

# Exigo™ C200 veterinary clinical chemistry system

To achieve a diagnosis, the veterinarian needs to look at the manifestations of the disease. Investigating one of these parameters alone provides a good insight, however investigating multiple parameters provides assurance. The Exigo C200 is a veterinary clinical chemistry system, equipped to deliver valuable insight on both biochemistry and electrolytes.

Designed for flexibility and simplicity, the Exigo clinical chemistry system suits many types of veterinary clinics.

## Exigo C200 - minimal handling, maximized insight:

- Portable device, with more than 30 pre-installed animal profiles, provides flexibility in use.
- Up to 17 parameters in one single run saves sample volume and analysis time.
- Three simple steps to results: apply sample to rotor, insert rotor, press start

## System overview

Exigo C200 is a versatile, fully automated clinical chemistry analyzer tailored to laboratories and veterinary hospitals of various size (Fig 1). The analyzer requires no handling of liquid reagents, no calibration, and no start-up procedure, ultimately reducing the maintenance requirements and increasing flexibility.

The Exigo C200 veterinary clinical chemistry analyzer is based on an embedded system that is used with recommended reagent rotors (Fig 2). This system utilizes Lambert-Beer law, based on the principle of absorption spectroscopy or transmission turbidimetry, and employs adapted test methods, based on end-point, rate, and two-point reactions, together with eight wavelength synchronous detections.

The system provides quantitative results for a total of 30 parameters, distributed in eight panels (Table 1).



Fig 1. Exigo C200 veterinary clinical chemistry analyzer.



Fig 2. Exigo C200 reagent rotor.

## Key components

### High-speed motor

The C200 features a high-speed motor, which drives the reagent rotor to spin (Fig 3). The resulting centrifugal force causes the sample to travel from the sample inlet towards the outer rim of rotor. Shifting between acceleration and deceleration ensures that the sample is separated into plasma and red blood cells, and then evenly mixed with the diluent. Finally, the centrifugal force, in combination with a siphon, allocates the sample to the measurement (colorimetric) chamber with the pre-loaded reagents.

### Optical testing system

An advanced optical testing system, with eight built-in filters (340, 405, 450, 505, 546, 600, 630, 850 nm), is used to measure the transmitted light in each reagent chamber. The transmitted light is then translated into a calculated concentration via the internal calibration for each analyte (Fig 4).

### QR technology for calibration

The reagent beads present in the rotors are calibrated against a reference method and/or reference material before release, the information is stored in the QR-code present on each rotor. When the reagent rotor is inserted for analysis, the information on the QR-code will be retrieved by the system ensuring accurate analyte concentrations. Using this Real-time Quality Control (RQC) system, the Exigo C200 system is considered self-calibrating.

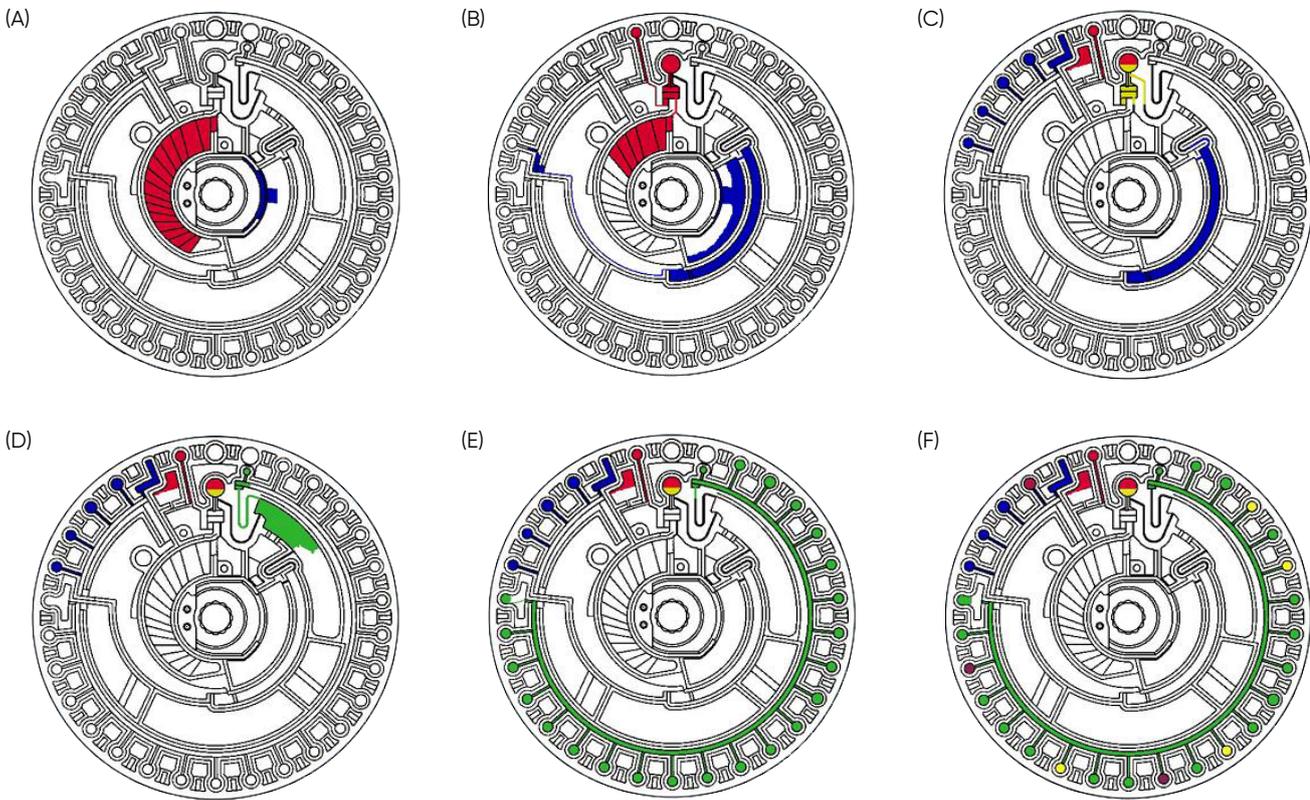
The QR-code contains information on:

