Level | Pressure | Flow | Temperature | Liquid Analysis | Registration | Systems Components | Services | Solutions

Technical Information

Stamoclean CAT221

Sampling unit
Self-cleaning backwash filter for inlet or outlet of wastewater treatment plants

Application

The backwash filter is a special crossflow filter for water and wastewater.
It provides filtrate for continuous on-line monitoring. The filter's self-cleaning effect is caused both by the flow at the wedge wire sieve and by backwashing with compressed air or rinse water.

Applications are:
- Municipal and industrial sewage treatment plants
  - Inlet
  - Outlet
- Process water with low solids content

Your benefits

- High level of operational safety thanks to robust design
- Reduced operating costs thanks to automatic and chemical-free cleaning
- Efficient backwashing with compressed air or rinse water
- Filter inserts quick and simple to replace
- Long operating time
- Short response time of downstream measuring devices thanks to low dead volume
- Highly stable thanks to stainless steel sieve
- Very low power consumption (< 60 W)
- Simple to install as completely mounted and ready for connection and for wall mounting

TI384C/07/en/05.04
51515899

Endress+Hauser
People for Process Automation

Function and system design

Measuring principle

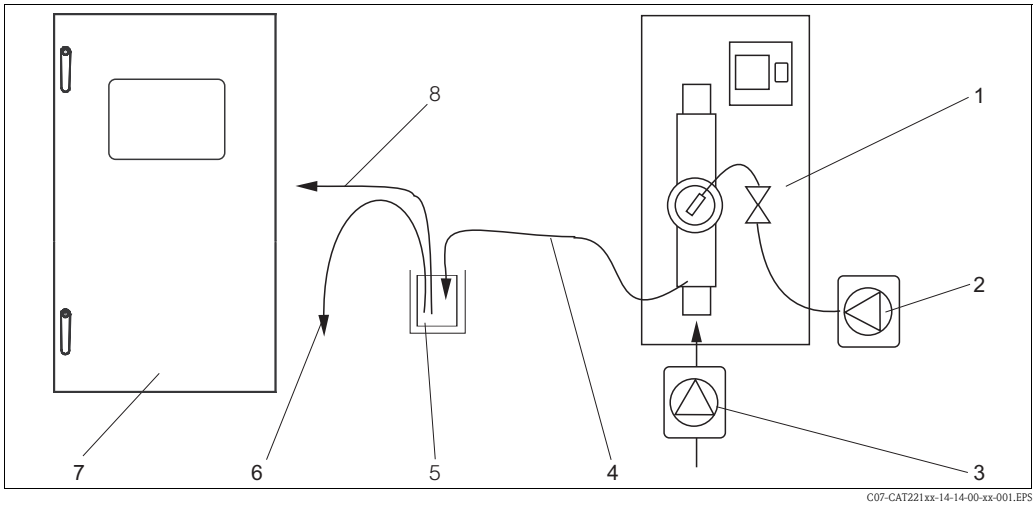
A sample flow of 1 to 2.5 m^3/h is permanently conveyed through the backwash filter by means of a sampling pump or compressed air or rinse water. The filtrate passes through the wedge wire sieve and is then transported to the measuring device.
Clogging is minimised by the flow at the wedge wire sieve. Automatic backwashing results in a filter operating time of several weeks.
The automatic backwashing and a small compressor or compressed air resp. rinse water supply guarantee low-maintenance and low-energy operation.

Measuring system

A complete measuring system comprises:

- a CAT221 filter system
- a collecting vessel
- a CA71xx analyser
- a sample pump or sample supply by pressure
- a compressor resp. compressed air supply

