

# CTS-TEMPERATURE/CLIMATIC STRESS SCREENING CHAMBERS

the latest generation with innovative  
technique and future-oriented design.

CHAMBERS  
WITH 5 K/MIN



CHAMBERS  
WITH 10 K/MIN  
AND 15 K/MIN



## STANDARD-VERSION OF THE PRODUCT LINE "TS/CS":

- ▶ Multicolour touchpanel; 32 Bit Controller
- ▶ Service-friendly capacitive humidity measurement system
- ▶ RS 232 interface
- ▶ Potential free contact for malfunction signal
- ▶ Single-hand operated door handle, lockable
- ▶ Entry port  $\varnothing$  50 mm
- ▶ Error display in plain text
- ▶ Shelf, stainless steel

## YOUR BENEFITS:

- ▶ Use of environmentally friendly materials and refrigerants
- ▶ minimum noise level
- ▶ extremely high temperature change rates
- ▶ simple user-friendly operation and programming
- ▶ low power-consumption datas
- ▶ Optimized parameters for highest testing precision
- ▶ Demineralized water system with water-level gauge

TEST SPACE CAPACITY IN LITRES: 200 / 350 / 600 / 1000 / 1500

200 / 350 / 500 / 810 / 900 / 1250

TEMPERATURE RANGE:  $-40^{\circ}\text{C} / +180^{\circ}\text{C}$ ;  $-70^{\circ}\text{C} / +180^{\circ}\text{C}$

$-40^{\circ}\text{C} / +180^{\circ}\text{C}$ ;  $-70^{\circ}\text{C} / +180^{\circ}\text{C}$



# CTS-TEMPERATURE/CLIMATIC STRESS SCREENING CHAMBERS SERIES TS-/CS-40/... AND TS-/CS-70/...

TYPE	5 K/min					
	TS-40/..., CS-40/... TS-70/..., CS-70/...	-40/200-5 -70/200-5	-40/350-5 -70/350-5	-40/600-5 -70/600-5	-40/1000-5 -70/1000-5	-40/1500-5 -70/1500-5
Test Space	litres	200	350	600	1000	1500
Test Space dimensions	high mm, appr.	750	750	850	900	900
	width mm, appr.	650	650	850	1000	1000
	depth mm, appr.	400	720	830	1100	1600
Overall dimensions	high mm, appr.	1800	1800	1900	1950	1950
	width mm, appr.	920	920	1120	1270	1270
	depth mm, appr.	1345	1665	1875	2245	2745
<b>TEMPERATURE TESTS</b>						
Temperature range	TS-40/... CS-40/... °C	-40/+180	-40/+180	-40/+180	-40/+180	-40/+180
	TS-70/... CS-70/... °C	-70/+180	-70/+180	-70/+180	-70/+180	-70/+180
Temp. Change rate cooling acc. IEC 60068-3-5	TS-40/... CS-40/... K/min	5	5	7	5	5
	TS-70/... CS-70/... K/min	5	5	7	5	5
Temp. Change rate heating acc IEC 60068-3-5	TS-40/... CS-40/... K/min	8	8	6	6	5
	TS-70/... CS-70/... K/min	8	8	6	6	5
max. thermal load at +20° C	TS-40/... CS-40/... W	3500	3500	4500	5000	6000
	TS-70/... CS-70/... W	3500	3500	5000	5500	5000
Temperature fluctuation	K	≤± 0,3 temporally				
<b>CLIMATIC TEST</b>						
Temperature range	CS-40/... CS-70/... °C	+10 to +95				
Humidity range	CS-40/... CS-70/... % RH	10 to 98				
Dew point range I	CS-40/... CS-70/... °C	+7 to +94				
Dew point range II	CS-40/... CS-70/... °C	-10 to +7				
Humidity fluctuation I	CS-40/... CS-70/... % RH	≤± 1,5				
Humidity fluctuation II	CS-40/... CS-70/... % RH	≤± 3				
Temperature fluctuation	CS-40/... CS-70/... K	≤± 0,3				
Nominal voltage		400 V +6% -10%, 3/N, 50 Hz				
Nominal power	TS-40/... kW, appr.	9,3	9,3	9,2	13,3	13,2
	CS-40/... kW, appr.	10,4	10,4	12,1	13,2	13,2
	TS-70/... kW, appr.	10,9	10,9	14,2	16,4	16,4
	CS-70/... kW, appr.	12	12	14,2	16,4	16,4
Refrigeration unit		air cooled		water cooled		
Weight	TS-40/... CS-40/... Kg,appr.	500	600	700	850	1000
	TS-70/... CS-70/... Kg,appr.	550	650	750	900	1100
Noise level	dB(A)	<58	<58	<62	<62	<62

