

**Thermo Scientific  
Cytomat® Automated  
Incubators and  
Storage Modules**



**Technical Specifications  
and Options**



**Thermo Scientific Cytomat modules combine proven reliability and environmental stability with worldwide service and support.**

### Environmental Specifications

Cytomat modules provide uniform and stable temperature, humidity, and atmospheric conditions. Recovery times are virtually eliminated, which helps minimize assay variance.

All Cytomat models are equipped with a small access door. Microplates enter and exit the unit in seconds, significantly minimizing disruption to the controlled environment. The system's speed ensures that stored plates are maintained under uniform and stable conditions at all times, while exiting plates remain in the controlled environment until the moment they are needed.

#### Temperature

Temperature stability is extremely important in achieving reproducible assay results and optimal cell growth. Cytomat models ensure ideal temperature conditions, even when in automated operation.

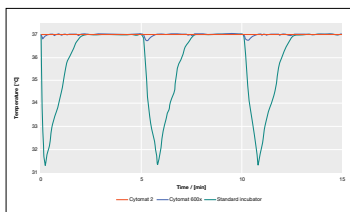
#### Humidity

A specially designed internal water reservoir results in high and stable humidity. Stackers with ventilation slots minimize evaporation and other edge effects to protect microplates.

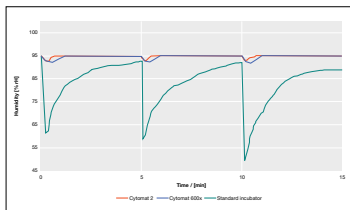
#### CO<sub>2</sub> Atmosphere

Cytomat models virtually eliminate recovery times for any gaseous atmosphere. They provide the stabilized CO<sub>2</sub> atmosphere and related pH value in the media that are essential in any cell-based application.

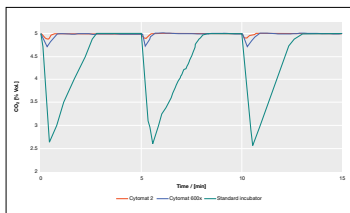
*Temperature recovery with gate in operation (gate opening every 5 minutes for 10 seconds, set temperature 37°C)*



*Recovery times with gate in operation (gate opening every 5 minutes for 10 seconds, 95% rH)*



*Recovery times with gate in operation (gate opening every 5 minutes for 10 seconds, set CO<sub>2</sub> 5% volume)*



## Cytomat Technical Data

Capacity	2 Stacker (42 standard 96- or 384-well plates)								
Model		Cytomat 2 C4	Cytomat 2 C	Cytomat 2 C15	Cytomat 2 C70	Cytomat 2 C425	Cytomat 2 C450	Cytomat 2 C470	Cytomat 2 Hotel
Version		Storage	Incubator	Incubator	High temperature	Storage	Wide range	Wide range	Tip box
Climate		Humid				Humid			
Microplate capacity (SBS size)									
96-well or 384-well	pcs	42	42	42	42	42	42	42	42
Deep-well	pcs	20	20	20	20	20	20	20	20
1536-well	pcs	56	56	56	56	56	56	56	56
Temperature range	°C	+4 to +10	T <sub>A</sub> + 8 to +50	+15 to +50	T <sub>A</sub> + 8 to +70	+4 to +25	+4 to +50	+4 to +70	Ambient
Temperature accuracy									
Temporal	°C	± 0.3	± 0.1	± 0.2	± 0.2	< ± 0.2	< ± 0.2	< ± 0.2	-
Spatial	°C	< ± 0.7	< ± 0.5	< ± 1.0	< ± 1.0	< ± 0.7	< ± 0.7	< ± 0.7	-
				< ± 1.5 when cooling					
Humidity, constant, maximum	%rH	75	95	75	95, up to 50°C	95	95	93	-
CO <sub>2</sub> control	%	-	0 to 20	0 to 20	-	-	0 to 20	0 to 20, up to 50°C	-
Access time, maximum	s	20	20	20	20	20	20	20	20
Access mode		Random	Random	Random	Random	Random	Random	Random	Random
External dimensions									
W/D/H excluding transfer station	mm	491/530/1391	491/530/1101	585/530/1101	491/530/1101	491/592/1101 <sup>1</sup>	491/592/1101 <sup>1</sup>	491/592/1101 <sup>1</sup>	368/395/771
W/D/H excluding transfer station	inch	19.3/20.9/54.8	19.3/20.9/43.4	23.0/23.3/43.4	19.3/20.9/43.4	19.3/23.3/43.4	19.3/23.3/43.4	19.3/23.3/43.4	14.5/15.6/30.4
Weight, net	kg	110	80	90	80	90	90	90	40
Heat dissipation	kWh/h	0.25	0.09	0.39	0.19	0.4	0.4	0.4	0.01
Heat dissipation	Btu	853.2	307.1	1,330.7	648.3	1,364.9	1,364.9	1,364.9	0.034
Rated voltage		1/PE AC, 230 V	1/PE AC, 230 V	1/PE AC, 230 V	1/PE AC, 230 V	1/PE AC, 230 V	1/PE AC, 230 V	1/PE AC, 230 V	1/PE AC, 230 V
Rated power 230 V/120 V	kW	0.3	0.7	0.9	0.7	0.25 + 2.3/1.4	0.25 + 2.3/1.4	0.25 + 2.3/1.4	0.15
Rated current at 230 V	A	1.3	3	3.91	3	1.1 + 10	1.1 + 10	1.1 + 10	0.65
Rated current at 120 V	A	2.5	5.83	7.5	5.83	1.1 + 11.7	1.1 + 11.7	1.1 + 11.7	1.25