Optional: nitrate or SAC sensor (CNS70/CSS70) with flow assembly

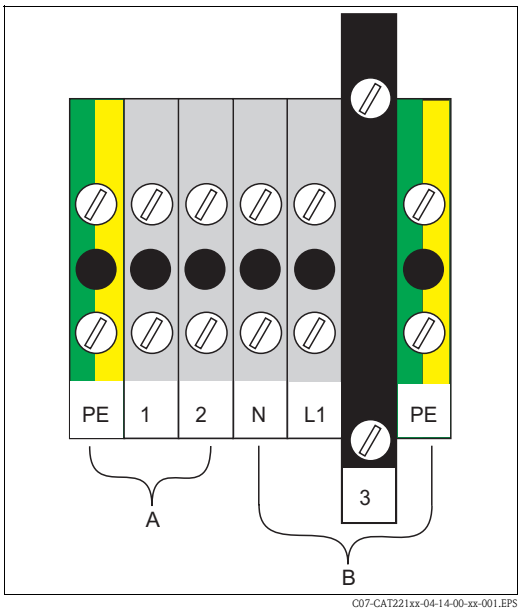


Complete measuring system

1	*Backwash filter*	*5*	*Collecting vessel (optional)*
2	*Compressor or compressed air*	*6*	*Overflow*
3	*Sampling pump or sample supply by pressure*	*7*	*Analyser*
4	*Sample outlet*	*8*	*Sample line to the analyser*

Power supply

Electrical connection



Terminals

A Valve
B Mains

Supply voltage

Acc. to version:
- 230 V AC, 50 Hz, approx. 60 VA
- 115 V AC, 60 Hz
- 24 V DC

Fuses

Acc. to version:
- 230 V AC: 0.5 A, time-lag
- 115 V AC: 1.0 A, time-lag
- 24 V DC: 2.0 A, time-lag

Performance characteristics

Filtrate volume

minimum 10.0 l/h

Separation performance

Separation of particles, colloids and materials with high molecular weight Max. particle size depending on the used wedge wire sieve:
- 50 µm (for analysers)
- 100 resp. 200 µm (for SAC or TOC)

Life time of the wedge wire sieve

Approx. 1 to 2 years, even longer with appropriate care

Cleaning interval

Depending on application and pollution degree:
- inlet: approx. 2 to 4 weeks
- outlet: approx. 2 to 6 months

Chemical resistance

pH 3 to 14

Rinse interval

1 to 90 minutes

Rinse medium

2 to 4 bar (29 to 58 psi)

Environment

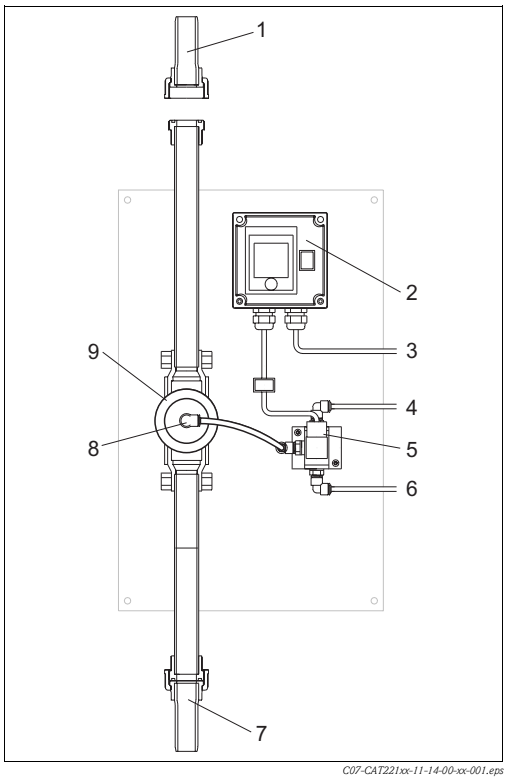
Ambient temperature	0 to 50 °C (32 to 122 °F)
Ingress protection	IP 54 (open version)

Process

Sample temperature	5 to 40 °C (41 to 104 °F)
Sample overpressure	0.2 to 4.0 bar (2.9 to 58 psi) at max. 40 °C (104 °F)
Sampling rate	1 to 2.5 m^3/h

