



BLOOD GASES

HEMOGLOBIN

ELECTROLYTES

METABOLITES





With clear functionality . . .

the ESCHWEILER *combi line* 2 is dedicated to serve you. In critical cases even seconds count. We follow this obligation.

With its clear and easy handling the ESCHWEILER *combi line* 2 provides fast and accurate results to give the required information for your further actions.

Quality measurements are basically depending on the quality of sensors used and even the calibration technology. For more than 70 years we develop and produce relevant quality sensors.

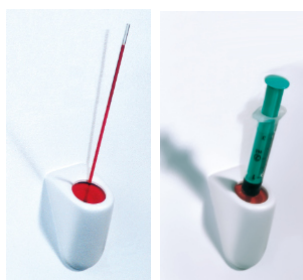
You can rely on our experience.

- Easy operation
- Liquid calibration
- Economical





Sample Input



The handling of samples is simple, safe and hygienic. Using capillaries, the specimen is aspirated automatically. For syringes the specimen is injected into the system until an acoustic signal confirms the filling.

In addition to the standard assay (with all sensors in operation), the ESCHWEILER *combi line 2* offers specialised test programs depending on sensor configuration. These programs enable selective measurement of blood gases and electrolytes. For daily quality control tests, the ESCHWEILER *combi line 2* includes a QC-test program.

Barcode Reader

- Read in coded patient data
- Read in coded calibration values



Operation

An LCD with clear step-by-step instructions makes the ESCHWEILER *combi line 2* easy to use in daily routine operation. For standard assays, the work is reduced to the initiation of the test and the sample input.

While the test is running, the values can already be tracked on the display as a trend. After completion of the test operation, the measured and calculated parameters are printed out by the built-in thermal printer.



Consumables

ESCHWEILER *combi line 2* gas calibration solutions are delivered in foil packets – easy to handle and individually replaceable. Only completely used packets and bottles are replaced. Another way to reduce operating costs. Only four calibration solutions and a rinse solution are needed to operate the ESCHWEILER *combi line 2* complete sensor configuration for analysis of blood gases, electrolytes and metabolites. Units with the sensor combinations »Blood Gas« or »Electrolyte« may be operated with only two calibration solutions.

Biosensors for glucose and lactate determination in whole blood

Sensor Chips based on thick-film technology combine:

- Reliable handling
- Small size
- High reproducibility
- Up to 1.000 analyses with one sensor



Sensors

For more than seven decades, the name ESCHWEILER has stood for high quality and reliability in blood gas and electrolyte sensors. ESCHWEILER sensors are distinguished by the precision of their measurement and their durability. Reduced patient care costs, replaceable premembraned cartridges – delivering even more compelling advantages in light of reductions in operating costs.



Since 1951 the name ESCHWEILER has stood for innovative technology in the area of blood gas and electrolyte analysis.

Reliability and simple operation are our goals – the consistent fulfilment of these objectives has distinguished blood analysers from ESCHWEILER for decades.



TECHNICAL DATA

measured parameter	range	resolution
pO ₂	0 - 800 mmHg (SI-units selctable)	0,1 mmHg
pCO ₂	5 - 200 mmHg (SI-units selctable)	0,1 mmHg
pH	6,000 - 8,000	0,001 pH
total-hemoglobin (tHb)	4 - 30 g/dl	0,1 g/dl
barometric pressure	200 - 900 mmHg (SI-units selctable)	1,0 mmHg
Na ⁺	20 - 250 mmol/l	1,0 mmol/l
K ⁺	0 - 20 mmol/l	0,1 mmol/l
Ca ⁺⁺	0 - 5,0 mmol/l	0,01 mmol/l
Cl ⁻	20 - 250 mmol/l	1,0 mmol/l
glucose	0 - 30 mmol/l	0,1 mmol/l
lactate	0 - 20 mmol/l	0,1 mmol/l

input parameter

patient temperature	13 - 43 °C	0,1 °C
hemoglobin (tHb)	0 - 30 g/dl (if not measured)	0,1 g/dl
fraction of inspired oxygen (FIO ₂)	15 - 100 %	only relevant for AaDO ₂
respiratory quotient (RQ)	0,7 - 1,0	only relevant for AaDO ₂

calculated parameter

hydrogen ion conc. (H ⁺)	10 - 1000	0,1 nmol/l
actual bicarbonate (HCO ₃ -A)	10 - 50	0,1 mmol/l
standard bicarbonate (HCO ₃ -S)	10 - 50	0,1 mmol/l
base excess (BE)	-25 - 25	0,1 mmol/l
standard base excess (SBE)	-25 - 25	0,1 mmol/l
total CO ₂ (TCO ₂)	10 - 50	0,1 mmol/l
buffer base (BB)	0 - 100	0,1 mmol/l
O ₂ saturation of hemoglobin (O ₂ sat)	20 - 100	0,1 %
O ₂ content or concentration (O ₂ CT)	0 - 40	0,1 %
partial O ₂ -press. at 50% O ₂ -sat (P50)	10 - 50	0,01 mmHg
alveolar to arterial oxygen-tension grade (AaDO ₂)	0 - 800	0,1 mmHg
anion gap (A-GAP)	0 - 99	0,1 mmol/l
SHUNT	0 - 50	0,1 %
acid base status	relevant diagnosis recorded on printer	
hematocrite (Hct)	0 - 100 %	0,1 %

data input

keyboard	display	illuminated, 15 - lines LCD display
barcode reader	printer	fast, low-noise thermoprinter
	interfaces	RS 232, ethernet

calibration

automatic calibration	90 min	specimen container	capillary, syringe
economy mode	240 min	specimen material	whole blood, serum, plasma

dimensions/weight

height	405 mm	voltage	115 V resp. 230 V
width	330 mm	frequency	50/60 Hz
depth	435 mm	ambient temperature	12 - 32 °C
weight	appr. 14 kg		

electrical data



Distributor

