

TS/DG – TSF/DG

**THERMOSTATIC INCUBATORS
FOR BACTERIOLOGY
NATURAL AIR CONVECTION / FORCED AIR CIRCULATION**

WITH DIGITAL PID CONTROLLER

Vers. 11/24



Key Features

- Full stainless steel construction: internal walls AISI 430, external structure AISI 304 "Scotch Brite", allows maximum corrosion resistance and easy cleaning
- Internal chamber with laminar air circulation and uniform warmth distribution offered by two lateral convection ducts with perforated walls and by resistors position in pre-warming chamber
- Motor with fan for air circulation fixed in lateral position, allows an horizontal and diagonal air flow among all the volume of the chamber (only model TSF/DG)
- Thermal insulation by high quality mineral fiber in adequate thickness
- Double kind front door (one or two according to the model), external stainless steel with thermal insulation, internal tempered glass to allow visual inspections without thermal modifications
- Perforated stainless steel AISI 430 shelves, extractable and fixable on different heights
- Pass-through port (on the back wall) for exhaust air external probes (as standard mod. TS, on request mod. TSF)
- Rubber antiskid feet adjustable in height

Standard thermal equipment

- Digital P.I.D controller with autotuning. PT100 probe
- Temperature range: from + 5°C beyond ambient up to + 80°C
- Visualized resolution: three digits (0,1°C), double display (set point, measured temperature)
- Double overtemperature protection system:
 - a) Safety independent adjustable thermal controller (class 3.1 – DIN 12880), is activated in case of default of the main digital controller or of the main probe, with visual alarm
 - b) Safety device with adjustable entry point related to set point (fixed 1,5°C beyond set point), in case of default of the main digital controller, with visual alarm
- Temperature uniformity in the chamber:
 - $\pm 0,5^{\circ}\text{C}$ at 37°C (model TS)
 - $\pm 0,4^{\circ}\text{C}$ at 37°C (model TSF)
- Thermal Accuracy (time): $\pm 0,2^{\circ}\text{C}$ at 37°C
- Manufactured in compliance with the DIRECTIVES of the EUROPEAN COUNCIL 2006/42/CE (Machinery Directive), 2014/35/UE (Low Voltage Directive), 2014/30/UE (EMC Directive) and standards EN 6101-1:(2001).
- Factory temperature calibration certificate (standard 1 measure for 3 points of the chamber)



Optional

Code	Description	
8843001	Digital Timer 99h 59' (integrated in the digital PID controller), count down – continuous modes	
8843201	Programmer 8 segments (4 ramps + 4 permanencies) / Digital Timer 99h, 59'.	
8843203	Programmer 8 programs up to 12 segments (6 ramps + 6 permanencies) / Digital Timer 99h, 59'.	
8843224	3.5 "color touch screen programmer, LED backlight, max. 24 segments, 20 programs, hour/minute and minute/second setting, delayed start, program repeat, exportable stored data, micro USB port, SD card slot	
8844101	USB port with RS 485 converter, for data recording (management software occurs)	
8849324	Overtemperature Acoustic / Visual Alarm Lamp (rather than standard visual alarm lamp)	
8864623	Forced ventilation speed continuous regulator (Min-Max)	
8867106	By pass duct for external thermometric probes	
0101051	Factory temperature calibration certificate by thermometric chain Accredia certified (standard 1 measure for 3 points of the chamber)	
	Stainless Steel AISI 304 Floor Stand	Supplementary perforated Stainless Steel Shelves AISI 430
Model	Codes	Codes
TS/TSF 21 DG	8853202	8853502
TS/TSF 40 DG	8853204	8853504
TS/TSF 58 DG	8853206	8853506
TS/TSF 96 DG	8853210	8853510
TS/TSF 162 DG	8853216	8853516
TS/TSF 245 DG	8853225	8853525
TS/TSF 400 DG	8853240	8853540
TS/TSF 760 DG	-	8853575

On request:

- Serial interface RS485 – RS232
- Management software (reporting, graphics, alarms, running process visualization)
- 4 wheels kit for floor stand (n.2 with brake)



TS Natural air convection	Internal Dimensions (mm)			External Dimensions (except for opening knob) (mm)			Cap.	Shelves supplied/max	Doors	Weight	Power (230V 50-60Hz) (**)
Model	W	H	D	W	H	D	Litres	n.	n.	Kg	W
Code											
TS 21 DG 9061002	310	260	250	610	575	385	20	1 / 5	1	25	200
TS 40 DG 9061004	430	310	300	730	610	455	40	1 / 6	1	36	270
TS 58 DG 9061006	460	360	350	760	660	485	58	2 / 8	1	42	320
TS 96 DG 9061010	540	440	420	840	760	525	100	2 / 9	1	59	400
TS 162 DG 9061016	600	600	450	900	900	560	162	2 / 9	1	71	450
TS 245 DG 9061025	650	700	550	950	1020	675	250	2 / 10	1	79	650
TS 400 DG 9061040	830	830	580	1130	1130	710	400	2 / 10	2	91	750
TS 760 DG 9061075	1000	1200	630	1300	1520	750	756	3 / 18	2	127	1280

(**) on request execution 115 V

TSF Forced air circulation	Internal Dimensions (mm)			External Dimensions (except for opening knob) (mm)			Cap.	Shelves supplied/max	Doors	Weight	Power (230 V 50 Hz) (**)
Model	W	H	D	W	H	D	Litres	n.	n.	Kg	W
Code											
TSF 21 DG 9064002	310	260	250	610	575	385	20	1 / 5	1	26	200
TSF 40 DG 9064004	430	310	300	730	610	455	40	1 / 6	1	37	270
TSF 58 DG 9064006	460	360	350	760	660	485	58	2 / 8	1	43	320
TSF 96 DG 9064010	540	440	420	840	760	525	100	2 / 9	1	61	400
TSF 162 DG 9064016	600	600	450	900	900	560	162	2 / 9	1	73	450
TSF 245 DG 9064025	650	700	550	950	1020	675	250	2 / 10	1	81	650
TSF 400 DG 9064040	830	830	580	1130	1130	710	400	2 / 10	2	93	750
TSF 760 DG 9064075	1000	1200	630	1300	1520	750	756	3 / 18	2	132	1280

(**) on request other voltage / tension