Mechanical construction

Design



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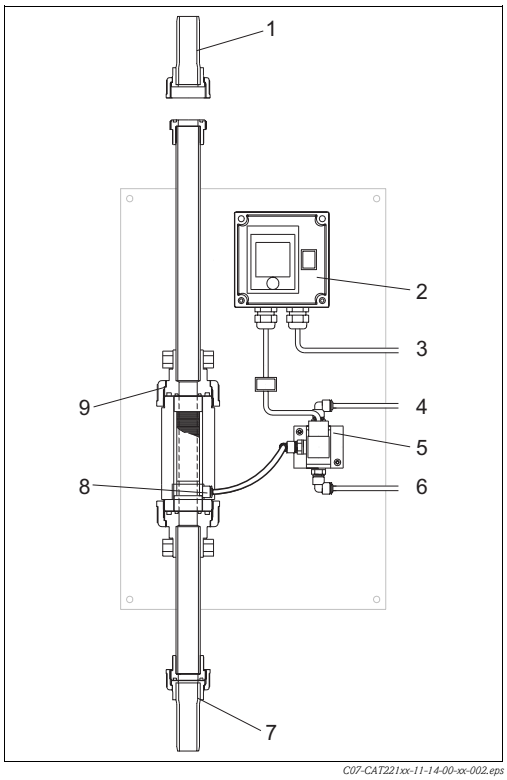
Outlet version



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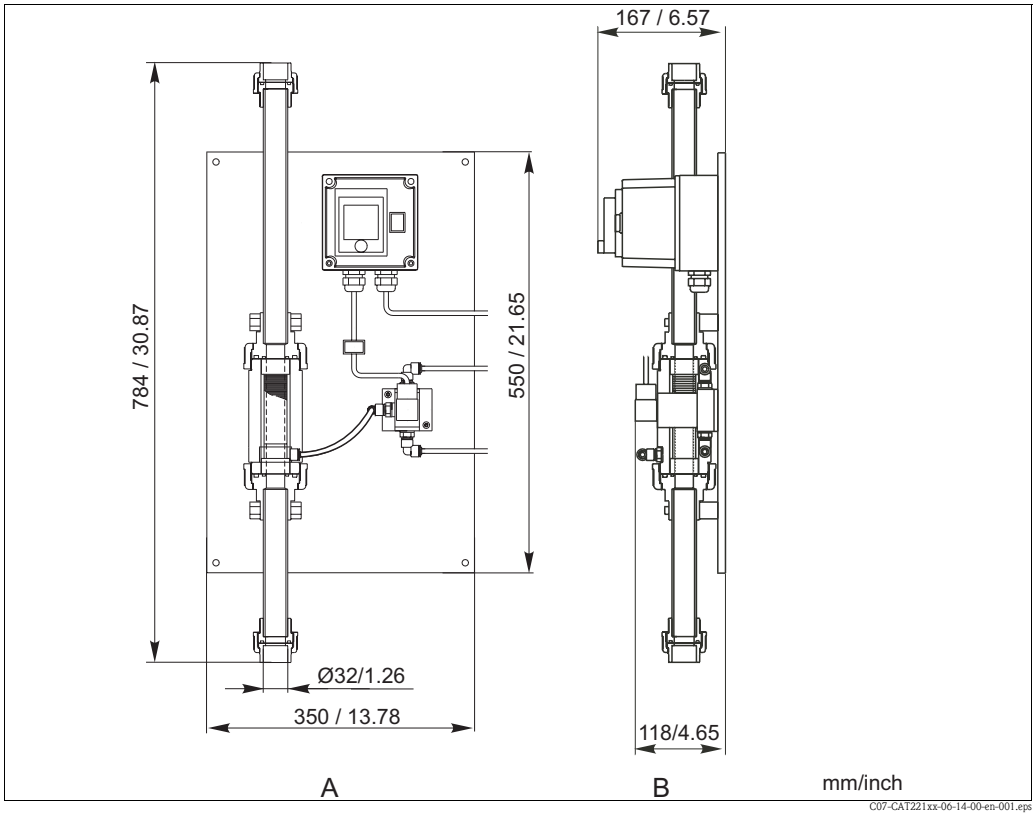
Inlet version

1 Delivery hose nozzle Ø30 mm (1.18 ")
2 Control unit
3 Mains
4 Rinse water resp. rinse air
5 Valve
6 Filtrate (to the analyser)
7 Delivery hose nozzle Ø30 mm (1.18")
8 Bend
9 Union nut

