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Corrigendum

Corrigendum: Refractive index gas thermometry between 13.8 K and 161.4 K (2021 Metrologia 58 025008)

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A mass calibration of the weights set of the pressure balance used to provide the primary pressure reference to the refractive index gas thermometer (RIGT) revealed some relevant discrepancies from the mass calibration data made available from the manufacturer. Particularly, the 0.5 kg mass carrying bell in the weights set was found to be lighter than previously assumed by (45 ± 3) mg.

As a consequence, the experimental pressure records of the RIGT measurements must be corrected by variable amounts ranging between -1.5 Pa and -2.4 Pa depending on the particular combination of weights employed to realize pressures in the range between 40 kPa and 380 kPa.

Upon applying these corrections, thermodynamic temperatures have been re-evaluated leading to the revised $(T - T_{90})$ estimates listed below in a corrected version of table 1:


Table 1. Recommended $(T - T_{90})$ differences based on results obtained using two thermometric gases.

T_{90}/K	He	Ne	Recommended
	$(T - T_{90})/\text{mK}$		
13.8033	0.75 ± 1.70		0.75 ± 1.70
24.5561	-1.11 ± 0.39		-1.11 ± 0.39
54.3584	-3.16 ± 0.53	-4.94 ± 1.23	-3.44 ± 0.53
83.8058	-3.61 ± 1.05	-5.16 ± 1.10	-4.35 ± 1.05
161.4060	-5.30 ± 2.90	-8.77 ± 4.45	-6.37 ± 2.90

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