Annex to declaration of accreditation (scope of accreditation)
Normative document: EN ISO/IEC 17025:2017
Registration number: **L 043**

of **Vitens N.V.**
Waterexpertisecentre

This annex is valid from: **26-07-2023** to **01-06-2025** Replaces annex dated: **19-07-2023**

Location(s) where activities are performed under accreditation

Head Office

Snekertrekweg 61
8912 AA
Leeuwarden
The Netherlands

Location	Abbreviation/ location code
Snekertrekweg 61 8912 AA Leeuwarden The Netherlands	L

No.	Material or product	Type of activity[1]	Internal reference number	Location
		Sampling		
a.	Drinking water, groundwater, surface water and process water	Sampling of taps for inorganic-, organic- and microbiological analyses. (all accredited analyses referred to in this scope which begin with the internal reference numbers VL-W-AC, VL-W-ME, VL-W-OC and VL-W-MB)	VL-W-MN01 NEN-EN-ISO 5667-5	OnLo
b.	Groundwater	Sampling of monitoring wells (including anaerobe in-line filtration of water) for inorganic- and organic analyses. (all accredited analyses referred to in this scope which begin with the internal reference numbers VL-W-AC, VL-W-ME)	VL-W-MN02 and VL-W-MN04 NTA 8017	OnLo

This annex has been approved by the Board of the Dutch Accreditation Council, on its behalf,

J.A.W.M. de Haas

[1] If there is a referral to a code starting with NAW, NAP, EA or IAF, this concerns a scheme mentioned BR010 List on https://www.rva.nl/en/rules-and-decisions/
If no date or version number is mentioned for a normative document, the accreditation concerns the most current version of the document or scheme.

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c	Surface water	Collecting samples using a sampling beaker for inorganic-, organic- and microbiological analyses. (all accredited analyses referred to in this scope which begin with the internal reference numbers VL-W-AC, VL-W-ME, VL-W-OC and VL-W-MB)	VL-W-MN03 NEN 6600-2	OnLo
d	Drinking water and groundwater	Collecting samples for methane analyses.(analysis with the internal reference number VL-W-OC05)	VL-W-MN10 NEN-EN-ISO 5667-5	OnLo
e	Drinking water, groundwater (Matrix A) Process water, water from cooling towers and swimming pool water (Matrix B) Wastewater (Matrix C)	Sampling for *Legionella* testing with internal reference number VL-W-MB48 and VL-W-MB18	VL-W-MN11 NEN-EN-ISO 11731 and NEN-EN-ISO 19458	OnLo
f	Swimming water	Collecting samples for inorganic-, organic- and microbiological analyses. (all accredited analyses referred to in this scope which begin with the internal reference numbers VL-W-AC, VL-W-OC and VL-W-MB)	VL-W-MN05 NEN 6600-3	OnLo
g	Drinking water, groundwater and surface water	Sampling for assimilable organic carbon (AOC) testing	VL-W-MN37 NEN 6271	OnLo
h	Drinking water, groundwater, surface water and process water	Sampling for microbiological testing (all accredited analyzes mentioned in this scope starting with the internal reference numbers VL-W-MB)	VL-W-MN36 NEN EN ISO 19458	OnLo

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No.	Material or product	Type of activity[1]	Internal reference number	Location
		Field measurements		
1.	Drinking water, groundwater, surface water, process water and swimming water	Determination of temperature; digital thermometer	VL-W-MN16 NEN 6414	OnLo
2.	Drinking water, groundwater, surface water, process water and swimming water	Determination of pH; potentiometry	VL-W-MN17 in house method	OnLo
3.	Drinking water, groundwater and process water	Determination of electric conductivity; conductometry	VL-W-MN18 in house method	OnLo
4.	Drinking water and swimming water	Determination of free available chlorine and total chlorine content; spectrophotometry	VL-W-MN20 NEN-EN-ISO 7393-2	OnLo
		Radioactivity measurements		
5.	Drinking water, groundwater and surface water	Determination of total β-activity concentration and rest-β-activity concentration of not-volatile substances	VL-W-AC11 in house method	L
6.	Drinking water, groundwater, surface water	The dertermination of total α-activity concentration of not-volatile substances	VL-W-AC11 in house method	L
		Inorganic analyses (wet-chemistry)		
7.	Drinking water, groundwater and surface water	Determination of suspended solids content; glass wool filtration and gravimetry	VL-W-AC19 NEN-EN 872	L
8.	Drinking water, groundwater, surface water and swimming water	Determination of turbidity; nephelometry	VL-W-AC01 in house method	L
9.	Drinking water, groundwater and surface water	Determination of pH; potentiometry	VL-W-AC01 in house method	L

