1000
Linearity Calibration Mass	1 kg, 2 kg	1.5 kg, 3 kg	100, 200 g	300, 600 g	500 g, 1 kg	1 kg, 2 kg	1 kg, 2 kg
Stabilization Time (s)	2	2	1	1	1	1	1
Construction	ABS housing & stainless steel pan						
Draftshield	No						
Calibration	User-selectable external span or linearity calibration/Digital with external weight						
Tare Range	Full capacity by subtraction						
Weighing Units**	g, kg, N, oz, ozt, dwt, lb, lb:oz, ct, grain, taels (3), Tical, Tola						
Application Modes	Weighing, Parts Counting, Percent Weighing, Checkweighing						
Power Requirement	AC adapter (included) or 4 C batteries (not included)						
Typical Battery Life	200 hours		270 hours				
Specified Temperature Range	10°C (50°F) to 40°C (104°F) at 10% to 85% relative humidity, non-condensing						
Storage Conditions	-20°C (-4°F) to 55°C (131°F) at 10% to 90% relative humidity, non-condensing						
Communication	RS232, USB, or Ethernet (available as accessories)						
Display Type	Liquid Crystal Display (LCD) with backlight						
Display Size	0.78 in / 20 mm digits						
Pan Size (W x D)	7.5 x 5.7 in / 190 x 144 mm						9.1 x 6.9 in / 230 x 174 mm
Balance Dimensions (W x D x H)	8 x 9.1 x 2.8 in / 204 x 230 x 70 mm						9.5 x 9.8 x 2.9 in / 240 x 250 x 74 mm
Shipping Dimensions (W x D x H)	11.8 x 9.8 x 5.3 in / 300 x 250 x 134 mm						15.2 x 13.2 x 6.7 in / 385 x 335 x 170 mm
Net Weight	2.2 lb / 1.0 kg						3.3 lb / 1.5 kg
Shipping Weight	3.3 lb / 1.5 kg						5.1 lb / 2.3 kg

Model	NVT4201	NVT6201	NVT10201	NVT2200	NVT6200	NVT12000	NVT22000
Capacity (g)	4200	6200	10200	2200	6200	12000	22000
Readability (g)	0.1	0.1	0.1	1	1	1	1
Repeatability (Std. Dev.)	2d	2d	2d	2d	1d	1d	1d
Linearity	±2d	±2d	±2d	±2d	±2d	±2d	±2d
Span Calibration Mass (Not Included)	2000	5000	5000	1000	5000	5000	10000
Linearity Calibration Mass	2 kg, 4 kg	3 kg, 6 kg	5 kg, 10 kg	1 kg, 2 kg	3 kg, 6 kg	5 kg, 10 kg	10 kg, 20 kg
Stabilization Time (s)	1.5	1.5	1.5	1	1	1	1
Construction	ABS housing & stainless steel pan						
Draftshield	No						
Calibration	User-selectable external span or linearity calibration/Digital with external weight						
Tare Range	Full capacity by subtraction						
Weighing Units**	g, kg, N, oz, ozt, dwt, lb, lb:oz, ct, grain, taels (3), Tical, Tola						
Application Modes	Weighing, Parts Counting, Percent Weighing, Checkweighing						
Power Requirement	AC adapter (included) or 4 C batteries (not included)						
Typical Battery Life	270 hours		200 hours	270 hours			
Specified Temperature Range	10°C (50°F) to 40°C (104°F) at 10% to 85% relative humidity, non-condensing						
Storage Conditions	-20°C (-4°F) to 55°C (131°F) at 10% to 90% relative humidity, non-condensing						
Communication	RS232, USB, or Ethernet (available as accessories)						
Display Type	Liquid Crystal Display (LCD) with backlight						
Display Size	0.78 in / 20 mm digits						
Pan Size (W x D)	9.1 x 6.9 in / 230 x 174 mm						
Balance Dimensions (W x D x H)	9.5 x 9.8 x 2.9 in / 240 x 250 x 74 mm						
Shipping Dimensions (W x D x H)	15.2 x 13.2 x 6.7 in / 385 x 335 x 170 mm						
Net Weight	3.3 lb / 1.5 kg						
Shipping Weight	5.1 lb / 2.3 kg						

