# On-line programmable photometer model CA6

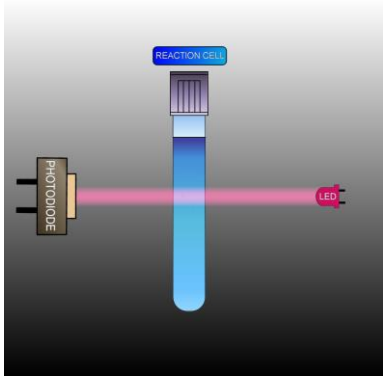

ECD
Analyzers

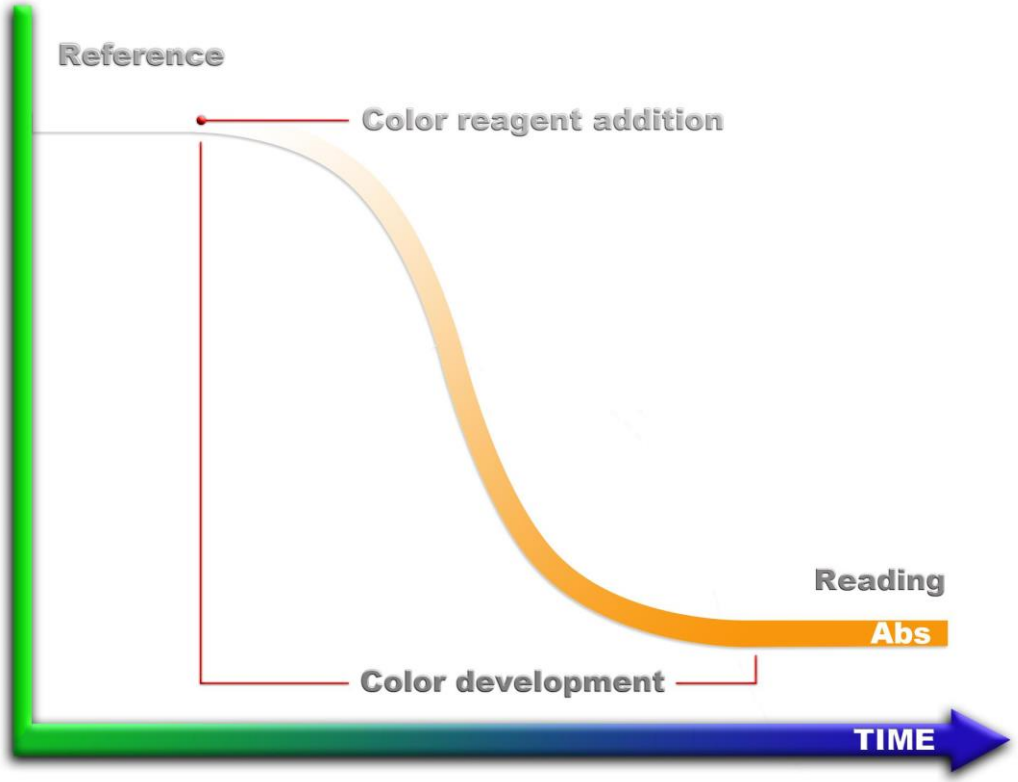

ECD
ANALYZERS

## Analysis method: differential photometric absorbance

CA6 colorimetric analyzer makes two measurements during an analysis cycle:

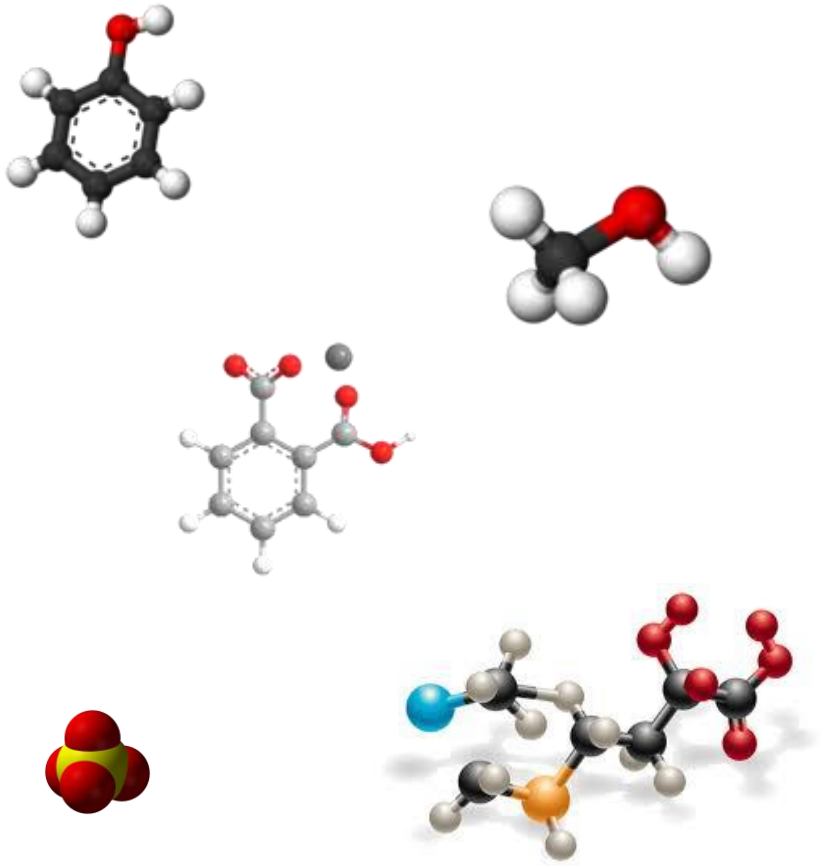
- the first step is the measurement of the raw sample and allow to compensate the colour and the turbidity




- the second step is the measurement of the sample
after reagent addition and reaction time.
The concentration is measured with the absorbance
calculated with the difference between the two measurements and with the stored calibration parameters.

