CATALOG Supplement
PROCESS MEASUREMENT TECHNOLOGY
SIPAN LIQUID ANALYSIS

SIPAN 32 and 34

Controllers, Sensors and Accessories for pH, ORP, Conductivity and Dissolved Oxygen

HACH LANGE

valid from Januray 2006
Version V1.0

HACH LANGE

UNITED FOR WATER QUALITY

Hach Lange SIPAN Catalog

Siemens Order numbers

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Disclaimer

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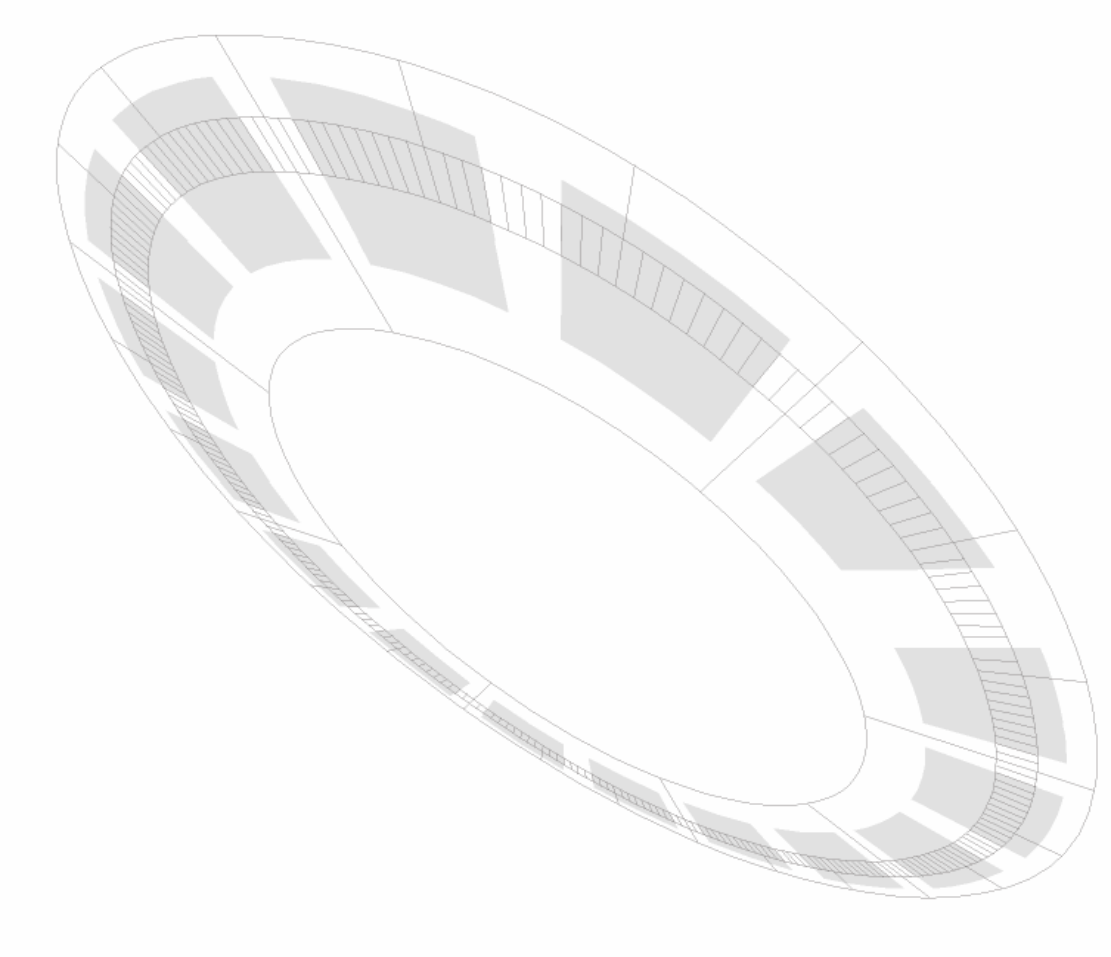
We are only obliged by our confirmation in writing. Differences in business conditions and/or order confirmations are binding by our confirmation in writing only.

We kindly ask you to take notice about the General Terms and Conditions of Delivery and Payment of HACH LANGE GmbH, Berlin. Information are included in the Appendix.

Sincerely

HACH LANGE GmbH, Düsseldorf (Germany)



Siemens Order Code

Designation

	7MA1034 -					0	-	0			0
SIPAN 34 pH/ORP analyzer; 4-wire system		X	X	X	X				X	X	
Process version, microprocessor-based with illuminated graphic display, trend display, membrane keyboard, menu-based operation (5 languages), logbook, temperature compensation, 1 parameter set, 1 signal output 0/4 to 20 mA, 1 alarm contact, 1 limit contact, 2 diagnostic contacts											
Power supply											
24 VDC/24 VAC, 48 - 63 Hz		**0**									
120 VAC, 48 - 63 Hz		**1**									
230 VAC, 48 - 63 Hz		**2**									
Measuring procedure:											
1 x pH or 1 x redox input			**A**								
2 x pH inputs[1]			**B**								
1 x pH input and 1 x redox input, or 2 x redox inputs[1]			**C**								
Instrument design											
Field housing				**A**							
Panel housing (96 x 96)				**B**							
Options											
Standard version w/o additional option					**0**						
With second signal output 0/4 to 20 mA and second limit contact					**1**						
With 4 selectable parameter sets and 3 range signalling contacts					**2**						
With second signal output 0/4 to 20 mA, second limit contact, 4 selectable parameter sets and 3 range signalling contacts					**3**						
Limits with controller function											
Without limits with controller function						**A**					
With limits with controller funtion						**B**					
Automatic cleaning/flushing (3 contacts + timer for fitting, cleaning, flushing)											
without cleaning/flushing											**A**
with cleaning/flushing											**B**

[1] only in conjunction with Analog Output option -> Options 1 or 3

Siemens Order Code

Designation

pH/ORP Single Channel Analyzer

SIPAN 32 pH/ORP single channel analyzer; 2 wire system — 7MA 1 0 4 0 - 8 A X

for pH or ORP single measurement:
1 x pH or 1 x ORP, membrane keyboard with LCD, menu control,
logbook, concentration display, temperature compensation,
1 parameter set, microprocessor-controlled,
power supply: DC 24 V, in field housing

Outputs

- 1 signal output: 4 to 20 mA without interface ..... **A**
- 1 signal output: 4 to 20 mA, with HART interface ..... **B**
- 2 signal outputs with HART interface ..... **C**
  - 1st signal output: measured value 4 to 20 mA,
  - 2nd signal output: temperature or switching contact for limit or cleaning or warning
- Profibus PA, 4 selectable parameter sets ..... **D**

SIPAN 32X pH/ORP single channel analyzer with Ex-protection; 2 wire system — 7MA 1 0 4 1 - 8 A X

intrinsically-safe version, II 2 G EEx ib[ia] II C T4,
for pH or ORP single measurement:
1 x pH or 1 x ORP, membrane keyboard with LCD, menu control,
logbook, concentration display, temperature compensation,
1 parameter set, microprocessor-controlled,
power supply: DC 24 V, in field housing

Outputs

- 1 signal output: 4 to 20 mA without interface ..... **A**
- 1 signal output: 4 to 20 mA, with HART interface ..... **B**
- 2 signal outputs with HART interface ..... **C**
  - 1st signal output: measured value 4 to 20 mA,
  - 2nd signal output: temperature or switching contact for limit or cleaning or warning
- Profibus PA, 4 selectable parameter sets ..... **D**

pH/ORP 2-Channel Analyzer

SIPAN 32 pH/ORP two channel analyzer; 2 wire system — 7MA 1 1 4 0 - 8 A X

for pH or ORP - 2 channel measurement:
2 x pH or 2 x ORP or 1 x pH and 1 x ORP, membrane keyboard with
LCD, menu control, logbook, concentration display, temperature
compensation, 1 parameter set, microprocessor-controlled,
power supply: DC 24 V, in field housing

Outputs

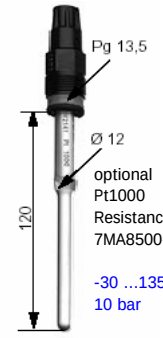
- 2 signal outputs with HART interface ..... **B**
- 2 signal output: 4 to 20 mA, with HART interface, 4 selectable parameter sets ..... **C**
  - 1st signal output: measured value 4 to 20 mA,
  - 2nd signal output: temperature or switching contact for limit or cleaning or warning
- Profibus PA, 4 selectable parameter sets ..... **D**

SIPAN 32X pH/ORP two channel analyzer with Ex-protection; 2 wire system — 7MA 1 1 4 1 - 8 A X

intrinsically-safe version, II 2 G EEx ib[ia] II C T4,
for pH or ORP measurements - 2 channel measurement:
2 x pH or 2 x ORP or 1 x pH and 1 x ORP, membrane keyboard with
LCD, menu control, logbook, concentration display, temperature
compensation, 1 parameter set, microprocessor-controlled,
power supply: DC 24 V, in field housing

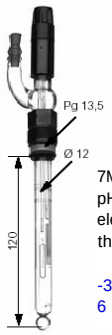
Outputs

- 2 signal outputs with HART interface ..... **B**
- 2 signal output: 4 to 20 mA, with HART interface, 4 selectable parameter sets ..... **C**
  - 1st signal output: measured value 4 to 20 mA,
  - 2nd signal output: temperature or switching contact for limit or cleaning or warning
- Profibus PA, 4 selectable parameter sets ..... **D**



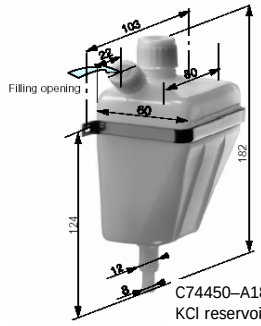
optional
Pt1000
Resistance thermometer
7MA8500-8FH

-30 ...135°C
10 bar



7MA8500-8FC
pH combination
electrode w/o
thermometer

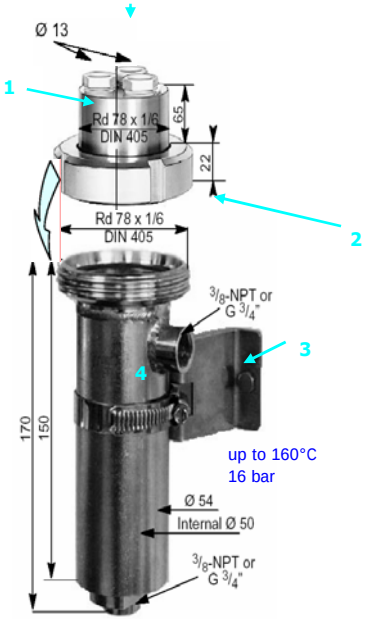
-30 ...80°C
6 bar

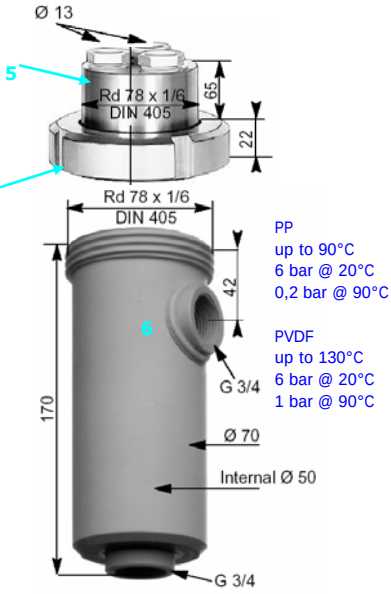


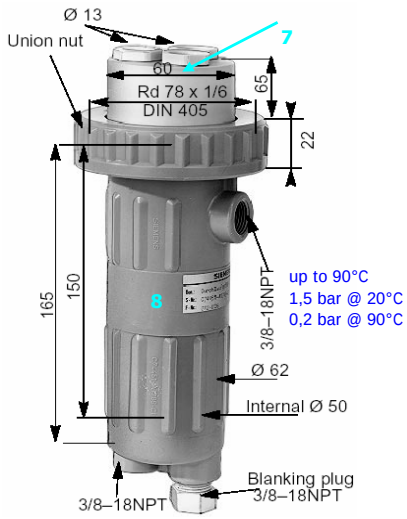
C74450–A184–A1
KCl reservoir

C74450-A184-D1
Hose, 2m

Cables must be ordered separately; pls. refer to next page for details







4 Flow fitting, SS 1.4401
C74451-A1789-A1 (3/8-18NPT)
C74451-A1789-A21 (G3/4")

1 Electrode holder, SS 1.4401
C74451-A1789-B2

2 Union Nut, SS 1.4301
M54445-A23

3 Mounting Part
C74451-A1789-D1

6 Flow fitting,
M54145-A92 (PP)
M54145-A93 (PVDF)

5 Electrode holder
C74451-A1789-B1 (PP)
C74451-A1789-B3 (PVDF)

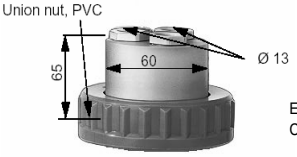
2 Union Nut, SS 1.4301
M54445-A23

8 Flow fitting, PP with union nut
C74451-A1789-A3

7 Electrode holder, PP
C74451-A1789-B1 (PP)

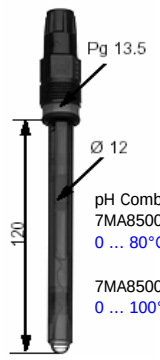
Accessories, spare parts

Union nut, SS 1.4301
M54445-A23



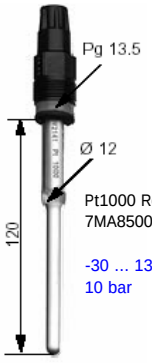
Electrode holder, PP
C74451-A1789-B1

Siemens P/N	Designation
7MA8500-8FC	**pH combination electrode, w/o thermometer** for critical media, boiler feedwater and ultra-pure water with conductivities <100 µS/cm with Pg 13.5 screw plug connector, with liquid electrolyte, refillable, triple ceramic diaphragm, mounting length 120 mm KCl consumption: 2 to 3 liters KCl/year
7MA8500-8FH	**Pt1000 resistance thermometer** all applications, with glass sheath, with Pg 13.5 screw plug connector for combination with pH combination electrodes 7MA8500-8FA, -8FC
	Plug cable combination (S7 type), for sensors 7MA8500-8FA, -8FC, -8FG, -8FH
M54145-A15-A6	Plug/cable combination, 5 m
7MA8500-8GC	Plug/cable combination, 10 m
7MA8500-8DP	Special plug/cable combination, 5 m, for pH sensor monitoring and double pH measurements
	Electrode filling solution and accessories
C74450-A184-A1	KCl supply reservoir for connection to refillable combination electrodes or reference electrodes (e.g. 7MA8500-8FC)
C74450-A184-D1	Hose, 2 m long to connect the KCl supply reservoir to the reference electrode/combination electrode
DXX:C20C320	KCl filling solution 3 M, 500ml
	alternatively
C71451-Z500-L2	KCl in plastic bottle (1 kg)
DXX:62011	Wash bottle, 500ml (e.g. for simple refilling of KCl)
	Mounting accessories
	Electrode holder
C74451-A1789-B1	Electrode holder for installation of 3 sensors, Pg 13.5; **Made of polypropylene** (PP)
C74451-A1789-B2	Electrode holder for installation of 3 sensors, Pg 13.5; **Made of stainless steel** (mat. No. 1.4401) with stainless steel union nut
C74451-A1789-B3	Electrode holder for installation of 3 sensors, Pg 13.5; **Made of polyvinylidene fluoride** (PVDF) with stainless steel union nut
	Flow fittings
C74451-A1789-A1	Flow fitting for bypass installation, mounting of electrode holder with union nut, Viton gasket (*union nut not included in delivery*) Connection: **thread 3/8-18NPT; made of stainless steel** (mat. No. 1.4401)
C74451-A1789-A21	Flow fitting for bypass installation, mounting of electrode holder with union nut, Viton gasket (*union nut not included in delivery*) Connection: **thread G 3/4", made of stainless steel** (mat. No. 1.4401)
M54145-A92	Flow fitting for bypass installation, mounting of electrode holder with union nut, Viton gasket (*union nut not included in delivery*) Connection: **thread G 3/4", made of polypropylene** (PP)
M54145-A93	Flow fitting for bypass installation, mounting of electrode holder with union nut, Viton gasket (union nut not included in delivery) Connection: **thread G 3/4", made of polyvinylidene fluoride** (PVDF)
C74451-A1789-A3	Flow fitting for bypass installation, mounting of electrode holder with union nut, Viton gasket Connection: **thread 3/8-18NPT**, with union nut and gasket **made of polypropylene** (PP)
	Accessories
DXX:Z363130,00500	Buffer solution pH = 4.00, 500 ml
DXX:Z363131,00500	Buffer solution pH = 6.88, 500 ml
DXX:Z363132,00500	Buffer solution pH = 9.22, 500 ml
M54445-A23	Union nut DN 50, stainless steel (mat. No. 1.4301)
M54445-A24	Gasket for DN 50 Standard gasket made of Viton (set of 5) for union nuts
M54445-A33	Hook key spanner (mat. No. 1.4301) for union nut M54445-A23
C74451-A1789-D1	Set of mounting parts for flow fittings M54145-A92, and -A93, C74451-A1789-A1, -A3 ,-A21



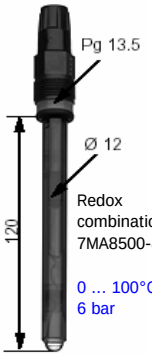
pH Combination electrodes
7MA8500-8FA
0 ... 80°C, 10 bar

7MA8500-8FF (with Pt1000)
0 ... 100°C, 10 bar



Pt1000 Resistance thermometer
7MA8500-8FH

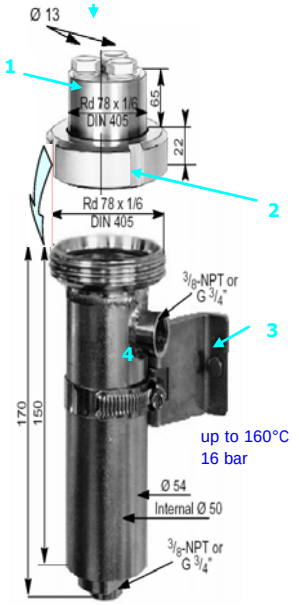
-30 ... 130°C
10 bar

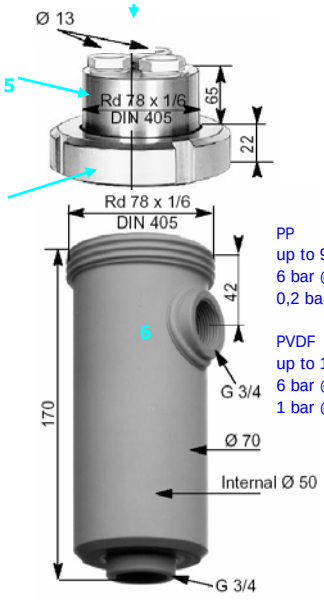


Redox
combination electrode
7MA8500-8FG

0 ... 100°C
6 bar

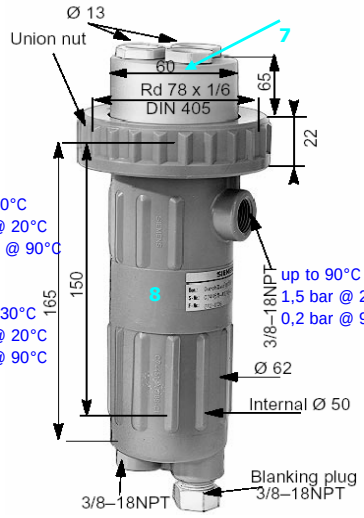
Cables must be ordered separately; pls. refer to next page for details





PP
up to 90°C
6 bar @ 20°C
0,2 bar @ 90°C

PVDF
up to 130°C
6 bar @ 20°C
1 bar @ 90°C



6 bar at 20 °C,
unpressurised at 90 °C

4 Flow fitting, SS 1.4401
C74451-A1789-A1 (3/8-18NPT)
C74451-A1789-A21 (G3/4")

1 Electrode holder, SS 1.4401
C74451-A1789-B2

2 Union Nut, SS 1.4301
M54445-A23

3 Mounting Part
C74451-A1789-D1

6 Flow fitting,
M54145-A92 (PP)
M54145-A93 (PVDF)

5 Electrode holder
C74451-A1789-B1 (PP)
C74451-A1789-B3 (PVDF)

2 Union Nut, SS 1.4301
M54445-A23

8 Flow fitting, PP
with union nut
C74451-A1789-A3

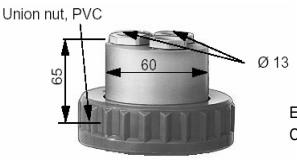
7 Electrode holder, PP
C74451-A1789-B1 (PP)

9 Flow fitting, PP
DXX:LZY264

For further details
please refer to the chapter
Mounting Assemblies!

