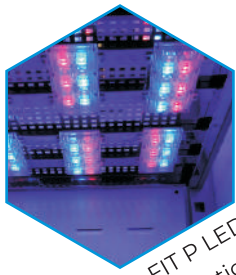


# PHYTOTRON CHAMBERS

can control temperature, humidity and light to create stable conditions



SMART PRO controller with USB port



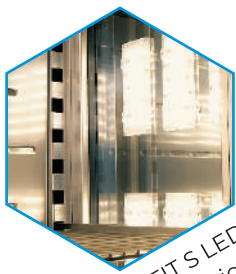
FIT P LED (option)



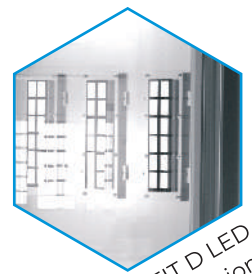
FIT DS LED (option)



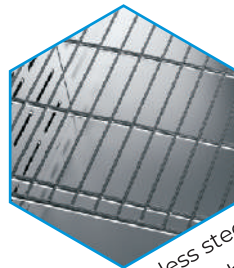
Phytotron chamber KK 700 FIT DS SMART PRO



FIT S LED (option)



FIT D LED (option)



stainless steel wire shelf



All thermostatic equipment manufactured by POL-EKO® can be provided with Calibration Certificate issued by accredited Measurement Laboratory. Detailed information on accreditation is available on website: [www.polekolab.pl](http://www.polekolab.pl) and on page 161.



## MAIN STANDARD BENEFITS

- temperature range: 0...+60°C (light OFF) / +10...+50°C (light ON)
- quality control protocol (at +25°C, 60%rH)
- English instruction manual
- temperature protection class 3.3 to DIN 12880
- open door alarm
- castors (except KKP 240)
- LAN and USB ports
- access port (Ø30 mm) with silicone plug on the left wall (at the back in FIT S/DS)
- automatic defrosting function
- container for deionised water 20l (KK), 6l (KKS/KKP)
- shelf for deionised water container (KK, KKS, KKP)
- tray with pump for waste water (KK)
- door lock
- stainless steel wire shelves (INOX)
- double door (external solid, internal glass)
- phytotron system FIT P - as over-shelf panels, FIT D in door, FIT S in side walls or FIT DS in door and side walls
- Wi-Fi
- LAN cable
- main power switch flush with housing prevents unintentional switch off
- detailed information on Phytotron system see pages 19-22.

## AVAILABLE VERSIONS

- SMART PRO
- KK/KKP FIT P phytotron system as over-shelf panels
- KK FIT D phytotron system in door
- KK FIT S phytotron system in side walls
- KK FIT DS phytotron system in door and side walls (detailed information, see pages 19-22)

## SOFTWARE

- LabDesk for data download to a PC via LAN or Wi-Fi
- LabDesk Cloud platform for remote data monitoring