No.	Material or product	Type of activity[1]	Internal reference number	Location
10.	Drinking water, groundwater, surface water	Determination of electric conductivity; conductometry	VL-W-AC01 NEN-ISO 7888	L
11.	Drinking water, groundwater, surface water	Determination of oxygen content; Luminescence	VL-W-AC01 NEN-ISO 17289	L
12.	Drinking water, groundwater, surface water and swimming water	Determination of carbonate (CO_3) and hydrogen carbonate (HCO_3) content; titrimetry	VL-W-AC01 in house method	L
13.	Drinking water, groundwater and surface water	Determination of colour intensity; spectrophotometry	VL-W-AC01 in house method	L
14.	Drinking water, groundwater and surface water	Determination of UV absorption; spectrophotometry	VL-W-AC01 in house method	L
15.	Drinking water, groundwater, surface water	Determination of ammonium content; discrete analyser spectrophotometry	VL-W-AC02 in house method	L
16.	Drinking water, groundwater, surface water	Determination of chloride content; discrete analyser spectrophotometry	VL-W-AC02 in house method	L
17.	Drinking water, groundwater, surface water	Determination of nitrate content; discrete analyser spectrophotometry	VL-W-AC02 in house method	L
18.	Drinking water, groundwater, surface water	Determination of nitrite content; discrete analyser spectrophotometry	VL-W-AC02 in house method	L
19.	Drinking water, groundwater, surface water	Determination of ortho-phosphate content; discrete analyser spectrophotometry	VL-W-AC02 in house method	L
20.	Drinking water, groundwater and surface water	Determination of silicate content; discrete analyser spectrophotometry	VL-W-AC02 in house method	L

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21.	Drinking water, groundwater, surface water	Determination of sulphate content; discrete analyser spectrophotometry	VL-W-AC02 in house method	L
22.	Drinking water, groundwater, surface water and swimming water	Determination of potassium permanganate demand (permanganate index); continuous flow analyses spectrophotometry	VL-W-AC04 in house method	L
23.	Swimming water	Determination of urea content; continuous flow analyses spectrophotometry	VL-W-AC04 in house method	L
24.	Drinking water, groundwater and surface water	Determination of total cyanide content; continuous flow analyses spectrophotometry	VL-W-AC05 in house method	L
25.	Swimming water	Determination of cyanic acid content; spectrophotometry	VL-W-AC06 NEN 6493	L
26.	Drinking water, groundwater and surface water	Determination of dissolved anions; ion chromatography fluoride and bromide	VL-W-AC03 NEN-EN ISO 10304-1	L
27.	Drinking water, groundwater and surface water	Determination of dissolved anions; ion chromatography chlorate and nitrate	VL-W-AC03 in house method	L
		Inorganic analyses (elementanalyses)		
28.	Drinking water, groundwater and surface water	Determination of elements content, after acidifying with nitric acid to pH 1–2); ICP-MS aluminium, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, lead, nickel, selenium, strontium, vanadium and zinc	VL-W-ME01 in house method	L
29.	Drinking water, groundwater and surface water	Determination of elements content after filtration (0,45 µm) and acidifying with nitric acid to pH 1–2; ICP-MS aluminium, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, lead, nickel, selenium, strontium, vanadium and zinc	VL-W-ME01 in house method	L

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No.	Material or product	Type of activity[1]	Internal reference number	Location
30.	Drinking water, groundwater, waste water and surface water	Determination of elements content, after exclusion with nitric acid; ICP-MS aluminium, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, lead, nickel, selenium, strontium, vanadium and zinc	VL-W-ME01 and VL-W-ME12 in house method	L
31.	Drinking water, groundwater and surface water	Determination of elements content after acidifying with nitric acid to pH 1-2; ICP-MS calcium, iron, potassium, magnesium, manganese and sodium	VL-W-ME04 in house method	L
32.	Drinking water, groundwater and surface water	Determination of elements content after filtration (0,45 µm) and acidifying with nitric acid to pH 1–2; ICP-MS calcium, potassium, magnesium, manganese, sodium and iron	VL-W-ME04 in house method	L
33.	Drinking water, groundwater, waste water and surface water	Determination of elements content, after exclusion with nitric acid; ICP-MS calcium, iron, potassium, magnesium, manganese and sodium	VL-W-ME04 and VL-W-ME12 in house method	L
34.	Drinking water, groundwater and surface water	Determination of calcium and magnesium content and corresponding hardness after acidifying with nitric acid to a pH of 1-2; ICP-MS	VL-W-ME04 in house method	L
35.	Drinking water, groundwater and surface water	Determination of calcium and magnesium content and corresponding hardness after filtration (0.45 µm) and acidifying with nitric acid to a pH of 1-2; ICP-MS	VL-W-ME04 in house method	L
36.	Drinking water, groundwater and surface water	Determination of elements content (after acidifying with hydrochloric acid to pH 1–2); ICP-MS antimony, mercury, molybdenum and tin	VL-W-ME05 in house method	L
37.	Drinking water, groundwater and surface water	Determination of elements content after filtration (0,45 µm) and acidifying with hydrochloric acid to pH 1–2; ICP-MS antimony, mercury, molybdenum and tin	VL-W-ME05 in house method	L