ECD ANALYZERS



ANY COLOR LABORATORY
METHOD WITH UP
TO FOUR REAGENTS

## PARAMETERS :

- ALUMINIUM (Eriochrome & Pyrocatechol)
- AMMONIA (Indophenol & Salicylate)
- BROMATE (Azomethine H)
- CHLORINE / TOTAL CHLORINE (DPD)
- CHLORIDE (Mercuric Thiocyanate)
- CHROMIUM VI (Diphenylcarbazide)
- COPPER (Bathocuproine)
- CYANIDE (Chloramine-T)
- HARDNESS (O-cresolphthalein complexone)
- HYDRAZINE (p-dimethylaminobenzaldehyde)
- IRON / TOTAL IRON (TPTZ & Ferrozine & Phenantroline)
- MANGANESE (PAN, LMG)
- MONOCHLORAMINE (DPD)
- NICKEL (Dimethylglyoxime)
- NITRITE (Diazotisation)
- PHENOL (4-aminoantipyrine)
- PHOSPHATE (Blue molybdate & yellow vanadomolybdate)
- SILICA (Blue molybdate)
- SULPHATE (Turbidimetric barium chloride)
- TP (Oxydation + blue or yellow)
- ZINC (Zincon)

ECD
ANALYZERS

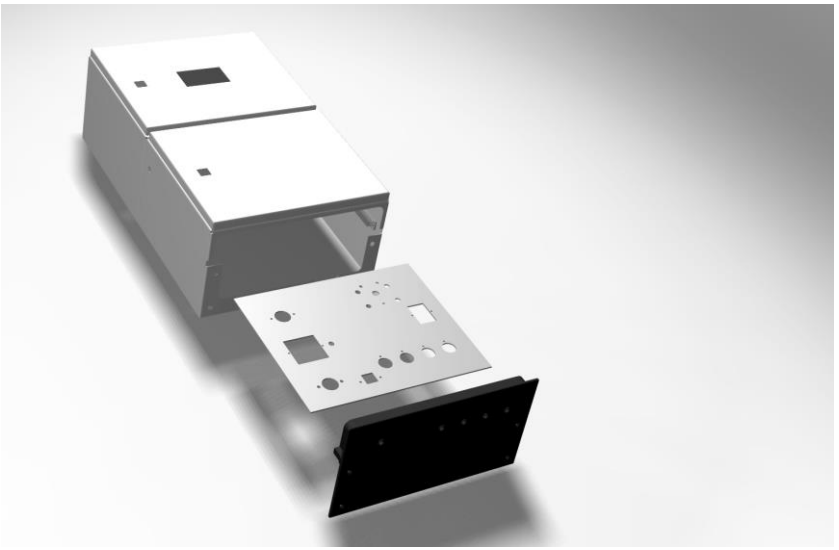
# Technical features:

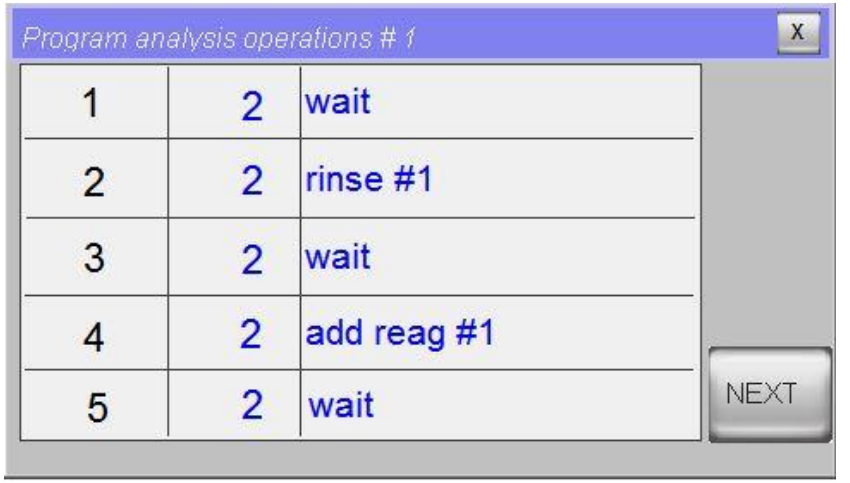
**Generic Monitor**
Flexibility and can programme to overcome any site or application problems.

**Easy configuration - Modular design**
With our modular configuration we can automate your color laboratory method with up to four reagents.
30 steps fully programmable.

**Flexible programming – can adjust to suit application extremes.**
User can identify and watch the individual steps of the process as colour development is visible to the user ie no black box), makes problem diagnosis much quicker and engineer call out less likely.

**Easy to re-configure to use for another parameter**
**Cost effective for adaptation in the future for changes in application or parameter.**
User can have access to all program parameters and check each method step individually for correct operation if desired.
Low and easy parameter swapping capability (eg, Aluminium to Iron)






ECD ANALYZERS

# Technical features:

**Dual compartment enclosure**
To ensure complete separation between electronics and hydraulics.

**Touchscreen interface**
Simple and user friendly menus and functions.

Internal datalogger with USB data download. Review historical data.