**TECHNICAL DATA**



Parameter	KK 115 FIT	KK 240 FIT	KKP 240 FIT	KK 350 FIT	KK 400 FIT	KKS 500 FIT	KKS 700 FIT	KK 750 FIT	KKS 1200 FIT	KKS 1450 FIT	
air convection	forced										
chamber capacity [l]	109	240	245	322	416	508	643	749	1412	1565	
working capacity [l]	109	240	245	283	416	334	418	749	836	963	
door type	double (external solid, internal glass) / external glass (option)										
temperature range <sup>1</sup> [°C]	light OFF	0...+60		0...+70		0...+60					
	light ON	+10...+50									
temperature resolution [°C]	every 0,1										
relative humidity range <sup>2</sup> [%]	30...90		10...90	30...90		10...90		30...90	10...90		
humidity resolution [%]	every 0,1										
controller	microprocessor PID with external 7" full-colour touch screen										
interior	acid-proof stainless steel to DIN 1.4301										
housing	-	powder coated sheet									
	IG	stainless steel linen finish to DIN 1.4301									
max shelf workload <sup>3</sup> [kg]	-	10	10	25	10	10	20	30	-	30	30
	PW <sup>4</sup> version	50	100	-	100	100	100	100	100	100	100
max unit workload [kg]	60	90	90	100	120	100	150	140	300	300	
nominal power [W]	1350	1550	2300	1850	2250	2000	2800	2850	2800	2800	
weight [kg]	90	170	117	125	185	135	170	275	220	230	
castors	yes										
temperature variation <sup>5</sup> at +25°C and 60%rH [+/- °C]	2,0	2,0	0,2	2,0	2,0	2,0	2,0	2,0	2,0	2,0	
relative humidity variation <sup>5</sup> at +25°C and 60%rH [+/- %rH]	5,0	5,0	0,8	5,0	5,0	5,0	5,0	5,0	5,0	5,0	
temperature protection	class 3.3 to DIN 12880										
power supply	230V 50-60Hz / 3P+PE 230V 50-60Hz										
shelves fitted/max	2 / 7	3 / 10	3 / 10	3 / 11	3 / 14	3 / 11	3 / 11	5 / 16	2 x 3 / 11	2 x 3 / 11	
refrigerant	R1234ze GWP=7	R290 GWP=3	-	R290 / GWP=3							
warranty	24 months										
manufacturer	POL-EKO®										

all the above technical data refer to standard units (without optional accessories)

1 - for KKP max 20°C below ambient temperature without humidity, with humidity +5...+70 (max 20°C below ambient temperature)

working temperature range with humidity and light (10°C below ambient temperature but not less than +10°C)

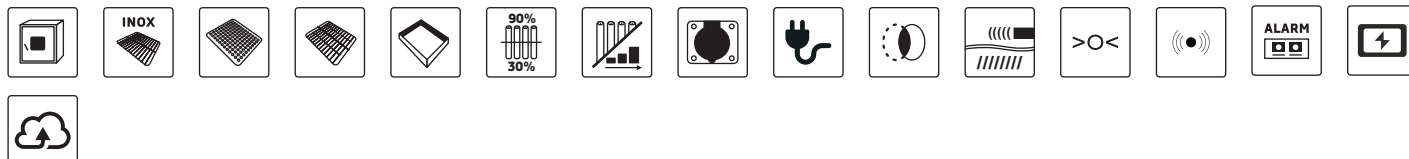
2 - see working temperature and humidity chart on page 104

3 - on uniformly loaded surface

4 - reinforced shelf

5 - variation (K) calculated for chamber, with light OFF as:  $K = \frac{T_{avg\ max} - T_{avg\ min}}{2}$

