NR	2009
Date:	23-Nov-15

Application Data Sheet

Phosphate

Matrix

Boiler feed, Cooling water, Industrial waste water, Municipal waste water, Power Utility and Surface water.

Principle

Ammonium molybdate and potassium antimonyl tartrate react in acid medium with orthophosphate to form phosphomolybdic acid, which is reduced to intensely colored molybdenum blue by ascorbic acid.

Detection method

	Method:	Detector	Ion:	λ:
PO4	Colorimetry - VIS	Cuvette Module	n.a.	850 nm

Specification

	Range	Standard Dev.	Repeatability	Inaccuracy	Analysis time
		(If 2 options : whichever is larger)			
PO4	0 - 4 mg/l	0.001 mg/l or 1%	0.003 mg/l or 3%	5%	10 minutes

Interferences

Arsenium(V) (As5+), Chromium(VI) (Cr6+), Copper(II) (Cu2+ < 10 mg/l), Iron(III) (Fe3+ < 10 mg/l), Sulfide (S2- < 2 mg/l) and Vanadium(V) (V5+).
Silica up to 60 times the phosphate concentration does not interfere.

Reagents

Ascorbic acid	1 ml per analysis
Molybdate reagent	1 ml per analysis

Procedure

- clean the cuvette with sample
- take 20 ml of sample
- add ascorbic acid
- measure initial color
- add molybdate reagent
- measure final color
- calculate result

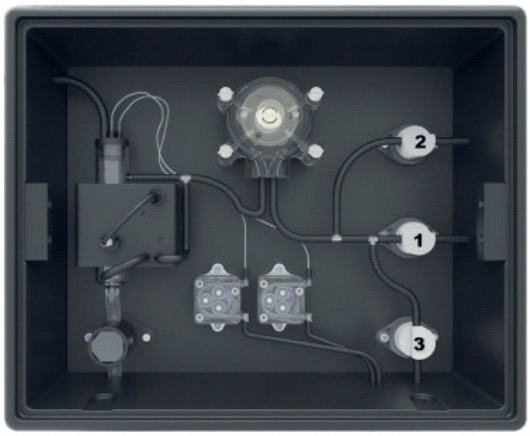
Remarks

Use LED 850 nm.

Possible Analyzer

- ☐ 2045TI
- ☐ 2045VA
- ☐ 2035
- ☐ 2016
- ☐ 2018 HD
- ☐ 2019 HD
- ☐ 2019 Special
- ☐ 2019 Digest
- ☐ 2003 Alert
- ☑ ICON

Typical Wet Part layout



Metrohm Process Analytics