**Separate waste line for sample containing reagents**
Low volumes for contaminated waste – save labour for disposal.

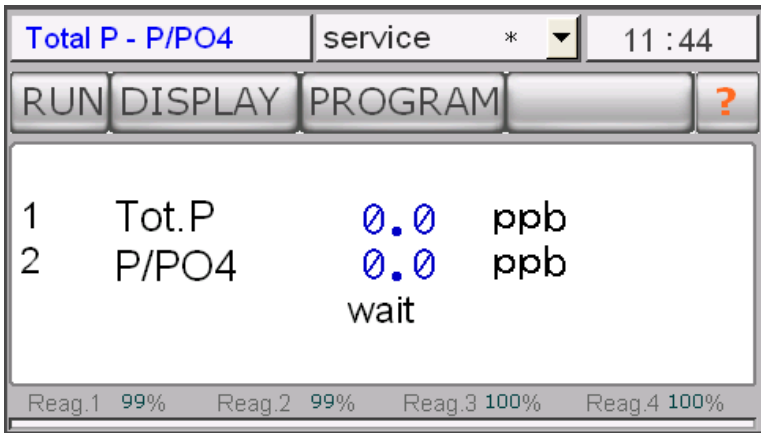
**Long autonomy, low maintenance,low operating cost**

**Rugged and reliable**
Designed for industrial and environmental on-line applications,ensures the highest level of robustness in the electronics, mechanics and hydraulics components.
Low routine service parts required – Low running costs – increased reliability.

**Easy installation and operation**
To start measurement is enough to power the analyzer and connect reagents, sample and waste line.

**Sample reservoir with sample flow fail alarm**
Stops false alarms due to sample failure.

**Low reagent level alarm**
Regent count down for low level – Stops false alarms due to reagent running out.





| time | date | result #1 | result #2 | reference | abs |
|---|---|---|---|---|---|
| 09:48 | 17/04/15 | 0.0 | 0.0 | 0.0000 | 0.0000 |
| 09:48 | 17/04/15 | 0.0 | 0.0 | 0.0000 | 0.0000 |
| 09:48 | 17/04/15 | 0.0 | 0.0 | 0.0000 | 0.0000 |
| 09:48 | 17/04/15 | 0.0 | 0.0 | 0.0000 | 0.0000 |
| 09:48 | 17/04/15 | 0.0 | 0.0 | 0.0000 | 0.0000 |
| 09:48 | 17/04/15 | 0.0 | 0.0 | 0.0000 | 0.0000 |
| 09:48 | 17/04/15 | 0.0 | 0.0 | 0.0000 | 0.0000 |
| 09:47 | 17/04/15 | 0.0 | 0.0 | 0.0000 | 0.0000 |
| 09:47 | 17/04/15 | 0.0 | 0.0 | 0.0000 | 0.0000 |
| 09:47 | 17/04/15 | 0.0 | 0.0 | 0.0000 | 0.0000 |
| 09:47 | 17/04/15 | 0.0 | 0.0 | 0.0000 | 0.0000 |
| 09:47 | 17/04/15 | 0.0 | 0.0 | 0.0000 | 0.0000 |

ECD ANALYZERS

# Technical features:

**Heated Reaction Chamber Block**
Low reagent volumes required plus fast and complete reaction process for higher precision and accuracy.
To enable cold samples to be measured very quickly and with minimal reagent consumption and better repeatability

**LED Light Source**
Lower cost, high accuracy and high reliability and stability.

**Sample Dilution – High ranges possible.**
Can perform high dilution with loop capture. Easy to add low cost dilution loop to extend range.

**Reference**
Adjusts optics for the effect of solids and background colour before analysis.
Reduced ample filtration and higher accuracy.
Optical system compensates for fouling and TSS + Colour.

**Cell Cleaning**
Post analysis acid (or other) addition post reaction for keeping reaction cell clean – greater reliability and less maintenance.

**Reagent dosing pumps utilized – saves on maintenance time, costs and increases reliability.**
**Small reagent volumes – Environmentally friendly – Reduced running costs.**

**Optical path lengths 16mm or 26mm – increased accuracy dependent on range.**
Option to change optical pathlength to optimise analyser to range required, extends analyser to accurate low end with goo high range capability

**Profibus DP option**

ECD ANALYZERS

# CONFIGURATION OF THE ANALYZER

CELL DIAMETER: 16 mm or 26 mm
Lower range – bigger cell diameter

NUMBER OF REAGENTS PUMPS (up to four – depending on the parameter)