## Cytomat Options

Model		Cytomat 2 C4	Cytomat 2 C	Cytomat 2 C15	Cytomat 2 C70	Cytomat 2 C425	Cytomat 2 C450	Cytomat 2 C470	Cytomat 2 Hotel
100 V/120 V version		+	+	+	+	+	+	+	S
O <sub>2</sub> control		C	C	C	C	C	C	C	n/a
Barcode scanner		+	+	+	C	+	+	C	+
Designed for deep-well plate handling		S	S	S	S	S	S	S	Tip box
Tip-box handling		C	C	C	C	C	C	C	S
Transfer stations									
Transfer station with plate sensor		+	+	+	+	+	+	+	+
90° turnable, with plate sensor		+	+	+	+	+	+	+	+
Linear transfer station with plate sensor		+	+	+	+	+	+	+	+
Swap station, with 2 plate sensors		+	+	+	+	+	+	+	+
Single point of integration									
Positioned top left		-	-	-	-	-	-	-	-
Positioned bottom right		-	-	-	-	-	-	-	-
Positioned top right		-	-	-	-	-	-	-	-
Positioned top		C	C	C	C	C	C	C	Flexible
									face side (in middle)

+ Available or optional    - Not applicable    n/a Not available    S Standard    C Custom    T<sub>A</sub> Ambient temperature

<sup>1</sup> Dimensions exclude thermostat

<sup>2</sup> External thermostat

9 Stacker (189 standard 96- or 384-well plates)								24 Stacker (504 standard 96- or 384-well plates)		
Cytomat 6002 D	Cytomat 6003 D	Cytomat 6000	Cytomat 6001	Cytomat 6001 C4	Cytomat 6070	Cytomat 6004	Cytomat Hotel	Cytomat 24 C	Cytomat 24 C10	Cytomat 24 C4
Storage	Storage	Incubator	Incubator	Wide range	High temperature	Inert gas	Tip box	Incubator	Incubator	Wide range
Dry	Dry									
189	189	189	189	189	189	189	189	504	504	504
90	90	90	90	90	90	90	90	240	240	240
252	252	252	252	252	252	252	252	672	672	672
+ 4 to +21	+ 4 to +21	T <sub>A</sub> +8 to +50	+10 to +50 <sup>2</sup>	+4 to +50	T <sub>A</sub> +12 to +70	Ambient	Ambient	T <sub>A</sub> +8 to +50	+10 to +50	+4 to +50
± 1.0	± 1.0	± 0.1	± 0.1	± 0.1	± 0.1	-	-	± 0.1	± 0.1	± 0.1
± 1.0	± 1.0	± 0.5	± 0.5	± 0.5	± 0.5	-	-	± 0.5	± 1	± 1
3	3	95	95	95	95	6	-	93	93	93
-	-	0 to 20	0 to 20	0 to 20	-	-	-	0 to 20	0 to 20	0 to 20
20	20	20	20	20	20	20	20	30	30	30
Random	Random	Random	Random	Random	Random	Random	Random	Random	Random	Random
900/810/1300	900/810/1635	900/810/850	900/810/850	780/810/1085 <sup>1</sup>	900/810/850	900/810/850	620/650/880	897/863/1860	897/863/1860 <sup>1</sup>	897/863/1860 <sup>1</sup>
35.4/31.9/51.2	35.4/31.9/64.4	35.4/31.9/33.5	35.4/31.9/33.5	30.7/31.9/42.8	35.4/31.9/33.5	35.4/31.9/33.5	24.4/25.6/34.65	35.3/33.98/73.2	35.3/33.98/73.2	35.3/33.98/73.2
280	290	150	160	170	150	150	50	250	250	250
0.33	0.33	0.09	0.09	0.4	0.19	0.01	0.01	0.18	0.18	0.18
1.126	1.126	307.1	307.1	1,364.9	648.3	0.034	0.034	310	310	310
1/PE AC, 230 V	1/PE AC, 230 V	1/PE AC, 230 V	1/PE AC, 230 V	1/PE AC, 230 V	1/PE AC, 230 V	1/PE AC, 230 V	1/PE AC, 230 V	1/PE AC, 230 V	1/PE AC, 230 V	1/PE AC, 230 V
1.0	1.0	1.2	1.2	0.4 + 2.3/1.4	1.2	0.3	0.15	0.94	0.94 + 3.5/1.75	0.94 + 3.5/1.75
4.35	4.35	5.2	5.2	1.7 + 10	5.2	1.3	0.65	4.1	4.1 + 15	4.1 + 15
8.33	8.33	10	10	1.7 + 11.7	10	2.5	1.25	7.9	7.9 + 14.5	7.9 + 14.5