** Availability depends on model and region.

Capacity x Readability

Model	NV123	NV223	NV323	NV222	NV422	NV622	NV1202
Gram (g)	120 x 0.001	220 x 0.001	320 x 0.001	220 x 0.01	420 x 0.01	620 x 0.01	1200 x 0.01
Kilogram (kg)	/	/	/	/	/	/	1.2 x 0.00001
Newton (N)	1.17679 x 0.00001	2.15744 x 0.00001	3.1381 x 0.00001	2.1574 x 0.0001	4.1188 x 0.0001	6.0801 x 0.0001	11.7679 x 0.0001
Ounce (oz)	4.23285 x 0.00005	7.76025 x 0.00005	9.99995 x 0.00005 11.2876 x 0.0001	7.7600 x 0.0005	14.8150 x 0.0005	21.8700 x 0.0005	42.3285 x 0.0005
Ounce Troy (ozt)	3.85805 x 0.00005	7.07315 x 0.00005	10.28820 x 0.00005	7.0730 x 0.0005	13.5030 x 0.0005	19.9335 x 0.0005	38.5805 x 0.0005
Pennyweight (dwt)	77.162 x 0.001	141.463 x 0.001	205.765 x 0.001	141.46 x 0.01	270.07 x 0.01	398.67 x 0.01	771.62 x 0.01
Pound (lb)	/	/	/	/	/	1.36690 x 0.00005	2.64550 x 0.00005
Pound:Ounce (lb:oz)	/	/	/	/	/	1lb:5.8700oz x 0.0005 oz	2lb:10.328oz x 0.001oz
Carat (ct)	600.000 x 0.005	999.995/1100.00 x 0.005/0.01	999.995/1600 x 0.005/0.01	1100 x 0.05	2100 x 0.05	3100 x 0.05	6000 x 0.05
Grain (grn)	1851.78 x 0.02	3395.12 x 0.02	4938.26 x 0.02	3395.0 x 0.2	6481.6 x 0.2	9568.0 x 0.2	18518.8 x 0.2

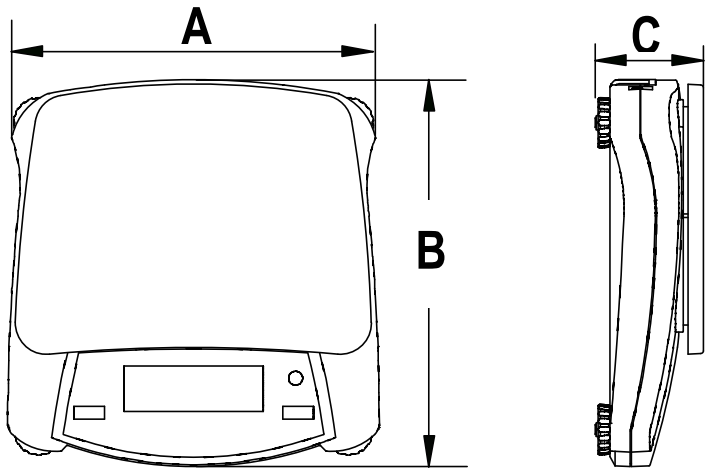
Model	NV2202	NV3202	NV221	NV621	NV1201	NV2201	NVT2201
Gram (g)	2200 x 0.01	3200 x 0.01	220 x 0.1	620 x 0.1	1200 x 0.1	2200 x 0.1	2200 x 0.1
Kilogram (kg)	2.2 x 0.00001	3.2 x 0.00001	/	/	1.2 x 0.0001	2.2 x 0.0001	2.2 x 0.0001
Newton (N)	21.5744 x 0.0001	31.381 x 0.0001	2.157 x 0.001	6.080 x 0.001	11.768 x 0.001	21.574 x 0.001	21.574 x 0.001
Ounce (oz)	77.6025 x 0.0005	99.9995/112.876 x 0.005/0.001	7.760 x 0.005	21.870 x 0.005	42.330 x 0.005	77.600 x 0.005	77.600 x 0.005
Ounce Troy (ozt)	70.7315 x 0.0005	99.9995/102.882 x 0.005/0.001	7.070 x 0.005	19.930 x 0.005	38.580 x 0.005	70.730 x 0.005	70.730 x 0.005
Pennyweight (dwt)	1414.63 x 0.01	2057.65 x 0.01	141.5 x 0.1	398.7 x 0.1	771.6 x 0.1	1414.6 x 0.1	1414.6 x 0.1
Pound (lb)	4.85015 x 0.00005	7.05475 x 0.00005	/	1.3670 x 0.0005	2.6455 x 0.0005	4.8500 x 0.0005	4.8500 x 0.0005
Pound:Ounce (lb:oz)	4lb:13.604oz x 0.001oz	7lb:00.878oz x 0.001oz	/	1lb:5.870oz x 0.005oz	2lb:10.330oz x 0.005oz	4lb:13.600oz x 0.005oz	4lb:13.600oz x 0.005oz
Carat (ct)	9999.95/11000.0 x 0.05/0.1	9999.95/16000.0 x 0.05/0.1	1100 x 0.5	3100 x 0.5	6000 x 0.5	11000 x 0.5	11000 x 0.5
Grain (grn)	33951.2 x 0.2	49383.6 x 0.2	3400 x 2	9570 x 2	18520 x 2	33950 x 2	33950 x 2