All figures are average values which have been obtained at a temperature of +25°C, without test specimens, without thermal load and without options.

## DESIGN:

Control:	Microprocessor control and monitoring system
Test space:	Stainless steel grade 1.4301
Refrigerants:	Chloride free, hermetically sealed
Humidity system (only type CS):	capacitive measuring

10 K/min					15 K/min			
-40/200-10	-40/350-10	-40/500-10	-40/900-10	-40/1250-10	-40/280-15	-40/500-15	-40/810-15	-40/1250-15
-70/200-10	-70/350-10	-70/500-10	-70/900-10	-70/1250-10	-70/280-15	-70/500-15	-70/810-15	-70/1250-15
200	350	500	900	1250	280	500	810	1250
750	750	820	870	870	720	820	870	870
650	650	850	1000	1000	650	850	1000	1000
400	720	725	1000	1400	615	730	900	1400
1800	1800	2170	2230	2230	2080	2170	2230	2230
920	920	1120	1270	1270	920	1120	1270	1270
1345	1665	2375	2645	3145	2165	2375	2645	3145
-40/+180	-40/+180	-40/+180	-40/+180	-40/+180	-40/+180	-40/+180	-40/+180	-40/+180
-70/+180	-70/+180	-70/+180	-70/+180	-70/+180	-70/+180	-70/+180	-70/+180	-70/+180
10	10	10	10	10	15	15	15	15
11	10	10	10	10	15	15	15	15
12	10	10	10	10	15	15	15	15
12	10	10	10	10	15	15	15	15
5000	5000	7000	8000	8000	5000	8000	8000	8000
4000	5000	5500	8000	8000	5000	8000	8000	8000
≤± 0,3 temporally					≤± 0,3 temporally			
+10 to +95					+10 to +95			
10 to 98					10 to 98			
+7 to +94					+7 to +94			
-10 to +7					-10 to +7			
≤± 1,5					≤± 1,5			
≤± 3					≤± 3			
≤± 0,3					≤± 0,3			
400 V +6% -10%, 3/N, 50 Hz					400 V +6% -10%, 3/N, 50 Hz			
13,4	13,4	17,5	23	32	17,6	24	32	42,5
13,4	13,4	18,6	24,1	33	18,7	24	33	43,6
16,6	16,6	20,3	26	37	21,2	27,4	37,1	46,8
16,6	16,6	20,3	26	35,8	21,2	27,4	35,8	46,8
water cooled					water cooled			
600	700	800	1000	1150	800	900	1100	1350
650	750	900	1100	1300	900	1000	1200	1500
<58	<58	<68	<68	<73	<68	<68	<73	<75

**OPTIONS:**

- ▶ add. entry ports ø 50 mm, 80 mm und 125 mm
- ▶ add. shelves
- ▶ Panoramic window, multiple glazed sized 570 x 710 mm
- ▶ Hand-hole in the door
- ▶ add. Pt 100 for temperature measuring on test specimen alternative reversible to controller function
- ▶ air dryer system

- ▶ Mobile design
- ▶ Temperature protection for test-specimen
- ▶ water cooled compressor; external condenser
- ▶ CID software for programming and documentation
- ▶ variable air speed in the test space
- ▶ RS 232 interface changeable to USB
- ▶ ETHERNET- interface

Other chamber sizes and options on request.