WAVELENGHT - depending on the parameter

SINGLE CHANNEL or DUAL CHANNEL - one parameter 2 streams

DILUTION MODULE

OXYDATION MODULE

ECD ANALYZERS

# Reaction cell

In order to change from bigger to smaller cell only an adapter is needed

One cell block for all configurations


ECD Analyzers



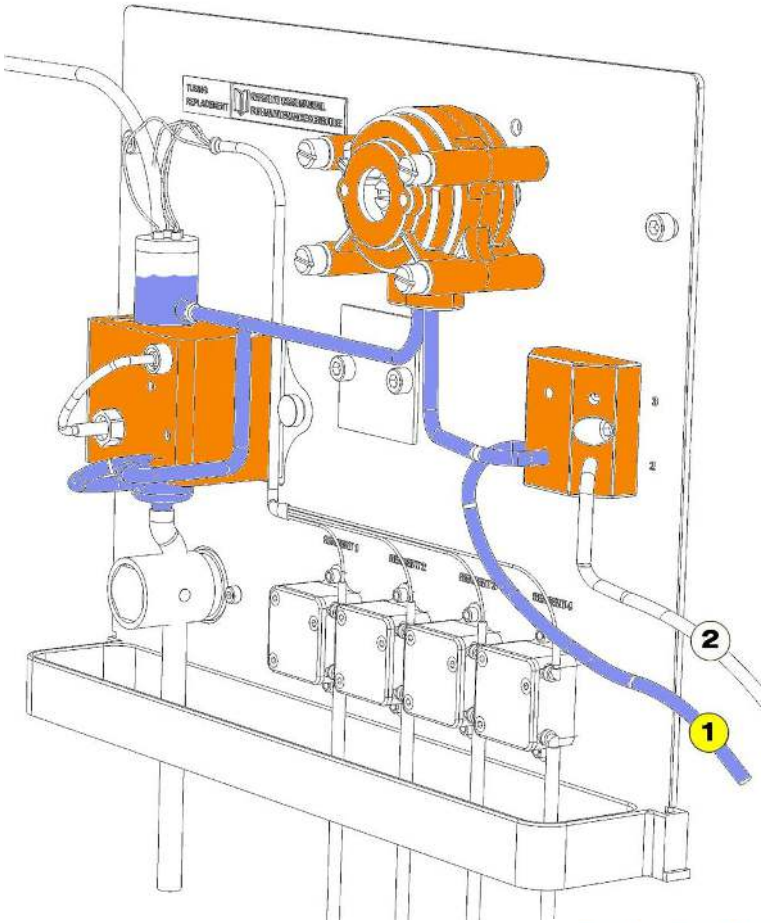


# NUMBER OF REAGENTS PUMPS

ECD ANALYZERS

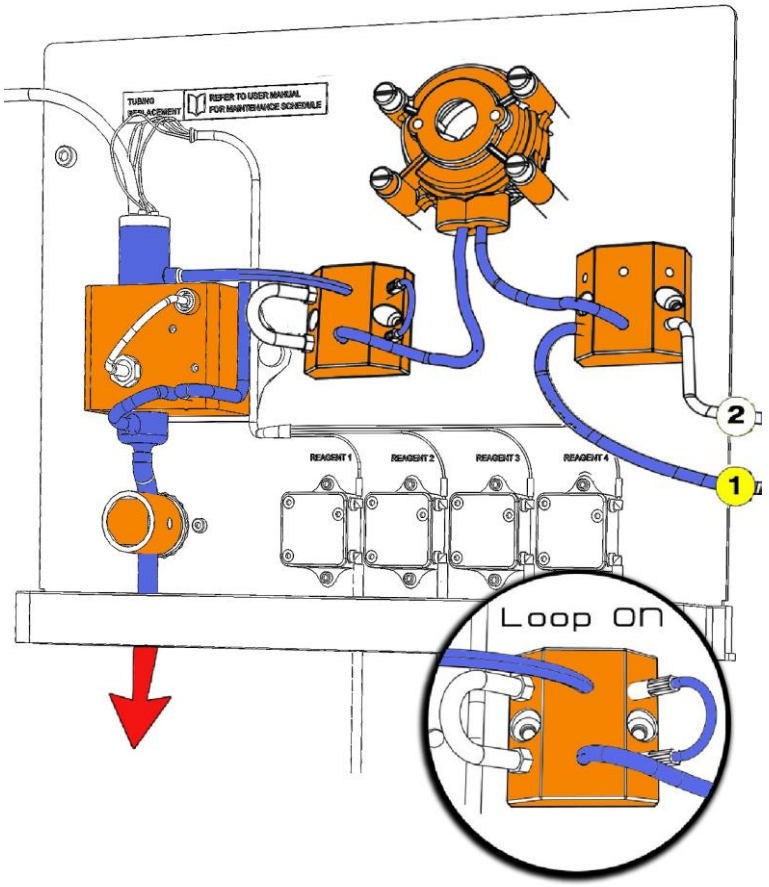
# SINGLE CHANNEL or DUAL CHANNEL

#1 = sample 1
#2 = sample 2 (if dual channel)
#3 = auto function



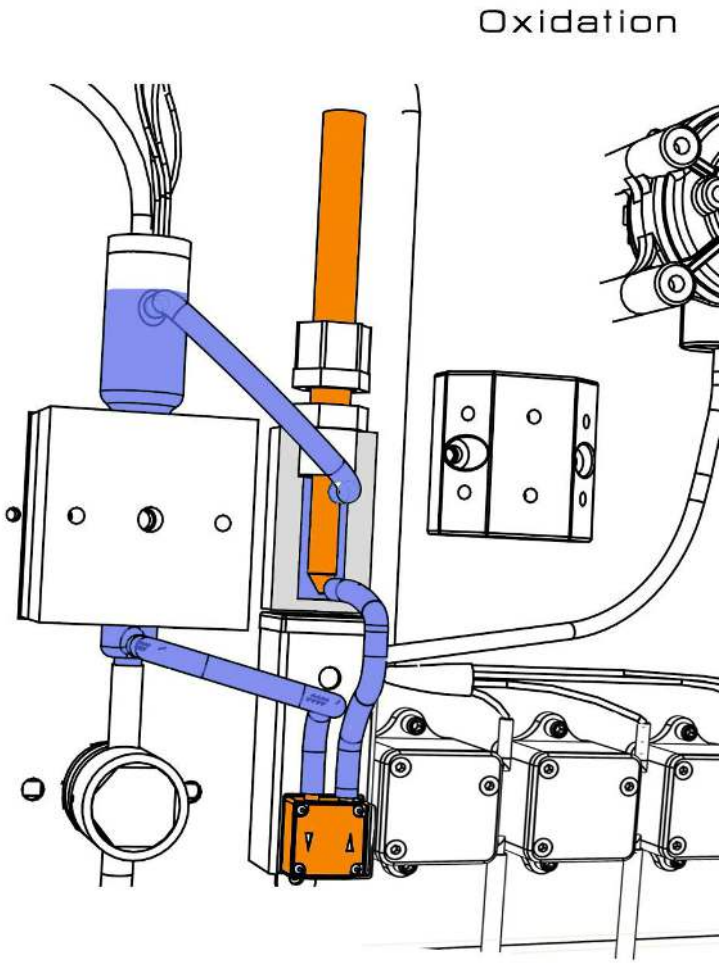

ECD
ANALYZERS

# INTERNAL DILUTION MODULE




ECD Analyzers

# OXYDATION MODULE



# HMI

## Touchscreen with USB

Results Page 17/04/15 SAVE TO USB ERASE X

| time | date | result #1 | result #2 | reference | abs |
|---|---|---|---|---|---|
