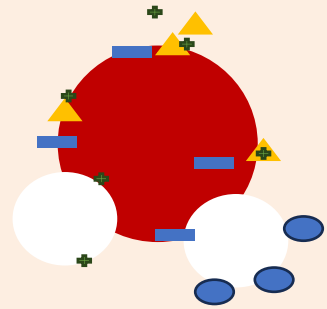




Casper ten Bokkel

 /FiltAER

- Mineralen
- Zouten
- Verbinders, nitraat
- Chloride
- Kalium natrium
- sulfaten
- Chemische stoffen, PFAS
- Ijzers
- Medicijnresten
- Bacteriën
- Virussen
- Colloïdale deeltjes
- Microplastics



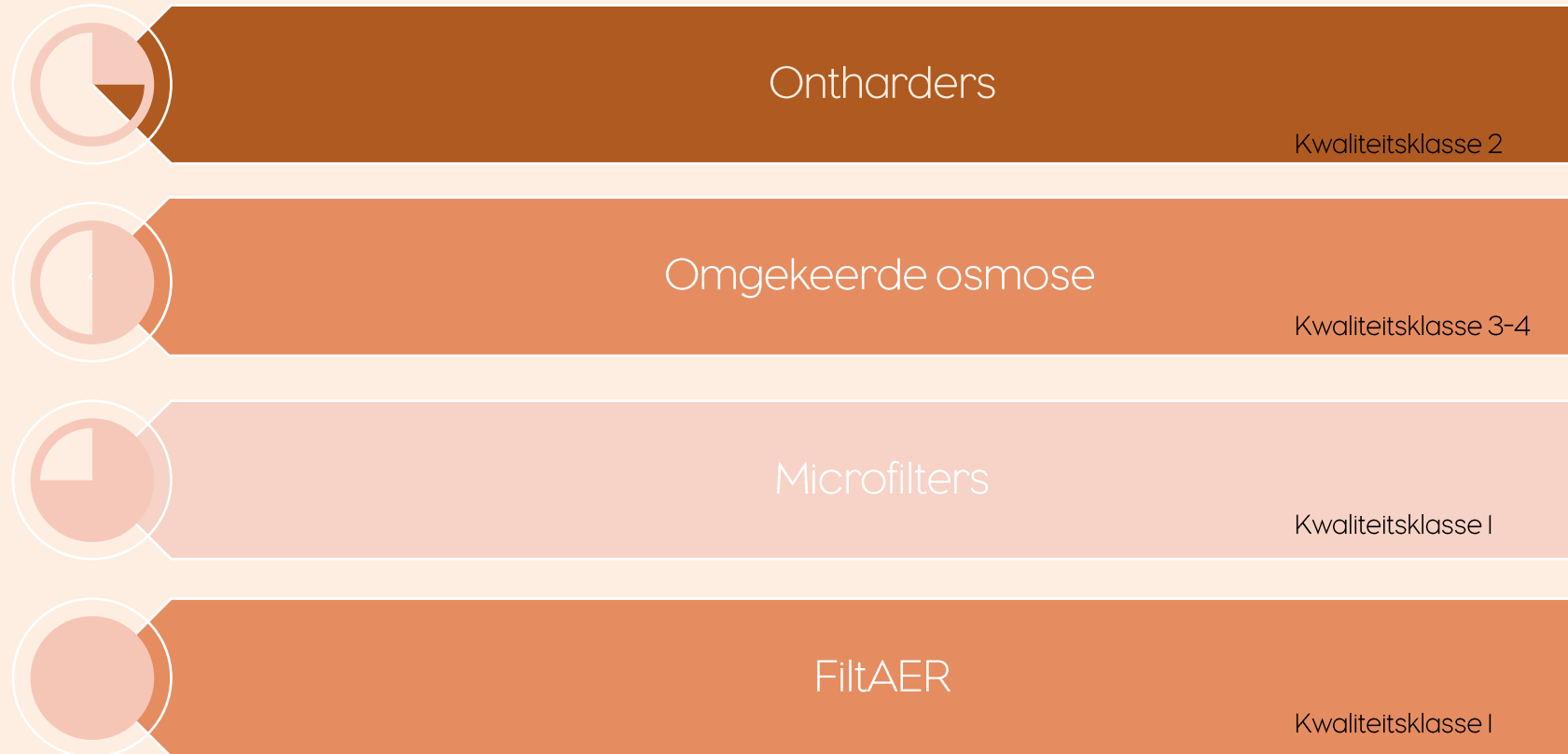
- Drinkwaterwet
- Het Drinkwaterbesluit
- De Europese Kaderrichtlijn water
- WHO