**TEMPERATURE CHANGE RATE ACC.  
IEC 60068-3-5:**

$$\text{heating} = \frac{\Delta t_h}{\Delta T_h}$$

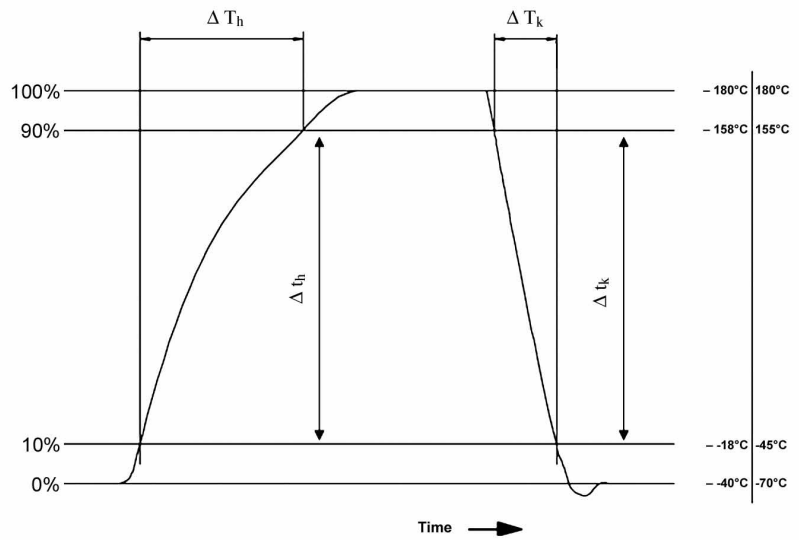
$$\text{cooling} = \frac{\Delta t_k}{\Delta T_k}$$

$\Delta T_h$  = time for heating

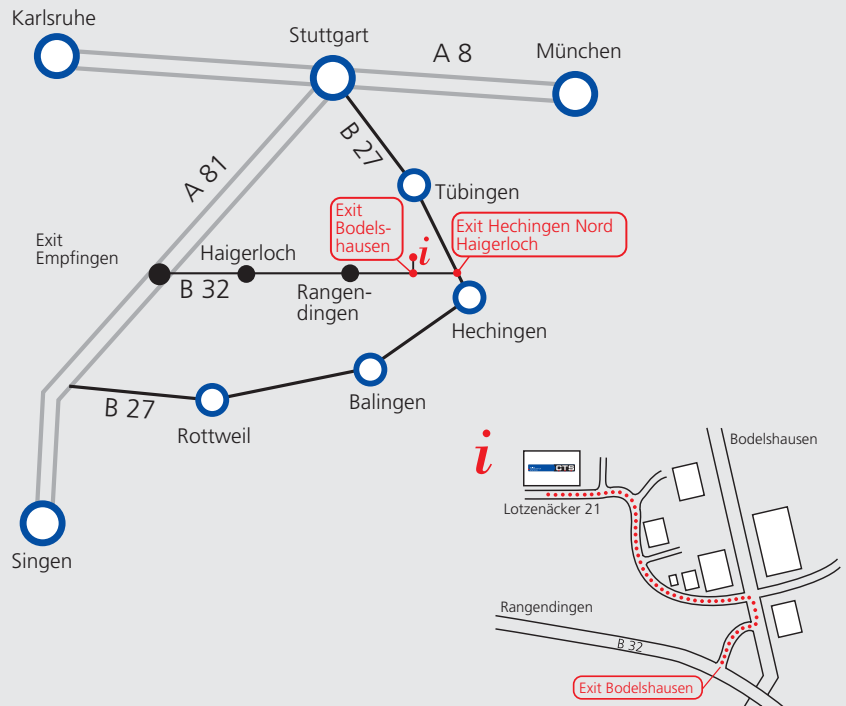
$\Delta T_k$  = time for cooling

$\Delta t_h$  = temperature difference, heating

$\Delta t_k$  = temperature difference, cooling



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