| 09:48 | 17/04/15 | 0.0 | 0.0 | 0.0000 | 0.0000 |
| 09:48 | 17/04/15 | 0.0 | 0.0 | 0.0000 | 0.0000 |
| 09:48 | 17/04/15 | 0.0 | 0.0 | 0.0000 | 0.0000 |
| 09:48 | 17/04/15 | 0.0 | 0.0 | 0.0000 | 0.0000 |
| 09:48 | 17/04/15 | 0.0 | 0.0 | 0.0000 | 0.0000 |
| 09:48 | 17/04/15 | 0.0 | 0.0 | 0.0000 | 0.0000 |
| 09:48 | 17/04/15 | 0.0 | 0.0 | 0.0000 | 0.0000 |
| 09:47 | 17/04/15 | 0.0 | 0.0 | 0.0000 | 0.0000 |
| 09:47 | 17/04/15 | 0.0 | 0.0 | 0.0000 | 0.0000 |
| 09:47 | 17/04/15 | 0.0 | 0.0 | 0.0000 | 0.0000 |
| 09:47 | 17/04/15 | 0.0 | 0.0 | 0.0000 | 0.0000 |
| 09:47 | 17/04/15 | 0.0 | 0.0 | 0.0000 | 0.0000 |


## Data Download from datalogger

## .csv files

ECD ANALYZERS

# ACCESSORIES

- SEQUENCER MULTISTREAM (up to 4 channels)

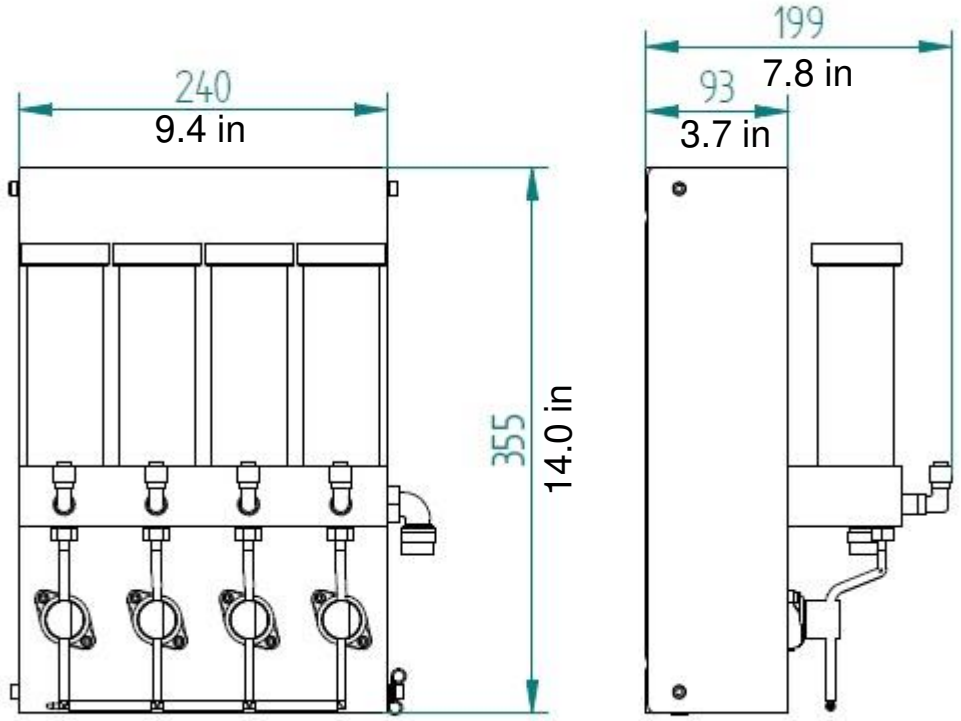
- FILTRATION UNIT
- MOUNTING SET FOR FILTRATION UNIT

