









# ISF4-X / ISF4-XC

XC incubator shakers are optimised for cell cultivation

-  CO<sub>2</sub> control option available: essential for mammalian, plant cell cultures and algae
-  Heating and cooling
-  Controlled humidity option: essential for cultivation in microtiter plates or when cultivating in flasks for long periods
-  3 mm/1000 rpm option (on request)
-  Heated window and door frame with controlled humidity option
-  User-friendly operation: each shaking unit and parameter has its own control
-  Retrofitting possible
-  Touchscreen option available

## Four shakers – one footprint

- 4 or even 5 independent, height adjustable shaking units
- Clear view of incubator's contents

## High capacity



## Technical data

	ISF4-X(C) * Basic	ISF4-X(C) * Compressor
<b>• Overview</b>		
Cooling	no	yes
Humidity control	no	no / yes
Temperature minimum	ambient + 10 °C	ambient – 10 °C
Temperature maximum	80 °C (60 °C)*	80 °C (60 °C)*
Humidity maximum	–	– / 85% r.h.
Power consumption	< 1700W	< 2000W / 2600W
<b>• Machine</b>		
Gas volume	1272 litre	
Weight (without SF-X)	520 kg	
Illumination	2 fl lamps	
Ambient temperature	10 °C up to 35 °C	
<b>• Display / Interface</b>		
Operating menu in	de, en, fr, it, es	
Interface, standard	CAN-Bus	
Interface, optional	USB, Ethernet, digital analogue	
<b>• Temperature</b>		
Setting, digital	0.1 °C	
Accuracy, absolute	–	
(across the tray)	± 0.30 °C (37 °C)	
Principle of sensor	Pt-100	
Power of heating	1000W	
Power of cooling	150...420W	
Air circulation	700m <sup>3</sup> /h	
<b>• Shaking unit SF-X (SMX1610)</b>		
Tray, size	F (800 × 420 mm)	
Loading, maximum	25 kg	
Setting, digital	1 rpm	
Accuracy, absolute	≤ 800 rpm = ± 0.5 rpm > 800 rpm = ± 1.0 rpm	
Timer	15 ... 999 h	
Acceleration	controlled	
Active brake	adjustable	
Stop on position	adjustable	
<b>• Shaking motion</b>		
Speed		
orbital, Ø 3.0 mm * (option)	20...1000 rpm	
orbital, Ø 12.5 mm *	20...500 rpm	
orbital, Ø 25.0 mm *	20...400 rpm	
orbital, Ø 50.0 mm *	20...300 rpm	
linear 12.5 mm *	20...400 rpm	
linear 25.0 mm *	20...300 rpm	
linear 50.0 mm *	20...200 rpm	
* can be changed / other diameters on request		
<b>• Humidity</b>		
Max. at 25...55 °C	85% r.h.	
Setting, digital	1% r.h.	
Accuracy, absolute	± 2% r.h.	
Principle of sensor	capacitive	
Water refill	automatic	
Water heater	300W	
Door heater	220W	
<b>• CO<sub>2</sub></b>		
Principle of sensor	Infrared, NDIR	
Measuring range	0...20% CO <sub>2</sub>	
Setting, digital	0.1%	
Accuracy, absolute	± 0.40% at 5% CO <sub>2</sub>	
(including non-linearity, calibration uncertainty and repeatability)		
Temperature range	5...60 °C	
CO <sub>2</sub> supply	max. 2 bar overpressure	
<b>• Mains connection</b>		
	220–240 V / 50–60 Hz	
	190–210 V / 50–60 Hz	
<b>• Further Options</b>		
Pull-out table		
Integrated UV lamp		
Black window (2x)		
Unit for photosynthesis (LED)		
TabCom for standard shaking unit		
TabCom for unit with pull-out table		
Shelf		
Dual table available on request		Technical data subject to change
<b>* optimised incubator shaker for cell culture</b>		
+ CO <sub>2</sub> control included as standard		
+ Temperature max.: 60 °C		

## Dimensions (mm)

