

Blackbody Radiation Sources

Technical Data

Blackbody Radiation Sources

Type	SW10C	SW11B	SW20	SW15
Temperature range	50 ... 400 °C	350 ... 1000 °C	30 ... 95 (150) °C ¹⁾	100 °C
Cavity aperture Ø Cavity depth	25 mm 105 mm	25 mm 145 mm	36 mm 130 mm	20 mm 37 mm
Emissivity	≥ 0.99	≥ 0.99	≥ 0.995	≥ 0.99
Real temperature control	external thermocouple Pt100	external thermocouple Pt100	external glass thermometer Pt100	LED
Uniformity of cavity temperature	< 1 °C	< 1 °C	< 0.2 °C	< 1 °C
Temperature sensor	PT 100	built-in NiCrNi thermocouple	→ Thermostat	PTC
Dimensions	Ø 180 mm L 320 mm	Ø 180 mm L 320 mm	Ø 160 mm H 260 mm	Ø 45 mm H 95 mm
Weight radiator	8.2 kg	7.5 kg	approx. 3.5 kg	0.35 kg
Weight stand	2.15 kg	2.15 kg		
Filling			4 l	
Warm-up period	2 h @ 350 °C	3 h @ 700 °C	0.5 h @ 90 °C	10 min
Stabilization period	1 h @ ΔT = 50 °C	1 h @ ΔT = 50 °C		
Power consumption				4 VA

¹⁾ up to 95 °C with water, up to 150 °C with silicone

Controllers for Blackbody Radiation Sources

Type	SR10C (for SW10C)	SR11B (for SW11B)	Thermostat (for SW20)
Temperature range	0 ... 400 °C	0 ... 1000 °C	-50 ... 150 °C
Input	Pt100	NiCrNi-thermocouple	integrated PT100
Voltage	230 V ± 10 % (50/60 Hz)	230 V ± 10 % (50/60 Hz)	198 - 242 V, 50 - 60 Hz
Power consumption	250 VA	800 VA	2100 VA
Control behaviour	PID adjusted at radiator	PID adjusted at radiator	PID
Adjustable accuracy	1° with real value indication	1° with real value indication	0.5 % of accumulated value
Dimensions	235 x 145 x 360 mm	330 x 145 x 360 mm	
Weight	4 kg	10.5 kg	3.2 kg