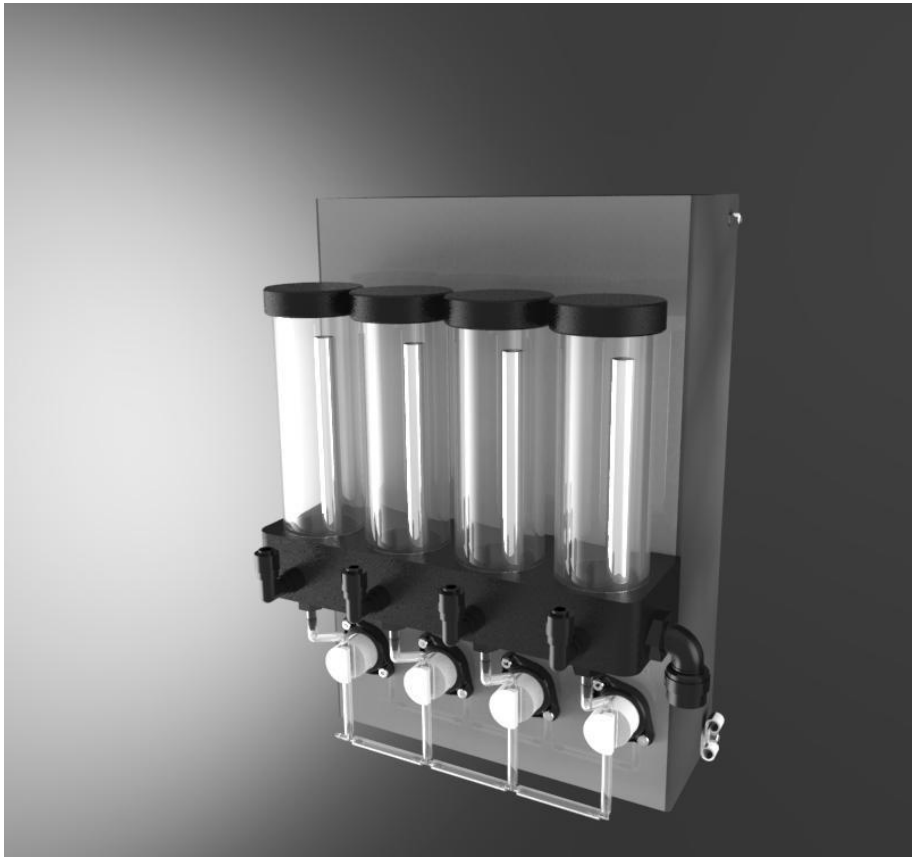
- FAST LOOP RESERVOIR WITH LEVEL SWITCH
- DILUTION WATER RESERVOIR / TANK WITH LEVEL SWITCH

