

AD-4212B-PT Explanatory Information

(日本語の取扱説明書は反対面をご覧ください。)

This document explains the changes made to the specifications of the AD-4212B-PT.

● Revised Specifications

The AD-4212B-PT has now a 0.001 mg (1 μ g) weighing range and can perform weighing with the minimum weighing value of 0.001 mg (1 nL).

This enables the AD-4212B-PT to test precisely micropipettes with a capacity of 10 μ L or less.

• Weighing range (“PT-Series” manual p.27)

Weighing range, minimum weighing value, etc. are as follows (smart range):

Weighing capacity	110 g	31 g	5.1 g
Min. weighing value	0.1 mg	0.01 mg	0.001 mg
Linearity	± 0.2 mg	± 0.05 mg	± 0.05 mg
Repeatability (Standard deviation)	0.1 mg	0.05 mg	0.015 mg

• Installation conditions (“PT-Series” manual p.10)

Install the balance where it is not affected by temperature change, vibration, or draft. Before use, warm up the balance (AC adaptor plugged to a power supply) for at least 90 minutes. When the minimum weighing value 0.001 mg is selected, it is especially recommended to pay attention to the installation environment and leave the balance always connected to a power supply in order to maintain the temperature equilibrium inside the balance.

• Minimum weighing value (“PT-Series” manual p.24)

The minimum weighing value is set to 0.1 mg at the start of measurement.

Press **[SAMPLE]** key to change the minimum weighing value. With each press, the minimum weighing value changes in the following order: 0.1 mg→0.01 mg→0.001 mg→1 mg→0.1 mg.

• Smart range function (“PT Series” manual p.27)

When the minimum weighing value is set to 0.001 mg and the mass value exceeds 5.1 g, the minimum weighing value will switch to 0.01 mg automatically. When the mass value exceeds 31 g, the minimum weighing value will switch to 0.1 mg. Even under this circumstance, pressing the **[RE-ZERO]** key tares the value and weighing with the minimum weighing value of 0.001 mg is available up to 5.1 g.

● Useful Functions

• Display lock function (“PT-Series” manual p.25)

When using the balance with the minimum weighing value of 0.001 mg, the mass value may gradually change (drift) due to evaporation of the test liquid dispensed from the pipette, small changes in ambient temperature, or weak drafts.

In pipette accuracy testing, weighing is completed in a short time. It is therefore recommended to use the display lock function and minimize the effects of evaporation or environmental changes.

• Auto print (“AD-4212A/B” manual p.30)

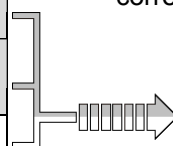
When the auto print mode A [Print] is selected for the data output [out] in the internal setting of the balance, the mass value will be transferred to WinCT-Pipette automatically once the mass value becomes stable.

● ISO8655 Requirements (“PT-Series” manual p.28)

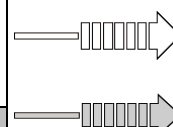
ISO8655 Requirements						Balance Minimum Weighing Value
Pipette Nominal Volume	Maximum Permissible Error					
	Accuracy		Repeatability			
μ L	$\pm$ %	$\pm \mu$ L	%	μ L	mg	
1	5.0	0.05	5	0.05	0.001	
2	4.0	0.08	2	0.04		
5	2.5	0.125	1.5	0.075		
10	1.2	0.12	0.8	0.08		
20	1.0	0.2	0.5	0.1	0.01	
50	1.0	0.5	0.4	0.2		
100	0.8	0.8	0.3	0.3		
200	0.8	1.6	0.3	0.6		
500	0.8	4	0.3	1.5	0.1	
1000	0.8	8	0.3	3.0		
2000	0.8	16	0.3	6.0		
5000	0.8	40	0.3	15		
10000	0.6	60	0.3	30		
Daily inspection, simplified verification						

AD-4212B-PT can be used for the pipette volume range from 1 μ L to 10,000 μ L.

Pipette Accuracy Tester
corresponding to the requirements



AD-4212B-PT



AD-4212A-PT

FX-300i-PT