Accessories, spare parts

Union nut, SS 1.4301
M54445-A23



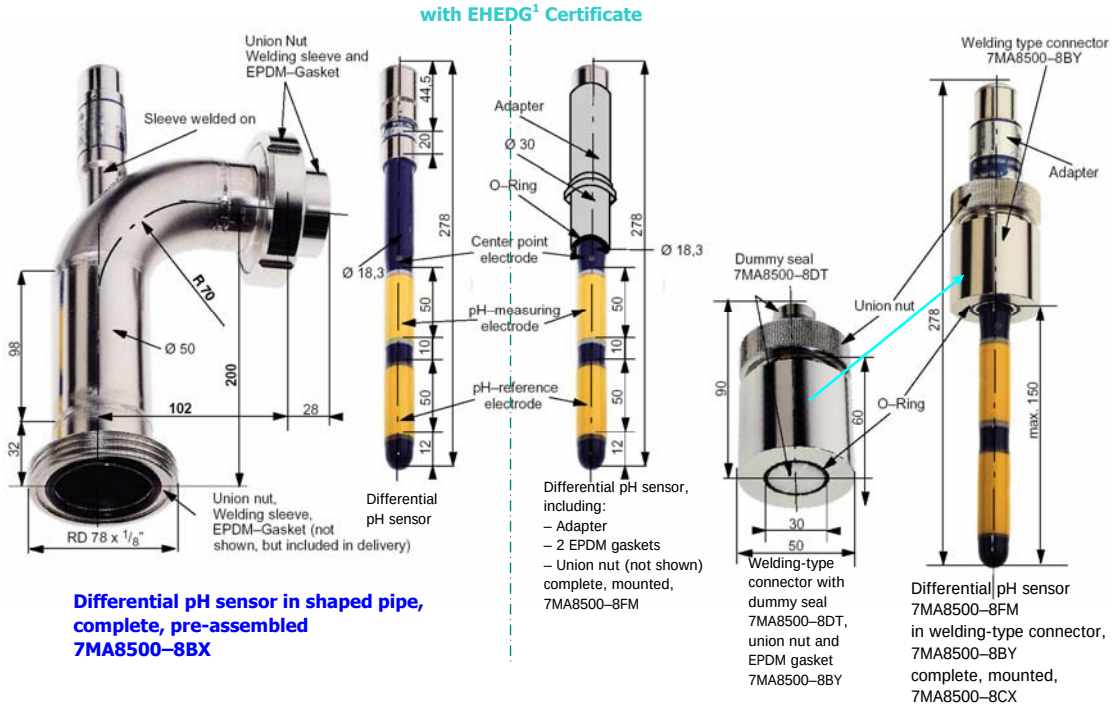
Electrode holder, PP
C74451-A1789-B1

Siemens P/N	Designation
7MA8500-8FF	**pH combination electrode**, with Pt1000 for service water, suspensions, food processing, organic solvents, hot acids and alkalis, with Pg 13.5 screw plug connector, integrated Pt1000 resistance thermometer, with Polymer electrolyte, non-refillable, hole diaphragm, Mounting length 120 mm
7MA8500-8FA	**pH combination electrode**, w/o thermometer for service water, waste water, suspensions, food processing, organic solvents, hot acids and alkalis, with Pg 13.5 screw plug connector, with polymer electrolyte, non-refillable, capillary precision glass diaphragm, mounting length 120 mm
7MA8500-8FH	**Pt1000 resistance thermometer**, all applications, glass sheath, with Pg 13.5 screw plug connector for combination with pH combination electrodes 7MA8500-8FA, -8FC
7MA8500-8FG	**Redox combination electrode** for ORP measurements, w/o thermometer all applications, with Pg 13.5 screw plug connection, gel electrolyte, non-refillable, with Platinum ring and capillary precision glass diaphragm, mounting length 120 mm
	Plug cable combination
7MA8500-8DQ	Plug/cable combination, 5 m (SMEK type), for sensor 7MA8500-8FF
M54145-A15-A6	Plug/cable combination, 5 m (S7 type), for sensors 7MA8500-8FA, -8FC, -8FG, -8FH
7MA8500-8GC	Plug/cable combination, 10 m (S7 type), for sensors 7MA8500-8FA, -8FC, -8FG, -8FH
7MA8500-8DP	Special plug/cable combination, 5 m, for pH sensor monitoring and double pH measurements
	Mounting accessories
	Electrode holder
C74451-A1789-B1	Electrode holder for installation of 3 sensors, Pg 13.5; **Made of polypropylene** (PP)
C74451-A1789-B2	Electrode holder for installation of 3 sensors, Pg 13.5; **Made of stainless steel** (mat. No. 1.4401) with stainless steel union nut
C74451-A1789-B3	Electrode holder for installation of 3 sensors, Pg 13.5; **Made of polyvinylidene fluoride** (PVDF) with stainless steel union nut
	Flow fittings
C74451-A1789-A21	Flow fitting for bypass installation, mounting of electrode holder with union nut, Viton gasket (*union nut not included in delivery*) Connection: **thread G 3/4", made of stainless steel** (mat. No. 1.4401)
M54145-A92	Flow fitting for bypass installation, mounting of electrode holder with union nut, Viton gasket (*union nut not included in delivery*) Connection: **thread G 3/4", made of polypropylene** (PP)
M54145-A93	Flow fitting for bypass installation, mounting of electrode holder with union nut, Viton gasket (union nut not included in delivery) Connection: **thread G 3/4", made of polyvinylidene fluoride** (PVDF)
C74451-A1789-A3	Flow fitting for bypass installation, mounting of electrode holder with union nut, Viton gasket Connection: **thread 3/8-18NPT**, with union nut and gasket **made of polypropylene** (PP)
DXX:LZY264	**Flow fitting for bypass installation**, PP, max. three sensors Pg 13.5, built in potential matching pin stainless steel SS 316Ti, EPDM o-rings, sensors protected by removeable cover, connection: G1 thread, nominal flow diameter DN20, measuring chamber unscrewable for cleaning and calbration of sensors
	Accessories
DXX:Z363130,00500	Buffer solution pH = 4.00, 500 ml
DXX:Z363131,00500	Buffer solution pH = 6.88, 500 ml
DXX:Z363132,00500	Buffer solution pH = 9.22, 500 ml
M54445-A23	Union nut DN 50, stainless steel (mat. No. 1.4301)
M54445-A24	Gasket for DN 50 Standard gasket made of Viton (set of 5) for union nuts
M54445-A33	Hook key spanner (mat. No. 1.4301) for union nut M54445-A23
C74451-A1789-D1	Set of mounting parts for flow fittings M54145-A92, and -A93, C74451-A1789-A1, -A3 ,-A21

For installation in pipes

with EHEDG[1] Certificate

For mounting on tanks/vessels



Differential pH sensor in shaped pipe, complete, pre-assembled
7MA8500–8BX

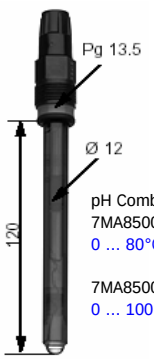
Sterilizable sensors and fittings for the Food industry, at bottom in aseptic design

[1] European Hygenic Equipment Design group
Dimensions in mm

☝ Note: 7MA8500-8DR, Plug/cable combination 5 m long, for differential pH sensor must be ordered separately!

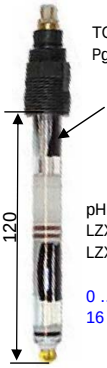
Siemens P/N	Designation
	For tank installations
7MA8500-8CX	**Differential pH sensor** with integrated Pt100 (7MA8500–8FM)[2] (**pre-assembled**) with plug/cable combination 7MA8500–8DR, 5 m long, fitted in welding-type connector 7MA8500–8BY for aseptic measurements, including dummy seal 7MA8500–8DT, stainless steel union nuts, and EPDM gaskets
7MA8500-8FM	**Differential pH sensor** with integtrated Pt100[2] (**sensor only**) with 2 ion-sensitive enamel surfaces, without diaphragm, for installation in aseptic connectors
	Plug cable combination for sensor 7MA8500-8FM
7MA8500-8DR	Plug/cable combination for differential pH sensor, 5 m long
	Mounting accessories
7MA8500-8BY	Welding-type connector made of stain-less steel, for aseptic measurements, with: – Union nut – EPDM gaskets
7MA8500-8DT	Dummy seal for aseptic welding-type connectors
	For installations in pipes
7MA8500-8BX	Differential pH sensor with integtrated Pt100[2], fitted in shaped pipe, DN 50 including – Plug/cable combination, 5 m long, 7MA8500–8DR – 2 union nuts made of stainless steel – 2 welding-type connectors made of stainless steel – 2 gaskets made of EPDM, complete

[2] Can only be used with SIPAN analyzer with 2 x pH input option:
7MA1034-xBxxx-xxxx,
7MA1140-8AB, 7MA1140-8AC, 7MA1140-8AD
7MA1141-8AB, 7MA1141-8AC, 7MA1140-8AD



pH Combination electrodes
7MA8500-8FA
0 ... 80°C, 10 bar

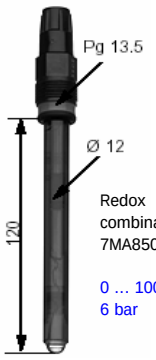
7MA8500-8FF (with Pt1000)
0 ... 100°C, 10 bar



TOP68 plug and
Pg13.5 connector

pH Combination electrodes
LZX545 w/o Pt100
LZX546 (with integrated Pt100)

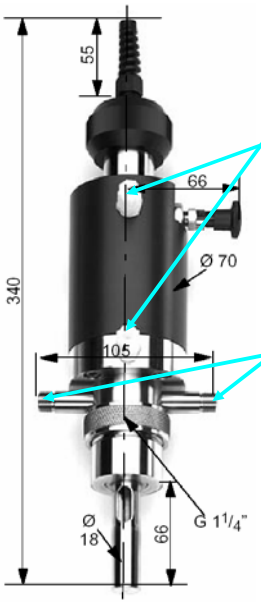
0 ... 135°C
16 bar



Redox
combination electrode
7MA8500-8FG

0 ... 100°C
6 bar

Cables must be ordered separately; pls. refer to next page for details



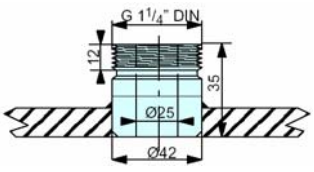
G 1/8" for pneumatic drive
only with model 7MA8500-8FT

G 1/4" on both sides for flushing connections
only with model 7MA8500-8FS, -8FT

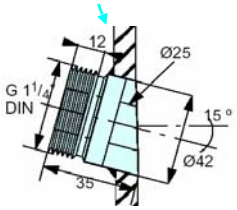
Retractable fitting
for pipes ≥ DN80 and tanks,

made of SS1.4404/Viton
up to 130°C, 6 bar

7MA8500-8FR, -8FS, -8FT

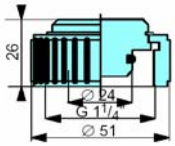


Welding connector, SS 1.4571
7MA8500–8EH



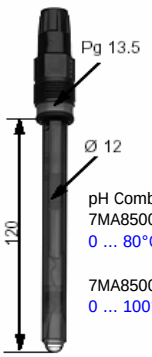
Welding connector, SS 1.4571
MA8500–8EC

Accessories, spare parts



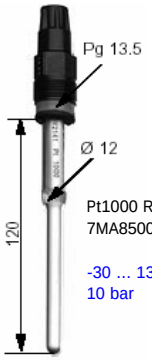
Dummy seal, SS 1.4571
7MA8500–8BT

Siemens P/N	Designation
7MA8500-8FF	**pH combination electrode**, with Pt1000 for service water, suspensions, food processing, organic solvents, hot acids and alkalis, with Pg 13.5 screw plug connector, integrated Pt1000 resistance thermometer, with Polymer electrolyte, non-refillable, hole diaphragm, Mounting length 120 mm
DXX:LZX546	**pH combination electrode,** with Pt100 thermometer general purpose pH sensor for harsh conditions with high temperature and/or pressure applications; with TOP68 screw plug; KCl/AgCl + KNO3-Gel electrolyte, non-refillable, double ring diaphragm (porous Teflon), Ag/AgCl Reference, mounting length 120mm
DXX:LZX545	**pH combination electrode,** w/o thermometer general purpose pH sensor for harsh conditions with high temperature and/or pressure applications; with TOP68 screw plug; KCl/AgCl + KNO3-Gel electrolyte, non-refillable, double ring diaphragm (porous Teflon), Ag/AgCl Reference, mounting length 120mm
7MA8500-8FA	**pH combination electrode**, w/o thermometer for service water, waste water, suspensions, food processing, organic solvents, hot acids and alkalis, with Pg 13.5 screw plug connector, with polymer electrolyte, non-refillable, capillary precision glass diaphragm, mounting length 120 mm
7MA8500-8FG	**Redox combination electrode** for ORP measurements, w/o thermometer all applications, with Pg 13.5 screw plug connection, gel electrolyte, non-refillable, with Platinum ring and capillary precision glass diaphragm, mounting length 120 mm
	Plug cable combination
7MA8500-8DQ	Plug/cable combination, 5 m (SMEK type) for sensor 7MA8500-8FF
M54145-A15-A6	Plug/cable combination, 5 m (S7 type) for sensors 7MA8500-8FA, -8FC, -8FG, -8FH
7MA8500-8GC	Plug/cable combination, 10 m (S7 type) for sensors 7MA8500-8FA, -8FC, -8FG, -8FH
DXX:LZX548	Cable with TOP68 plug and Pg13,5 connector, 5 m, for sensors DXX:LZX546, DXX:LZX546
DXX:LZX516	Cable with TOP68 plug and Pg13,5 connector, 10 m, for sensors DXX:LZX546, DXX:LZX546
	Mounting accessories
	Retractable fittings
7MA8500-8FR	Retractable fitting for inline installation and for mounting on vessels, made of stainless steel/Viton (FPM), mounting with thread G1 1/4", for 120-mm plug connector sensors 7MA8500-8FA, -8FF and -8FG, with polymer electrolyte; Standard version (**without flushing connections or pneumatic drive**)
7MA8500-8FS	Retractable fitting for inline installation and for mounting on vessels, made of stainless steel/Viton (FPM), mounting with thread G1 1/4", for 120-mm plug connector sensors 7MA8500-8FA, -8FF, -8FG with polymer electrolyte, **with 2 flushing connections**
7MA8500-8FT	Retractable fitting for inline installation and for mounting on vessels, made of stainless steel/Viton (FPM), mounting with thread G1 1/4", for 120-mm plug connector sensors 7MA8500-8FA, -8FF and -8FG, with polymer electrolyte; **with 2 flushing connections and pneumatic drive**[2]
	[2] Pneumatic drive recommended for process pressure > 3 bar.
	Welding connectors & seals
7MA8500-8EC	Welding-type connector, angled 15°, made of stainless steel (mat. No. 1.4571), connection G1 1/4"
7MA8500-8EH	Welding-type connector, straight, made of stainless steel (mat. No. 1.4571), connection G 11/4"
7MA8500-8BT	Dummy screw seal (stainless steel),with union nut G 1 1/4" for tight sealing of welding-type connectors 7MA8500-8EC and 7MA8500-8EH
	Accessories
DXX:Z363130,00500	Buffer solution pH = 4.00, 500 ml
DXX:Z363131,00500	Buffer solution pH = 6.88, 500 ml
DXX:Z363132,00500	Buffer solution pH = 9.22, 500 ml



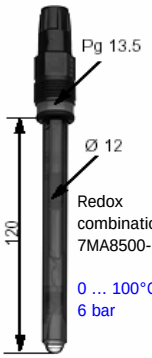
pH Combination electrodes
7MA8500-8FA
0 ... 80°C, 10 bar

7MA8500-8FF (with Pt1000)
0 ... 100°C, 10 bar



Pt1000 Resistance thermometer
7MA8500-8FH

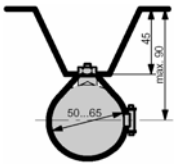
-30 ... 130°C
10 bar



Redox
combination electrode
7MA8500-8FG

0 ... 100°C
6 bar

Cables must be ordered separately; pls. refer to next page for details



Mounting clamb
C74451-A1789-D1
for Immersion fitting
C74451-A1789-A10, -A16
must be ordered separately

Immersion fittings, Length L = 778 mm

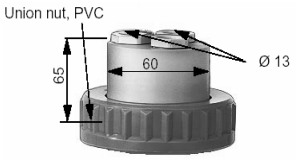
C74451-A1789-A10,
Immersion Depth Et = 600mm,

C74451-A1789-A16,
Immersion Depth Et = 1800mm

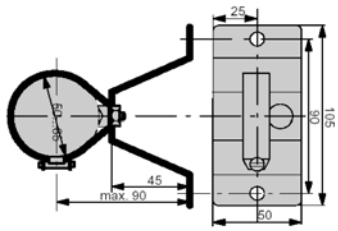
Electrode holder, PP
C74451-A1789-B1
must be ordered separtely

For further details or alternatives about the mounting hardware and accessories, please refer to the chapter Mounting Assemblies!

