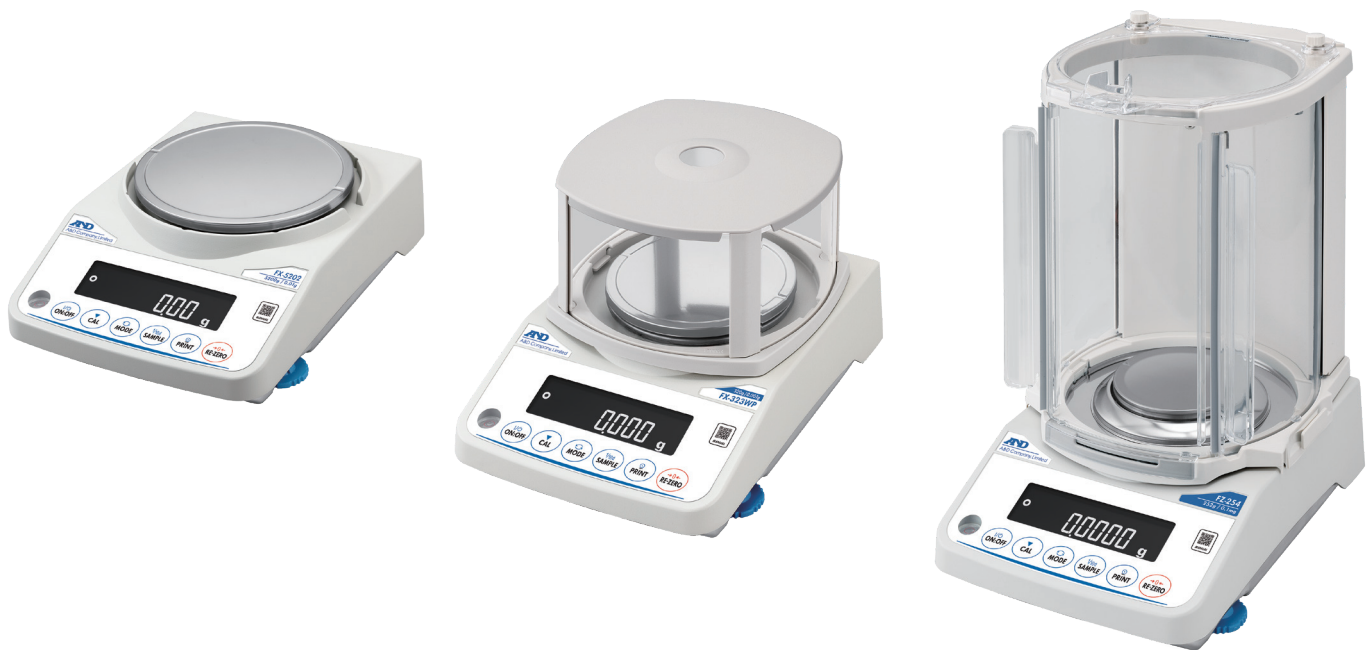


Compact, Durable, and Portable Analytical/Precision Balances



Using A&D Weighing's new Compact Super Hybrid Sensor (C-SHS), the Fortis (FX/FZ) series sets the standard for compact, portable, high-performance weighing in a variety of environments and applications. The series features IP65 ratings; compact, rotary breeze break; internal overload protection; and a variety of connection and measurements modes to suit your workflow.

Features

- Compact Super Hybrid Sensor (C-SHS) for a smaller, more portable footprint
- IP65 Rated for dustproof and waterproof performance in all environments (WP Models Only)
- Internal Overload Protection guards the sensor from adverse effects of static overloading
- Various Application Modes including parts counting, % weighing, comparator with buzzer, underhook, and density
- Air Pump Controlled Internal Weight for sensitivity adjustment

Benefits

- Small Footprint to fit anywhere in your workplace
- Lightweight Portability to allow you to take the scale anywhere you need measurements
- Underhook Weighing to enable hanging measurements
- Multiple Connection Modes including RS-232 and USB (Standard) and Ethernet and Bluetooth® (Optional)
- LCD Display with clear, white backlight and easy-to-read character height