- Geleidbaarheid
- Hardwater
- Gecontamineerd water

Tabel I, NEN-StSt R4102:2022

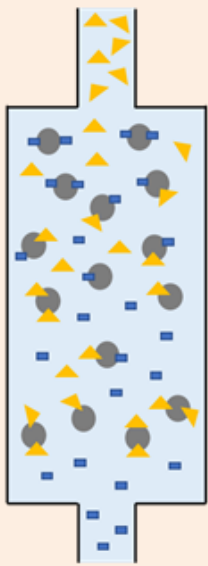
Flexibele endoscopendesinfector	1, 2, 3	1, 2, 3			1, 2, 3	2, 3 ^a	2, 3	2 ^b , 3 ^b
	Drinkwater volgens Drinkwater-besluit ^a	Onthard water ^a	Gedemineraliseerd water (= demi-water)	Water volgens NEN-EN 285:2016 +A1:2021, bijlage B tabel B.1				
Kwaliteits-klasse	1	2	3	4				
Geleidbaarheid bij 20 °C	< 1 250 μS/cm							
Hardheid	< 14 °dH							
Kiemgetal bij 20 °C	< 100 KVE/ml							
Endotoxine	-							
Droogrest	< 10 mg/l							
Totaal Organische koolstof (TOC)	< 500 mg/l							
Silicaten SiO ₂	< 1 mg/l							
pH	7 - 9,5							
Chloride	< 150 mg/l							
Ijzer	< 0,2 mg/l							
Koper	< 2 mg/l							
Lood	< 0,01 mg/l							





ONTHARDINGSPROCES

Hard water
(bevat Ca en Mg-ionen)

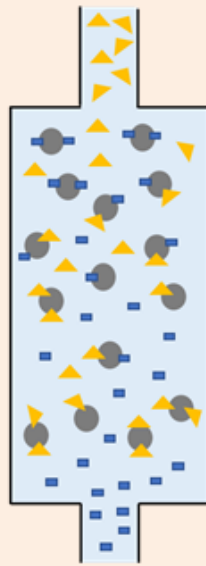


Onthard water
(bevat Na-ionen)

- Harsmedium
- ▲ Calcium- en Magnesium- ionen
- Natriumionen

REGENERATIEPROCES

Terugspoelwater
(bevat Ca en Mg-ionen)

