



**ESCHWEILER**  
automatic analysing systems

combi  line



$\text{pO}_2$   $\text{Cl}^-$   
 $\text{Na}^+$

pH

$\text{pCO}_2$

$\text{Ca}^{++}$

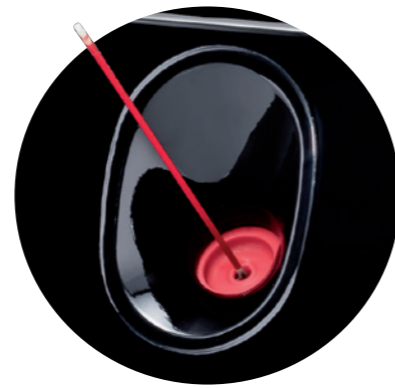
tHb

BLOOD GASES

HEMOGLOBIN

ELECTROLYTES





## DISCOVER THE NEW ESCHWEILER COMBI LINE BLOOD ANALYSER

*The name ESCHWEILER stands for compact, easy to use analysers for the measurement of blood gases, electrolytes and tHb in human whole blood and serum.*

*The reliability and precision of ESCHWEILER analysis systems, which has been valued by our customers for decades, are presented in the new ESCHWEILER combi line in a modern design with state-of-the-art technology.*

*Whether as a simple BGA device to measure blood gases or a combined analysis system with freely selectable additional parameter combinations (electrolytes and tHb) – the new ESCHWEILER combi line combines proven functionality with innovative performance features.*

### THE SAMPLE PORT

The new sample port of the ESCHWEILER combi line – whether capillary or syringe, automatic sample supply is now available for both types of blood sampling. Simply select the corresponding measuring routine on the touchscreen, insert the capillary or syringe into the sample port and activate the sample feed. The ESCHWEILER combi line takes care of everything else automatically.

### THE TOUCHSCREEN

Communication with the new ESCHWEILER combi line is simple and effective: A user-friendly touchscreen interface with clearly designed function menus simplifies the routine operation of the analyzer for the user.





#### „AUTO-QC“ – AUTOMATIC ESCHWEILER QUALITY CONTROL

ESCHWEILER CAL-PACK calibration cartridges are available with optional integrated quality control solutions.

This means no more daily measurements of external QC solutions for the operator – the ESCHWEILER combi line takes care of the required QC control measurements automatically, the integrated QC database deals with the administration and evaluation of the QC values measured.



#### THE BARCODE READER

After activating the measuring function, the ESCHWEILER combi line lets you enter in patient data via the integrated barcode reader.

All commonplace codes used to encode patient identification data in sampling systems are recognized, after the measuring is done, the patient ID which was entered in is automatically linked to the blood values determined.



#### OUTPUT OF MEASUREMENT RESULTS

The development of the values measured can be followed during the ongoing measurement – often crucial in emergencies.

Immediately after the measurement has been completed, the values are output in a clearly structured way by the integrated thermal printer and, at the same time, transferred to the integrated patient database of the ESCHWEILER combi line.

Additionally, the values measured can be transmitted directly to the central data management of the clinic or practice via an Ethernet connection (GDT or HL7).



## THE SENSORS

The new ESCHWEILER combi line offers the proven ESCHWEILER sensor technology, but with improved features that simplify sensor handling for the operator.

No more cables – the new sensor modules in the module holder are wirelessly connected with the analyser simply and securely.

This also translates to significantly less effort in the maintenance of the long-lasting ESCHWEILER sensors in routine operation.