Specifications

Specifications		FZ-104 FX-104	FZ-154 FX-154	FZ-254 FX-254
Capacity x Readability		102 g x 0.0001 g	152 g x 0.0001 g	252 g x 0.0001 g
Repeatability (std. deviation) ⁱⁱ		0.0001 g		0 to 200 g: 0.0001 g 200 to 250 g: 0.0002 g
Minimum weight ⁱⁱⁱ (typical)		140 mg		
Linearity		±0.0002 g		±0.0003 g
Stabilization time (typical when set to FAST)		Approx. 2 secs		
Sensitivity drift		±2 ppm / °C (10 to 30 °C / 50 to 86 °F)		
Operating environment		5 to 40 °C (41 to 104 °F), 85 % RH or less (no condensation)		
Display refresh rate		5 times / second, 10 times / second or 20 times / second		
Units of measure ^{iv}		mg (milligram), g (gram), oz (ounce), ozt (troy ounce), ct (metric carat), mom (momme), dwt (pennyweight), gr (grain), pcs (counting mode), % (percent mode), DS (density mode), and a user-programmable unit		
Counting mode	Minimum unit mass	0.0001 g		
	Number of samples	5, 10, 25, 50 or 100 pieces		
Percent mode	Minimum 100% reference mass	0.0100 g		
	% readability	0.01%, 0.1% or 1% (depends on the reference mass stored)		
Standard communication interface		RS-232C (D-Sub 9-pin), USB		
Internal sensitivity adjustment method		Air-pump controlled, direct-driving method (for FZ only)		
Applicable weight value for sensitivity adjustment		50 g 100 g	50 g 100 g 150 g	50 g 100 g 200 g 250 g
Weighing pan size		Ø90 mm / 3.54 in		
External dimensions (WxDxH)		198 x 294 x 315 mm / 7.80 x 11.57 x 12.4 in (with the large breeze break)		
Net weight		FZ: approx. 3.9 kg / 8.6 lb, FX: approx. 3.5 kg / 7.7 lb		
Power supply / consumption		AC adapter / approx. 30 VA		
Standard accessories		Large breeze break x 1, Main unit cover x 1, AC adapter x 1		

Options

FXi-08**	Ethernet (TCP/IP) interface	AD-8129TH	Compact thermal printer
FXi-09**	Built-in rechargeable battery	AD-8526	RS-232C/Ethernet (TCP/IP) converter
FX-10	Small breeze break	AD-8527	Quick USB adapter
FX-11	Large breeze break	AD-8541-PC	Bluetooth® dongle for PC
FXi-12	Animal weighing pan (for 0.01 g models)	AD-8552EIP	RS-232C to EtherNet/IP converter
FXi-15	Carrying case (for 0.001/0.01 g models)	AD-8920A	Remote display
GXA-27*	Bluetooth® interface	AD-8922A	Remote controller
AD-1654	Density determination kit	AD-8923-CC	Remote controller (CC-Link)
AD-1683A	Static eliminator	AD-8923-BCD	Remote controller (BCD)
AD-1684A	Electrostatic field meter	AX-FXi-31	Main unit cover (5 pcs)
AD-1687	Weighing environment logger	AX-KO2737-500	Waterproof RS-232C cable (5 m)
AD-1688	Weighing data logger	AX-USB-9P	RS-232C/USB converter with cable
AD-1689	Tweezers for calibration weight		

*Only one of FX-05, FXi-08, GXA-27, or FXi-09 can be installed. †The FZ-WP/FX-WP series are not IP65 with FXi-08 or FXi-09

