

Kühner SHAKER

YOUR “**BUGS**” DESERVE THE BEST

After more than 50 years of proven experience in designing and building biological shakers, the **ISF1-X** Stackable Incubation Shaker is now the perfect machine. Continuous operation and user friendly controls, along with its electromagnetic drive, the by now famous Kühner parallelogram and **5 years of warranty** are just a few of the many advantages of a Kühner Shaker.

shaking
heating
cooling
(option)
lighting
photosynthesis
(option)
humidity
(option)
stacking
controlled CO2
(Option)



swiss made since 1949

ISF1-X

EXTREMELY RELIABLE AND WHISPERQUIET

- trouble free drive , for continuous shaking of heavy loads
- all stainless steel interior inclusive motor housing, heated water bath for humidity control and finned heater
- superbly foamed insulation
- hermetically sealed double glazing on door
- OPTION: heated double glazed door (humidity control only) to stop condensation
- user-friendly controls. For each parameter it's own control. Set point and actual value of all parameters at a glance
- easy to stack. (up to 3 units) Without use of special stacking gadgets, brackets or tools.
- each machine operates on its own. No shared refrigeration, humidity, Co2 etc.
- energy conscious drive and cooling system
- tray 800 x 420 mm



www.kuhner.com

Technical data ISF1-X	SMX1500	SMX1501	SMX1503
Refrigerator	no	yes *	yes *
Humidity control	no	no	yes
Temperature min.	ambient + 10°C	ambient - 15°C	ambient - 15°C
Temperature max.	80°C	80°C	80°C
Humidity maximum	-	-	85 % r.h.
Power consumption	< 1300W	< 1500W	< 2000W

Machine	
Outside (WxDxH)	1275 x 805 x 765mm
Inside (WxDxH)	950 x 625 x 600mm
Volume	350 litre
Weight (with cooling)	210kg
Illumination	Halogen
Operating menu in	English, French, German
Interface, standard	CAN-Bus
Interface, optional	USB, Ethernet, digital, analogue
Ambient temperature	10°C up to 35°C

Temperature	Humidity (SMX1503)
Setting, digital	max. at 25..55°C
Accuracy, absolute	85%r.h.
	Setting, digital
	1% r.h.
Principle of sensor	Accuracy, absolute
Power of heating	+ - 2% r.h.
Power of cooling *	Principle of sensor
Air circulation	capacitive
	Water refill
	automatic
	Water heater
	300W
	Door heater
	100W

Shaking unit	CO2 (SM1034)
Tray, size	Principle of sensor
	infrared, NDIR
Loading, maximum	Measuring range
Setting, digital	0....20% CO2
Accuracy, absolute	Setting, digital
Timer	0.1%
Acceleration	Accuracy, absolute
Active brake	+ - 0.42% at 20% CO2
Stop on position	Non-linearity
	< 0.1%
	Temperature range
	5....60°C
	CO2-supply
	max. 1 bar
	overpressure

Mains:	
Shaking motion	Speed
* orbital, Ø 12.5mm	20...500 rpm
* orbital, Ø 25.0mm	20...400 rpm
* orbital, Ø 12.5mm	20...300 rpm
* linear 12.5mm	20...400 rpm
* linear 25.0mm	20...300 rpm
* linear 50.5mm	20...200 rpm
* can be changed	