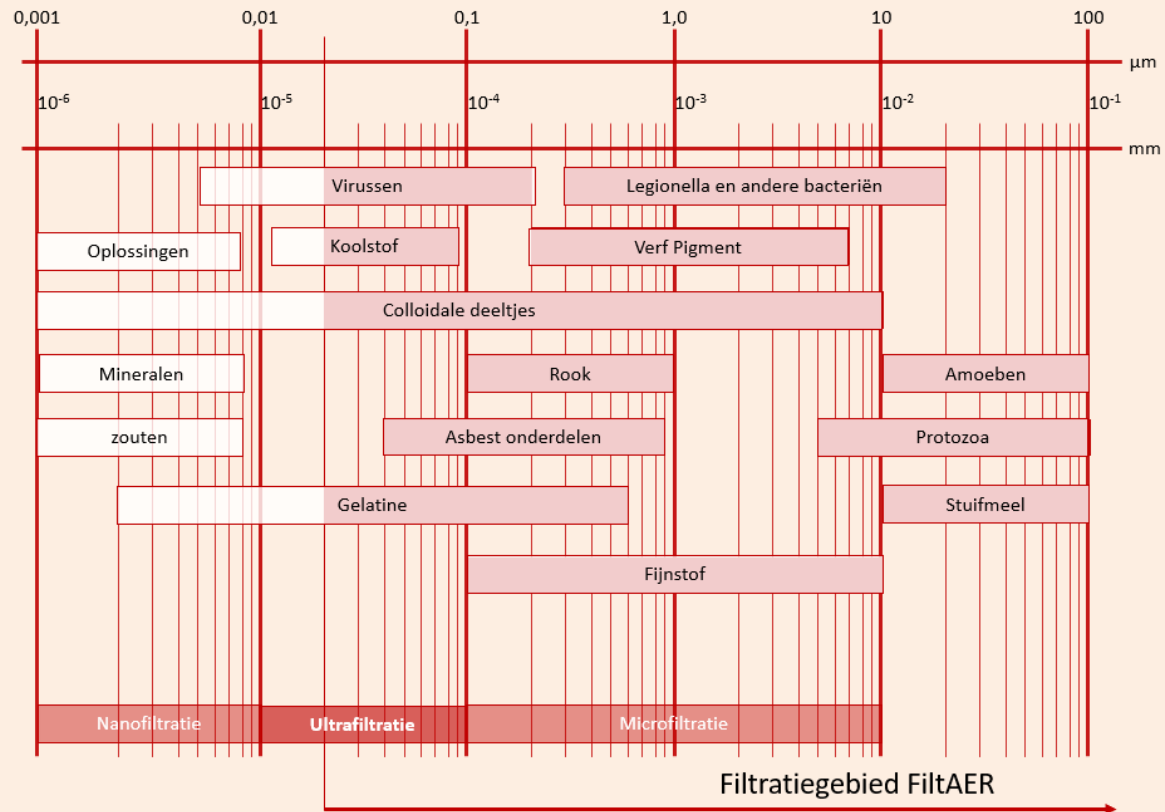


Pekeloplossing
(bevat Na-ionen)

- Zeep lost minder goed op in hard water
- Hardwater is zichtbaar bij hoge temperatuur
- Minimale stijging in geleidbaarheid door ontharder (aantal ionen blijft gelijk, maar zout geleid vaak beter)
- Desinfectie is belangrijk, ontharders kunnen bron van bacteriologie worden



Cedemineraliseerd water /RO



- Reversed Osmose is ontworpen om te demineraliseren, niet om te desinfecteren.
- pH verandering door RO (5-7)-> corrosie Messing koper leiding/mengkraan
- Sommige wasmachines hebben een geleidbaarheidssensor
- Kleine RO, kans op microbiologische problemen

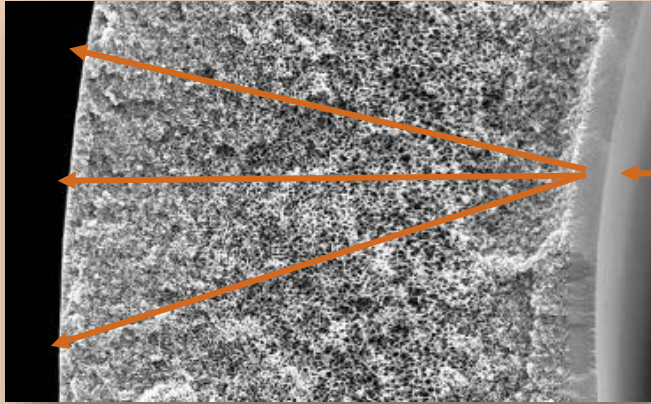


Microfilters

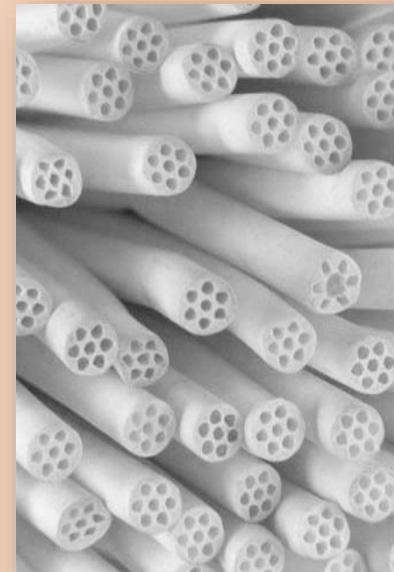
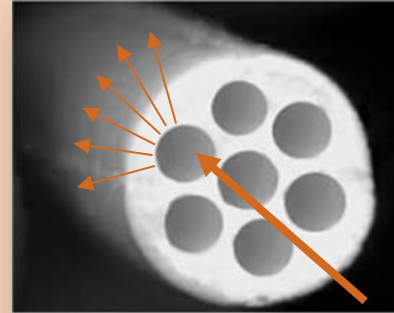
- 2/3 traps filter I - 0,1 - 0,45
- 2x per jaar vervangen om doorgroei te voorkomen
- Vaak sneller verstoppt dan 6 maanden