- Rotor type
- Parameter list
- Parameter information
- Calibration
- Expiration date
- Batch number

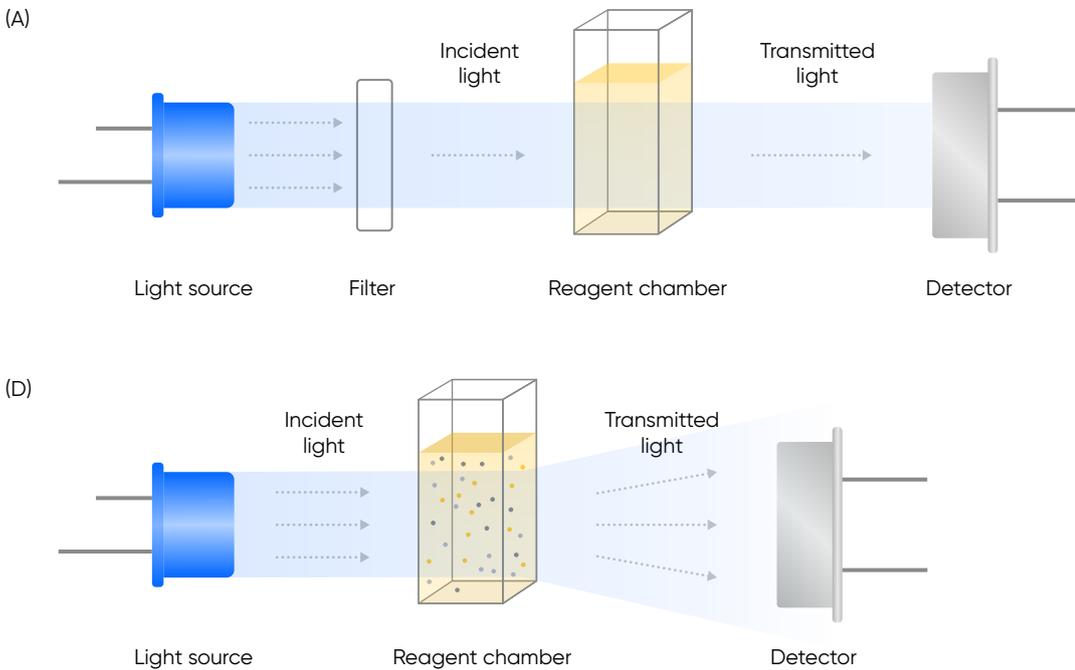
**Table 1.** Composition of eight different panels available for the Exigo C200 veterinary clinical chemistry system

Parameters	Comprehensive panel	Health check panel	Liver panel	Kidney panel	Electrolyte panel	Pre-operation panel	Canine CRP panel	Feline SAA panel
ALB	•	•	•	•				
ALP	•		•			•		
ALT	•	•	•			•		•
AMY	•	•					•	
AST	•	•	•			•		
BUN	•	•		•		•	•	•
Ca <sup>2+</sup>		•		•	•			
C-CRP							•	
Cl <sup>-</sup>					•			
CK		•				•		•
CREA	•	•		•		•	•	
f-SAA								•
GLU	•	•		•		•		
GGT	•		•					
K <sup>+</sup>					•			
LDH						•		
LPS							•	
Mg <sup>2+</sup>					•			
Na <sup>+</sup>					•			
PHOS		•		•	•			
TB	•	•	•					
TBA			•					•
TC	•		•					
TCO <sub>2</sub>				•	•			
TG	•	•						
TP	•	•	•			•		•
UA	•			•				
A/G*	•	•	•					
BUN/CREA*	•	•		•		•	•	
GLOB*	•	•	•					