Model	NVT4201	NVT6201	NVT10201	NVT2200	NVT6200	NVT12000	NVT22000
Gram (g)	4200 x 0.1	6200 x 0.1	10000 x 0.1	2200 x 1	6200 x 1	12000 x 1	22000 x 1
Kilogram (kg)	4.2 x 0.0001	6.2 x 0.0001	10 x 0.0001	2.2 x 0.001	6.2 x 0.001	12 x 0.001	22 x 0.001
Newton (N)	41.188 x 0.001	60.801 x 0.001	98.066 x 0.001	21.57 x 0.01	60.8 x 0.01	117.68 x 0.01	215.74 x 0.01
Ounce (oz)	148.15 x 0.005	218.700 x 0.005	352.735 x 0.005	77.6 x 0.05	218.7 x 0.05	423.3 x 0.05	776.05 x 0.05
Ounce Troy (ozt)	135.035 x 0.005	199.335 x 0.005	321.505 x 0.005	70.75 x 0.05	199.35 x 0.05	385.8 x 0.05	707.3 x 0.05
Pennyweight (dwt)	2700.7 x 0.1	3986.7 x 0.1	6430.1 x 0.1	1410 x 1	3990 x 1	7720 x 1	14150 x 1
Pound (lb)	9.2595 x 0.0005	13.6685 x 0.0005	22.0460 x 0.0005	4.85 x 0.005	13.67 x 0.005	26.455 x 0.005	48.5 x 0.005
Pound:Ounce (lb:oz)	9lb:4.15oz x 0.005oz	13lb:10.700oz x 0.005oz	9lb:15.995oz / 22lb:00.74oz x 0.005oz / 0.01oz	4lb:13.6oz x 0.05oz	13lb:10.7oz x 0.05oz	26lb:7.3oz x 0.05oz	48lb:8.05oz x 0.05oz
Carat (ct)	21000 x 0.5	31000 x 0.5	50000.0 x 0.5	11000 x 5	31000 x 5	60000 x 5	110000 x 5
Grain (grn)	64820 x 2	95680 x 2	154320 x 2	33960.19 x 20	95680 x 20	185180 x 20	339520 x 20