Water out



Water in



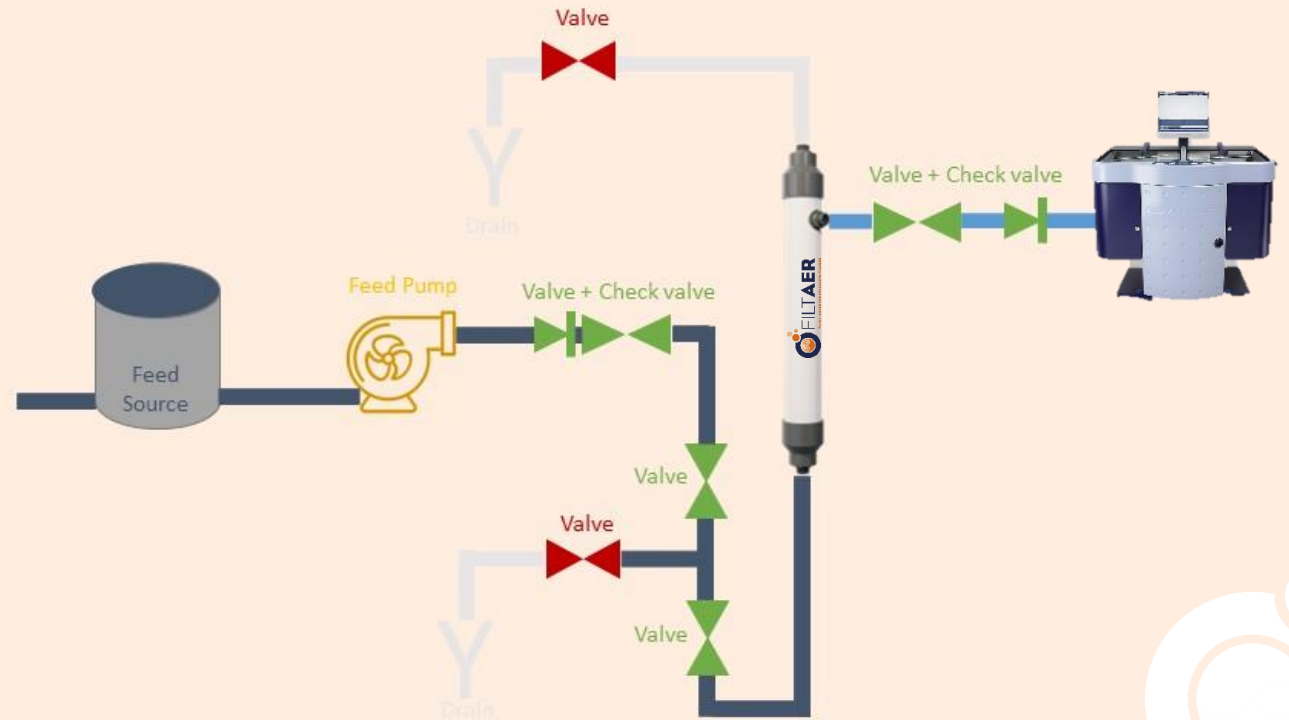
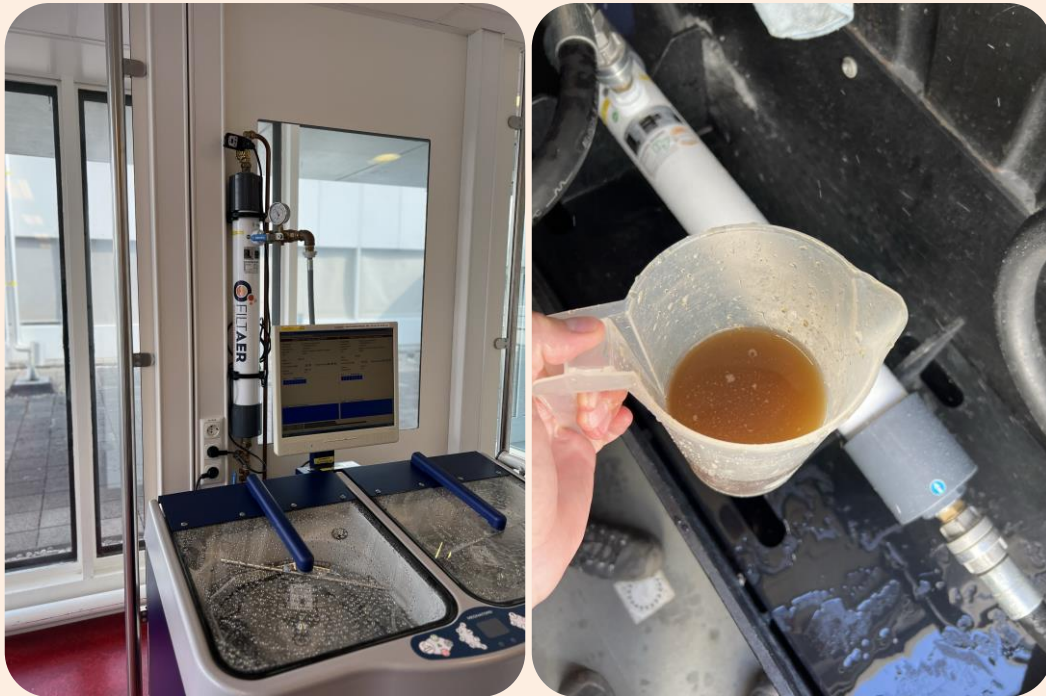
- Automatic cleaning
- 60 months lifespan
- Chemical resistant
- Plug-and-play
- Wall mounted