\*Calculated Parameters



**Fig 3.** The powerful rotor of the C200 analyzer uses centrifugal force to mix and move the sample from the sample inlet to the reagent chambers on the outer rim of the rotor. (A) Sample addition (red color). (B) Centrifugation of sample to collect plasma and remove cells, dispensing of diluent (blue color). (C) Quantification of plasma (yellow color) and diluent. (D) Mixing of plasma and diluent (green color). (E) Dispensing of the diluted sample (green color) to each chamber. (F) Reaction complete, rotor ready for optical analysis.



**Fig 4.** Schematic overview of (A) absorption spectroscopy and (B) turbidimetry.

## Reagents

The reagent rotors are disposable, single-packed plastic discs. Each rotor contains diluent in the center and dry reagent beads in cuvettes around its edge. The sample is added to the center of the rotor, plasma is retrieved, then mixed with diluent and transferred to the cuvettes via centrifugal and siphon force. The construction of the rotor enables independent channel testing, ensuring no carryover in the assay.

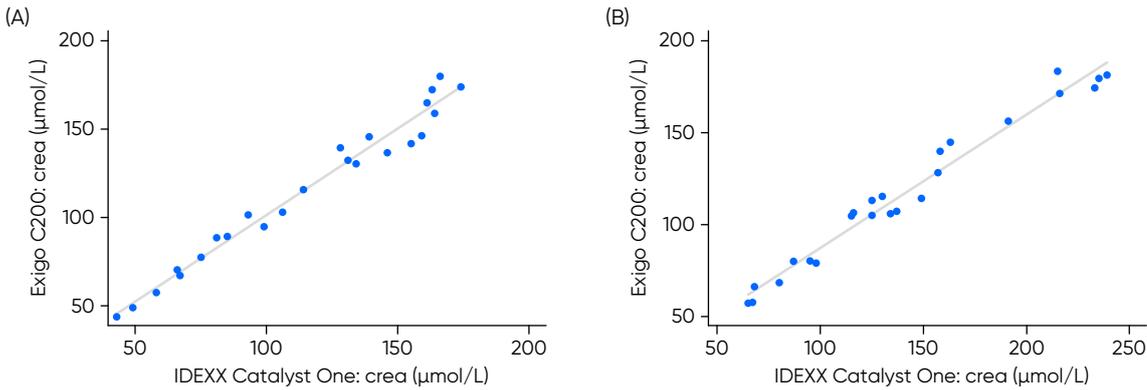
## Instrument maintenance

Exigo C200 is a closed system with no separate liquid reagents, and thus requires minimal maintenance.

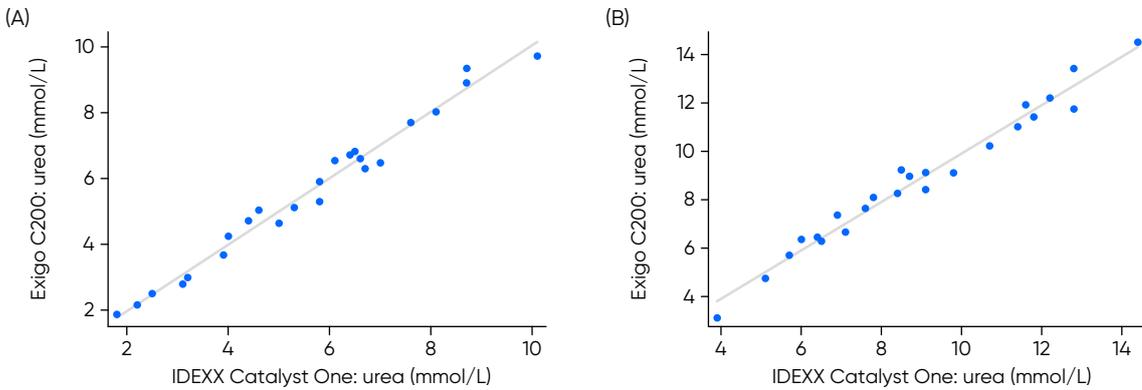
To ensure a good working condition, maintain accuracy, and extend the service life of the system, a periodic cleaning is recommended.