- FRIDGE FOR REAGENTS' BOTTLES

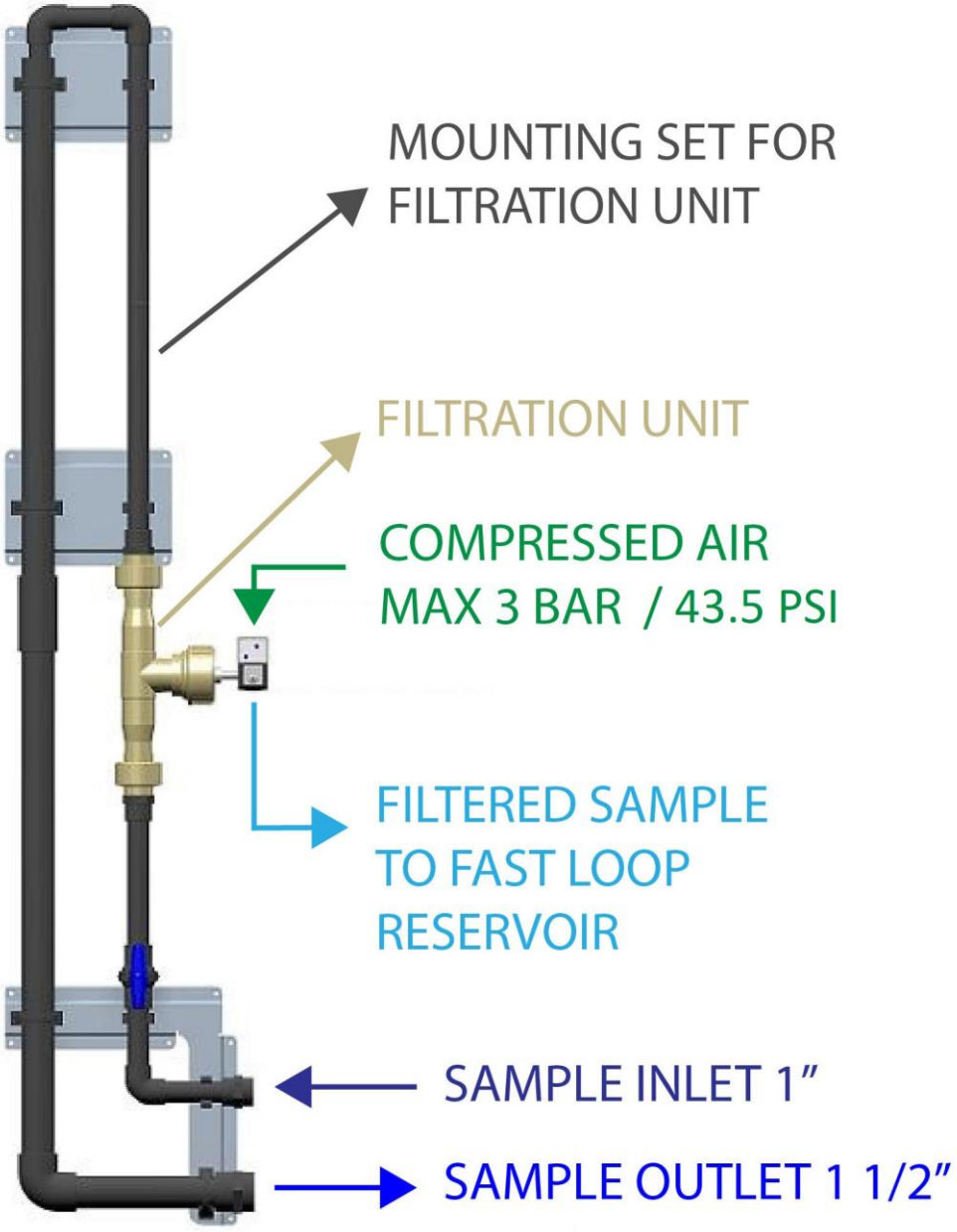
ECD ANALYZERS

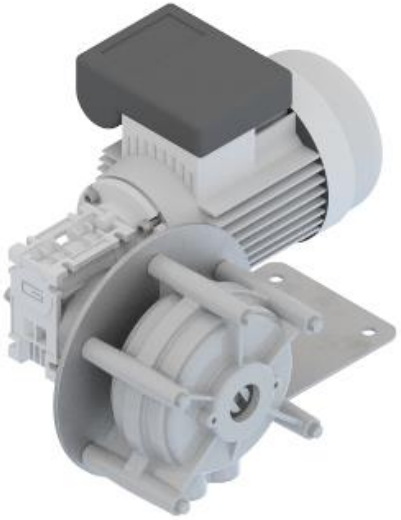
# MULTISTREAM

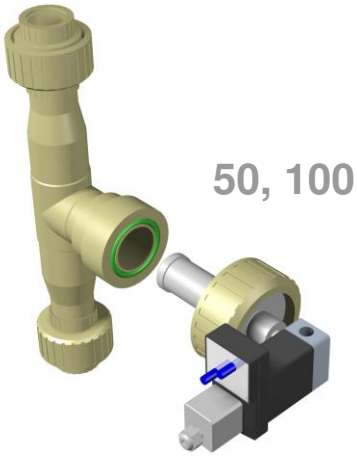