- 0,02 μm
- Bacteria **LOG6**
- Virus **LOG 4**
- Sediment
- Colloids



How FiltAER saved €60k- year in EU hospital

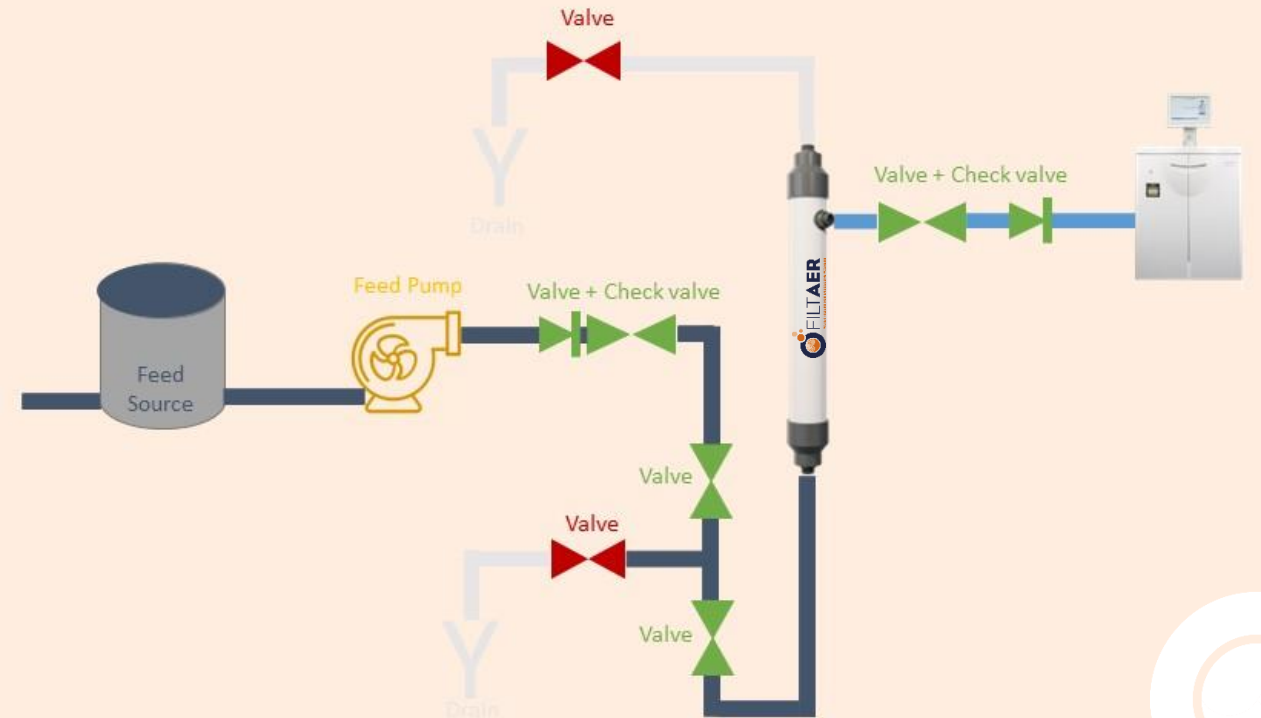
- Replacement frequency increased to weekly exchanges ->€10K/year
- FiltAER's I UFM per machine approach saved 60K annually
- Cooperation with Cantel/Steris