## THE CALIBRATION CONCEPT

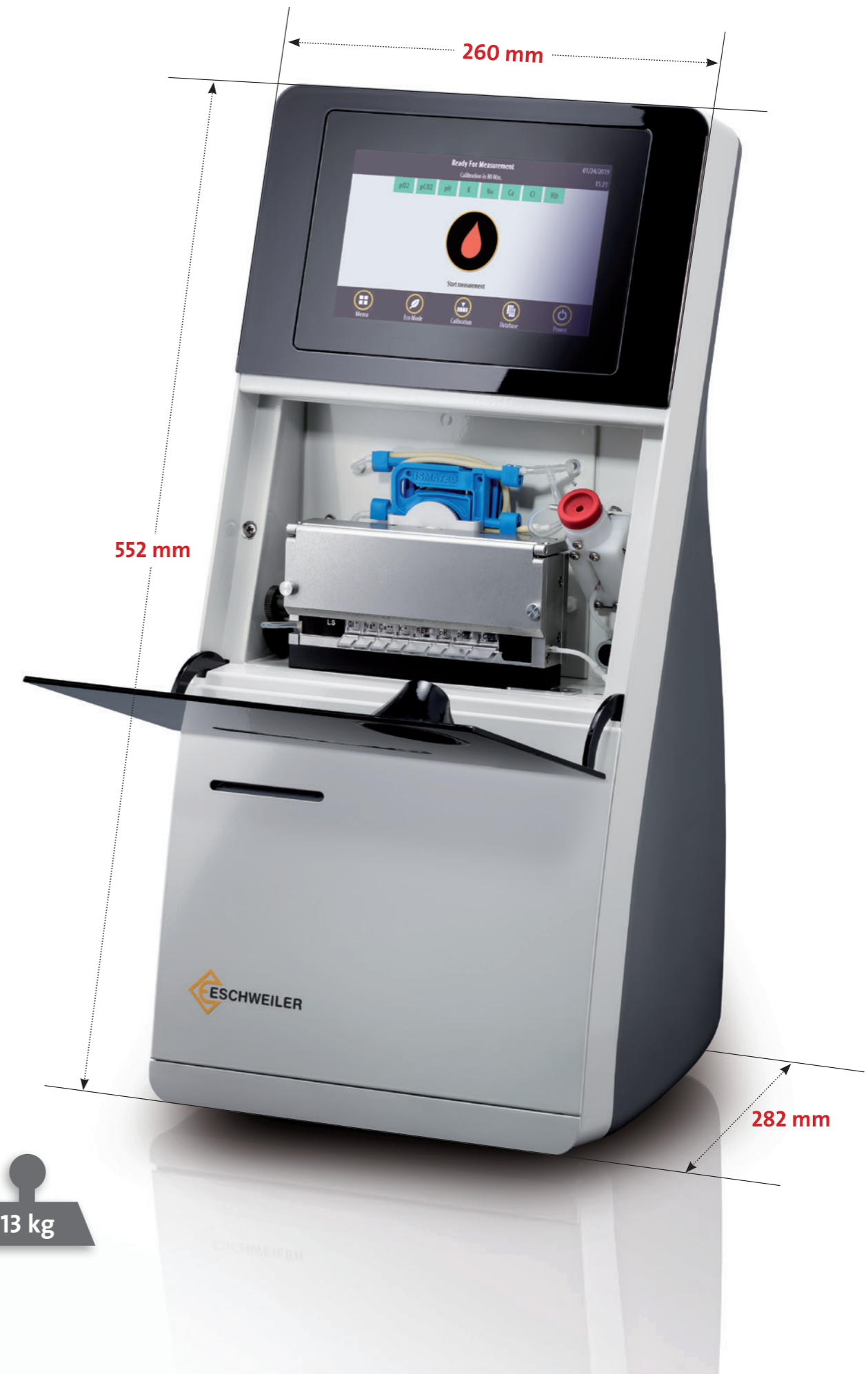
Complicated handling with individual calibration solution bottles and bags is a thing of the past: The new ESCHWEILER combi line works with the tested and proven ESCHWEILER CAL-PACK calibration cartridge system.

All the reagents needed to calibrate the instrument are combined in one cartridge. The ESCHWEILER combi line takes over calibration management from the insertion of the cartridge into the device with automatic reading in of the calibration values, monitoring of the fill level and the prompt to change the cartridge when the reagents have been exhausted.