Accessories, spare parts



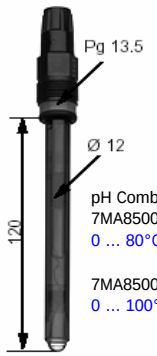
Electrode holder, PP
C74451-A1789-B1



Mounting clamb, C74451-A1789-D1

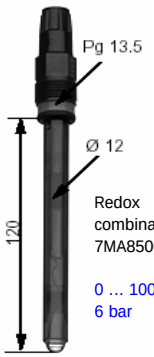
Siemens P/N	Designation
7MA8500-8FF	**pH combination electrode**, with Pt1000 for service water, suspensions, food processing, organic solvents, hot acids and alkalis, with Pg 13.5 screw plug connector, integrated Pt1000 resistance thermometer, with polymer electrolyte, non-refillable, hole diaphragm, Mounting length 120 mm
7MA8500-8FA	**pH combination electrode**, w/o thermometer for service water, waste water, suspensions, food processing, organic solvents, hot acids and alkalis, with Pg 13.5 screw plug connector, with polymer electrolyte, non-refillable, capillary precision glass diaphragm, mounting length 120 mm
7MA8500-8FH	**Pt1000 resistance thermometer** all applications, with glass sheath, with Pg 13.5 screw plug connector for combination with pH combination electrodes 7MA8500-8FA, -8FC
7MA8500-8FG	**Redox combination electrode** for ORP measurements all applications, with Pg 13.5 screw plug connection, gel electrolyte, non-refillable, with platinum ring and capillary precision glass diaphragm, mounting length 120 mm
	Plug cable combination
7MA8500-8DQ	Plug/cable combination, 5 m (SMEK type) for sensor 7MA8500-8FF
M54145-A15-A6	Plug/cable combination, 5 m (S7 type) for sensors 7MA8500-8FA, -8FC, -8FG, -8FH
7MA8500-8GC	Plug/cable combination, 10 m (S7 type) for sensors 7MA8500-8FA, -8FC, -8FG, -8FH
7MA8500-8DP	Special plug/cable combination, 5 m, for pH sensor monitoring and double pH measurements
	Mounting assembly
	Electrode holder
C74451-A1789-B1	Electrode holder made of polypropylene (PP), for installation of 3 sensors, Pg 13.5
	Immersion Mounting hardware
C74451-A1789-A10	Immersion fitting made of polyvinyl chloride (PVC), for basins or open vessels, with immersion tube and protective cage Max. **immersion length 600 mm**
C74451-A1789-A16	Immersion fitting made of polyvinyl chloride (PVC), for basins or open vessels, with immersion tube and protective cage Max. **immersion length 1800 mm**
7MA8500-8CG	Mounting stand (mat. No. 1.4301)
7MA8500-8BP	Wall mount (mat. No. 1.4301)
7MA8500-8CJ	Support (mat. No. 1.4301) for immersion fittings, for fitting to mounting stand 7MA8500-8CG or to wall mount 7MA8500-8BP
C74451-A1789-D1	Set of mounting parts
	Accessories
M54445-A24	Gasket for DN 50 Standard gasket made of Viton (set of 5) for union nuts
DXX:Z363130,00500	Buffer solution pH = 4.00, 500 ml
DXX:Z363131,00500	Buffer solution pH = 6.88, 500 ml
DXX:Z363132,00500	Buffer solution pH = 9.22, 500 ml

For further details or alternatives about the mounting hardware and accessories, please refer to the chapter Mounting Assemblies!



pH Combination electrodes
7MA8500-8FA
0 ... 80°C, 10 bar

7MA8500-8FF (with Pt1000)
0 ... 100°C, 10 bar

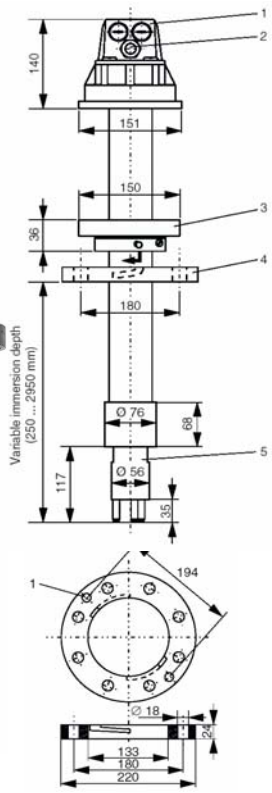


Redox
combination electrode
7MA8500-8FG

0 ... 100°C
6 bar

Cables must be ordered separately; pls. refer to next page for details

DN100



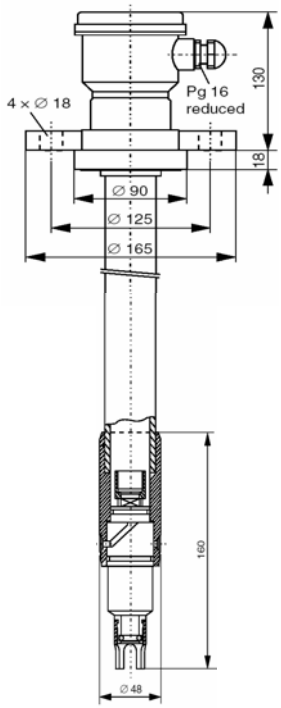
1 Assembly head
2 Pg13.5
3 Adapter for adjustable flange
4 DN 100 flange
5 Electrode holder

1 Through hole for captive star handle screws with loss protection
180
220

Immersion fitting, **PP**, with adjustable flange **DN100**,
Immersion length 1000 mm; holder for **up to 3 sensors**

Order Number: DXX:LZY263

DN50



Immersion fitting (**PVC or PVDF**), with fixed flange **DN50**
Immersion length 1000 or 1500 mm, holder for **1 sensor**

Order Number	Description
DXX:LZY262	PVC, immersion length 1000mm
DXX:LZY293	PVC, immersion length 1500mm
DXX:LZY291	PVDF immersion length 1000mm
DXX:LZY292	PVDF immersion length 1500mm

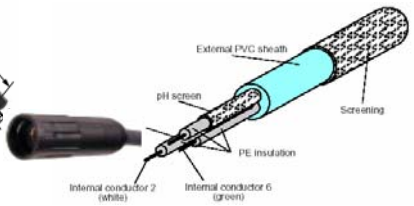
For further details or alternatives about the mounting hardware and accessories, please refer to the chapter Mounting Assemblies!

Siemens P/N	Designation
7MA8500-8FF	**pH combination electrode**, with Pt1000 for service water, suspensions, food processing, organic solvents, hot acids and alkalis, with Pg 13.5 screw plug connector, integrated Pt1000 resistance thermometer, with polymer electrolyte, non-refillable, hole diaphragm, Mounting length 120 mm
7MA8500-8FA	**pH combination electrode**, w/o thermometer for service water, waste water, suspensions, food processing, organic solvents, hot acids and alkalis, with Pg 13.5 screw plug connector, with polymer electrolyte, non-refillable, capillary precision glass diaphragm, mounting length 120 mm
7MA8500-8FG	**Redox combination electrode** for ORP measurements all applications, with Pg 13.5 screw plug connection, gel electrolyte, non-refillable, with platinum ring and capillary precision glass diaphragm, mounting length 120 mm
	Plug cable combination
7MA8500-8DQ	Plug/cable combination, 5 m (SMEK type) for sensor 7MA8500-8FF
M54145-A15-A6	Plug/cable combination, 5 m (S7 type) for sensors 7MA8500-8FA, -8FC, -8FG, -8FH
7MA8500-8GC	Plug/cable combination, 10 m (S7 type) for sensors 7MA8500-8FA, -8FC, -8FG, -8FH
	Immersion assembly with adjustable flange
DXX:LZY263	**Immersion assembly with DN100 adjustable flange**, installation up to 3 sensors, made of PP, 1000 mm length, EPDM o-ring, Potential matching pin stainless steel 1.4571, variable adjustment of immersion depth
	Immersion assembly with fixed DN50 flange
DXX:LZY262	Immersion assembly with DN50 flange, made of PVC, 1000 mm length
DXX:LZY293	Immersion assembly with DN50 flange, made of PVC, 1500 mm length
DXX:LZY291	Immersion assembly with DN50 flange, made of PVDF, 1000 mm length
DXX:LZY292	Immersion assembly with DN50 flange, made of PVDF, 1500 mm length
	Accessories
DXX:Z363130,00500	Buffer solution pH = 4.00, 500 ml
DXX:Z363131,00500	Buffer solution pH = 6.88, 500 ml
DXX:Z363132,00500	Buffer solution pH = 9.22, 500 ml

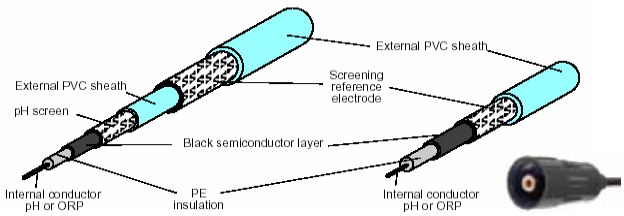
Siemens P/N	Designation
	Plug cable combination (SMEK type) for sensor 7MA8500-8FF
7MA8500-8DQ	Plug/cable combination, 5 m
	Plug cable combination (S7 type) for sensors 7MA8500-8FA, -8FC, -8FG, -8FH
M54145-A15-A6	Plug/cable combination, 5 m
7MA8500-8GC	Plug/cable combination, 10 m
7MA8500-8DP	Special plug/cable combination, 5 m, for pH sensor monitoring and double pH measurements
	Plug cable combination (TOP68 type) for sensors DXX:LZX546, DXX:LZX546
DXX:LZX548	Cable with TOP68 plug and Pg13,5 connector, 5 m
DXX:LZX516	Cable with TOP68 plug and Pg13,5 connector, 10 m
	Accessories for flow fittings
C74451-A1789-D1	Set of mounting parts for flow fittings M54145-A92, and -A93, C74451-A1789-A1, -A3 ,-A21
M54445-A23	Union nut DN 50, stainless steel (mat. No. 1.4301)
M54445-A24	Gasket for DN 50 Standard gasket made of Viton (set of 5) for union nuts
M54445-A33	Hook key spanner (mat. No. 1.4301) for union nut M54445-A23
	pH Buffer solutions
DXX:Z363130,00500	Buffer solution pH = 4.00, 500 ml
DXX:Z363131,00500	Buffer solution pH = 6.88, 500 ml
DXX:Z363132,00500	Buffer solution pH = 9.22, 500 ml
	Accessories for refillable pH electrodes
C74450-A184-A1	KCl supply reservoir for connection to refillable combination electrodes (e.g. 7MA8500-8FC), reference electrodes
C74450-A184-D1	Hose to connect the KCl supply reservoir to the reference electrode/combination electrode, 2 m long
DXX:C20C320	KCl filling solution 3M, 500ml
	alternatively
C71451-Z500-L2	KCl in plastic bottle (1 kg)
DXX:62011	Wash bottle, 500ml (e.g. for simple refilling of KCl)

Accessories, cables

Hook key spanner
for union nut mounting
M54445-A33



Cable for pH sensors with SMEK plug
Cable 7MA8500-8DQ (5m)



Special Cable
for sensor monitoring
7MA8500-8DP (3m)
7MA8500-8GC (10m)

Cable with S7 plug
(plug not shown)
M54145-A15-A6 (5m)

Sensors & Characteristics	pH combination electrode w/o T-sensor	pH combination electrode w/o T-sensor	pH combination electrode with PT1000	pH combination electrode w/o T-sensor	pH combination electrode with PT100	ORP combination electrode w/o T-sensor	Differential-pH-sensor with PT100	Thermometer Pt1000
Siemens P/N	7MA8500-8FA	7MA8500-8FC	7MA8500-8FF	DXX:LZX545	DXX:LZX546	7MA8500-8FG	7MA8500-8FM 7MA8500-8BX	7MA8500-8FH
								
Application	Service water, waste water, suspensions, food processing, organic solvents, hot acids and caustics	Boiler-feed and ultra-pure water with conductivities < 100 µS/cm; plating baths, critical media	Service water, waste water, suspensions, food processing, organic solvents, hot acids and caustics	General purpose pH process electrode for harsh operating conditions; in particular for high temperature and/or high pressure applications; sterilizable		All applications sensing material: Platinum ring	Media such as milk, cheese, yoghurt, diary industry, chemical industry and cosmetics,	All applications
Measuring range	pH 2 13	pH 0 ... 14	pH 2 13	pH 0 ... 14	pH 0 ... 14	-2000 ... +2000 mV	pH 3 12	-30°C ... 135°C
Permissible T_{max}	0°C ... + 80°C	-30°C ... + 80°C	0°C ... + 100°C	0 ... 135°C	0 ... 135°C	0°C ... + 100°C	0°C ... + 140°C	
Permissible p_{max} @ T_{max}	10 bar	6 bar	10 bar	16 bar	16 bar	6 bar	16 bar	10 bar
Reference electrode	Polymer electrolyte, capillary precision glass diaphragm, Ag/AgCl	liquid KCl electrolyte[1)], refillable, triple ceramic diaphragm, Ag/AgCl	Polymer electrolyte, hole diaphragm, Ag/AgCl	KCl/AgCl + KNO3-Gel, ring diaphragm, porous Teflon, double Reference: Ag/AgCl		gel electrolyte, non-refillable, capillary precision glass diaphragm, Ag/AgCl	metal (Ag)	-
Electrode shaft material	Glass (Duran)	Glass (Duran)	Glass (Duran)	Glas	Glas	Glass (Duran)	Enamel	Glass (Duran)
Temperature sensor	-	-	inbuild Pt1000		inbuild Pt100	-	inbuild Pt100	
Pressure Equipment Directive	Gas G1 / Liquids G1 Art 3.3 SEP	Gas G1 / Liquids G1 Art 3.3 SEP	Gas G1 / Liquids G1 Art 3.3 SEP			Gas G1 / Liquids G1 Art 3.3 SEP	Gas G1 / Liquids G1 Art 3.3 SEP	Gas G1 / Liquids G1 Art 3.3 SEP
Dimensions	see picture	see picture	see picture	see picture	see picture	see picture	see picture	see picture
Weight	appr. 0,15 kg	appr. 0,15 kg	appr. 0,15 kg	appr. 0,15 kg	appr. 0,15 kg	appr. 0,15 kg	appr. 3 kg	appr. 0.15 kg

Plug/cable combination						
Siemens P/N 5 m cable with plug 10 m cable with plug	M54145-A15-A6 7MA8500-8GC	7MA8500-8DQ	DXX:LZX548 DXX:LZX516	M54145-A15-A6 7MA8500-8GC	7MA8500-8DR	M54145-A15-A6 7MA8500-8GC
5 m special cable for sensor monitoring	7MA8500-8DP					

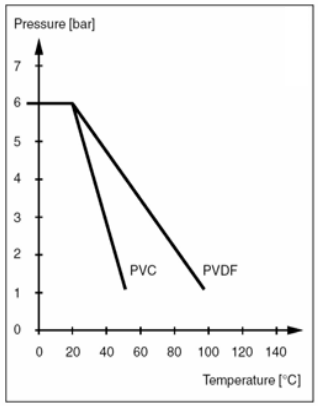
[1)] KCl consumption: 2 to 3 liters KCl/year

EX-Protection DIN50014/EN 50020; in conjuntion with SIPAN 32X; all pH sensors (electrodes) listed above are approved for use in EX zone 1

Fittings/Armatures	Electrode holder	Electrode holder	Electrode holder	Flow Fitting	Flow Fitting	Flow Fitting	Flow Fitting	Flow Fitting
Siemens P/N	C74451-A1789-B1	C74451-A1789-B2	C74451-A1789-B3	M54145-A92	M54145-A93	C74451-A1789-A1	C74451-A1789-A21	C74451-A1789-A3
								
Connection gland	Conical flange (Kegelflansch)			G 3/4"		3/8"-18NPT	G 3/4"	3/8"-18NPT
Material	Polypropylene (PP)	Stainless Steel (1.4571)	Polyvinylidene fluoride (PVDF)	Polypropylene (PP)	Polyvinylidene fluoride (PVDF)	Stainless Steel (1.4404)		Polypropylene (PP)
Resistance								
suitable for:	Caustics, acids, brine, petroleum spirit, oil, alcohol	Caustics, week acids, brine, petroleum spirit, oil, alcohol, organic solvents	largely resistant to all chemicals	Caustics, acids, brine, petroleum spirit, oil, alcohol	largely resistant to all chemicals	Caustics, week acids, petroleum spirit, oil, alcohol, organic solvents		Caustics, week acids, brine, petroleum spirit, oil, alcohol
not suitable for:	Aromatic and chlorinated Hydrocarbons of higher concentrations	Strong acids and high Chloride concentrations	-	Aromatic and chlorinated Hydrocarbons of higher concentrations	-	Strong acids and high Chloride concentrations		Aromatic and chlorinated Hydrocarbons of higher concentrations
Permissible T_{max}	90°C	140°C	100°C	90°C	130°C	160°C		90°C
Permissible p_{max} @ T_{max}	6 bar @ 20°C 4 bar @ 90°C	10 bar	6 bar @ 20°C 4 bar @ 90°C	6 bar @ 20°C 0,2 bar @ 90°C	6 bar @ 20°C 1 bar @ 90°C	16 bar		1,5 bar @ 20°C 0,2 bar @ 90°C
Pressure Equipment Directive					Gas G1 / Liquids G1 Art 3.3 SEP	Gas G1 / Liquids G1 Art 3.3 SEP	Gas G1 / Liquids G1 Art 3.3 SEP	Gas G1 / Liquids G1 Art 3.3 SEP
Dimensions	see pictures in the chapter pH ORP Specs							
Weight	appr. 0,1 kg	appr. 1,0 kg	appr. 0,1 kg	appr. 0,25 kg	appr. 0,3 kg	appr. 1,5 kg		
Flow rate	n.a.	n.a.	n.a.	recommended 0,1 ... 0,5 l/min (10 l/min max.)				