Specifications

		FZ-123 FX-123 FZ-123WP FX-123WP	FZ-223 FX-223 FZ-223WP FX-223WP	FZ-323 FX-323 FZ-323WP FX-323WP	FZ-523 FX-523	FZ-1202 FX-1202 FZ-1202WP FX-1202WP	FZ-2202 FX-2202 FZ-2202WP FX-2202WP	FZ-3202 FX-3202 FZ-3202WP FX-3202WP	FZ-5202 FX-5202
Capacity x Readability		122 g x 0.001 g	220 g x 0.001 g	320 g x 0.001 g	520 g x 0.001 g	1220 g x 0.01 g	2200 g x 0.01 g	3200 g x 0.01 g	5200 g x 0.01 g
Repeatability (std. deviation) ⁱⁱ		0.001 g				0.01 g			
Minimum weight ⁱⁱⁱ (typical)		FZ/FX: 1.4 g FZ-WP/FX-WP: 1.8 g				FZ/FX: 14 g FZ-WP/FX-WP: 18 g			
Linearity		±0.002 g				±0.02 g			
Stabilization time (typical when set to FAST)		Approx. 1 sec							
Sensitivity drift		±2 ppm / °C (10 to 30 °C / 50 to 86 °F)							
Operating environment		5 to 40 °C (41 to 104 °F), 85 % RH or less (no condensation)							
Display refresh rate		5 times / second, 10 times / second or 20 times / second							
Units of measure ^{iv}		g (gram), oz (ounce), lb (pound), lb-oz (pound-ounce), ozt (troy ounce), ct (metric carat), mom (momme), dwt (pennyweight), gr (grain), pcs (counting mode), % (percent mode), DS (density mode), and a user-programmable unit							
Counting mode	Minimum unit mass	0.001 g				0.01 g			
	Number of samples	5, 10, 25, 50 or 100 pieces							
Percent mode	Minimum 100% reference mass	0.100 g				1.00 g			
	% readability	0.01%, 0.1% or 1% (depends on the reference mass stored)							
Standard communication interface		RS-232C (D-Sub 9-pin), USB							
Applicable weight value for sensitivity adjustment		50 g 100 g	50 g 100 g 200 g	50 g 100 g 200 g 300 g	50 g 100 g (100 g interval) 500 g	500 g 1000 g	500 g 1000 g 2000 g	500 g 1000 g 2000 g 3000 g	500 g 1000 g (1000 g interval) 5000 g
Weighing pan size		Ø130 mm / 5.12 in				Ø150 mm / 5.91 in			
External dimensions (WxDxH)		193 x 262.5 x 85.5 mm / 7.60 x 10.33 x 3.37 in 193 x 262.5 x 176 mm / 7.60 x 10.33 x 6.93 in (with the small breeze break)							
Net weight		FZ: approx. 3.0 kg / 6.6 lb, FX: approx. 2.5 kg / 5.5 lb, FZ-WP: approx. 3.2 kg / 7.1 lb, FX-WP: approx. 2.7 kg / 6.0 lb							
Dust and waterproof rating		IP65 (for FZ-WP/FX-WP only)							
Power supply / consumption		AC adapter / approx. 30 VA							
Standard accessories		Small breeze break x 1 ^v , Main unit cover x 1, AC adapter x 1							

i. Smart range function: Automatically switches between the precision and standard ranges, and recovers the full precision range as the tare operation is performed.

ii. Repeatability can worsen depending on the environmental conditions and operator skills.

iii. Pursuant to the United States Pharmacopeia (USP), Chapter 41

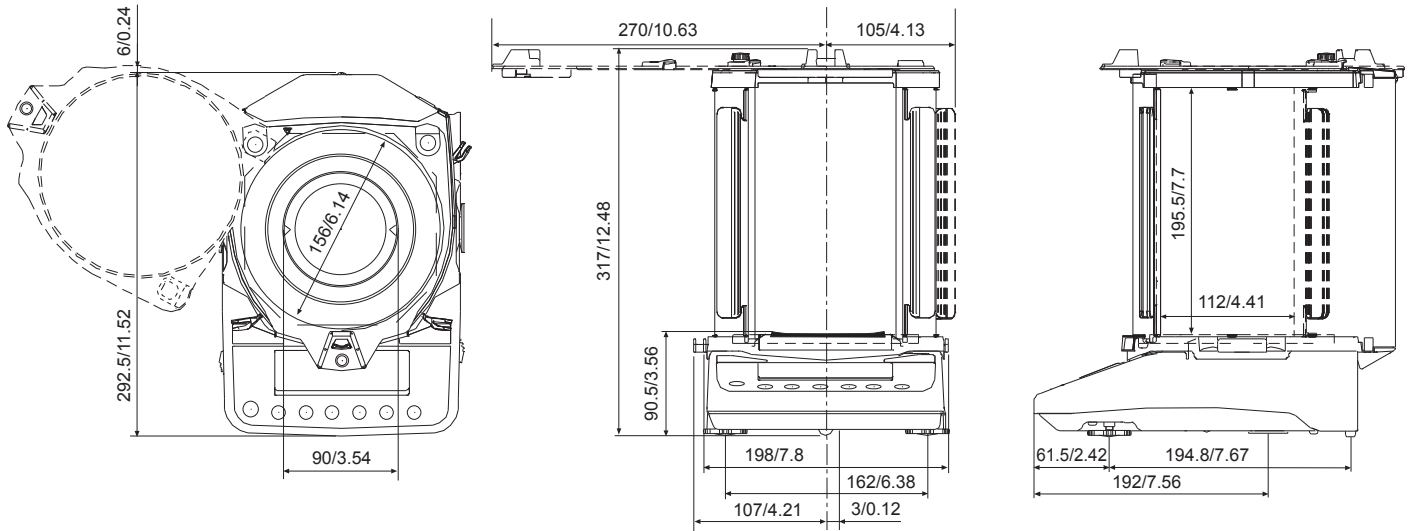
iv. One additional unit from tael (Singapore/HK jewelry/Taiwan/China), tola or Newton can be added upon request.

