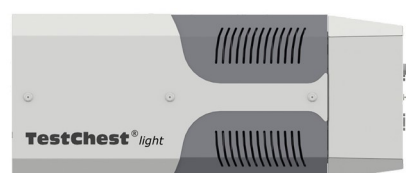


TestChest and TestChest *light*



TestChest consists of two bellows driven by a linear motor; alveolar, airway, ambient pressure sensor as well a temperature sensor. TestChest can be ventilated by any respiratory equipment including ambu-bag, ventilator, anesthesia machine or mouth-to-mouth. With the delivered standard software “Basic-Control” (which has to be installed on a PC and connected via Ethernet interface with the TestChest), various parameters can be adjusted. Complete parameter-sets can be pre-defined and loaded onto the TestChest to represent any kind of patient and patient pathology.

Availability of intrapulmonary oxygen sensor, mass flow controller for CO₂ delivery, pulse oximeter simulator (“artificial finger”), programmable dead space, and leakage depends on TestChest version (see Table).

Sensor	units	Description	TestChest	TestChest light
Paw	mbar	airway pressure at 100Hz	Y	Y
Palv	mbar	alveolar pressure at 100Hz	Y	Y
Airway flow	ml/sec	airway flow at 100Hz	Y	Y
VL	ml	lung volume at 100Hz	Y	Y
PAO2	mmHg	alveolar oxygen partial pressure	Y	N
VL	ml	lung volume	Y	Y
PB	mmHg	ambient pressure	Y	Y
T	C	gas temperature	Y	Y

Specifications to change without notice. The neosim logo is a trademark of neosim AG.

TestChest is patented technology. TestChest is a registered trademark of Organix GmbH, CH-7302 Landquart

Parameter	units	Description	TestChest	TestChest light
C_W	ml/mbar	chest wall compliance	Y	Y
V'_{CO_2}	mlSTPD/min	volume CO ₂ produced	Y	N
$P_{0.1}$	mbar/100ms	inhalation effort	Y	Y
C_{rs}	ml/mbar	total respiratory system compliance	Y	Y
R_{aw}	mbar/(L/s)	flow resistance Rp5, Rp20, Rp50, Rp200	Y	Y
f (spont)	/min	rate of spontaneous breaths	Y	Y
FRC_{min}	ml	minimal FRC (at ZEEP)	Y	Y
LIP	mbar	lower inflection point mbar	Y	Y
UIP	mbar	upper inflection point	Y	Y
C_1	ml/mbar	compliance below lower inflection point	Y	Y
C_3	ml/mbar	compliance above upper inflection point	Y	Y
$P_{threshold}$	mbar	recruitment threshold	Y	Y
$P_{collapse}$	mbar	collapse threshold	Y	Y
RC_{lh}	s	time constant of lung-heart interaction	Y	Y
R_{recol}	s	time constant of lung recruitment	Y	Y
FRC_{pred}	ml	predicted FRC	Y	Y
V_{daw}	ml	airway dead space; approximative	Y	N
C_r	ml/mbar	recruitment factor	Y	Y
$RC_{collapse}$	s	collapse factor	Y	Y
P_{diff}	mmHg	diffusion limitation	Y	N
Q_T	ml/min	cardiac output	Y	N
POP_v	%	pulse oximeter pleth variation	Y	N
Leak level	arbitrary	leak value, arbitrary, 3 different levels	Y	Y
HeartRate	/min	heart rate	Y	N

Connectivity	Description	
USB	technical support port	Y
Analog output	pleural pressure, lung volume, alveolar pressure, muscle pressure	Y
Ethernet	TestChest parameter download and measurement streams	Y
WiFi	wireless control	optional
SpO2 sim	simulator to connect pulse oximeter	Y

Services	
On-site installation	optional
On-site case development	optional
1 year warranty	Y
2 year warranty	optional