**OPTIONS & ACCESSORIES** (icon description see pages 117-124)



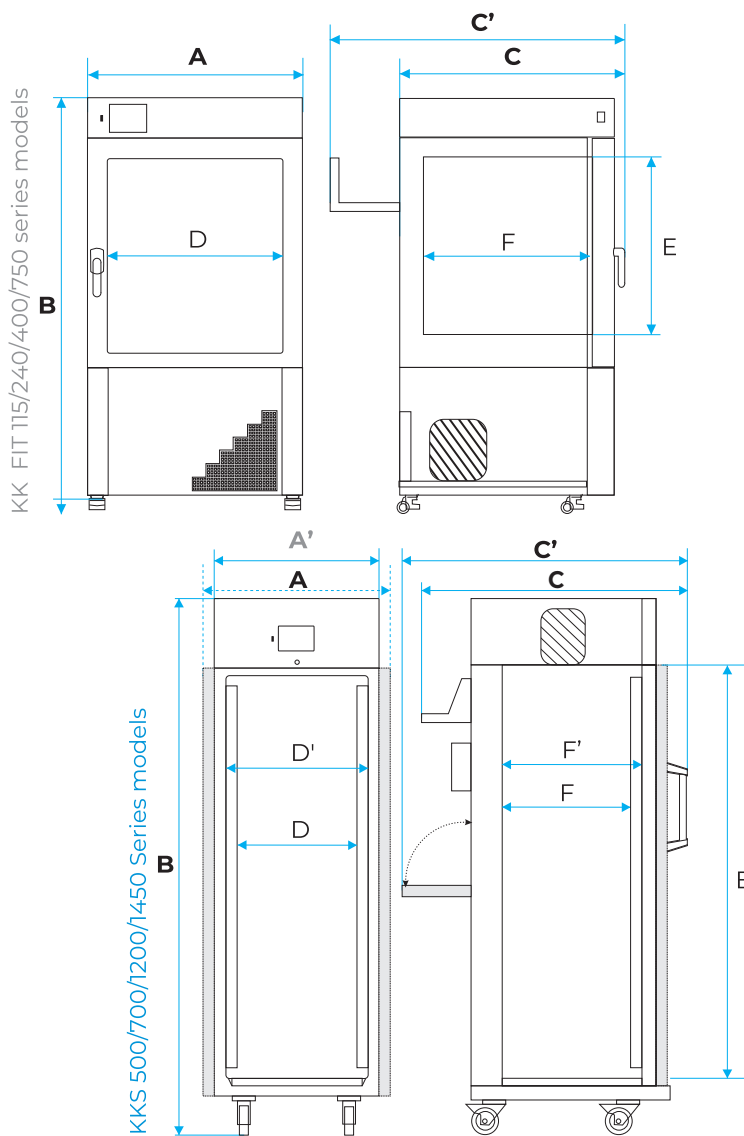
## DIMENSIONS & DATA

All dimensions refer to standard units (without optional accessories).

Overall depth doesn't include 50 mm of power cable, the width does not include the 20 mm of access port's silicone plug.





Possibility of changing the shelf position:

- KK 115/240/400/750 – every 70 mm
- KKP 240 - every 70 mm
- KK 350, KKS 500/700/1200/1450 – every 56 mm



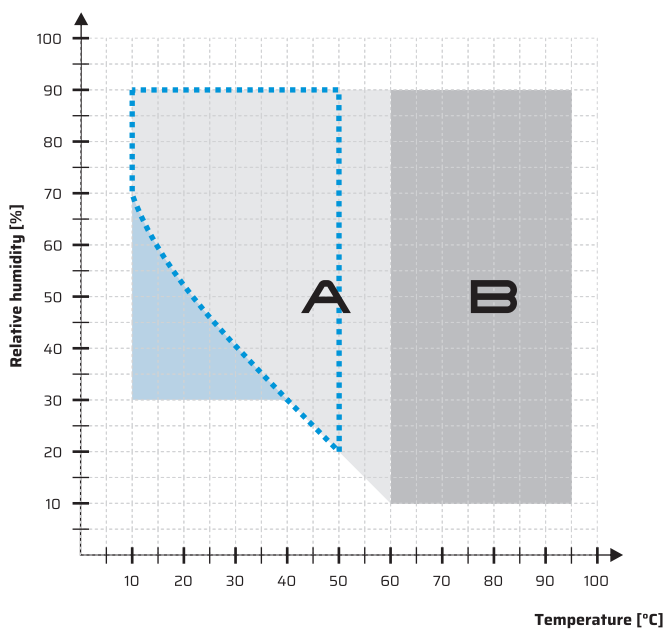
		KK 115 FIT	KK 240 FIT	KKP 240 FIT	KK 350 FIT	KK 400 FIT	KKS 500 FIT	KKS 700 FIT	KK 750 FIT	KKS 1200 FIT	KKS 1450 FIT
overall dims [mm] <b>FIT P models</b>	A' width	660	820	960	-	1020	640	730	1270	1460	1440
	B height	1340	1590	1140	-	1830	1970	1970	1990	1970	1920
	C depth	730	790	840	-	790	980	1100	920	1140	1240
	C' depth	950	1010	940	-	1010	990	1110	1140	-	-
overall dims [mm] <b>FIT D models</b>	A width	660	820	-	-	-	-	-	1270	-	-
	B height	1340	1590	-	-	-	-	-	1990	-	-
	C depth	750	810	-	-	-	-	-	920	-	-
	C' depth	970	1030	-	-	-	-	-	1140	-	-
overall dims [mm] <b>FIT S models</b>	A width	-	-	-	-	-	720	810	-	-	-
	B height	-	-	-	-	-	1960	1970	-	-	-
	C depth	-	-	-	-	-	980	1100	-	-	-
	C' depth	-	-	-	-	-	990	1110	-	-	-
overall dims [mm] <b>FIT DS models</b>	A width	-	-	-	720	-	720	810	-	-	-
	B height	-	-	-	2000	-	1960	1970	-	-	-
	C depth	-	-	-	920	-	980	1100	-	-	-
	C' depth	-	-	-	1010	-	990	1110	-	-	-
internal dims [mm]	D width	460	600	600	470	800	470	535	1040	2 x 535	2 x 545
	D' width	-	-	-	510	-	510	600	-	2 x 600	2 x 600
	E height	530	800	800	1340	1040	1510	1510	1200	1510	1410
	F depth	440	500	510	500	500	520	550	600	2 x 550	2 x 650
	F' depth	-	-	-	-	-	545	595	600	2 x 595	2 x 695
	I height	-	-	-	1180	-	-	-	-	-	-