v. For the 0.001/0.01 g models of the FZ/FZ-WP series and the 0.001 g models of the FX/FX-WP series.

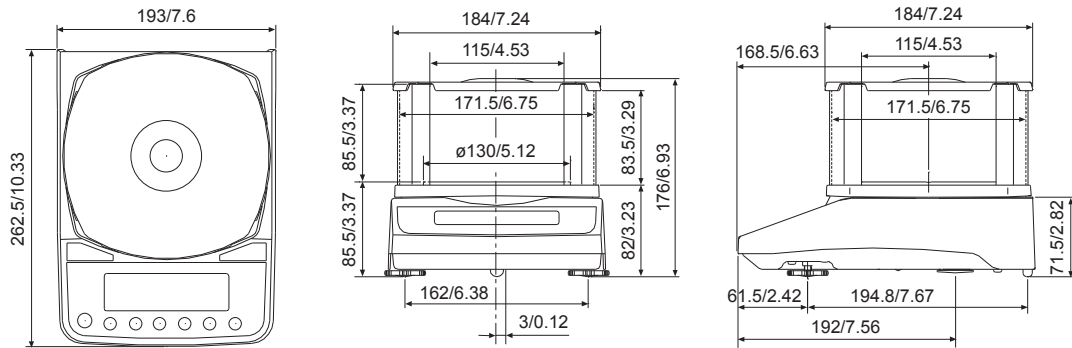
Dimensions (mm/inches)

FZ(-WP)/FX(-WP) Series

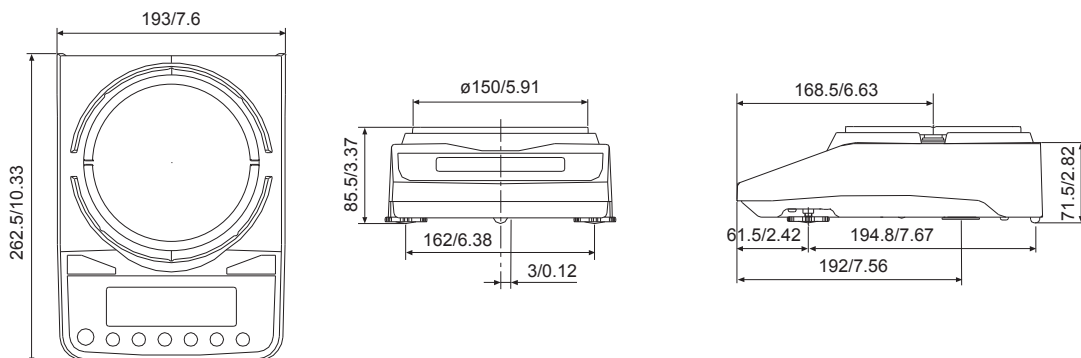
0.0001 g models



0.001 g models



0.01 g models^{vi}



vi. A small breeze break is provided as standard for the 0.01 g models of the FZ/FZ-WP series as well.