



CR – Clean Room Ovens

The CR range of 250°C clean room ovens comprises nine standard models in sizes from the 30 litre model to the 1790 litre model which, once processed through a customer's standard material entry regime, are suitable for operation within an ISO 14644-1 Class 5 environment*. All sources of particulate contamination are fully sealed. Their easily cleaned stainless steel interiors and gloss white epoxy exteriors prevent the shedding of particulate contamination.

*Federal Standard 209E Class 100 was superseded in 2001 by ISO 14644-1 Class 5



CR 70 & CR 30

Standard features

- 250°C maximum operating temperature
- Carbolite Gero 301 controller with single ramp to setpoint
- 30 to 1790 litre chamber volumes
- Fully sealed low thermal mass insulation to avoid shedding fibres
- Fully enclosed brushless fan motor
- Perforated stainless steel shelves
- Particle free silicone rubber door seal
- Membrane control panel with clear bright LED display

Options (specify these at time of order)

- A range of sophisticated digital controllers, multi-segment programmers and data loggers is available. These can be fitted with RS232, RS485 or Ethernet communications (see pages 106 – 111)
- Over-temperature protection (recommended to protect valuable contents & for unattended operation)
- Access port for independent thermocouple
- Cable access port
- Viewing window
- Frame to enable units to be stacked one upon another
- Lockable door
- Door switch to isolate elements and fan
- Fully customised through wall (flange fitted) designs are available
- **NEW** Door interlock activated by temperature alarm relay (3216, CC-T1, 3508 or nanodac) or program segment output (CC-T1, 3508 or nanodac)

Technical data

CGH Model	Max. temp. [°C]	Temp. stability [°C]	Temperature uniformity [°C]	Heat-up time [mins]	Recovery time [mins]	Dimensions: Internal H x W x D [mm]	Dimensions: External H x W x D [mm]	Shelves fitted / accepted	Shelf loading each / total [kg]	Volume [litres]	Max. power [W]
CR/30	250	±0.2	±3.0 @ 250°C	35	4	310 x 310 x 310	685 x 460 x 670 (Bench-top or optional stand)	2 / 2	10 / 20	30	1000
CR/70	250	±0.2	±3.0 @ 250°C	35	4	310 x 470 x 470	685 x 620 x 820 (Bench-top or optional stand)	2 / 2	10 / 20	68	1500
CR/130	250	±0.2	±4.0 @ 250°C	35	4	550 x 470 x 470	925 x 620 x 820 (Bench-top or optional stand)	3 / 5	10 / 40	121	2000
CR/180	250	±0.2	±5.0 @ 250°C	58	5	770 x 470 x 470	1145 x 620 x 820 (Bench-top or optional stand)	3 / 7	10 / 50	170	2500
CR/220	250	±0.2	±5.0 @ 250°C	75	4	610 x 610 x 610	1360 x 940 x 970 (Bench-top or optional stand)	3 / 5	15 / 45	227	3000
CR/330	250	±0.2	±5.0 @ 250°C	80	6	915 x 610 x 610	1670 x 940 x 970 (Floor-standing or optional stand)	4 / 8	15 / 60	340	4500
CR/450	250	±0.3	±5.0 @ 250°C	75	9	1220 x 610 x 610	1930 x 940 x 970 (Floor-standing or optional stand)	5 / 11	15 / 75	450	6000
CR/840	250	±0.3	±5.0 @ 250°C	-	-	1525 x 915 x 610	2235 x 1395 x 970 (Floor-standing)	6	15 / -	850	12000
CR/1790	250	±0.3	±5.0 @ 250°C	-	-	1220 x 1220 x 1220	1930 x 1750 x 1580 (Floor-standing)	5	15 / -	1810	18000

i Please note:

- Minimum operating temperature approximately ambient plus 30°C
- Uniformity is measured in an empty chamber with vents closed, after a stabilisation period
- Maximum power and heat up time based on a 240 V supply

- Shelf loadings are based on evenly distributed weight
- External dimensions with door closed
- The uniform volume is smaller than the total chamber volume



HTCR – High Temperature Clean Room Ovens



HTCR 4/95

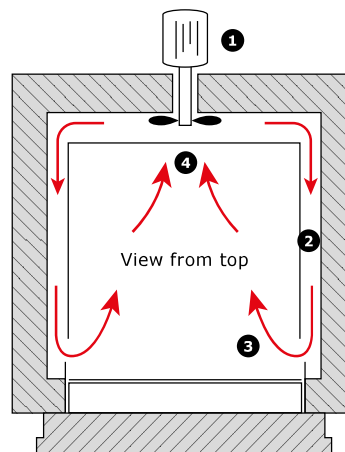
HTCR 6/28
with 3216P1 programmer option

The HTCR range of clean room ovens comprises **15 standard models with five sizes between 28 and 1000 litres available with maximum temperatures of 400 °C, 500 °C and 600 °C.**

Once processed through a customer's standard material entry regime HTCR Ovens are suitable for operation within an **ISO 14644-1 Class 6** environment. Federal Standard 209E Class 1000 was superseded in 2001 by ISO 14644-1 Class 6.

Optionally HTCR ovens can be supplied for operation within an **ISO 14644-1 Class 5** environment. Federal Standard 209E Class 100 was superseded in 2001 by ISO 14644-1 Class 5.