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38.	Drinking water, groundwater, waste water and surface water	Determination of molybdeen content after exclusion with nitric acid; ICP-MS	VL-W-ME05 and VL-W-ME12 in house method	L
39.	Drinking water, groundwater and surface water	Determination of silver and copper content with complex reagent; ICP-MS	VL-W-ME17 in house method	L
		Organic analyses		
40.	Drinking water, groundwater and surface water	Determination of total organic carbon (TOC) and dissolved organic carbon (DOC) content; TOC-analyser with high-temperature combustion and NDIR detection	VL-W-OC02 NEN-EN-1484	L
41.	Drinking water and groundwater	Determination of methane content; GC-FID with static headspace	VL-W-OC05 in house method	L

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42.	Drinking water, groundwater and surface water	Determination of volatile hydrocarbons content; GC-MS headspace 1,1-dichloroethene, 1,2-(trans)-dichloroethene, 1,1-dichloroethene, 1,2-(cis) dichloroethene, bromochloromethene, trichloromethene, 1,1,1-trichloroethene, cyclohexane, tetrachloromethene, benzene, 1,2-dichloroethene, cyclohexene, 1,1-dichloropropane, trichloroethene, 1,2-dichloropropane, bromodichloromethene, 1,2-(trans) dibromoethene, 1,3-(cis) dichloropropene, methylbenzene, Methylisothiocyanaat (MITC), 1,3-(trans) dichloropropene, 1,2-(cis) dibromoethene, 1,1,2-trichloroethene, tetrachloroethene, 1,3-dichloropropane, dibromochloromethene, monochlorobenzene, ethylbenzene, 1,3+1,4-dimethylbenzene, 1,2-dimethylbenzene, fenylethene, tribromomethene, isopropylbenzene, 1,2,3-trichloropropane, n-propylbenzene, 1,3-ethylmethylbenzene, 1,4-ethylmethylbenzene, 1,3,5-trimethylbenzene, 1,2-ethylmethylbenzene, tribromoethene, 1,2,4-trimethylbenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 1,2,3-trimethylbenzene, 1,2-dichlorobenzene, chloroethane, 2-chloropropene, dichloromethane, Methylisothiocyanaat (MTBE), tetrahydrofuran, 1,1-dichloropropene, tetrahydrothiophene, 1,2-dibromoethene, 2-chlorotoluene, 3-chlorotoluene, 4-chlorotoluene, 2,4-dichlorotoluene, 2,5-dichlorotoluene, 2,6-dichlorotoluene, 2,3-dichlorotoluene, 3,4-dichlorotoluene, 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, 1,3,5-trichlorobenzene, t-butylbenzene, s-butylbenzene, p-isopropyltoluene, n-butylbenzene, hexachloroethene, hexachlorobutadiene and naphtalene	VL-W-OC07 in house method	L
43.	Drinking water, groundwater and surface water	Determination of polycyclic aromatic hydrocarbons (PAH) content; HPLC-FLU after on-line solid phase extraction naphtalene, acenaphtene, fluorene, fenanthrene, anthracene, fluoranthene, pyrene, benz-(a)-anthracene, chrysene, benz-(b)-fluoranthene, benz-(k)-fluoranthene, benz-(a)-pyrene, dibenz-(a,h)-anthracene, benz-(g,h,i)perylene and indeno-(1,2,3-c,d)-pyrene	VL-W-OC10 in house method	L