Fittings/Armatures	Flow Fitting for Differential Sensor	Flow Fitting for Differential Sensor	Retractable fitting	welding type connectors		Flow fitting
Siemens P/N	7MA8500-8BX	7MA8500-8BY	7MA8500-8FR/-8FS/-8FT	7MA8500-8EC	7MA8500-8EH	DXX:LZY264
						
Connection gland	Internal thread G1 $^1/_4$"		Internal thread G1 $^1/_4$" for electrodes with d=12mm; L=120mm PG13,5 thread	Internal thread G1 $^1/_4$"		suitable for 3x Pg13,5 sensors; process connection: thread G1, nominal flow diameter DN 20
Material:	Stainless Steel (1.4404)		Stainless steel 1.4571 FPM; Gasket made of FPM (Viton)	Stainless steel 1.4571		
Resistance/Beständigkeit						
suitable for:	Caustics, week acids, petroleum spirit, oil, alcohol, organic solvents		Alkalis, diluted acids, oils, petroleum spirit, alcohol, organic solvents			Caustics, acids, brine, petroleum spirit, oil, alcohol
not suitable for:	Strong acids and high Chloride concentrations		strong acids, high chloride concentrations			Aromatic and chlorinated hydrocarbons of higher concentrations
Permissible T_{max}	140°C		130°C	140°C		unpressurized 90°C
Permissible p_{max} @ T_{max}	16 bar		6 bar	16bar		6 bar @20°C unpressurized 90°C
Pressure Equipment Directive			Gas G1 / Liquids G1 Art 3.3 SEP			
Dimensions	see pictures in the chapter pH ORP Specs					
Weight	appr. 2 kg		approx. 3kg	approx. 0.5kg		approx 1kg
Flow rate						

Fittings/Armatures	Immersion Fitting	Immersion Fitting	Immersion Fitting	Immersion Fitting	Immersion Fitting	Immersion Fitting	Immersion Fitting
							
Connection gland	-	-	DN50 flange	DN50 flange	DN50 flange	DN50 flange	DN100 adjustable flange
Immersion length	600 mm	1800 mm	1000 mm	1500 mm	1000 mm	1500 mm	1000 mm
Electrode type	PG13,5 thread shaft length 120mm Shaft diameter 12mm 3 electrodes	PG13,5 thread shaft length 120mm Shaft diameter 12mm 3 electrodes	PG13,5 thread shaft length 120mm Shaft diameter 12mm 1 electrode	PG13,5 thread shaft length 120mm Shaft diameter 12mm 1 electrode	PG13,5 thread shaft length 120mm Shaft diameter 12mm 1 electrode	PG13,5 thread shaft length 120mm Shaft diameter 12mm 1 electrode	PG13,5 thread shaft length 120mm Shaft diameter 12mm 3 electrodes
Material	Polyvinylchloride (PVC)	Polyvinylchloride (PVC)	Electrode holder: PES Immersion pipe: PVC O-ring: EPDM Bayonet pin: Titanium	Electrode holder: PES Immersion pipe: PVC O-ring: EPDM Bayonet pin: Titanium	Electrode holder: PES Immersion pipe: PVDF O-ring: Viton Bayonet pin: Titanium	Electrode holder: PES Immersion pipe: PVDF O-ring: Viton Bayonet pin: Titanium	Electrode holder: PP-GF 20 Immersion pipe PP Potential matching pin: SS 1.4571 O-ring EPDM
Resistance							
suitable for/	Caustics, Acids, Brine	Caustics, Acids, Brine	Caustics, Acids, Brine	Organic Solvents	largely resistant to all chemicals	largely resistant to all chemicals	Caustics, acids, brine, petroleum spirit, oil, alcohol
not suitable for/	Organic Solvents	Organic Solvents	Organic Solvents	Organic Solvents	-	-	Aromatic and chlorinated Hydrocarbons of higher concentrations
Permissible T_{max}	60°C	60°C	unpressurized 50°C	unpressurized 50°C	unpressurized 115°C	unpressurized 115°C	unpressurized 80°C
Permissible p_{max} @ T_{max}	0,2 bar	0,2 bar	6bar @ 20°C, 0bar @ 50°C, see pressure/temperture diagram	6bar @ 20°C, 0bar @ 50°C, see pressure/temperture diagram	6bar @ 20°C, 0bar @ 115°C, see pressure/temperture diagram	6 bar @ 20°C, 0 bar @ 115°C, see pressure/temperture diagram	0 bar
Pressure Equipment Directive	not required	not required					not required
Dimensions	see pictures in the chapter Mounting assemblies						
Weight	1,8 ... 3,0 kg	1,8 ... 3,0 kg	2.3 kg				approx. 4kg



Pressure/Temperature Diagram for
DXX:LZY262, DXX:LZY291, DXX:LZY292, DXX:LZY293

Siemens P/N	Designation	Required Qty
pH value measurements in ultra-pure water, conductivity <100 µS/cm, e.g. boiler feedwater, chip production; Installation in bypass (following cooler and pressure reduction)		
	Analyzer Proposal; for any other configuration please refer to the chapter SIPAN pH/ORP Analyzer	
7MA1040-8AA	SIPAN 32	1,00
	or	
7MA1034-2AA00-0AA0	SIPAN 34	1,00
7MA8500-8FC	**pH combination electrode**, w/o thermometer for critical media, boiler feedwater and ultra-pure water with conductivities <100 µS/cm with Pg 13.5 screw plug connector, with liquid electrolyte, refillable, triple ceramic diaphragm, mounting length 120 mm KCl consumption: 2 to 3 liters KCl/year	1,00
C74450-A184-A1	KCl supply reservoir for connection to refillable combination electrodes or reference electrodes (e.g. 7MA8500-8FC)	1,00
C74450-A184-D1	Hose, 2 m long to connect the KCl supply reservoir to the reference electrode/combination electrode	1,00
7MA8500-8FH	**Pt1000 resistance thermometer** all applications, with glass sheath, with Pg 13.5 screw plug connector for combination with pH combination electrodes 7MA8500-8FA, -8FC	1,00
M54145-A15-A6	Plug/cable combination, 5 m	2,00
	Electrode holder	
C74451-A1789-B2	Electrode holder for installation of 3 sensors, Pg 13.5; Made of stainless steel (SS 1.4401) with stainless steel union nut	1,00
	or	
C74451-A1789-B1	Electrode holder for installation of 3 sensors, Pg 13.5; **Made of polypropylene** (PP)	1,00
	Flow fitting DN50 3/8NPT	
C74451-A1789-A1	Flow fitting for bypass installation, mounting of electrode holder with union nut, Viton gasket (union nut not included in delivery) Connection: thread 3/8-18NPT; made of stainless steel (SS 1.4401)	1,00
	or	
C74451-A1789-A3	Flow fitting for bypass installation, mounting of electrode holder with union nut, Viton gasket Connection: thread 3/8-18NPT, with union nut and gasket made of polypropylene (PP)	1,00
	Optional Accessories	
C74451-A1789-D1	Set of mounting parts for flow fittings	1,00
DXX:C20C320	KCl filling solution 3M, 500ml	1,00
	or	
C71451-Z500-L2	KCl in plastic bottle (1 kg)	1,00
DXX:62011	Wash bottle, 500ml (e.g. for simple refilling of KCl)	1,00
DXX:Z363130,00500	Buffer solution pH = 4.00, 500 ml	1,00
DXX:Z363131,00500	Buffer solution pH = 6.88, 500 ml	1,00
DXX:Z363132,00500	Buffer solution pH = 9.22, 500 ml	1,00

Siemens P/N	Designation	Required Qty
pH value measurements for standard applications		
Installation in Bypass		
	Analyzer Proposal; for any other configuration please refer to the chapter SIPAN pH/ORP Analyzer	
7MA1040-8AA	SIPAN 32	1,00
	or	
7MA1034-2AA00-0AA0	SIPAN 34	1,00
	or	
7MA1041-8AA	SIPAN 32X	1,00
7MA8500-8FA	**pH combination electrode**, w/o thermometer for service water, waste water, suspensions, food processing, organic solvents, hot acids and alkalis, with Pg 13.5 screw plug connector, with polymer electrolyte, non-refillable, capillary precision glass diaphragm, mounting length 120 mm	1,00
M54145-A15-A6	Plug/cable combination, 5 m	1,00
7MA8500-8FH	**Pt1000 resistance thermometer** all applications, with glass shaft, with Pg 13.5 screw plug connector for combination with pH combination electrodes 7MA8500-8FA, -8FC	1,00
M54145-A15-A6	Plug/cable combination, 5 m	1,00
C74451-A1789-B1	Electrode holder for installation of 3 sensors, Pg 13.5; **Made of polypropylene** (PP)	1,00
C74451-A1789-A3	Flow fitting for bypass installation, mounting of electrode holder with union nut, Viton gasket Connection: **thread 3/8-18NPT**, with union nut and gasket, made of polypropylene (PP)	1,00
	Optional Accessories	
C74451-A1789-D1	Set of mounting parts for flow fittings	1,00
DXX:Z363130,00500	Buffer solution pH = 4.00, 500 ml	1,00
DXX:Z363131,00500	Buffer solution pH = 6.88, 500 ml	1,00
DXX:Z363132,00500	Buffer solution pH = 9.22, 500 ml	1,00

Siemens P/N	Designation	Required Qty
pH value measurements for standard applications		
Installation in Bypass, Flow fitting with electrode protection		
	Analyzer Proposal; for any other configuration please refer to the chapter SIPAN pH/ORP Analyzer	
7MA1040-8AA	SIPAN 32	1,00
	or	
7MA1034-2AA00-0AA0	SIPAN 34	1,00
	or	
7MA1041-8AA	SIPAN 32X	1,00
7MA8500-8FA	**pH combination electrode**, w/o thermometer for service water, waste water, suspensions, food processing, organic solvents, hot acids and alkalis, with Pg 13.5 screw plug connector, with polymer electrolyte, non-refillable, capillary precision glass diaphragm, mounting length 120 mm	1,00
M54145-A15-A6	Plug/cable combination, 5 m	1,00
7MA8500-8FH	**Pt1000 resistance thermometer,** all applications, with glass shaft, with Pg 13.5 screw plug connector for combination with pH combination electrodes 7MA8500-8FA, -8FC	1,00
M54145-A15-A6	Plug/cable combination, 5 m	1,00
DXX:LZY264	**Flow fitting for bypass installation**, PP, max. three sensors Pg 13.5, built in potential matching pin stainless steel SS 316Ti, EPDM o-rings, **sensors protected by removeable cover**, connection: G1 thread, nominal flow diameter DN20, measuring chamber unscrewable for cleaning and calbration of sensors	1,00
	Optional Accessories	
DXX:Z363130,00500	Buffer solution pH = 4.00, 500 ml	1,00
DXX:Z363131,00500	Buffer solution pH = 6.88, 500 ml	1,00
DXX:Z363132,00500	Buffer solution pH = 9.22, 500 ml	1,00

Siemens P/N	Designation	Required Qty
pH value measurements in tank, Inline installation with immersion fitting		
	Analyzer Proposal; for any other configuration please refer to the chapter SIPAN pH/ORP Analyzer	
7MA1040-8AA	SIPAN 32	1,00
	or	
7MA1034-2AA00-0AA0	SIPAN 34	1,00
	or	
7MA1041-8AA	SIPAN 32X	1,00
7MA8500-8FF	**pH combination electrode**, with Pt1000 for service water, suspensions, food processing, organic solvents, hot acids and alkalis, with Pg 13.5 screw plug connector, integrated Pt1000 resistance thermometer, with polymer electrolyte, non-refillable, hole diaphragm, Mounting length 120 mm	1,00
7MA8500-8DQ	Plug/cable combination, 5 m	1,00
DXX:LZY262	Immersion assembly with DN50 flange, made of PVC, 1000 mm length	1,00
	or	
DXX:LZY291	Immersion assembly with DN50 flange, made of PVDF, 1000 mm length	1,00
	Optional Accessories	
DXX:Z363130,00500	Buffer solution pH = 4.00, 500 ml	1,00
DXX:Z363131,00500	Buffer solution pH = 6.88, 500 ml	1,00
DXX:Z363132,00500	Buffer solution pH = 9.22, 500 ml	1,00
pH value measurements in the chemical industry - Inline installation in reaction vessel		
	Analyzer Proposal; for any other configuration please refer to the chapter SIPAN pH/ORP Analyzer	
7MA1040-8AA	SIPAN 32	1,00
	or	
7MA1034-2AA00-0AA0	SIPAN 34	1,00
	or	
7MA1041-8AA	SIPAN 32X	1,00
7MA8500-8FF	**pH combination electrode**, with Pt1000 for service water, suspensions, food processing, organic solvents, hot acids and alkalis, with Pg 13.5 screw plug connector, integrated Pt1000 resistance thermometer, with polymer electrolyte, non-refillable, hole diaphragm, Mounting length 120 mm	1,00
7MA8500-8DQ	Plug/cable combination, 5 m	1,00
7MA8500-8FR	Retractable fitting for inline installation and for mounting on vessels, made of stainless steel/Viton (FPM), mounting with thread G1 1/4", for 120-mm plug connector sensors 7MA8500-8FA, -8FF and -8FG, with polymer electrolyte; Standard version (**without flushing connections or pneumatic drive**)	1,00
7MA8500-8EC	Welding-type connector, angled 15°, made of stainless steel (SS 1.4571), connection G1 1/4"	1,00
	Optional Accessories	
DXX:Z363130,00500	Buffer solution pH = 4.00, 500 ml	1,00
DXX:Z363131,00500	Buffer solution pH = 6.88, 500 ml	1,00
DXX:Z363132,00500	Buffer solution pH = 9.22, 500 ml	1,00
	Further optional Accessories	
7MA8500-8FS	Retractable fitting for inline installation and for mounting on vessels, made of stainless steel/Viton (FPM), mounting with thread G1 1/4", for 120-mm plug connector sensors 7MA8500-8FA, -8FF, -8FG with polymer electrolyte, **with 2 flushing connections**[2]	
	or	
7MA8500-8FT	Retractable fitting for inline installation and for mounting on vessels, made of stainless steel/Viton (FPM), mounting with thread G1 1/4", for 120-mm plug connector sensors 7MA8500-8FA, -8FF and -8FG, with polymer electrolyte; **with 2 flushing connections and pneumatic drive**[2]	

[2] controlled by SIPAN34 or by external device, e.g. SIMATIC

Siemens P/N	Designation	Required Qty
pH value measurements in the pharmaceutical industry:		
creams, washing lotions (fully sterilizable, no glass breakages)		
	Analyzer Proposal; for any other configuration please refer to the chapter SIPAN pH/ORP Analyzer	
7MA1140-8AB	SIPAN 32	1,00
	or	
7MA1034-2BA00-0AA0	SIPAN 34	1,00
	or	
7MA1141-8AB	SIPAN 32X	1,00
7MA8500-8CX	**Differential pH sensor** with integrated Pt100 (7MA8500–8FM) (**pre-assembled**) with plug/cable combination 7MA8500–8DR, 5 m long, pre-assembled in welding-type connector 7MA8500–8DR for aseptic measurements, including dummy seal 7MA8500–8DT, stainless steel union nuts, and EPDM gaskets	1,00
pH value measurements in waste water treatment plants, inflow to sewage treatment plant;		
Installation in basin or open channel with immersion fitting		
	Analyzer Proposal; for any other configuration please refer to the chapter SIPAN pH/ORP Analyzer	
7MA1040-8AA	SIPAN 32	1,00
	or	
7MA1034-2AA00-0AA0	SIPAN 34	1,00
	or	
7MA1041-8AA	SIPAN 32X	1,00
7MA8500-8FA	**pH combination electrode**, w/o thermometer for service water, waste water, suspensions, food processing, organic solvents, hot acids and alkalis, with Pg 13.5 screw plug connector, with polymer electrolyte, non-refillable, capillary precision glass diaphragm, mounting length 120 mm	1,00
7MA8500-8FH	**Pt1000 resistance thermometer**, all applications, with glass sheath, with Pg 13.5 screw plug connector for combination with pH combination electrodes 7MA8500-8FA, -8FC	1,00
M54145-A15-A6	Plug/cable combination, 5 m	2,00
C74451-A1789-A10	Immersion fitting made of polyvinyl chloride (PVC), for basins or open vessels, with immersion tube and protective cage Max. **immersion length 600 mm**	1,00
C74451-A1789-B1	Electrode holder made of polypropylene (PP), for installation of 3 sensors, Pg 13.5	1,00
	Optional Accessories	
C74451-A1789-D1	Set of mounting parts for flow fittings	1,00
7MA8500-8CG	Mounting stand (SS 1.4301)	1,00
7MA8500-8CJ	Support, SS 1.4301, for immersion fittings, for fitting to mounting stand 7MA8500-8CG or to wall mount 7MA8500-8BP	1,00
C79451-A3177-D12	Protective hood (SS 1.4571) with base plate C79451-A3177-D11	1,00
7MA8500-8DG	Pipe clamp (SS 1.4571)	1,00
DXX:Z363130,00500	Buffer solution pH = 4.00, 500 ml	1,00
DXX:Z363131,00500	Buffer solution pH = 6.88, 500 ml	1,00
DXX:Z363132,00500	Buffer solution pH = 9.22, 500 ml	1,00

Siemens P/N	Designation	Required Qty

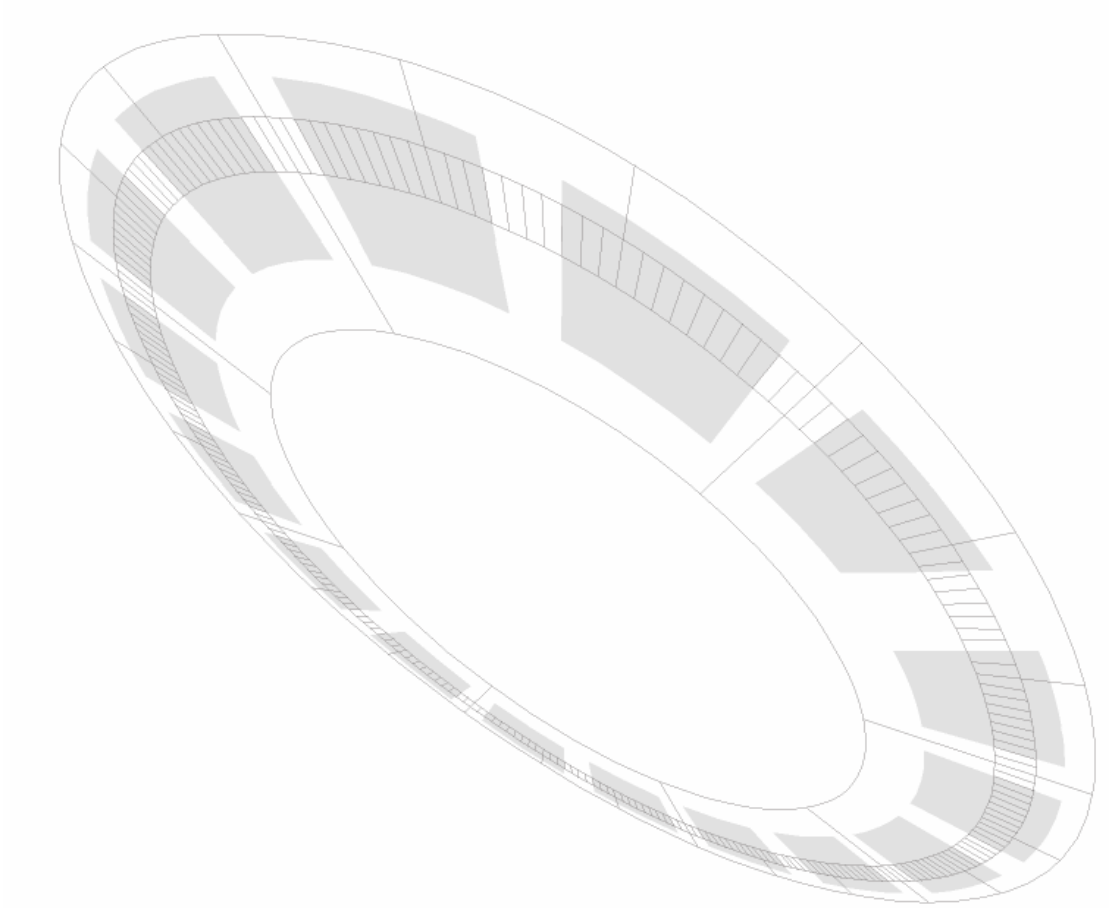
Redundant pH value measurements in the same vessel (flow fitting),
for critical process measurements