## System performance

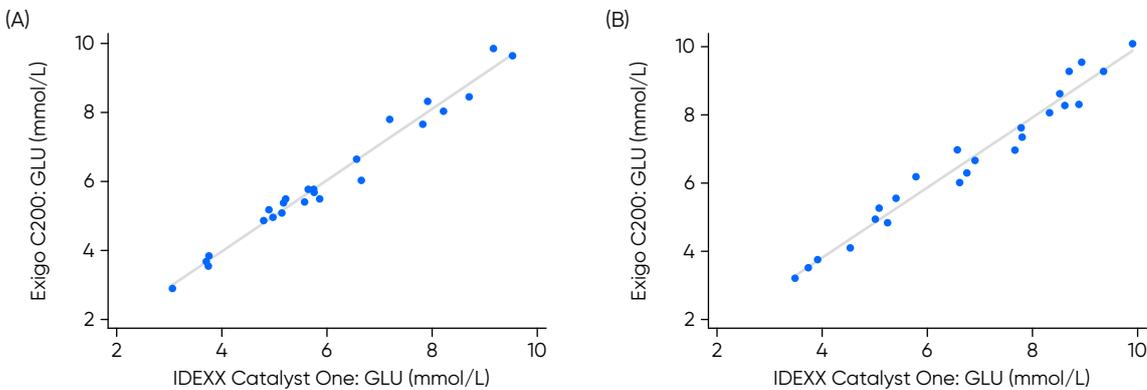
Exigo C200 provides a robust performance, with analysis results comparable to those from a reference instrument (Fig 5 to 7).



**Fig 5.** Agreement between Exigo C200 and IDEXX Catalyst One™ for creatinine (crea) in (A) dog samples and (B) cat samples.



**Fig 6.** Agreement between Exigo C200 and IDEXX Catalyst One for urea in (A) dog samples and (B) cat samples.



**Fig 7.** Agreement between Exigo C200 and IDEXX Catalyst One for glucose (GLU) in (A) dog samples and (B) cat samples.

## Quality control

Before delivery, each instrument undergoes a rigorous quality control, including inspection of assembly, robustness, function, and performance.

To ensure the quality of the rotors, the RQC system is employed, including QC-testing of each rotor before release, results stored in the QR-code. When the rotor is inserted into the system, the analyzer will automatically read the information.

To ensure good laboratory practice (GLP), periodic testing using external quality controls are recommended. A suitable interval is once a month, when the laboratory conditions change, or the test results are unclear. For quality control of Exigo C200 system, the RANDOX™ quality control products are recommended.

## Specifications

Testing principle	Absorption spectroscopy, transmission turbidimetry
Parameters	
Comprehensive panel	ALB, ALP, ALT, AMY, AST, BUN, CREA, GLU, GGT, TB, TC, TG, TP, UA, A/G*, BUN/CREA*, GLOB*
Health check panel	ALB, ALT, AMY, AST, BUN, CREA, Ca, CK, GLU, PHOS, TB, TG, TP, A/G*, BUN/CREA*, GLOB*
Liver panel	ALB, ALP, ALT, AST, GGT, TC, TBA, TP, TB, A/G*, GLOB*
Kidney panel	ALB, BUN, CREA, Ca, GLU, PHOS, tCO2, UA, BUN/CREA*
Electrolyte panel	Ca, Cl, K, Mg, Na, PHOS, tCO2
Pre-operation panel	ALP, ALT, AST, BUN, CK, CREA, GLU, LDH, TP, BUN/CREA*
Canine CRP panel	AMY, BUN, cCRP, CREA, LPS, BUN/CREA*
Feline SAA panel	ALT, BUN, CK, f-SAA TBA, TP
Species	More than 30 pre-installed animal profiles Possibility of creating own profiles manually
Testing time	12 minutes per sample
Sample type	100 µL of lithium-heparin anti-coagulated whole blood, serum or plasma
Precision	CV <10% in linear range of assays
Reagents	Multiple parameter rotors (panels): Comprehensive, health check, liver, kidney, electrolyte, pre-operation, canine CRP, feline SAA
Display	6.5 inch color touch TFT screen
Data storage capacity	>100 000 results
Interface ports	2 USB ports
Printout	Internal thermal printer Combined (C200 and H400) printout available through H400
Dimension (H × W × D)	191 × 213 × 220 mm
Weight	4.2 kg
Additional features	Portable unit, handle on the back of the instrument No liquid reagents, no calibration Three simple steps to results

\*Calculated Parameters

## Ordering information

Product	Product code
Exigo C200	1430001
Comprehensive panel	1430002
Health check panel	1430003
Liver panel	1430004
Kidney panel	1430005
Electrolyte panel	1430006
Pre-operation panel	1430008
Canine CRP panel	1430009
Feline SAA panel	1430011

Related literature	Product code
User Manual: Exigo C200	36234
Flyer: Exigo C200	39719
Quick Reference Guide Exigo C200	36235

**boule.com**

Exigo is a trademark of Boule Medical AB.  
Catalyst One is a trademark of IDEXX Laboratories, Inc.  
Randox is a trademark of Randox Laboratories Limited.  
© 2021 Boule Diagnostics AB  
Boule Diagnostics AB, Domnarvsgatan 4, SE-163 53 Spånga, Sweden  
DSE 39734-3 12/2021