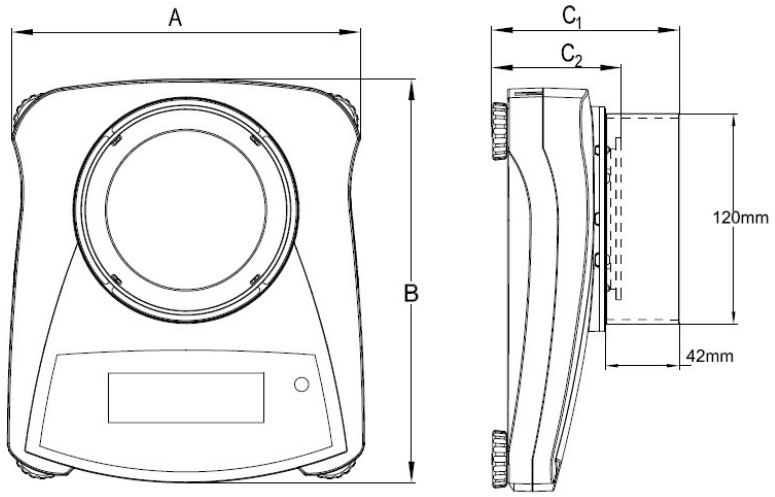
Approved Models

Model	NVT1601M	NVT3200M	NVT6400M	NVT16000M
Capacity (g)	1600	3200	6400	16000
Readability (g)	0.5	1	2	5
Verification Interval e (g)	0.5	1	2	5
Span Calibration Mass (Not Included)	1 kg	2 kg	5 kg	10 kg
Linearity Calibration Mass	1 kg, 1.5 kg	2 kg, 3 kg	3 kg, 6 kg	10 kg, 15 kg
Approval Class	Ⅲ			
Stabilization Time (s)	1 s			
Construction	ABS housing & stainless steel pan			
Calibration	User-selectable external span or linearity calibration/Digital with external weight			
Tare Range	Full capacity by subtraction			
Weighing Units	g, kg, ct			
Application Modes	Weighing, Percent Weighing, Parts Counting, Check Weighing			
Keypad	4 mechanical keys, plus 1 touchless sensor			
Power Requirement	AC adapter (included) or 4 C batteries (not included)			
Typical Battery Life	270 hours			
Specified Temperature Range	0°C (32°F) to 40°C (104°F) at 10% to 85% relative humidity, non-condensing			
Storage Conditions	-20°C (-4°F) to 55°C (131°F) at 10% to 90% relative humidity, non-condensing			
Communication	RS232, USB, or Ethernet (available as accessories)			
Display Type	Liquid Crystal Display (LCD) with backlight			
Display Size	20 mm digits			
Pan Size (W x D)	230 x 174 mm			
Balance Dimensions (W x D x H)	240 x 250 x 74 mm			
Shipping Dimensions (W x D x H)	385 x 335 x 170 mm			
Net Weight	1.5 kg			
Shipping Weight	2.3 kg			

6.2 Drawings



	A	B	C
NV	204 mm / 8 in.	230 mm / 9 in.	70 mm / 2.8 in.
NVT	240 mm / 9.5 in.	250 mm / 9.8 in.	74 mm / 2.9 in.



	A	B	C1	C2
NV with draft shield	204 mm / 8 in.	230 mm / 9 in.	107 mm / 4.2 in.	74 mm / 2.9 in.

6.3 Compliance

Compliance to the following standards is indicated by the corresponding mark on the product.

Mark	Standard
CE	This product complies with the EU Directives 2011/65/EU (RoHS), 2014/30/EU (EMC), 2014/35/EU (LVD) and 2014/31/EU (NAWI). The EU Declaration of Conformity is available online at www.ohaus.com/ce.
	This product complies with the EU Directive 2012/19/EU (WEEE). Please dispose of this product in accordance with local regulations at the collecting point specified for electrical and electronic equipment. For disposal instructions in Europe, refer to www.ohaus.com/weee.
	EN 61326-1

Verified weighing instruments in the EU

When the instrument is used in trade or a legally controlled application it must be set up, verified and sealed in accordance with local weights and measures regulations. It is the responsibility of the purchaser to ensure that all pertinent legal requirements are met.

Weighing Instruments verified at the place of manufacture bear the following supplementary metrology marking on the descriptive plate.

CE MXX 1259

Weighing Instruments to be verified in two stages have no supplementary metrology marking on the descriptive plate. The second stage of conformity assessment must be carried out by the applicable weights and measures authorities.

If national regulations limit the validity period of the verification, the user of the weighing instrument must strictly observe the re-verification period and inform the weights and measures authorities.

As verification requirements vary by jurisdiction, the purchaser should contact their local weights and measures office if they are not familiar with the requirements.

FCC Note

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.
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