	Analyzer Proposal; for any other configuration please refer to the chapter SIPAN pH/ORP Analyzer	
7MA1140-8AB	SIPAN 32	1,00
	or	
7MA1034-2BA10-0AA0	SIPAN 34	1,00
	or	
7MA1141-8AB	SIPAN 32X	1,00
7MA8500-8FA	**pH combination electrode**, w/o thermometer for service water, waste water, suspensions, food processing, organic solvents, hot acids and alkalis, with Pg 13.5 screw plug connector, with polymer electrolyte, non-refillable, capillary precision glass diaphragm, mounting length 120 mm	2,00
7MA8500-8DP	Special plug/cable combination, 5 m, for pH sensor monitoring and double pH measurements	2,00
7MA8500-8FH	**Pt1000 resistance thermometer** all applications, with glass sheath, with Pg 13.5 screw plug connector for combination with pH combination electrodes 7MA8500-8FA, -8FC	1,00
M54145-A15-A6	Plug/cable combination, 5 m	1,00
M54145-A92	Flow fitting for bypass installation, mounting of electrode holder with union nut, Viton gasket (*union nut not included in delivery*) Connection: **thread G 3/4", made of polypropylene** (PP)	1,00
C74451-A1789-B1	Electrode holder for installation of 3 sensors, Pg 13.5; **Made of polypropylene** (PP)	1,00
M54445-A23	Union nut DN 50, stainless steel (SS 1.4301)	1,00
	Optional Accessories	
C74451-A1789-D1	Set of mounting parts for flow fittings	1,00
DXX:Z363130,00500	Buffer solution pH = 4.00, 500 ml	1,00
DXX:Z363131,00500	Buffer solution pH = 6.88, 500 ml	1,00
DXX:Z363132,00500	Buffer solution pH = 9.22, 500 ml	1,00

Redundant Redox value measurements in the same vessel (flow fitting),
Output: 2 separate current signals (0/4...20 mA) for Redox potential

	Analyzer Proposal; for any other configuration please refer to the chapter SIPAN pH/ORP Analyzer	
7MA1140-8AB	SIPAN 32	1,00
	or	
7MA1034-2BA10-0AA0	SIPAN 34	1,00
	or	
7MA1141-8AB	SIPAN 32X	1,00
7MA8500-8FG	**Redox combination electrode** for ORP measurements all applications, with Pg 13.5 screw plug connection, gel electrolyte, non-refillable, with platinum ring and capillary precision glass diaphragm, mounting length 120 mm	2,00
M54145-A15-A6	Plug/cable combination, 5 m	1,00
M54145-A92	Flow fitting for bypass installation, mounting of electrode holder with union nut, Viton gasket (*union nut not included in delivery*) Connection: **thread G 3/4", made of polypropylene** (PP)	1,00
C74451-A1789-B1	Electrode holder for installation of 3 sensors, Pg 13.5; **Made of polypropylene** (PP)	1,00
M54445-A23	Union nut DN 50, stainless steel (SS 1.4301)	1,00
	Optional Accessories	
C74451-A1789-D1	Set of mounting parts for flow fittings	1,00

Siemens P/N	Designation	Required Qty
Simultaneous pH value and redox measurements in biological sewage treatment plants, electroplating plants, drinking water monitoring;		
Output: 2 separate current signals (0/4...20 mA) for pH and Redox potential		
	Analyzer Proposal; for any other configuration please refer to the chapter SIPAN pH/ORP Analyzer	
7MA1140-8AB	SIPAN 32	1,00
	or	
7MA1034-2CA10-0AA0	SIPAN 34	1,00
	or	
7MA1141-8AB	SIPAN 32X	1,00
7MA8500-8FA	**pH combination electrode**, w/o thermometer for service water, waste water, suspensions, food processing, organic solvents, hot acids and alkalis, with Pg 13.5 screw plug connector, with polymer electrolyte, non-refillable, capillary precision glass diaphragm, mounting length 120 mm	1,00
7MA8500-8FG	**Redox combination electrode** for ORP measurements all applications, with Pg 13.5 screw plug connection, gel electrolyte, non-refillable, with platinum ring and capillary precision glass diaphragm, mounting length 120 mm	1,00
7MA8500-8FH	**Pt1000 resistance thermometer** all applications, with glass sheath, with Pg 13.5 screw plug connector for combination with pH combination electrodes 7MA8500-8FA, -8FC	1,00
M54145-A15-A6	Plug/cable combination, 5 m	3,00
C74451-A1789-A10	Immersion fitting made of polyvinyl chloride (PVC), for basins or open vessels, with immersion tube and protective cage Max. **immersion length 600 mm**	1,00
C74451-A1789-B1	Electrode holder made of polypropylene (PP), for installation of 3 sensors, Pg 13.5	1,00
	Optional Accessories	
C74451-A1789-D1	Set of mounting parts for flow fittings	1,00
7MA8500-8CG	Mounting stand (SS 1.4301)	1,00
7MA8500-8CJ	Support, SS 1.4301, for immersion fittings, for fitting to mounting stand 7MA8500-8CG or to wall mount 7MA8500-8BP	1,00
C79451-A3177-D12	Protective hood (SS 1.4571) with base plate C79451-A3177-D11	1,00
7MA8500-8DG	Pipe clamp (SS 1.4571)	1,00
DXX:Z363130,00500	Buffer solution pH = 4.00, 500 ml	1,00
DXX:Z363131,00500	Buffer solution pH = 6.88, 500 ml	1,00
DXX:Z363132,00500	Buffer solution pH = 9.22, 500 ml	1,00



Siemens Order Code

Designation

7MA2034	-	X	X	X	X	0	-	0	X	X	0

SIPAN 34 Conductivity analyzer; 4-wire system
Process version,
microprocessor-based with illuminated graphic display,
membrane keyboard,
menu-based operation (5 languages),
trend display,concentration display,
logbook, temperature compensation
1 parameter set
1 signal output 0/4 to 20 mA,
1 alarm contact,
1 limit contact and 2 diagnostic contacts

Power supply
- 24 VDC/24 VAC, 48 - 63 Hz **0**
- 120 VAC, 48 - 63 Hz **1**
- 230 VAC, 48 - 63 Hz **2**

Measuring procedure:
- Two-electrode procedure (2EL) ..... **A**
- Four-electrode procedure (4EL) ..... **B**
- Inductive procedure (IND) ..... **C**

Instrument design
- Field housing ..... **A**
- Panel housing (96 x 96) ..... **B**

Options
- Standard version w/o additional option **0**
- With second signal output 0/4 to 20 mA and second limit contact **1**
- With 4 selectable parameter sets and 3 range signalling contacts **2**
- With second signal output 0/4 to 20 mA, second limit contact, ... **3**
  4 selectable parameter sets and 3 range signalling contacts

Limits with controller function
- Without limits with controller function ..... **A**
- With limits with controller funtion ..... **B**

Automatic cleaning/flushing (3 contacts + timer for fitting, cleaning, flushing)
- without cleaning/flushing ..... **A**
- with cleaning/flushing ..... **B**

Siemens Order Code

Designation

SIPAN 32 Conductivity analyzer; 2 wire system — **7MA 2 X 4 0 - 8 A X**

for conductivity measurements
Measuring procedure:
Two-electrode procedure (2EL)
Four-electrode procedure (4EL)
Inductive procedure (IND)
Microprocessor-based, membrane keyboard with LCD,
menu control, logbook, concentration display,
diagnostic software, 1 parameter set,
power supply: DC 24 V, in field housing

Measuring procedure:
- Two-electrode procedure (2EL) **0**
- Four-electrode procedure (4EL) **1**
- Inductive procedure (IND) **2**

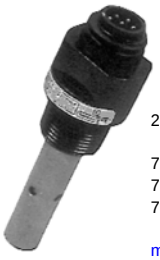
Outputs
- 1 signal output: 4 to 20 mA without interface ..... **A**
- 1 signal output: 4 to 20 mA, with HART interface ..... **B**
- 2 signal outputs with HART interface ..... **C**
  - 1st signal output: measured value 4 to 20 mA,
  - 2nd signal output: temperature or switching contact for limit or cleaning or warning
- Profibus PA, 4 selectable parameter sets ..... **D**

SIPAN 32X Conductivity analyzer with Ex-protection; 2 wire system — **7MA 2 X 4 1 - 8 A X**

intrinsically-safe version, II 2G EEx ib[ia] IIC T4,
two-wire system for conductivity measurements
Microprocessor-based, membrane keyboard with LCD,
menu control, logbook, concentration display,
temperature compensation, 1 parameter set,
power supply: DC 24 V, in field housing

Measuring procedure:
- Two-electrode procedure (2EL) **0**
- Four-electrode procedure (4EL) **1**
- Inductive procedure (IND) **2**

Outputs
- 1 signal output: 4 to 20 mA without interface ..... **A**
- 1 signal output: 4 to 20 mA, with HART interface ..... **B**
- 2 signal outputs with HART interface ..... **C**
  - 1st signal output: measured value 4 to 20 mA,
  - 2nd signal output: temperature or switching contact for limit or cleaning or warning
- Profibus PA, 4 selectable parameter sets ..... **D**

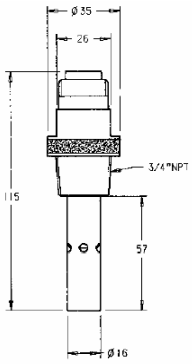


2 EL Conducticity sensor with Pt100

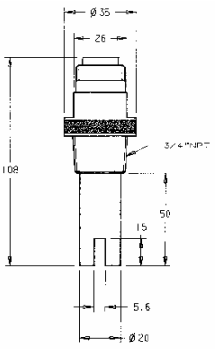
7MA2000-8PA0 (k=0,01) [0,01 to 50 µS/cm]
7MA2000-8PB0 (k=0,10) [0,1 to 500 µS/cm]
7MA2000-8PC0 (k=1,00) [1 to 5000 µS/cm]

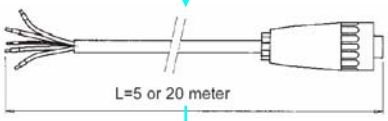
max 125°C, max 10 bar

sensor with k=0,01 and 0,1



sensor with k=1,00

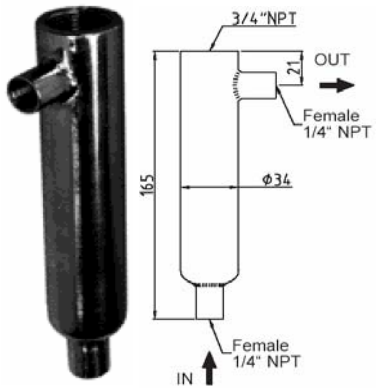




Connection cable
5m: 7MA2000-8PX2
20m: 7MA2000-8PX3

Flow-Thru installation

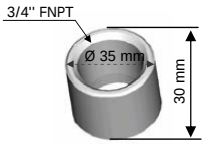
up to 150°C
25 bar



Flow fitting, SS 316L
7MA2000-8PX1

Connection to tanks and pipes

up to 150°C
25 bar



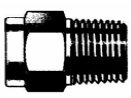
Welding connector, SS 316L,
7MA2000-8PX4

Retrofitting

Adapter DN50
DXX:LZY409
for connection of
7MA2000-PA0, -PB0, -PC0
sensors to flow fitting
C74451-A1789-A1, -A21

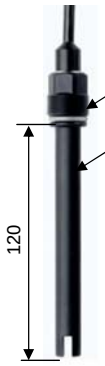
Adapter flange, SS 316L
DXX:LZY243
for connection of
7MA2000-8PA0, -8PB0, -8PC0
sensors to flow fitting
C74451-A1789-A2

Accessories, spare parts



Dummy plug, SS 316L, 3/4" NPT thread
7MA2000-8PX5

Siemens P/N	Designation
	2EL sensors for Ultra-low and low Conductivity measurement
7MA2000-8PA0	**2EL sensors for Ultra-low Conductivity measurement**, Cell constant 0.010 cm^{-1}, measuring range: 0.01 – 50µS/cm, process adaptation: ¾" NPT thread, connection cable to be ordered separately, installation length 57 mm, 16 mm Ø, electrode material: SS 316L and PES (Polyetherslufon), electrodes concentric, integrated Pt100, max. temperature 125°C, max. pressure 10 bar, protection Class IP 65, Pressure Equipment Directive F.: GAS 2/LIQUIDS 1 ART. 3.3 SEP
7MA2000-8PB0	**2EL sensors for low Conductivity measurement**, cell constant 0.10 cm^{-1}, measuring range 0.1 – 500µS/cm, Process adaptation ¾" NPT thread, Connection cable to be ordered separately, Installation length 57 mm, 16 mm Ø, electrode material SS 316L and PES (Polyetherslufon), electrodes concentric, integrated Pt100, max. temp 125°C, max. pressure 10 bar, protection Class IP 65, Pressure Equipment Directive F.: GAS 2/LIQUIDS 1 ART. 3.3 SEP
	2EL sensor for medium Conductivity measurement
7MA2000-8PC0	**2EL sensor for medium range Conductivity measurement**, cell constant 1.0 cm^{-1}, measuring range 1 – 5000 µS/cm, process adaptation: ¾" NPT thread, connection cable to be ordered separately, installation length 57 mm, 16 mm Ø, electrode material Graphit and PES (Polyetherslufon), electrodes plan-parallel, integrated Pt100, max. temperature 125°C, max. pressure 10 bar, protection Class IP 65, Pressure Equipment Directive F.: GAS 2/LIQUIDS 1 ART. 3.3 SEP
	Cable with sensor plug for 2-EL sensors 7MA2000-8PA0, -8PB0, -8PC0 with plug and open end to Analyzer site; Protection class: IP65
7MA2000-8PX2	Cable with sensor plug, 5 m, for 2-EL sensors 7MA2000-8PA0, -8PB0, -8PC0
7MA2000-8PX3	Cable with sensor plug, 20 m, for 2-EL sensors 7MA2000-8PA0, -8PB0, -8PC0
	Mounting assembly:
7MA2000-8PX1	**Flow fitting**, SS 316L, sensor connection ¾" FNPT threat, process connection ¼" FNPT threat, total length 165 mm, outer diameter 34 mm Ø, material SS 316L, max. temperature 150°C, max. pressure 25 bar, Pressure Equipment Directive F.: GAS 2/LIQUIDS 1 ART. 3.3 SEP
7MA2000-8PX4	**Welding Connector**, SS 316L, sensor adapter ¾" FNPT threat, total length 30 mm, Outer Diameter 35 mm, max. Temperature 150°C, Max. Pressure 10 bar
7MA2000-8PX5	**Dummy Plug**, SS 316, sensor adapter ¾" NPT threat, Total length 31 MM, Max. Temperature 150°C, Max. Pressure 10 bar
DXX:LZY243	**Adapter flange**, SS 316L for connection of 7MA2000-PA0, -PB0, -PC0 sensors to discontinued fitting C74451-A1789-A2 includes stainless steel adapfter, flange sealing ring, conductivity sensor sealing ring
DXX:LZY409	**Adapter DN50**, SS316L, for connection of 7MA2000-PA0, -PB0, -PC0 sensors to flow fitting C74451-A1789-A1, -A21, incl. stainless steel adapter, DN 50 DIN flat sealing ring, conductivity sensor sealing (O-ring 30x2 mm), DN50 union nut



2EL sensor with Pt1000, 5m fixed cable
7MA3100-8HL (k=1,0) [1 to 2500 µS/cm]

-5°C to 80°C, 6 bar

Bypass Flow-Thru assembly

PP up to 90°C
6 bar @ 20°C
0,2 bar @ 90°C

PVDF up to 130°C
6 bar @ 20°C
1 bar @ 90°C

up to 90°C
1,5 bar @ 20°C
0,2 bar @ 90°C

Insertion, retractable

up to 130°C
6 bar

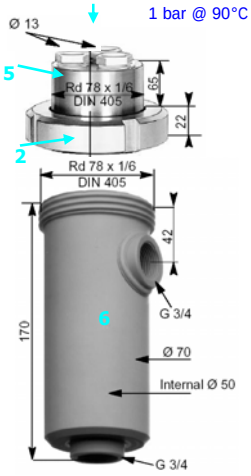
Immersion assembly

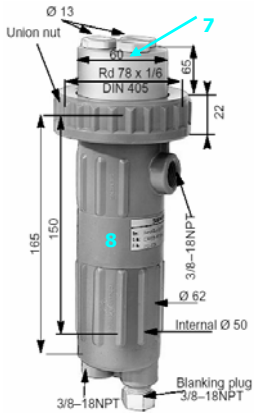
up to 80°C
atmospheric

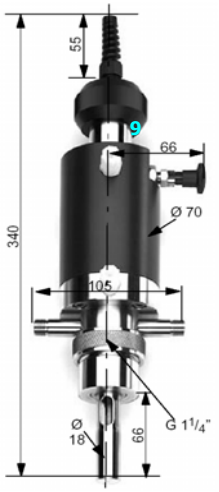
PVC
up to 50°C
atmospheric

PVDF
up to 115°C
atmospheric

up to 60°C
0,2 bar







6 Flow fitting,
M54145-A92 (PP)
M54145-A93 (PVDF)

5 Electrode holder
C74451-A1789-B1 (PP)
C74451-A1789-B3 (PVDF)

2 Union Nut, SS 1.4301
M54445-A23

8 Flow fitting, PP
with union nut
C74451-A1789-A3

7 Electrode holder, PP
C74451-A1789-B1

9 Retractable fitting for pipes and tanks,
7MA8500-8FR, -8FS, -8FT

10 Immersion fitting, PP, with adjustable flange DN100
DXX:LZY263

11 Immersion fitting, PVC or PVDF with adjustable flange DN50
DXX:LZY262, DXX:LZY291, DXX:LZY292, DXX:LZY293

12 Immersion fittings, Length L = 778 mm
C74451-A1789-A10,
Immersion Depth Et = 600mm,
C74451-A1789-A10-A16
Immersion Depth Et = 1800mm

For further alternatives or details about the mounting hardware and accessories, please refer to the chapter Mounting Assemblies!