**COMPARISON OF CLIMATIC CHAMBERS**

Parameter	Climatic chamber KK with ultrasonic humidifier	Constant climatic chambers KKP with Peltier cooling system	Climatic chamber KKS 115/240/400/750 with steam humidifier	Climatic chamber KKS 500/700/1200/1450 with steam humidifier
temperature range	0°C... +60°C	0°C... +70°C +5°C...+70°C (with humidity) (max 20°C below ambient temp.)	0°C... +100°C +10°C...+95°C (with humidity)	0°C... +60°C -10°C...+60°C (option) +10°C...+60°C (with humidity)
temperature range FIT	0°C... +60°C (+10°C...+50°C with light ON)	0°C... +70°C (+10°C...+50°C with light ON and humidity) 10°C below ambient temp. not less than +10°C	FIT not available	0°C... +60°C (+10°C...+50°C with light ON)
relative humidity range	30...90% (see chart below)	10...90% (see chart below)	10...90% (see chart below)	10...90% (see chart below)
water supply (conductivity)	deionized (1-20 µS/cm)	deionized (1-30 µS/cm)	tap water (125-1250 µS/cm)	deionized (1-30 µS/cm)
water source	- container for deionized water (included) 20l - internal deionized water network - deionizer	container for deionized water (included) 6l	water supply system	container for deionized water (included) 6l
outflow	drain system	unnecessary	drain system	drain system
humidifier	ultrasonic 	steam 	steam 	steam 

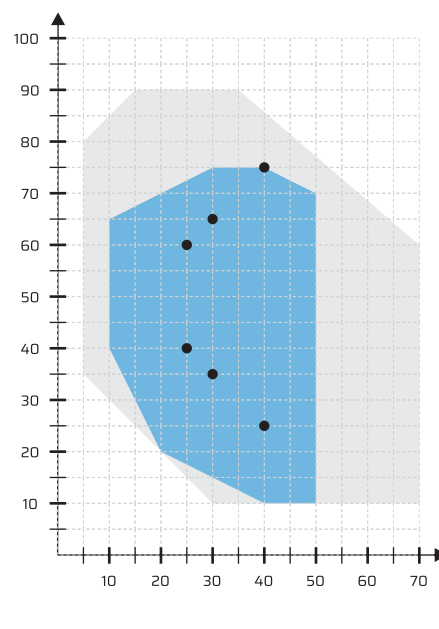
**WORKING TEMPERATURE-HUMIDITY RANGE** (OVERVIEW DRAWINGS FOR EMPTY CHAMBERS)




**KK/KKS/KK FIT**



-  **KK, KKS (500, 700, 1200, 1450):** field A;
- KKS (115,240,400,750):** field A+B
-  short-term work area (max 24h)\*
-  **KK FIT**

**KKP/KKP 240 FIT**



-  without light
-  with two WHITE LED over-shelf panels set to 100%
-  testing points according to ICH Q1 A (R2) guidelines

\* temperature and humidity range in which the chamber is able to operate properly for no longer than 24 hours