- Pseudomonas Aeruginosa: Reduced from 124 cfu/100ml to < 1 cfu/100ml
- Total Viable Counts (TVC): Reduced from over 1000 to < 1 cfu/100ml

Pre

Post



Y.C. X-GENERATION Co. Ltd
chemical laboratory

Tel: 25 82888 Fax: 25 82889
Email: xgeneration@xgeneration.com.cy

WATER ANALYSIS REPORT

Customer's Name: [REDACTED] Sample Working No: 11913
Customer's Details: Limassol
Sample Type: ENDOSCOPY WATER Date of Sampling: 18/07/2023
Sampling Info: Plastic bottle 0.5L Date of receiving sample: 18/07/2023
Sampling Point: MACHINE ENTRY Date of analyzing sample: 16/07/2023
Sampler's Name: C&A Biodiagnostic Labs Ltd Date of results: 24/07/2023

RESULTS

Sl. No	Parameters	Method	Results	Units
1	Total Viable Count 37°C	ISO 6222	1	cfu/ml
2	Total Coliforms 37°C	ISO 9308-1	0	cfu/100ml
3	Escherichia Coli 37°C	ISO 9308-1	0	cfu/100ml
4	Enterococcus 37°C	ISO 7899-2	0	cfu/100ml
5	Staphylococcus aureus 37°C	APHA 9213B	0	cfu/100ml
6	Pseudomonas aeruginosa 37°C	ISO 16206	0	cfu/100ml

Notes: 1. The results relate only to the sample has been examined.
Comments: None

Y.C. X-GENERATION Co. Ltd
Yiannis Christodoulou
Laboratory Manager

End Report

Report E.10.5.2 [Edition 2nd - Issue from 2011/2017]

Y.C. X-GENERATION Co. Ltd
chemical laboratory

234 A Lemesou Str., 3623-Lemesou
Tel: 25 82888 Fax: 25 82889
Email: xgeneration@xgeneration.com.cy

WATER ANALYSIS REPORT

Customer's Name: [REDACTED] Sample Working No: 11888
Customer's Details: Limassol
Sample Type: ENDOSCOPY WATER Date of Sampling: 20/06/2023
Sampling Info: Plastic bottle 0.5L Date of receiving sample: 20/06/2023
Sampling Point: MACHINE ENTRY Date of analyzing sample: 20/23/6/2023
Sampler's Name: C&A Biodiagnostic Labs Ltd Date of results: 23/06/2023

RESULTS

Sl. No	Parameters	Method	Results	Units
1	Total Viable Count 37°C	ISO 6222	>1000	cfu/ml
2	Total Coliforms 37°C	ISO 9308-1	0	cfu/100ml
3	Escherichia Coli 37°C	ISO 9308-1	0	cfu/100ml
4	Enterococcus 37°C	ISO 7899-2	0	cfu/100ml
5	Staphylococcus aureus 37°C	APHA 9213B	0	cfu/100ml
6	Pseudomonas aeruginosa 37°C	ISO 16206	124	cfu/100ml

Notes: 1. The results relate only to the sample has been examined.
Comments: None

Y.C. X-GENERATION Co. Ltd
Yiannis Christodoulou
Laboratory Manager

End Report

Report E.10.5.2 [Edition 2nd - Issue from 2011/2017]

Geographically

- Europe
- West- Australia and Tasmania
- USA
- ASEAN



References of FiltAER

franciscus
Gasthuis & Vlietland

●●● **matachana**

M Noordwest
Ziekenhuisgroep

LangeLand
beter dichtbij

ZAS

OLYMPUS

CANTEL

a STERIS company

DC Klinieken

PENTAX
MEDICAL

whss
World Federation for
Hospital Sterilisation Sciences





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Let's connect