Accessories, spare parts for Flow thru assemblies

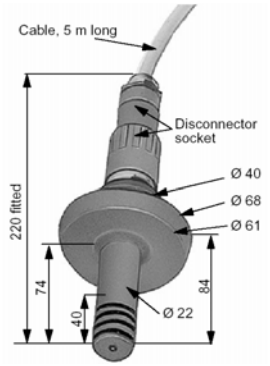
Union nut, SS 1.4301
M54445-A23

Without picture
Set of mounting accessories for flow fittings
C74451-A1789-D1

	Siemens P/N	Designation
	7MA3100-8HL	**2EL-Sensor with 2 Graphite electrodes,** measuring range 1 µS/cm to 2500 µS/cm, PG 13,5 threat, 5 m fixed and sealed cable, installation length 120 mm, 12 mm Ø, shaft material UDEL (PSU), measuring electrodes Graphite, cell constant 1,0 cm^{-1}, Sealing material EPDM, protection class IP 68, integrated Pt 1000, operation temperature -5...80°C, pressure range: 0...6 bar, Pressure Equipment Directive F.: GAS 1/LIQUIDS 1 ART. 3.3 SEP
		Mounting hardware
		Electrode holder
9B1	C74451-A1789-B1	Electrode holder for installation of 3 sensors, Pg 13.5; **Made of polypropylene** (PP)
		Flow fittings
	M54145-A92	Flow fitting for bypass installation, mounting of electrode holder with union nut, Viton gasket (*union nut not included in delivery*) Connection: **thread G 3/4", made of polypropylene** (PP)
9A3	C74451-A1789-A3	Flow fitting for bypass installation, mounting of electrode holder with union nut, Viton gasket Connection: **thread 3/8-18NPT**, with union nut and gasket **made of polypropylene** (PP)
	C74451-A1789-D1	Set of mounting parts for flow fittings
		Immersion Mounting hardware
9A10	C74451-A1789-A10	Immersion fitting made of polyvinyl chloride (PVC), for basins or open vessels, with immersion tube and protective cage Max. **immersion length 600 mm**
9A16	C74451-A1789-A16	Immersion fitting made of polyvinyl chloride (PVC), for basins or open vessels, with immersion tube and protective cage Max. **immersion length 1800 mm**
	7MA8500-8CG	Mounting stand (mat. No. 1.4301)
	7MA8500-8BP	Wall mount (mat. No. 1.4301)
	7MA8500-8CJ	Support (mat. No. 1.4301) for immersion fittings, for fitting to mounting stand 7MA8500-8CG or to wall mount 7MA8500-8BP

for Details please refer to mounting hardware chapter pH

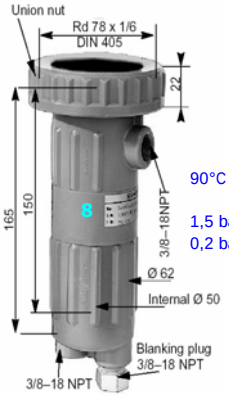
		Accessories
	C74451-A1789-D1	Set of mounting parts for flow fittings M54145-A92, and -A93, C74451-A1789-A1, -A3 ,-A21
	M54445-A23	Union nut DN 50 (mat. No. 1.4301)
	M54445-A24	Gasket for DN 50 made of Viton (set of 5) for union nuts
	DXX:C20C270	Calibration solution for conductivity sensor, 500ml, 1413µS/cm



4 EL Conductivity sensor with integrated Pt100
7MA2100-8BC

up tp 100°C, 6 bar

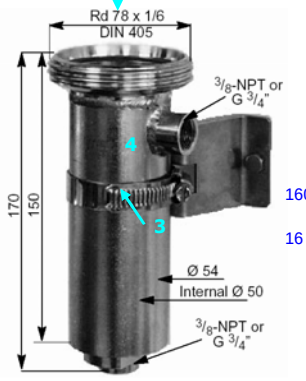
Union nut, SS 1.4301
M54445-A23



90°C max

1,5 bar @ 20°C
0,2 bar @ 90°C

8 Flow fitting, PP with union nut
C74451-A1789-A3



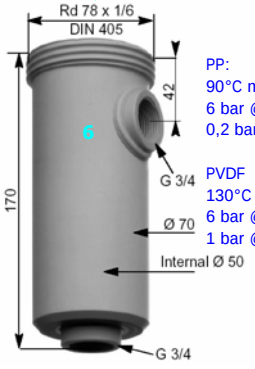
160°C max

16 bar

4 Flow fitting, SS 1.4401
C74451-A1789-A21 (G3/4")

2 Union Nut, SS 1.4301 M54445-A23

3 Mounting accessories for flow fittings
C74451-A1789-D1



PP:
90°C max
6 bar @ 20°C
0,2 bar @ 90°C

PVDF
130°C
6 bar @ 20°C
1 bar @ 130°C

6 Flow fitting,
M54145-A92 (PP)
M54145-A93 (PVDF)

2 Union Nut, SS 1.4301
M54445-A23

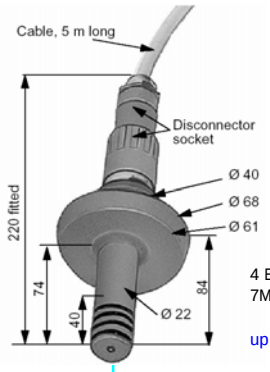
Accessories, spare parts

Union nut, SS 1.4301
M54445-A23

Measuring equipment for Conductivity,

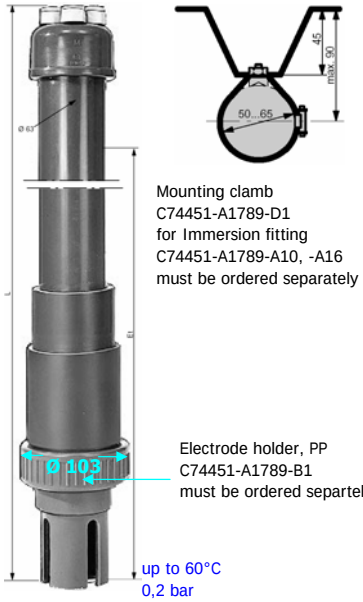
4 EL sensors, fittings and accessories for Medium to high Concentrations,
for measurement in Bypass, e.g. Drinking and Waste Water Applications

Siemens P/N	Designation
7MA2100-8BC	**4EL Conductivity sensor**, with integrated Pt 100 thermometer, Measuring range 0 ... 0.1 mS/cm to 0 ... 500 mS/cm, diameter 22 mm, mounting using union nut DN50, including 5 m long plug-on cable
	Mounting assembly
	Flow fittings
C74451-A1789-A3	Flow fitting for bypass installation, mounting of electrode holder with union nut, Viton gasket Connection: **thread 3/8-18NPT**, with union nut and gasket **made of polypropylene** (PP)
C74451-A1789-A21	Flow fitting for bypass installation, mounting of electrode holder with union nut, Viton gasket (*union nut not included in delivery*) Connection: **thread G 3/4", made of stainless steel** (mat. No. 1.4401)
M54145-A92	Flow fitting for bypass installation, mounting of electrode holder with union nut, Viton gasket (*union nut not included in delivery*) Connection: **thread G 3/4", made of polypropylene** (PP)
M54145-A93	Flow fitting for bypass installation, mounting of electrode holder with union nut, Viton gasket (union nut not included in delivery) Connection: **thread G 3/4", made of polyvinylidene fluoride** (PVDF)
	Optional cable extensions
C79195-A3453-N100	Extension cable 10m, with plug
C79195-A3453-N300	Extension cable 30m, with plug
7MA8500-8BS	Junction box for extension cable, 10 connectors, 75x110x55 mm
	Accessories
M54445-A23	Union nut DN 50, stainless steel (mat. No. 1.4301)
M54445-A24	Gasket for DN 50 made of Viton (set of 5) for union nuts
C74451-A1789-D1	Set of mounting parts for flow fittings M54145-A92, and -A93, C74451-A1789-A1, -A3 ,-A21
DXX:C20C270	Calibration solution for conductivity sensor, 500ml, 1413µS/cm
M54445-A33	Hook key spanner (mat. No. 1.4301) for union nut M54445-A23



4 EL Conductivity sensor with integrated Pt100
7MA2100-8BC

up tp 100°C, 6 bar



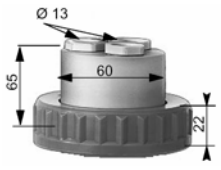
Mounting clamb
C74451-A1789-D1
for Immersion fitting
C74451-A1789-A10, -A16
must be ordered separately

Electrode holder, PP
C74451-A1789-B1
must be ordered separtely

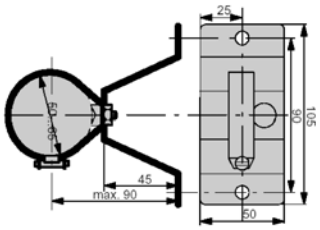
up to 60°C
0,2 bar

Immersion fittings
C74451-A1789-A10, -A16
Immersion Depth Et = 600mm, 1800mm
Length L = 778 mm

Accessories, spare parts



Electrode holder, PP
C74451-A1789-B1



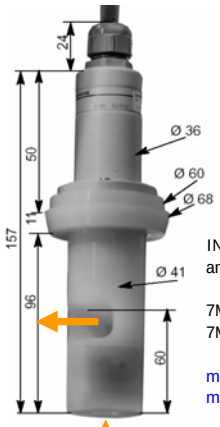
Mounting clamb, C74451-A1789-D1

For further alternatives or details about the mounting hardware and accessories, please refer to the chapter Mounting Assemblies!

Measuring equipment for Conductivity,

4 EL sensors, fittings and accessories for Medium to high Concentrations
for measurement in open channels, basins and tanks (open and closed)

Siemens P/N	Designation
7MA2100-8BC	**4EL Conductivity sensor**, with integrated Pt 100 thermometer, Measuring range 0 ... 0.1 mS/cm to 0 ... 500 mS/cm, diameter 22 mm, mounting using union nut DN50, including 5 m long plug-on cable
	Immersion Mounting hardware
C74451-A1789-A10	Immersion fitting made of Polyvinyl chloride (PVC), for basins or open vessels, with immersion tube and protective cage, Max. **immersion length 600 mm**
C74451-A1789-A16	Immersion fitting made of Polyvinyl chloride (PVC), for basins or open vessels, with immersion tube and protective cage, Max. **immersion length 1800 mm**
	Optional accessories
C74451-A1789-D1	Set of mounting parts (Mounting clamb)
M54445-A24	Gasket for DN 50 Standard gasket made of Viton (set of 5) for union nuts
7MA8500-8CG	Mounting stand, SS 1.4301
7MA8500-8BP	Wall mount, SS 1.4301
7MA8500-8CJ	Support (SS, 1.4301) for immersion fittings, for fitting to mounting stand 7MA8500-8CG or to wall mount 7MA8500-8BP
7MA8500-8BS	Junction box for extension cable, 10 connectors, 75x110x55 mm
	Common Accessories
DXX:C20C270	Calibration solution for conductivity sensor, 500ml, 1413µS/cm

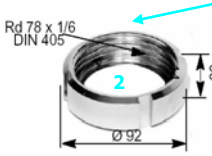


IND sensor (FEP) with Pt100,
and 5m fixed cable

7MA2200-8EB (EEx Version)
7MA2200-8BF (non-EEx)

max 130°C
max 10 bar

Flow-direction



Union nut, SS 1.4301
M54445-A23

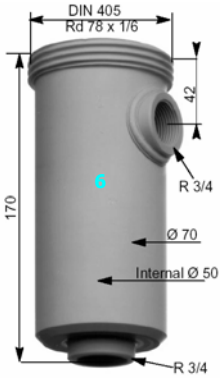
120°C
4 bar @ 120°C
6 bar @ 20°C

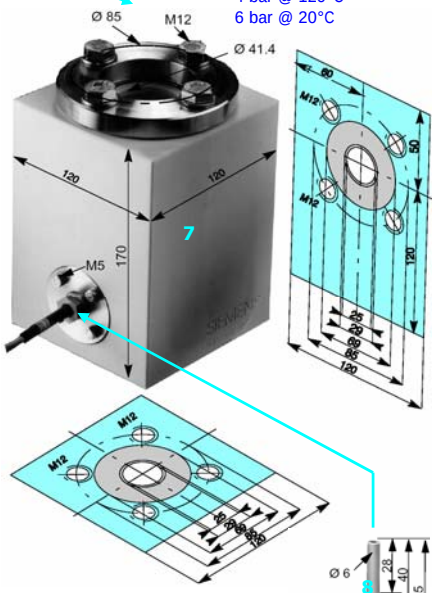
160°C
16 bar

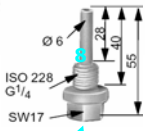
Rd 78 x 1/6
DIN405

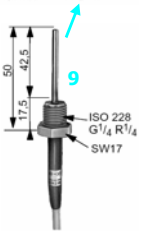
160°C
16 bar

130°C
6 bar @ 20°C
1 bar @ 130°C









1 Welding connector, SS
with 1 gasket (Viton)
M54445-A25

2 Union Nut, SS 1.4301
M54445-A23

4 Flow fitting, SS 1.4401
C74451-A1789-A21 (R3/4")

2 Union Nut, SS 1.4301
M54445-A23

3 Mounting Part
C74451-A1789-D1

6 Flow fitting,
M54145-A93 (PVDF)

2 Union Nut, SS 1.4301
M54445-A23

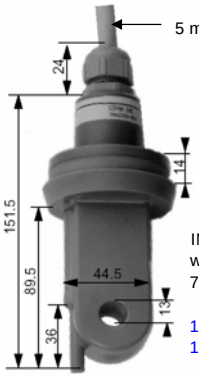
7 Flow fitting, PTFE/GF25
7MA8500-8AB

8 Protection tube, PTFE
C79451-A3302-B6

9 Thermometer, SS
7MA8500-8AA

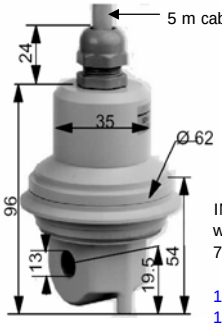
Position 8 and 9 are essential
for operation and must be
ordered separately!

Siemens P/N	Designation
7MA2200-8EB	Inductive Conductivity sensor, made of FEP, **intrinsic safe EEx ia IIC T4** with Pt100 compensation thermometer, 5m fixed cable, Measuring range: 0 ... 0.1 to 0 ... 2500 mS/cm for Temp < 80°C; liquid temperature T_{med} < 130°C
7MA2200-8BF	Inductive Conductivity sensor, made of FEP with Pt100 compensation thermometer, 5m fixed cable, Measuring range: 0 ... 0.1 mS/cm to 0 ... 2500 mS/cm
	Mounting assemblies
	Welding connector for connction to a tank or vessel
M54445-A25	Welding connector, SS 1.4301, with 1 gasket (Viton) for installation in DN 50 pipelines, sensor mounting using union nut (union nut not included in delivery)
M54445-A23	Union nut, DN 50, SS 1.4301
M54445-A24	Standard gasket, DN 50 for union nut, Viton (set of 5)
	Flow-Thru vessels for By-pass applications
M54145-A93	Flow fitting, PVDF, for bypass applications, connection R 3/4 sensor mounting using union nut (union nut not included in delivery)
C74451-A1789-A21	Flow fitting, SS 1.4401, for bypass applications, connection R 3/4 sensor mounting using union nut (union nut not included in delivery)
M54445-A23	Union nut, DN 50, SS 1.4301
M54445-A24	Standard gasket, DN 50 for union nut, Viton (set of 5)
	Optional
C74451-A1789-D1	Set of mounting parts for flow fittings
	Flow-Thru vessel for agressive media (e.g. Sulfuric Acid) in By-pass applications
7MA8500-8AB	Flow fitting, PTFE/GF 25, for bypass applications, sensor mounting using flange, with gasket and flange screwed gland NOTE: 7MA8500-8AA and C79451-A3302-B6 are essential for operation and must be ordered separately!!
C79451-A3302-B6	Thermometer protective tube, PTFE (Teflon) for 7MA8500-8AA
7MA8500-8AA	Thermometer, Pt100 with 5m fixed cable
	Optional cable extensions Please note: Extension cables must not be used in EEx hazardous zones
C79451-A3300-N100	Extension cable, 10 m long
C79451-A3300-N300	Extension cable, 30 m long
7MA8500-8BS	Junction box for extension cable, 10 connectors, 75x110x55 mm
	Accessories:
7MA2200-8FA	Adjustment set for inductive conductivity sensors



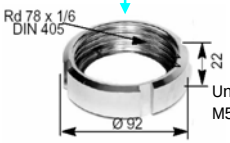
IND sensor (PEEK)
with Pt100, 5 m cable
7MA2200-8DA

130°C
10 bar

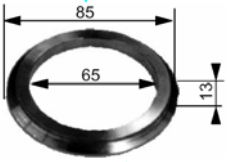


IND sensor (PEEK)
with Pt100, 5 m cable
7MA2200-8CB

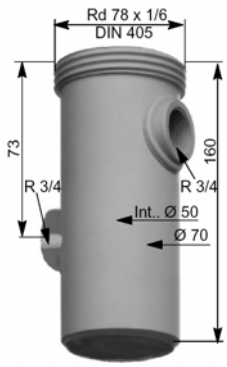
130°C
10 bar



Union nut, SS 1.4301
M54445-A23

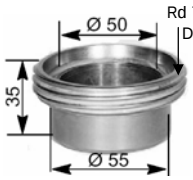


VARIVENT
Sealing ring, SS
7MA8500-8AE



Flow fitting, PP
M54145-A102

90°C
6 bar @ 20°C
0,2 bar @ 90°C

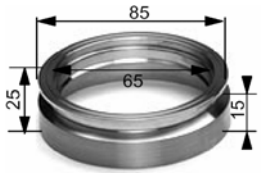


Welding connector, SS
with 1 gasket (Viton)
M54445-A25

160°C
16 bar

VARIVENT fitting, SS
7MA8500-8AD
including
7MA8500-8DH Varivent seal, SS
7MA8500-8AC Clamp ring, SS
7MA8500-8AH Gasket, EDPM (5pcs.)

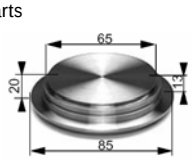
135°C with EPDM gaskets
200°C with Viton gaskets
16 bar



VARIVENT welding flange, SS
7MA8500-8AG
including
7MA8500-8DH Varivent seal, SS
7MA8500-8AC Varivent Clamp ring, SS
7MA8500-8AH Gasket, EDPM (5pcs.)