# SAMPLING PUMP & FILTRATION UNIT



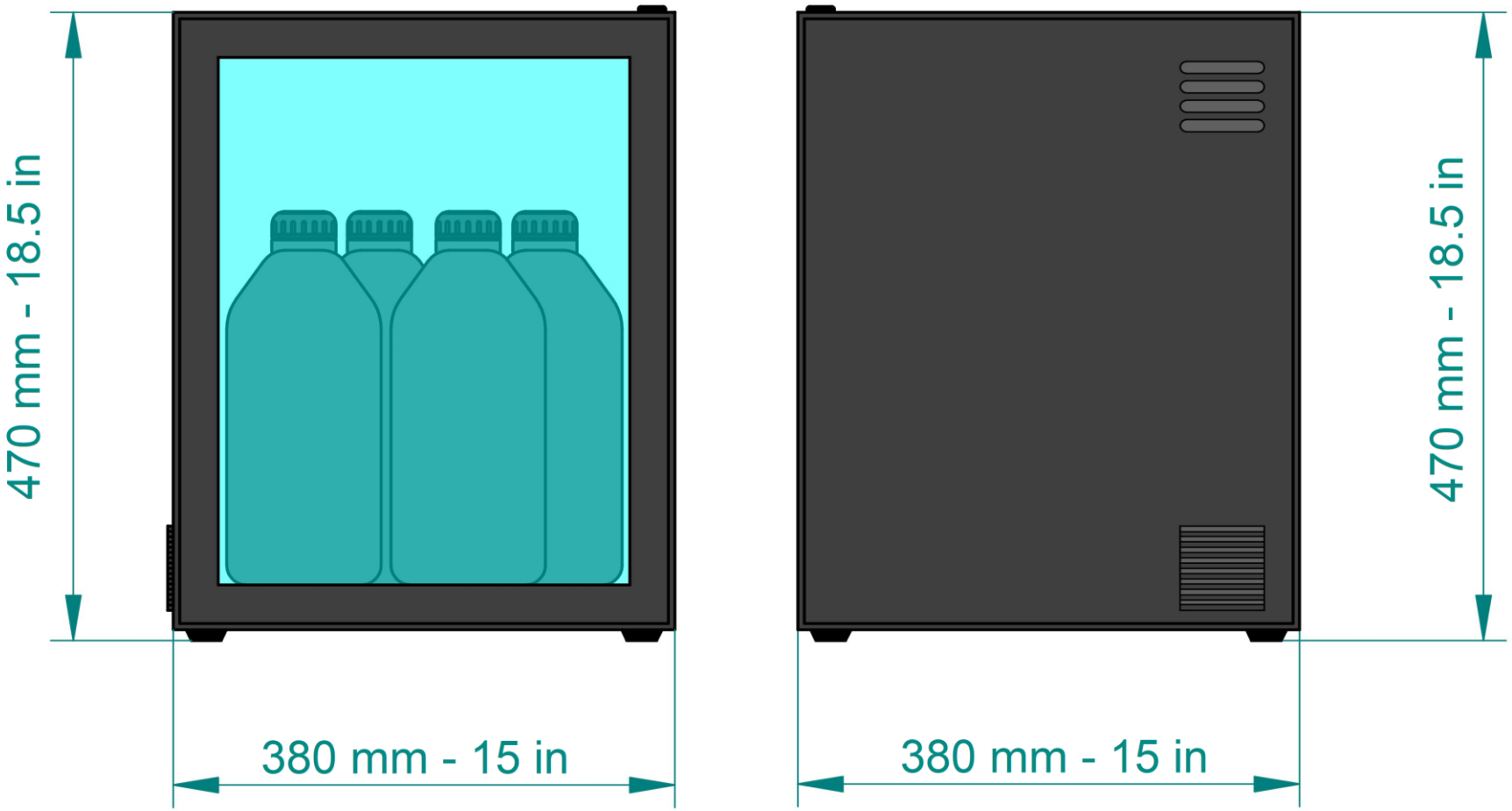





50, 100 micron

ECD
ANALYZERS

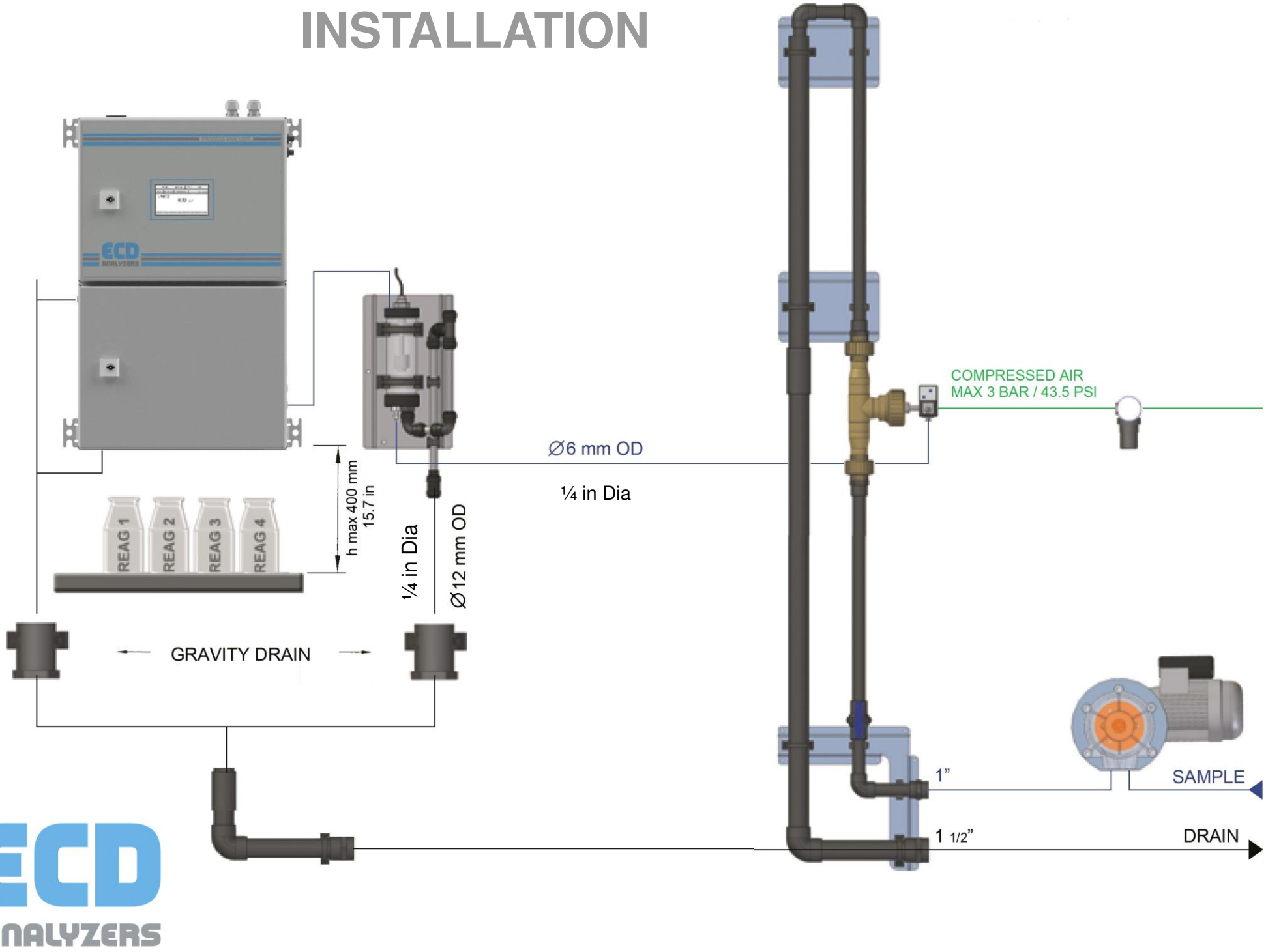
# FRIDG
# E




## Maximum capacity 4x2L bottles

ECD Analyzers

# INSTALLATION




ECD ANALYZERS