Cytomat 6002 D	Cytomat 6003 D	Cytomat 6000	Cytomat 6001	Cytomat 6001 C4	Cytomat 6070	Cytomat 6004	Cytomat Hotel	Cytomat 24 C	Cytomat 24 C10	Cytomat 24 C4
+	+	+	+	+	+	S	S	+/+	+/+	+/+
C	C	+	+	+	C	C	n/a	+	+	+
+	+	+	+	+	C	+	+	+	+	+
S	S	S	S	S	S	S	Tip box	Tip box	Tip box	Tip box
C	C	C	C	C	C	C	S	+	+	+
+	+	+	+	+	+	+	+	+	+	+
+	+	+	+	+	+	+	+	+	+	+
+	+	+	+	+	+	+	+	+	+	+
C	C	C	C	C	C	C	C	C	C	C
C	C	C	C	C	C	C	C	C	C	C
C	C	C	C	C	C	C	C	C	C	C
-	-	-	-	-	-	-	-	-	-	-

temperature

or 384-well plates)		44 Stacker (924 standard 96- or 384-well plates)			48 Stacker (1008 standard 96- or 384-well plates)			
Cytomat 24 Hotel	Cytomat 24 Linear Hotel	Cytomat 44 D	Cytomat 44 HC	Cytomat 44 H	Cytomat 48 C	Cytomat 48 C10	Cytomat 48 C4	Cytomat 48 Linear Hotel
Tip box	Tip box	Storage	Storage	Storage	Incubator	Incubator	Wide range	Tip box
		Dry	Humid controlled	Humid	Double chamber	Double chamber	Double chamber	
504	504	924	924	924	1008	1008	1008	1008
240	240	440	440	440	480	480	480	480
672	672	1232	1232	1232	1344	1344	1344	1344
Ambient	Ambient	-20 to +25	+4 to +25	+4 to +25	T <sub>A</sub> +8 to +50	+10 to +50	+4 to +50	Ambient
-	-	± 1	± 1	± 1	± 0.2	± 0.2	± 0.2	-
-	-	± 2.5	± 2	± 2	± 1	± 1	± 1	-
-	-	10 (35 at -20°C)	20 to 50	70	93	93	93	-
-	-	-	-	-	0 to 20	0 to 20	0 to 20	-
30	30	60	60	60	30	30	30	30
Random	Random	Random	Random	Random	Random	Random	Random	Random
804/680/1471	770/1106/1720	1962/820/1982	1962/820/1982	1962/820/1982	1844/985/1675	1844/985/1675 <sup>1</sup>	1844/985/1675 <sup>1</sup>	770/1790/1720
31.7/26.8/58	30.3/43.5/67.7	77.3/32.2/78.1	77.3/32.2/78.1	77.3/32.2/78.1	72.5/38.8/66	72.5/38.8/66	72.5/38.8/66	30.3/70.5/67.7
175	400	700	700	700	500	500	500	630
0.01	0.01				0.36	0.36	0.36	0.01
0.034	0.034				620	620	620	0.034
1/PE AC, 230 V	1/PE AC, 230 V	1/PE AC, 230 V	1/PE AC, 230 V	1/PE AC, 230 V	2x 1/PE AC, 230 V	2x 1/PE AC, 230 V	2x 1/PE AC, 230 V	1/PE AC, 230 V
0.15	0.2	2.3	2.3	2.3	2 x 0.94	2 x (0.94 + 3.5/1.75)	2 x (0.94 + 3.5/1.75)	0.2
0.65	0.87	10	10	10	2 x 4.1	2 x (4.1 + 15)	2 x (4.1 + 15)	0.87
1.25	1.67	11.06 at 208 V	11.06 at 208 V	11.06 at 208 V	2 x 7.9	2 x (7.9 + 14.5)	2 x (7.9 + 14.5)	1.67

Cytomat 24 Hotel	Cytomat 24 Linear Hotel	Cytomat 44 D	Cytomat 44 HC	Cytomat 44 H	Cytomat 48 C	Cytomat 48 C10	Cytomat 48 C4	Cytomat 48 Linear Hotel
S	S	200-208V	200-208V	200-208V	+/+	+/+	+/+	S
n/a	n/a	C	C	C	+	+	+	n/a
+	+	+	+	+	+	+	+	+
Tip box	Tip box	Tip box	Tip box	Tip box	Tip box	Tip box	Tip box	Tip box
+	+	+	+	+	+	+	+	+
+	+	C	C	C	+	+	+	+
+	+	C	C	C	+	+	+	+
+	+	C	C	C	+	+	+	+
+	+	C	C	C	+	+	+	+
Flexible	n/a	-	-	-	C	C	C	-
C	n/a	-	-	-	C	C	C	-
C	n/a	-	-	-	C	C	C	-
-	Flexible	Flexible	Flexible	Flexible	-	-	-	Flexible
	Face side (in middle)							Face side (in middle)

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