135°C with EPDM gaskets
200°C with Viton gaskets
16 bar

Accessories, spare parts



Varivent seal, SS
7MA8500-8DH

Varivent Clamp ring, SS
7MA8500-8AC

7MA8500-AH
VARIVENT gasket (Standard), EPDM (set of 5)

7NA8500-8AJ
VARIVENT gasket (Special gasket), Viton (set of 25)

HACH LANGE P/N	Siemens P/N	Designation
		Varivent installation, for tanks/pipes (DN50)
	7MA2200-8CB	Inductive Conductivity sensor, made of PEEK, integrated Pt 100, 5 m fixed cable, measuring range 0 ... 0,1 mS/cm to 0 ... 2500 mS/cm, with special flange matching the VARIVENT fittings,O-ring made of EPDM, for flow fitting 7MA8500-8AD
		Mounting assemblies
		Welding connector for connction to a tank or vessel
	7MA8500-8AG	VARIVENT welding connector (DN50), for mounting on tanks, made of SS including: 7MA8500-8DH Varivent seal, SS 7MA8500-8AC Varivent Clamp ring, SS 7MA8500-8AH Gasket, EDPM (5pcs.)
	7MA8500-8AE	VARIVENT sealing ring, SS 1.4404
		Varivent Flow-Thru inline installation
	7MA8500-8AD	VARIVENT flow fitting (DN50) for mounting on pipes DN50, made of SS including: 7MA8500-8DH Varivent seal, SS 7MA8500-8AC Clamp ring, SS 7MA8500-8AH Gasket, EDPM (2 pcs.)
	7MA8500-8AE	VARIVENT sealing ring, SS 1.4404
		Accessories, Spare parts:
	7MA8500-8AH	VARIVENT gasket Standard gasket, EPDM (set of 5)
	7MA8500-8AJ	VARIVENT gasket Special gasket, Viton (set of 25)
	7MA8500-8DH	VARIVENT seal, SS 1.4404
	7MA8500-8AC	VARIVENT clamp ring, SS 1.4404
		Flow thru installation in bypass
	7MA2200-8DA	Inductive Conductivity sensor, made of PEEK, integrated Pt 100, 5 m fixed cable, measuring range: 0 ... 0.1 mS/cm to 0 ... 2500 mS/cm, mounting using conical flange DN50
		Mounting assemblies for flow thru installation
	M54145-A102	Flow fitting, PP, side connection R 3/4, for bypass applications, sensor mounting using union nut (union nut not included in delivery)
	M54445-A23	Union nut, DN 50, SS 1.4301
	M54445-A24	Standard gasket, DN 50 for union nut, Viton (set of 5)
		Optional
	C74451-A1789-D1	Set of mounting parts for flow fittings M54145-A92, and -A93, C74451-A1789-A1, -A3 ,-A21
		General accessories:
	7MA2200-8FA	Adjustment set for inductive conductivity sensors
		Optional cable extensions
	C79451-A3300-N100	Extension cable, 10 m long
	C79451-A3300-N300	Extension cable, 30 m long
	7MA8500-8BS	Junction box for extension cable, 10 connectors, 75x110x55 mm

2 EL sensors	Siemens P/N	7MA2000-8PA0	7MA2000-8PB0	7MA2000-8PC0	7MA3100-8HL
					
Cell constant [cm^{-1}]		0,010	0,10	1,00	1,00
Vessel constant		1,00	1,00	1,00	1,00
Measuring range [µS/cm]		0.01 to 50	0.10 to 500	1 to 5000	1 to 2500
Thermometer		Pt100 integrated			Pt1000 integrated
Installation length		57 mm			120 mm
Diameter		16 mm			12 mm
Electrode material		SS 316L AND PES (POLYETHERSULFON)			Shaftmaterial: UDEL (PSU) measuring electrodes: Graphite sealing material: EPDM
Mounting / connection		¾" NPT THREAD			PG13,5 thread
Permissible Operation Temperature T_B		max 125°C			-5°C to 80°C
Max. pressure		10 bar			6 bar
EEx protection acc. DIN 50014/EN 50020		In conjunction with SIPAN 32X, all sensors are suitable for use in Ex zone 1			
Max cable length in EEx zone 1		5m			5m fixed
Enclosure rating:		IP65			IP68
Pressure Equipment Directive		Gas G2 / Liquids G1 Art 3.3 SEP			Gas G1 Liquids G1 Art 3.3 SEP
required cable	Siemens P/N	7MA2000-8PX2 (5m) to be ordered			5m fixed

4 EL sensor	Siemens P/N	7MA2100-8BC	7MA2100-8CA
			
Cell constant cm^{-1}		0,0471	0,0828
Min/max. measuring range		0 to 0.1 / 0 to 500 mS/cm	
Resistance thermometer T_{90}		100s	40s
Wetted parts material		epoxy resin with graphite	
Conical flange DN50		Yes	No
Mounting		Union nut	Pg 13.5 clamb w/o thread
Permissible Operation Pressure		6 bar	0,5 bar
Permissible storage temperature		-25 to + 85°C	
Permissible operation Temperature T_B			
Continous:		100°C	70°C
Short term:		110°C	110°C
permissible pH Range		3-11 @ 25°C 4-10 @ >25°C	3-11 @ 25°C 4-10 @ >25°C
cable		5m with plug	5m fixed cable
max recommended cable length		50m	50m
cable		4 x 2 x 0,2 LIYCY	
EEx protection acc. DIN 50014/EN 50020		In conjunction with SIPAN 32X, all sensors are suitable for use in Ex zone 1	
Max cable length in EEx zone 1		cable C79195-A3453-N100, max. 5m long	
Enclosure rating:		IP54	IP65
Pressure Equipment Directive		Gas G2 / Liquids G1 Art 3.3 SEP	Gas G1 / Liquids G1 Art 3.3 SEP
Weight		appr. 1kg	appr. 0.5kg
Dimensions		see picture	

IND sensor	Siemens P/N	7MA2200-8BF	7MA2200-8CB	7MA2200-8DA	7MA2200-8EB
					
Cell constant cm^{-1}		3,82	3,16	3,00	3,82
Min. measuring range/		0 to 0.1 mS/cm			
Built-in thermometer		Yes			
Thermometer 90% time		100 s	50 s	50 s	100 s
Wetted parts material		FEP[2)]	PEEK[3)]		FEP[2)]
Type of connection		conical flange DN50	VARIVENT	conical flange DN50	conical flange DN50
Permissible operation Pressure		10 bar			
Permissible storage temperature		-25 to +85°C			
Permissible operation Temperature		130°C			
cable		5m fixed			
max recommended cable length (with max. measuring range)		50m			5m max, because of EEx requirement
Type of cable		3x2x0.25 LIYCY-CY			
EEx protection acc. DIN 50014/EN 50020		-			II 2G Eex ia IIC T4 zone 1 when using SIPAN32X
Protection class acc. DIN 40050		IP65			IP67
Weight		approx. 1,2kg			
Pressure Equipment Directive		Gas G2 / Liquids G1 Art 3.3 SEP	Gas G2 / Liquids G1 Art 3.3 SEP	Gas G2 / Liquids G1 Art 3.3 SEP	Gas G2 / Liquids G1 Art 3.3 SEP
Dimensions		see picture			

[1)] when using the panel housing, smallest measuring range 0 to 2mS/cm

[2)] FEP: perfluoroethylenepropylene

[3)] PEEK: polyetherketone

SIPAN - Preprogrammed analyt concentration curves

Analyt	Temperature [°C]	suitable Measuring range [w/w %]
H_2SO_4	-20°C ... +120°C	0 ...34% 32 ... 85% 92 ... 99,5%
Oleum	+10 ... +100°C +10 ... +60°C	12 ... 45% 60 ... 70%
HNO_3	-20 ... +55°C	0 ... 30% 34 ... 85%
	0 ... +100°C	0 ... 12%
HCl	-20 ... +55°C	0 ... 16% 24 ... 42%
	0 ... +100°C	0 ... 12%
NaOH	0 ... +100°C	0 ... 26% 18 ... 32%
NaCl	0 ... +100°C	0 ... 26%
KOH	0 ... +100°C	0 ... 34% 32 ... 42%
HBr	-20 ... +55°C	0 ... 30% 39 ... 52%

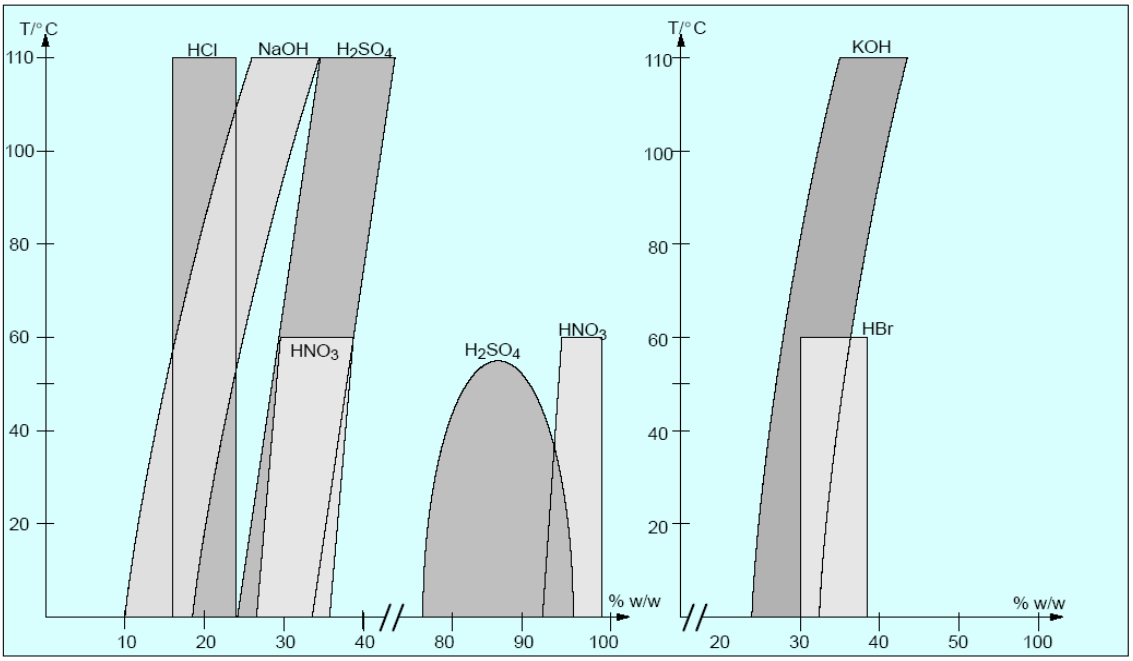


Fig. 1/28 SIPAN 32, SIPAN 32X and SIPAN 34 analyzers, ranges in which conversion into % w/w is not physically possible

Fittings/Armatures:	Flow Fitting	Flow Fitting	Flow Fitting	Flow Fitting	Flow Fitting	Flow Fitting	Flow Fitting	Flow Fitting	Flow Fitting	screw connector for welding on	screw connector for welding on	VARIVENT flow fitting	VARIVENT connector for welding on	Immersion Fitting
Siemens P/N	7MA2000-8PX1	7MA8500-8AB	M54145-A93	M54145-A102	M54145-A92	C74451-A1789-A2	C74451-A1789-A1	C74451-A1789-A21	C74451-A1789-A3	7MA2000-8PX4	M54445-A25	7MA8500-8AD	7MA8500-8AG	C74451-A1789-A10 C74451-A1789-A16
														
Connection gland Anschluss- Verschraubung	1/4" FNPT thread for Inlet/outlet 3/4" FNPT thread for electrode connection	Four-hole flange DN25	G 3/4"			3/8-18NPT		G 3/4"	3/8-18 NPT	For welding on;3/4" FNPT thread for electrode connection	For welding on	DN 50 for welding on (DN40 to DN125 possible)	for welding on	Immersion length -A10 600mm -A16 1800mm
Material Werkstoff	SS 1.4404	PTFE/GF25 [2]	PVDF [3]	PP [1]		Stainless Steel (1.4401)			PP [1]	Stainless Steel (1.4404)	Stainless Steel (1.4301)	Stainless Steel (1.4404)		PVC [2]
Resistance Beständigkeit														
suitable for geeignet für:	Caustics, week acids, petroleum spirit, oil, alcohol, organic solvents	high concentrated sulfuric acid and oleum	high concentrated sulfuric acid	Caustics, acids, brine, petroleum spirit, oil, alcohol		Caustics, week acids, petroleum spirit, oil, alcohol, organic solvents			Caustics, week acids, brine, petroleum spirit, oil, alcohol	Caustics, week acids, petroleum spirit, oil, alcohol, organic solvents	Caustics, week acids, petroleum spirit, oil, alcohol, organic solvents			Caustics, Acids, Brine
not suitable for nicht geeignet für:	Strong acids and high Chloride concentrations			Aromatic and chlorinated Hydrocarbons of higher concentrations		Strong acids and high Chloride concentrations; in General: not suitable for use in Pharmaceutical and Food & beverage applications			Aromatic and chlorinated Hydrocarbons of higher concentrations	Strong acids and high Chloride concentrations	Strong acids and high Chloride concentrations			Organic Solvents
Permissible Tmax Maximal zulässige T:	150°C	120°C	130°C	90°C		160°C			90°C	150°C	160°C	135°C with EPDM gaskets [4] 200°C with Viton gaskets [5]		60°C
Permissible pmax @ Tmax: maximal zulässiger Druck @ Tmax:	25 bar recommended 10 bar because of electrode limitations	4 bar @ 120°C 6 bar @ 20°C	6 bar @ 20°C 1 bar @ 130°C	6 bar @ 20°C 0,2 bar @ 90°C		16 bar			1,5 bar @ 20°C 0,2 bar @ 90°C	10 bar	16 bar	16 bar		0,2 bar
Pressure Equipment Directive	Gas G2 / Liquids G1 Art 3.3 SEP	Gas G1 / Liquids G1 Art 3.3 SEP	Gas G1 / Liquids G1 Art 3.3 SEP	Gas G1 / Liquids G1 Art 3.3 SEP		Gas G1 / Liquids G1 Art 3.3 SEP			Gas G2/ Liquids G1 Art 3.3 SEP			Gas G2/ Liquids G1 Art 3.3 SEP	Gas G2/ Liquids G1 Art 3.3 SEP	not required
Dimensions: Dimensionen:	see picture													
Weight Gewicht:	appr. 1 kg	appr. 2kg	appr. 0,3 kg	appr. 2kg	appr. 0,25 kg	appr. 2 kg	appr. 1,5 kg			appr. 0.25 kg	appr. 0.25 kg	appr. 0.85kg	appr. 2kg	1,8 ... 3,0 kg
Flow rate Min. Durchfluss	recommended 0,1 ... 0,5 l/min (10 l/min max.)													

[1] PP: polypropylene
[2] PTFE/GF25: polytetrafluoroethylene with 25% glass-fiber
[3] PVDF: polyvinylidene fluoride
[4] EPDM: ethylene propylene caoutchouc
[5] Viton: fluor caoutchouc

Conductivity measuring equipment

Standard combinations

Siemens P/N	Designation	Required Qty
Conductivity measurement in pure and ultra pure water, boiler feed water, condensate from steam, sterilization, chip cleaning, deionized water, measuring range < 0.5 µS/cm, installation in bypass (after cooler and pressure reduction)		
	Analyzer Proposal; for any other configuration please refer to the chapter SIPAN µS Analyzer	
7MA2040-8AA	SIPAN32	1,00
	or	
7MA2034-2AA00-0AA0	SIPAN34	1,00
7MA2000-8PA0	**2EL sensor for Ultra-low Conductivity measurement**, Cell constant 0.010 cm^{-1}, measuring range: 0.01 – 50µS/cm, process adaptation: ¾" NPT thread, connection cable to be ordered separately, installation length 57 mm, 16 mm Ø, electrode material: SS 316L and PES (Polyetherslufon), electrodes concentric, integrated Pt100, max. temperature 125°C, max. pressure 10 bar, protection Class IP 65, Pressure Equipment Directive F.: GAS 2/LIQUIDS 1 ART. 3.3 SEP	1,00
7MA2000-8PX1	**Flow fitting**, SS 316L, sensor connection ¾" FNPT threat, process connection ¼" FNPT threat, total length 165 mm, outer diameter 34 mm Ø, material SS 316L, max. temperature 150°C, max. pressure 25 bar, Pressure Equipment Directive F.: GAS 2/LIQUIDS 1 ART. 3.3 SEP	1,00
7MA2000-8PX2	**Cable with sensor plug**, for 2-EL sensors 7MA2000-8PA0, -8PB0, -8PC0 5 m cable length with plug and open end to Analyzer site; Protection class: IP65	1,00
Conductivity measurement in clean water, measuring range 0.1 - 500 µS/cm, installation in bypass		
	Analyzer Proposal; for any other configuration please refer to the chapter SIPAN µS Analyzer	
7MA2040-8AA	SIPAN32	1,00
	or	
7MA2034-2AA00-0AA0	SIPAN34	1,00
7MA2000-8PB0	**2EL sensor for low Conductivity measurement**, cell constant 0.10 cm^{-1}, measuring range 0.1 – 500µS/cm, Process adaptation ¾" NPT thread, Connection cable to be ordered separately, Installation length 57 mm, 16 mm Ø, electrode material SS 316L and PES (Polyetherslufon), electrodes concentric, integrated Pt100, max. temp 125°C, max. pressure 10 bar, protection Class IP 65, Pressure Equipment Directive F.: GAS 2/LIQUIDS 1 ART. 3.3 SEP	1,00
7MA2000-8PX1	**Flow fitting**, SS 316L, sensor connection ¾" FNPT threat, process connection ¼" FNPT threat, total length 165 mm, outer diameter 34 mm Ø, material SS 316L, max. temperature 150°C, max. pressure 25 bar, Pressure Equipment Directive F.: GAS 2/LIQUIDS 1 ART. 3.3 SEP	1,00
7MA2000-8PX2	**Cable with sensor plug**, for 2-EL sensors 7MA2000-8PA0, -8PB0, -8PC0 5 m cable length with plug and open end to Analyzer site; Protection class: IP65	1,00