## TECHNICAL DATA

measured parameters	range	resolution	
pO <sub>2</sub>	0 - 800 mmHg (SI-units selectable)	0.1 mmHg	
pCO <sub>2</sub>	5 - 200 mmHg (SI-units selectable)	0.1 mmHg	
pH	6.000 - 8.000	0.001 pH	
total-hemoglobin (tHb)	4 - 30 g/dl	0.1 g/dl	
barometric pressure	100 - 900 mmHg (SI-units selectable)	1.0 mmHg	
Na <sup>+</sup>	20 - 250 mmol/l	1.0 mmol/l	
K <sup>+</sup>	0 - 20 mmol/l	0.01 mmol/l	
Ca <sup>++</sup>	0 - 5,0 mmol/l	0.01 mmol/l	
Cl <sup>-</sup>	20 - 250 mmol/l	1.0 mmol/l	
<b>input parameter</b>			
patient temperature	13 - 43 °C	0.1 °C	
hemoglobin (tHb)	0 - 30 g/dl (if not measured)	0.1 g/dl	
FIO <sub>2</sub>	15 - 100 %	only relevant for AaDO <sub>2</sub>	
RQ	0.7 - 1.0	only relevant for AaDO <sub>2</sub>	
<b>calculated parameter</b>			
hydrogen ion conc.(H <sup>+</sup> )	10 - 1000 nmol/l	0.1 nmol/l	
actual bicarbonate (HCO <sub>3</sub> <sup>-</sup> -A)	10 - 50 mmol/l	0.1 mmol/l	
standard bicarbonate (HCO <sub>3</sub> <sup>-</sup> -S)	10 - 50 mmol/l	0.1 mmol/l	
base excess (BE)	-25 - 25 mmol/l	0.1 mmol/l	
base excess (BE ecf)	-25 - 25 mmol/l	0.1 mmol/l	
total CO <sub>2</sub> (TCO <sub>2</sub> )	10 - 50 mmol/l	0.1 mmol/l	
buffer base (BB)	0 - 100 mmol/l	0.1 mmol/l	
O <sub>2</sub> saturation of tHb (O <sub>2</sub> sat)	20 - 100 %	0.1 %	
O <sub>2</sub> content or conc. (O <sub>2</sub> CT)	0 - 40 %	0.1 %	
partial O <sub>2</sub> -press. at 50% O <sub>2</sub> -sat (P50)	10 - 50 mmHg	0.01 mmHg	
alveolar to arterial oxygen-tension grade (AaDO <sub>2</sub> )	0 - 800 mmHg	0.1 mmHg	
anion gap (A-GAP)	0 - 99 mmol/l	0.1 mmol/l	
SHUNT	0 - 50 %	0.1 %	
acid base status	relevant diagnosis recorded on printer		
hematocrite (Hct)	0 - 100 %	0.1 %	
<b>data input</b>			
capacitive touchscreen	display 7" widescreen color LED-backlight display (TFT 800 x 480)		
barcode reader	printer fast, low-noise thermoprinter		
	interfaces net work (LAN), USB, HL7, GDT		
	data base integrated data bases for patient- and QC-data		
<b>calibration</b>			
	CAL-PACK calibration cartridges		
automatic calibration interval	every 90 min		
economy mode interval	every 240 min		
<b>specimen</b>			
	automatic sample aspiration		
„Auto“-QC	CAL-PACK cartridge with integrated QC-solutions (optional)		
specimen container	capillary, syringe and others		
specimen material	whole blood, serum, plasma / respiratory gas		
<b>dimensions / weight</b>			
height	552 mm	<b>electrical data</b>	
width	260 mm	voltage	115 V resp. 230 V
depth	282 mm	frequency	50/60 Hz
weight	appr. 13 kg	consumption	50 W
		ambient temperature	12 - 32° C



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Distributor

