

18.2 Model-specific data

Technical data (limit values)

Model	XP105DR	XP205	XP205DR
Maximum load	120 g	220 g	220 g
Maximum load, fine range	31 g	—	81 g
Readability	0.1 mg	0.01 mg	0.1 mg
Readability, fine range	0.01 mg	—	0.01 mg
Repeatability (measured at)	0.06 mg (100 g)	0.03 mg (200 g)	0.06 mg (200 g)
Repeatability at low load (measured at)	0.05 mg (10 g)	0.015 mg (10 g)	0.05 mg (10 g)
Repeatability, fine range (measured at)	0.04 mg (100 g)	—	0.04 mg (200 g)
Repeatability at low load, fine range (measured at)	0.015 mg (10 g)	—	0.015 mg (10 g)
Linearity	0.15 mg	0.1 mg	0.15 mg
Eccentric load deviation (measured at)	0.2 mg (50 g)	0.2 mg (100 g)	0.25 mg (100 g)
Sensitivity offset ²⁾	$4 \times 10^{-6} \cdot R_{nt}$	$2 \times 10^{-6} \cdot R_{nt}$	$2.5 \times 10^{-6} \cdot R_{nt}$
Sensitivity temperature drift	$1 \times 10^{-6} / ^\circ\text{C} \cdot R_{nt}$	$1 \times 10^{-6} / ^\circ\text{C} \cdot R_{nt}$	$1 \times 10^{-6} / ^\circ\text{C} \cdot R_{nt}$
Sensitivity stability	$1 \times 10^{-6} / \text{a} \cdot R_{nt}$	$1 \times 10^{-6} / \text{a} \cdot R_{nt}$	$1 \times 10^{-6} / \text{a} \cdot R_{nt}$
Interface update rate	23 /s	23 /s	23 /s
Balance dimensions (W x D x H) [mm]	263 x 487 x 322	263 x 487 x 322	263 x 487 x 322
Usable height of draft shield	235 mm	235 mm	235 mm
Weighing pan dimensions (W x D) [mm]	78 x 73	78 x 73	78 x 73
Weight	10 kg	10 kg	10 kg

Typical data for determination of the measurement uncertainty

Model	XP105DR	XP205	XP205DR
Settling time	1.5 s	2.5 s	1.5 s
Repeatability (sd) ¹⁾	$0.04 \text{ mg} + 1 \times 10^{-7} \cdot R_{gr}$	$0.008 \text{ mg} + 6 \times 10^{-8} \cdot R_{gr}$	$0.04 \text{ mg} + 5 \times 10^{-8} \cdot R_{gr}$
Repeatability (sd) fine range ^{1) 3)}	$0.008 \text{ mg} + 1.5 \times 10^{-7} \cdot R_{gr}$	—	$0.008 \text{ mg} + 1.2 \times 10^{-7} \cdot R_{gr}$
Differential nonlinearity (sd)	$\sqrt{2.5 \times 10^{-11} \text{ g} \cdot R_{nt}}$	$\sqrt{5 \times 10^{-12} \text{ g} \cdot R_{nt}}$	$\sqrt{1.2 \times 10^{-11} \text{ g} \cdot R_{nt}}$
Differential eccentric load offset (sd)	$1 \times 10^{-6} \cdot R_{nt}$	$5 \times 10^{-7} \cdot R_{nt}$	$5 \times 10^{-7} \cdot R_{nt}$
Sensitivity offset (sd) ²⁾	$1 \times 10^{-6} \cdot R_{nt}$	$5 \times 10^{-7} \cdot R_{nt}$	$8 \times 10^{-7} \cdot R_{nt}$
Minimum weight (according to USP) ^{1) 4)}	$120 \text{ mg} + 3 \times 10^{-4} \cdot R_{gr}$	$24 \text{ mg} + 1.8 \times 10^{-4} \cdot R_{gr}$	$120 \text{ mg} + 1.5 \times 10^{-4} \cdot R_{gr}$
Minimum weight (according to USP), fine range ^{1) 3) 4)}	$24 \text{ mg} + 4.5 \times 10^{-4} \cdot R_{gr}$	—	$24 \text{ mg} + 3.6 \times 10^{-4} \cdot R_{gr}$
Minimum weight (U=1%, 2 sd) ^{1) 4)}	$8 \text{ mg} + 2 \times 10^{-5} \cdot R_{gr}$	$1.6 \text{ mg} + 1.2 \times 10^{-5} \cdot R_{gr}$	$8 \text{ mg} + 1 \times 10^{-5} \cdot R_{gr}$
Minimum weight (U=1%, 2 sd) fine range ^{1) 3) 4)}	$1.6 \text{ mg} + 3 \times 10^{-5} \cdot R_{gr}$	—	$1.6 \text{ mg} + 2.4 \times 10^{-5} \cdot R_{gr}$

¹⁾ Valid for compact objects

²⁾ After adjustment with built-in reference weight

³⁾ On DeltaRange models: fine range starts at zero gross load

⁴⁾ The minimum weight can be improved by the following measures:

- Selecting suitable weighing parameters
- Choosing a better location
- Using smaller taring containers

sd = Standard deviation

R_{gr} = Gross weight

R_{nt} = Net weight (sample weight)

a = Year (annum)

Data shown as typical are reference values for calculation of the expected measurement uncertainty. The actual measurement performance may be affected negatively or positively by the place of use and/or the settings.