

Refrigerated baths, circulators, Optima series

Optima R series refrigerated bath and circulators

The five Grant Optima series immersion thermostats and circulators combine with a series of five refrigeration units to form a highly versatile range of refrigerated baths and circulators, primarily for cooling applications.

The series comprises both general purpose and precision cooling baths for temperature control of vessels directly within the tank; baths with GD 120, GR 150 and GP200 thermostats may also be used as refrigerated circulators. Refer to earlier pages for full details, features and specification tables of the Optima series thermostats



The refrigeration units offer:

- Minimum operating temperature -20°C, -30°C, -47°C
- Tank volumes: 5, 12, 20L
- Powerful and efficient cooling: 250, 900 and 1100W extraction @20°C
- Ozone friendly refrigerant
- Rapid cool down
- Quiet operation
- Choice of 230 V and 115 V models

PLUS a host of features

- Constructed throughout from corrosion resistant materials with a stainless steel internal tank

- Removable front grille allows easy access to the condenser and the liquid drain valve for convenient routine cleaning and liquid changes
- All units are supplied with a bridge plate for mounting the thermostat and removable lid with fitted handle
- Liquid drain valve supplied on R2, R3, R4, and R5 models
- 5°C thermostat on/off switch to stop the tank freezing when operating with water
- Dual-position fitting of thermostat for convenient access
- High-pressure switch supplied on R4 and R5 models
- R2 and R5 models; the refrigeration can be switched on and off by the GR150 and GP200 thermostats during a heating and cooling program, or by ancillary equipment.

TECHNICAL SPECIFICATIONS

Specification comparison table - refrigeration units

			12233/30	12233/31	12233/32	12233/33	12233/34
			R1	R2	R3	R4	R5
Temperature range with controller °C	GA100 °C		0 to 100 °C	0 to 100 °C	0 to 100 °C	0 to 100 °C	0 to 100 °C
	GD100		0 to 100 °C	0 to 100 °C	0 to 100 °C	0 to 100 °C	0 to 100 °C
	GD120		-20 to 100 °C	-20 to 100 °C	-20 to 100 °C	-20 to 100 °C	-20 to 100 °C
	GR150		-20 to 100 °C	-20 to 100 °C	-30 to 100 °C	-30 to 100 °C	-47 to 100 °C
	GP200		-20 to 100 °C	-20 to 100 °C	-30 to 100 °C	-30 to 100 °C	-47 to 100 °C
Stability (DIN58966)		±°C	0.1	0.1	0.1	0.1	0.1
	Uniformity	±°C	0.1	0.1	0.1	0.1	0.1
Cooling power	@20°C	W	250	250	160	900	1100
	@0°C	W	140	140	156	500	1050
	@-10°C	W	100	100	120	300	800
	@-20°C	W	35	35	50	180	580
	@-30°C	W	-	-	5	40	390
	@-40°C	W	-	-	-	-	130
	@-47°C	W	-	-	-	-	25
Refrigerant			R134a	R134a	R134a	R134a	R404a
Weight	Kg		19.2	19.2	19.2	37.8	47
Refrigeration unit dimensions (w x d x h), mm			230 x 410 x 410	230 x 410 x 410	230 x 410 x 410	390 x 490 x 530	415 x 575 x 585
Overall dimensions inc. controller (w x d x h), mm			230 x 410 x 590	230 x 410 x 590	230 x 410 x 590	390 x 490 x 710	415 x 575 x 765
Tank capacity, L			5	5	5	20	12
Top opening (l x w), mm			110 x 145	110 x 145	110 x 145	230 x 305	260 x 115
Liquid depth min./max., mm			80 to 140	80 to 140	80 to 140	80 to 140	120 x 180
Drain valve			no	yes	yes	yes	yes
Relay control for refrigeration on/off			-	yes	yes	yes	yes
Overtemperature cut-out 100°C limit			yes	yes	yes	yes	yes
Water freezing protection thermostat			yes	yes	yes	yes	yes
Refrigeration high pressure switch			-	-	27bar	27bar	-
Electrical power max.							
220-240 V	W		334(50Hz)	334(50Hz)	354(50Hz)	684(50Hz)	1305(50Hz)
110-120V	W		328(50-60Hz)	328(50-60Hz)	370(60Hz)	684(60Hz)	n/a
EMC emissions	Class		B	B	B	B	B