No.	Material or product	Type of activity[1]	Internal reference number	Location
44.	Drinking water, groundwater and surface water	Determination of dikegulac content; HPLC MS/MS	VL-W-OC20 in house method	L
		Flexible scope[2]		
45.	Water	Determination of pesticide content (acetamides, organochlorine pesticides (OCP) and organophosphorus and nitrogen-containing pesticides (ONPB) and PCB's using GC-MS/MS.	VL-W-OC23	L
46.	Water	Determination of (chloro)phenols content after derivatization using GC-MS/MS	VL-W-OC04	L
47.	Water	Determination of aromatic amines content using GC-MS/MS	VL-W-OC33	L
48.	Water	Determination of polar anthropogenic organic compounds using HPLC-MS/MS	VL-W-OC37	L
49.	Water	Determination of pesticide content (acetamides, organochlorine pesticides (OCP) and organophosphorus and nitrogen-containing pesticides (ONPB) and PCB's using GC-MS/MS.	VL-W-OC23	L
		Microbiological analyses		
50.	Surface water	Enumeration of (thermo-tolerant) coliform bacteria; membrane filtration and confirmation with Maldi-TOF	VL-W-MB02 and VL-W-MB45 isolation: NEN 6570 (1982) and NEN 6571 (1982) (confirmation: in house method)	L
51.	Drinking water and groundwater (Matrix A)	Enumeration of *Legionella*; membrane filtration, medium A, B and confirmation with UV or PCR	VL-W-MB48 en VL-W-MB 18 NEN-EN-ISO 11731 (procedure 8,9,10) (isolation NEN-EN-ISO 11731, confirmation NEN-EN-ISO 11731)	L
52.	Process water, water from cooling towers and swimming pool water (Matrix B)	Enumeration of *Legionella*; membrane filtration, medium C (MWY) and confirmation with UV or PCR	VL-W-MB48 en VL-W-MB 18 NEN-EN-ISO 11731 (procedure 8,9,10) (isolation NEN-EN-ISO 11731, confirmation NEN-EN-ISO 11731)	L

[2] This flexible scope requires the laboratory to maintain a current list of the methods applied under this flexible scope.

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53.	Surfacewater and wastewater (Matrix C)	Enumaration of *Legionella*; membranefiltration, medium C (MWY) and confirmation with UV or PCR	VL-W-MB48 en VLWMB18 NEN-EN-ISO 11731 (procedure 4) (isolation NEN-EN-ISO 11731, confirmation NEN-EN-ISO 11731)	L
54.	Legionella isolates from water	Determination of Legionella; real-time PCR *L. pneumophila 1, L.. pneumophila 2-15 en L. non-pneumophila*	VL-W-MB18 In house method	L
55.	Drinking water, groundwater, surface water, process water and swimming water	Enumeration of sulphite reducing clostridia; membrane filtration	VL-W-MB49 NEN-ISO 6461-2	L
56.	Drinking water, groundwater and surface water	Enumeration of aeromonas-bacteria at 30°C; membrane filtration	VL-W-MB07 NEN 6263	L
57.	Surface water	Enumeration of Escherichia coli; membrane filtration	VL-W-MB09 NEN 6261 (1990)	L
58.	Drinking water, groundwater and swimming water	Enumeration of coliform bacteria and Escherichia coli; membrane filtration and MALDI-TOF confirmation.	VL-W-MB10 and VL-W-MB45 NEN-EN-ISO 9308-1 (2000) (conformation in house method)	L
59.	Drinking water, ground water, surface water, process water and swimming water	Enumeration of enterococci; membrane filtration	VL-W-MB12 NEN-EN ISO 7899-2	L
60.	Drinking water, groundwater and surface water	Enumeration of cultivable micro-organisms; colony count using R_2A-Agar at 25°C; plate count technique	VL-W-MB13 NEN 6276	L
61.	Drinking water, ground water, surface water, process water, swimming water, waste water and icewater	Enumeration of cultivable micro-organisms at 22°C en 36°C; colony count using yeast extract agar; pour plate technique	VL-W-MB19 NEN-EN ISO 6222 (including sample preservation)	L

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62.	Drinking water, ground water, surface water and process water	Enumeration of F-specific RNA bacteriophages; direct plating method	VL-W-MB20 NEN-EN ISO 10705-1	L
63.	Drinking water, ground water and surface water	Enumeration of aeromonas-bacteria at 37°C; membrane filtration	VL-W-MB06 in house method	L
64.	Drinking water, ground water, surface water, process water and swimming water	Confirmation of Clostridium perfringens colonies; Real Time Polymerase Chain Reaction technique	VL-W-MB26 in house method	L
65.	Drinking water, ground water and surface water	Enumeration of somatic coli-phages in water	VL-W-MB25 NEN-EN-ISO 10705-2	L
66.	Bacterie-isolates	Confirmation of bacterial- isolates: mass-spectrometry Legionella, E.coli, coliforms	VL-W-MB45 in house method	L
67.	Drinking water, ground water, surface water, process water and swimming water	Enumeration of Clostridia perfringens; membrane filtration	VL-W-MB34 NEN-EN-ISO 14189	L