Dimensions

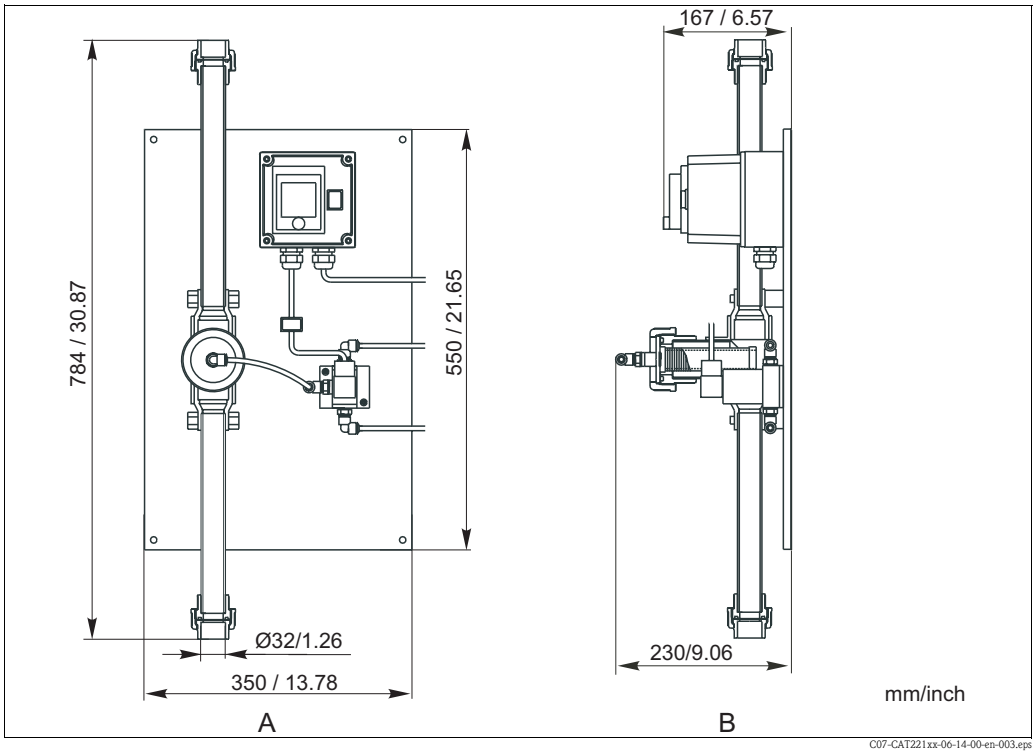
Open version, inlet



Open inlet version

A Front view
B Side view

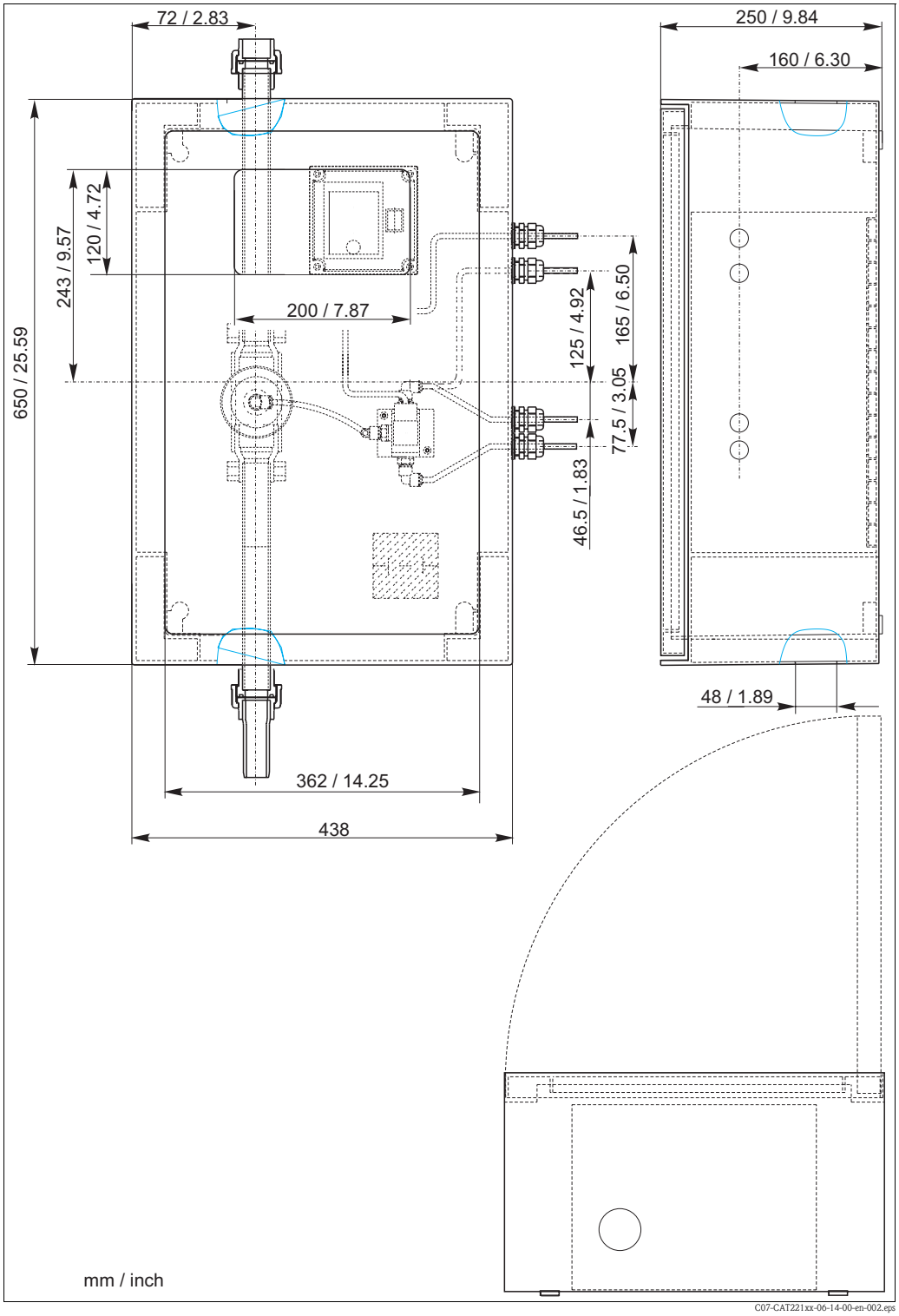
Open version, outlet



Open outlet version

A Front view
B Side view

Housing version



Housing version

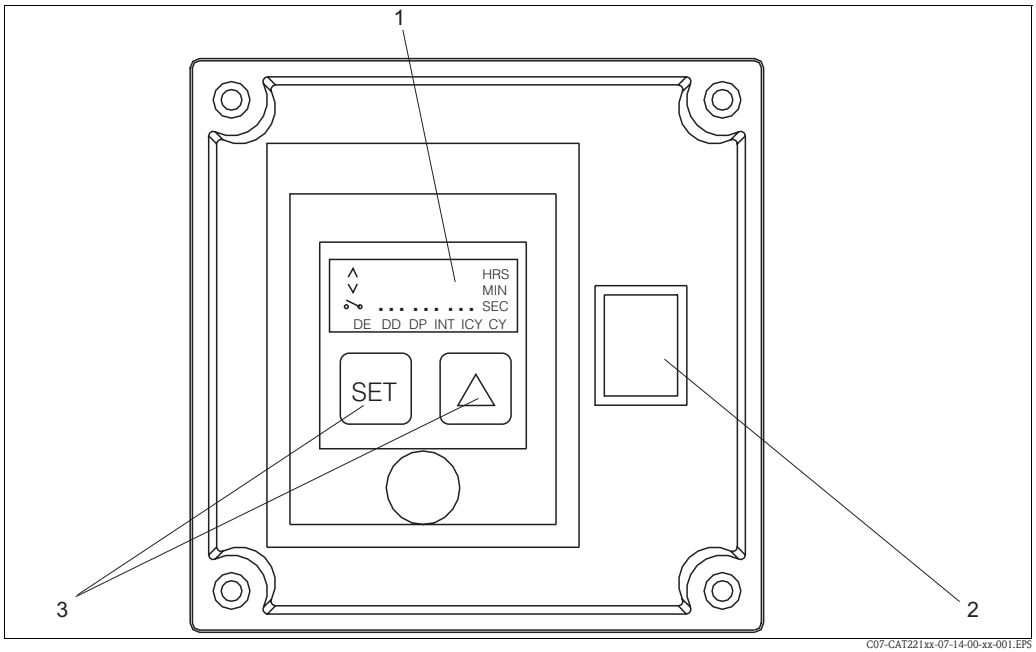
Weight

Open version:	7 kg (15.4 lb)
Housing version:	14 kg (30.9 lb)

Materials	Mounting plate, pipe:	PVC
	Control unit housing:	polystyrene/polycarbonate
	Wedge wire sieve:	SS 1.4435 (AISI 316L)
	Housing:	GFK (glass-fibre reinforced plastic)
Process connection	■ Hose nozzle Ø30 mm (1.18") or ■ PVC adhesive threaded joint ID 32 mm (1.26")	
Filter elements	■ 50 µm ■ 100 µm ■ 200 µm	
Rinse connection	4/6 mm (0.16 / 0.24")	
Connection to analyser	4/6 mm (0.16 / 0.24")	
Cable entry	M20	

Human interface

Display and operating elements



Display and operating elements

1 Display
2 Mains switch
3 Operating keys

Ordering information

Product structure

Application						
A	Outlet					
B	Inlet					
Y	Special version acc. to customer's specification					
	Power supply					