Airflow in HTCR



- 1) Air circulation fan
- 2) Heating elements heat the air
- 3) Heated air enters the chamber
- 4) Air from the chamber moves into the circulation fan

Airflow path as viewed from above

Standard features

- 400 °C, 500 °C or 600 °C maximum operating temperatures
- Carbolite Gero 301 PID controller with single ramp to setpoint and including over-temperature protection
- 28 to 1000 litre chamber volumes
- Fully sealed low thermal mass insulation avoids shedding fibres
- Fully enclosed brushless fan motor
- Smooth easily cleaned gloss epoxy exterior
- Polished stainless steel sealed interior
- Perforated stainless steel shelves
- Particle free silicone rubber door seal
- Membrane control panel with clear bright LED display
- Double skin construction for cool safe outer case temperature
- Door switch



HTCR – High Temperature Clean Room Ovens

Options (specify these at time of order)

- A range of sophisticated digital controllers, multi-segment programmers and data loggers is available. These can be fitted with RS232, RS485 or Ethernet communications (see pages 106 – 111)
- ISO-14644-1 Class 5 models are optionally available
- Access port for independent thermocouple
- Cable access port
- Lockable door
- Fixed or castor mounted floor stands
- Through wall (flange fitted) as well as fully bespoke designs are available
- **NEW** Door interlock activated by temperature alarm relay (3216, CC-T1, 3508 or nanodac) or program segment output (CC-T1, 3508 or nanodac)

Clean room classifications

Standard	Classification			
	5	6	7	8
ISO 14644-1	E/F	G/H	J	K
BS 5295	100	1000	10000	100000
Federal standard 209E				

Technical data

CGH Model	Max. temp. [°C]	Temp. stability [°C]	Temp. uniformity [°C]	Heat-up time [mins]	Recovery time [mins]	Dimensions: Internal H x W x D [mm]	Dimensions: External H x W x D [mm]	Shelves fitted / accepted	Shelf loading each / total [kg]	Volume [litres]	Max. power [W]
HTCR 4/28	400	±0.5	±5.0 @ 250°C	60	10	305 x 305 x 305	880 x 675 x 885 (Bench-top or optional stand)	2 / 2	10 / 20	28	1000
HTCR 4/95	400	±0.5	±5.0 @ 250°C	90	10	455 x 455 x 455	1010 x 810 x 1120 (Bench-top or optional stand)	3 / 4	15 / 30	94	3000
HTCR 4/220	400	±0.5	±5.0 @ 250°C	75	16	610 x 610 x 610	1160 x 1030 x 1280 (Bench-top or optional stand)	3 / 4	10 / 50	227	4000
HTCR 4/500	400	±0.5	±5.0 @ 250°C	-	-	800 x 800 x 800	1305 x 1115 x 1450 (Floor-standing or optional stand)	3 / 5	-	510	7500
HTCR 4/1000	400	±0.5	±5.0 @ 250°C	-	-	1000 x 1000 x 1000	1310 x 1530 x 1635 (Floor-standing or optional stand)	3 / 5	-	1000	12000
HTCR 5/28	500	±0.5	±5.0 @ 250°C	75	16	305 x 305 x 305	880 x 675 x 885 (Bench-top or optional stand)	2 / 2	10 / 20	28	2000
HTCR 5/95	500	±0.5	±5.0 @ 250°C	110	16	455 x 455 x 455	1010 x 810 x 1120 (Bench-top or optional stand)	3 / 4	15 / 30	94	4500
HTCR 5/220	500	±0.5	±5.0 @ 250°C	105	16	610 x 610 x 610	1160 x 1030 x 1280 (Bench-top or optional stand)	3 / 4	10 / 50	227	6000
HTCR 5/500	500	±0.5	±5.0 @ 250°C	-	-	800 x 800 x 800	1305 x 1155 x 1450 (Floor-standing or optional stand)	3 / 5	10 / 20	510	9000
HTCR 5/1000	500	±0.5	±5.0 @ 250°C	-	-	1000 x 1000 x 1000	1310 x 1530 x 1635 (Floor-standing or optional stand)	3 / 5	15 / 30	1000	15000
HTCR 6/28	600	±0.5	±5.0 @ 250°C	110	20	305 x 305 x 305	880 x 675 x 885 (Bench-top or optional stand)	2 / 2	10 / 50	28	2000
HTCR 6/95	600	±0.5	±5.0 @ 250°C	110	20	455 x 455 x 455	1010 x 810 x 1120 (Bench-top or optional stand)	3 / 4	10 / 20	94	4500
HTCR 6/220	600	±0.5	±5.0 @ 250°C	120	20	610 x 610 x 610	1160 x 1030 x 1280 (Bench-top or optional stand)	3 / 4	15 / 30	227	9000
HTCR 6/500	600	±0.5	±5.0 @ 250°C	-	-	800 x 800 x 800	1305 x 1155 x 1450 (Floor-standing or optional stand)	3 / 5	-	510	12000
HTCR 6/1000	600	±0.5	±5.0 @ 250°C	-	-	1000 x 1000 x 1000	1310 x 1530 x 1635 (Floor-standing or optional stand)	3 / 5	-	1000	15000

i Please note:

- Minimum operating temperature approximately ambient plus 60 °C
- Uniformity is measured in an empty chamber with vents closed, after a stabilisation period
- Maximum power and heat up time based on a 240 V supply

- External dimensions with door closed
- The uniform volume is smaller than the total chamber volume