	0	230 V AC / 50 Hz				
	1	115 V AC / 60 Hz				
	8	24 V DC (not with housing version with heating)				
		Wedge wire sieve holes diameter				
		A	50 µm			
		B	100 µm			
		C	200 µm			
			Version			
			1	Open version		
			2	GFK housing, without heating		
			3	GFK housing, with heating (not with 24 V DC power supply)		
			9	Special version acc. to customer's specification		
				Additional equipment		
				A	Quality certificate	
CAT221-						**complete order code**

Scope of delivery

The scope of delivery consists of:
- a sample preparation unit
- a connection hose to the analyser, 2 m, polyamide, I.D. 4 mm
- a fitting 3.2 mm / 3.2 mm
- a wall mounting set (with housing version only)
- Operating Instructions, English
- a quality certificate

Accessories

Installation accessories

- Three-way valve kit, 230 V;
  order no. 51516028
- Three-way valve kit, 115 V;
  order no. 51516029
- Three-way valve kit, 24 V DC;
  order no. 51516030
- Wedge wire sieves
  - Inlet
    50 µm; order no. 51516031
    100 µm; order no. 51516033
    200 µm; order no. 51516035
  - Outlet
    50 µm; order no. 51516032
    100 µm; order no. 51516034
    200 µm; order no. 51516036
- Hose adapter set;
  order no. 51516041
- Hose kit (ID 4 / ID 6);
  order no. 51516042
- Outlet bends
  - with check valve
    order no. 51516038
  - without check valve
    order no. 51516039

Sampling accessories

- Compressor Profimaster Silent 100/6, 230 V AC; order no. 51511143
- Sample pump on request

Documentation

- ❑ Stamoclean CAT221,
  Operating Instructions, BA384C/07/en, order no. 51516437
- ❑ Stamolys CA71AM, Ammonium analyser,
  Technical Information, TI353C/07/en, order no. 51512286
- ❑ Stamolys CA71NI, Nitrite analyser,
  Technical Information, TI355C/07/en, order no. 51512290
- ❑ Stamolys CA71PH, Phosphate analyser,
  Technical Information, TI356C/07/en, order no. 51512292
- ❑ Stamosens CNM750/CNS70, Online nitrate determination,
  Technical Information, TI215C/07/en, order no. 51502579
- ❑ Stamosens CSM750/CSS70, Online determination of dissolved organic substances,
  Technical Information, TI305C/07/en, order no. 51507004

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