Conductivity measuring equipment

Standard combinations

Siemens P/N	Designation	Required Qty
Conductivity measurement in clean water, measuring range 1 - 5 mS/cm, installation in bypass		
	Analyzer Proposal; for any other configuration please refer to the chapter SIPAN µS Analyzer	
7MA2040-8AA	SIPAN32	1,00
	or	
7MA2034-2AA00-0AA0	SIPAN34	1,00
7MA2000-8PC0	**2EL sensor for medium range Conductivity measurement**, cell constant 1.0 cm^{-1}, measuring range 1 – 5000 µS/cm, process adaptation: ¾" NPT thread, connection cable to be ordered separately, installation length 57 mm, 16 mm Ø, electrode material Graphit and PES (Polyetherslufon), electrodes plan-parallel, integrated Pt100, max. temperature 125°C, max. pressure 10 bar, protection Class IP 65, Pressure Equipment Directive F.: GAS 2/LIQUIDS 1 ART. 3.3 SEP	1,00
7MA2000-8PX1	**Flow fitting**, SS 316L, Sensoradapter: ¾" FNPT threat, Processadapter: ¼" FNPT threat, total length: 165 mm, Outer Diameter: 34 mm Ø, Max. Temperature: 150°C, Max. Pressure: 25 bar, Pressure Equipment Directive F.: GAS 2/LIQUIDS 1 ART. 3.3 SEP	1,00
7MA2000-8PX2	**Cable with sensor plug**, for 2-EL sensors 7MA2000-8PA0, -8PB0, -8PC0 5 m cable length with plug and open end to Analyzer site; Protection class: IP65	1,00
Conductivity measurement inline installation; in pure and ultra pure water, boiler feed water, condensate from steam sterilization, chip cleaning, measuring range < 0.5 µS/cm; weld on connection to a pipe		
	Analyzer Proposal; for any other configuration please refer to the chapter SIPAN µS Analyzer	
7MA2040-8AA	SIPAN32	1,00
	or	
7MA2034-2AA00-0AA0	SIPAN34	1,00
7MA2000-8PA0	**2EL sensors for Ultra-low and low Conductivity measurement**, Cell constant 0.010 cm^{-1}, measuring range: 0.01 – 50µS/cm, process adaptation: ¾" NPT thread, connection cable to be ordered separately, installation length 57 mm, 16 mm Ø, electrode material: SS 316L and PES (Polyetherslufon), electrodes concentric, integrated Pt100, max. temperature 125°C, max. pressure 10 bar, protection Class IP 65, Pressure Equipment Directive F.: GAS 2/LIQUIDS 1 ART. 3.3 SEP	1,00
7MA2000-8PX2	**Cable with sensor plug**, for 2-EL sensors 7MA2000-8PA0, -8PB0, -8PC0 5 m cable length with plug and open end to Analyzer site; Protection class: IP65	1,00
7MA2000-8PX4	**Welding Connector**, SS 316L, sensoradapter ¾" FNPT threat, total length 30 mm, Outer Diameter 35 mm, max. Temperature 150°C, Max. Pressure 10 bar	1,00
7MA2000-8PX5	Dummy Plug, SS 316, sensoradapter ¾" NPT threat, Total length 31 MM, Max. Temperature 150°C, Max. Pressure 10 bar	1,00
Simple conductivity measurements, for checking of deionized water, installation in bypass (after cooler and pressure reduction, or after ion exchanger)		
	Analyzer Proposal; for any other configuration please refer to the chapter SIPAN µS Analyzer	
7MA2040-8AA	SIPAN32	1,00
	or	
7MA2034-2AA00-0AA0	SIPAN34	1,00
7MA3100-8HL	**2EL-Sensor with 2 Graphite electrodes,** measuring range 1 µS/cm to 2500 µS/cm, PG 13,5 threat, 5 m fixed and sealed cable, installation length 120 mm, 12 mm Ø, shaft material UDEL (PSU), measuring electrodes Graphite, cell constant 1,0 cm^{-1}, Sealing material EPDM, protection class IP 68, integrated Pt 1000, operation temperature -5...80°C, pressure range: 0...6 bar, Pressure Equipment Directive F.: GAS 1/LIQUIDS 1 ART. 3.3 SEP	1,00
C74451-A1789-A3	Flow fitting for bypass installation, mounting of electrode holder with union nut, Viton gasket Connection: **thread 3/8-18NPT**, with union nut and gasket **made of polypropylene** (PP)	1,00
C74451-A1789-B1	Electrode holder for installation of 3 sensors, Pg 13.5; **Made of polypropylene** (PP)	1,00
C74451-A1789-D1	Set of mounting parts for flow fittings	1,00

Conductivity measuring equipment

Standard combinations

Siemens P/N	Designation	Required Qty
Conductivity measurement for drinking water / waste water in bypass		
	Analyzer Proposal; for any other configuration please refer to the chapter SIPAN µS Analyzer	
7MA2140-8AA	SIPAN32	1,00
	or	
7MA2034-2BA00-0AA0	SIPAN34	1,00
7MA2100-8BC	**4EL Conductivity sensor**, with integrated Pt 100 compensation thermometer, Measuring range 0 ... 0.1 mS/cm to 0 ... 500 mS/cm, Diameter 22 mm, mounting using union nut DN50, including 5 m long plug-on cable	1,00
M54145-A92	Flow fitting for bypass installation, mounting of electrode holder with union nut, Viton gasket (*union nut not included in delivery*) Connection: **thread G 3/4", made of polypropylene** (PP)	1,00
C74451-A1789-D1	Set of mounting parts for flow fittings	1,00
M54445-A23	Union nut DN 50, stainless steel (mat. No. 1.4301)	1,00
Conductivity measurement for waste water in EEX-zones (basins or open channels)		
	Analyzer Proposal; for any other configuration please refer to the chapter SIPAN µS Analyzer	
7MA2141-8AA	SIPAN32X intrinsically-safe version, II 2G EEx ib [ia] IIC T4 (or other configuration)	1,00
7MA2100-8BC	**4EL Conductivity sensor**, with integrated Pt 100 compensation thermometer, Measuring range 0 ... 0.1 mS/cm to 0 ... 500 mS/cm, diameter 22 mm, mounting using union nut DN50, including 5 m long plug-on cable	
C74451-A1789-A10	Immersion fitting made of Polyvinyl chloride (PVC), for basins or open vessels, with immersion tube and protective cage, Max. **immersion length 600 mm**	1,00
7MA8500-8CG	Mounting stand, SS 1.4301	1,00
7MA8500-8CJ	Support (mat. No. 1.4301) for immersion fittings, for fitting to mounting stand 7MA8500-8CG or to wall mount 7MA8500-8BP	1,00
C79451-A3177-D12	Protective hood (mat. No. 1.4571) with base plate C79451-A3177-D11	1,00
7MA8500-8DG	Pipe clamp (mat. No. 1.4571)	1,00
C74451-A1789-D1	Set of mounting parts for flow fittings	1,00
Conductivity measurement for waste water in basins or open channels		
	Analyzer Proposal; for any other configuration please refer to the chapter SIPAN µS Analyzer	
7MA2040-8AA	SIPAN32	1,00
	or	
7MA2034-2CA00-0AA0	SIPAN34	1,00
7MA2100-8BC	**4EL Conductivity sensor**, with integrated Pt 100 compensation thermometer, Measuring range 0 ... 0.1 mS/cm to 0 ... 500 mS/cm, diameter 22 mm, mounting using union nut DN50, including 5 m long plug-on cable	1,00
C74451-A1789-A10	Immersion fitting made of Polyvinyl chloride (PVC), for basins or open vessels, with immersion tube and protective cage, Max. **immersion length 600 mm**	1,00
7MA8500-8CG	Mounting stand, SS 1.4301	1,00
7MA8500-8CJ	Support (mat. No. 1.4301) for immersion fittings, for fitting to mounting stand 7MA8500-8CG or to wall mount 7MA8500-8BP	1,00
C79451-A3177-D12	Protective hood (mat. No. 1.4571) with base plate C79451-A3177-D11	1,00
7MA8500-8DG	Pipe clamp (mat. No. 1.4571)	1,00
	Optional	
7MA8500-8BS	Junction box for extension cable, 10 connectors, 75x110x55	1,00
C79195-A3453-N100	Extension cable with plug for 4EL sensor, 10m	1,00
C74451-A1789-D1	Set of mounting parts for flow fittings	1,00

Conductivity measuring equipment

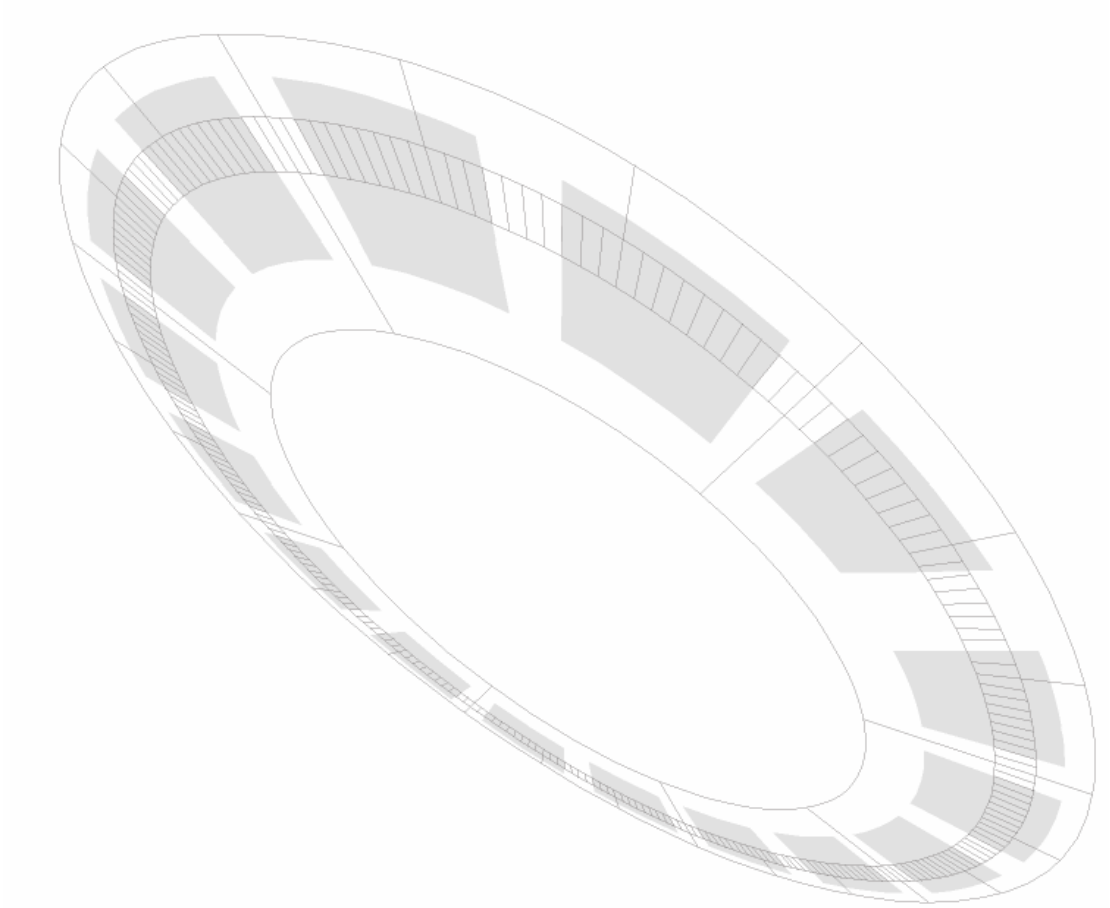
Standard combinations

Siemens P/N	Designation	Required Qty
Conductivity measurement in food industry (CIP applications, breweries, diaries)		
Inline installation with VARIVENT assembly		
	Analyzer Proposal; for any other configuration please refer to the chapter SIPAN µS Analyzer	
7MA2240-8AA	SIPAN 32	1,00
	or	
7MA2034-0CA00-0AA0	SIPAN 34	1,00
7MA2200-8CB	**Inductive Conductivity sensor**, made of PEEK, integrated Pt 100, 5 m fixed cable, measuring range 0 ... 0,1 mS/cm to 0 ... 2500 mS/cm, with special flange matching the VARIVENT fittings, and O-ring made of EPDM, for flow fitting 7MA8500-8AD	1,00
7MA8500-8AD	VARIVENT flow fitting for DN50 pipes, made of SS including: 7MA8500-8DH Varivent seal, SS 7MA8500-8AC Clamp ring, SS 7MA8500-8AH Gasket, EDPM (2 pcs.)	1,00
7MA8500-8AE	VARIVENT sealing ring, SS 1.4404	1,00
7MA2200-8FA	Adjustment set for inductive conductivity sensors	1,00
	Optional	
C79451-A3300-N100	Extension cable, 10 m long	1,00
7MA8500-8BS	Junction box for extension cable, 10 connectors, 75x110x55 mm	1,00
Conductivity measurement in food industry (CIP applications, breweries, diaries)		
conventional connection (milk pipe)		
	Analyzer Proposal; for any other configuration please refer to the chapter SIPAN µS Analyzer	
7MA2240-8AA	SIPAN 32	1,00
	or	
7MA2034-2CA00-0AA0	SIPAN 34	1,00
7MA2200-8DA	Inductive Conductivity sensor, made of PEEK, integrated Pt 100, 5 m fixed cable, measuring range: 0 ... 0.1 mS/cm to 0 ... 2500 mS/cm, mounting using conical flange DN50	1,00
M54445-A25	Welding connector, SS 1.4301, with 1 gasket (Viton) for installation in DN 50 pipelines, sensor mounting using union nut (union nut not included in delivery)	1,00
M54445-A23	Union nut, DN 50, SS 1.4301	1,00
7MA2200-8FA	Adjustment set for inductive conductivity sensors	1,00
	Option	
C79451-A3300-N100	Extension cable, 10 m long	1,00
7MA8500-8BS	Junction box for extension cable, 10 connectors, 75x110x55	1,00
Measuring conductivity in Ex-hazardous areas (Zone 1) with PTFE fitment		
	Analyzer Proposal; for any other configuration please refer to the chapter SIPAN µS Analyzer	
7MA2241-8AA	SIPAN32X intrinsically-safe version, II 2G EEx ib [ia] IIC T4 (or other configuration)	1,00
7MA2200-8EB	Inductive Conductivity sensor, made of FEP, **intrinsic safe EEx ia IIC T4** with Pt 100 compensation thermometer, 5m fixed cable, measuring range 0...0.1 to 0...2500 S/cm, for ambient Temperature < 80°C; liquid temperature T_{medium} < 130°C	1,00
7MA8500-8AB	Flow fitting, PTFE/GF 25, for bypass applications, sensor mounting using flange, with gasket and flange screwed gland NOTE: 7MA8500-8AA and C79451-A3302-B6 are essential for operation and need be ordered separately!!	1,00
7MA8500-8AA	Thermometer, Pt100 with 5m fixed cable	1,00
C79451-A3302-B6	Thermometer protective tube, PTFE (Teflon) for 7MA8500-8AA	1,00
7MA2200-8FA	Adjustment set for inductive conductivity sensors	1,00

Conductivity measuring equipment

Standard combinations

Siemens P/N	Designation	Required Qty
Conductivity measurement in concentrated sulphuric acid (sulphuric acid production)		
	Analyzer Proposal; for any other configuration please refer to the chapter SIPAN µS Analyzer	
7MA2240-8AA	SIPAN32 (or other configurations)	1,00
	or	
7MA2034-2CA00-0AA0	SIPAN34 (or other configurations)	1,00
7MA2200-8BF	Inductive Conductivity sensor, made of FEP, **intrinsic safe EEx ia IIC T4** with Pt 100 compensation thermometer, 5m fixed cable, measuring range 0...0.1 to 0...2500 S/cm, for ambient Temperature < 80°C; liquid temperature T_{medium} < 130°C	1,00
7MA8500-8AB	Flow fitting, PTFE/GF 25, for bypass applications, sensor mounting using flange, with gasket and flange screwed gland NOTE: 7MA8500-8AA and C79451-A3302-B6 are essential for operation and need be ordered separately!!	1,00
7MA8500-8AA	Thermometer, Pt100 with 5m fixed cable	1,00
C79451-A3302-B6	Thermometer protective tube, PTFE (Teflon) for 7MA8500-8AA	1,00
7MA2200-8FA	Adjustment set for inductive conductivity sensors	1,00
Measuring conductivity in Chemical Industry: Ex-hazardous areas (zone 1) with PTFE fitment		
	Analyzer Proposal; for any other configuration please refer to the chapter SIPAN µS Analyzer	
7MA2241-8AA	SIPAN32X intrinsically-safe version, II 2G EEx ib [ia] IIC T4 (or other configuration)	1,00
7MA2200-8EB	Inductive Conductivity sensor, made of FEP, **intrinsic safe EEx ia IIC T4** with Pt 100 compensation thermometer, 5m fixed cable, measuring range 0...0.1 to 0...2500 S/cm, for ambient Temperature < 80°C; liquid temperature T_{medium} < 130°C	1,00
M54145-A93	Flow fitting, PVDF, for bypass applications, connection R 3/4 sensor mounting using union nut (union nut not included in delivery)	1,00
M54445-A23	Union nut, DN 50, SS 1.4301	1,00
C74451-A1789-A10	Mounting parts for flow fitting	1,00
7MA2200-8FA	Adjustment set for inductive conductivity sensors	1,00



SIPAN 34 Dissolved O_2 Analyzer

Configurator

Siemens Order Code

Designation

7MA3034	-	X	X	X	X	0	-	0	X	X	0

SIPAN 34 Dissolved Oxygen analyzer
Four-wire system, for measurement of DO,
microprocessor-based with illuminated graphic display, membrane keyboard,
menu-based operation in 5 languages, trend display, concentration display,
logbook, temperature compensation,
compensation of atmospheric pressure,
1 parameter set, 1 signal output 0/4 to 20 mA,
1 alarm contact, 2 limit contacts and 2 diagnostic contacts

Power supply
- 24 VDC/24 VAC, 48 - 63 Hz **0**
- 120 VAC, 48 - 63 Hz **1**
- 230 VAC, 48 - 63 Hz **2**

Application
- Food ..... **A**
- Waste water ..... **B**
- Ultra-pure water ..... **C**

Instrument design
- Field housing ..... **A**
- Panel housing (96 x 96) ..... **B**

Options
- Standard version w/o additional option **0**
- With second signal output 0/4 to 20 mA and second limit contact **1**
- With 4 selectable parameter sets and 3 range signalling contacts **2**
- With second signal output 0/4 to 20 mA, second limit contact, ... **3**
  4 selectable parameter sets and 3 range signalling contacts

Limits with controller function
- Without limits with controller function ..... **A**
- With limits with controller funtion ..... **B**

Automatic cleaning/flushing (3 contacts + timer for fitting, cleaning, flushing)
- without cleaning/flushing ..... **A**
- with cleaning/flushing ..... **B**

Designation

SIPAN 32 Dissolved Oxygen analyzer; 2 wire system — 7MA 3 0 4 0 - 8 A X

for Dissolved Oxygen measurement
Single measurement:
Microprocessor-based,
membrane keyboard with multi-segment display, menu control, logbook,
concentration display, temperature compensation, Instrument Manual on CD (5 languages),
1 parameter set, power supply: DC 24 V, in field housing

Outputs

1 signal output: 4 to 20 mA without interface	**A**
1 signal output: 4 to 20 mA, with HART interface	**B**
2 signal outputs with HART interface	**C**
1st signal output: measured value 4 to 20 mA, 2nd signal output: temperature or switching contact for limit or cleaning or warning	
Profibus PA, 4 selectable parameter sets	**D**

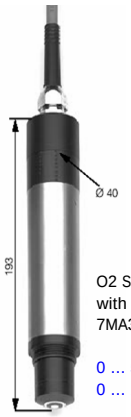
SIPAN 32X Dissolved Oxygen analyzer with Ex-protection, 2 wire system — 7MA 3 0 4 1 - 8 A X

intrinsically-safe version, II 2 G EEx ib [ia] II C T4,
Two-wire system, for Dissolved Oxygen measurement
Single measurement:
Microprocessor-based, membrane keyboard with multi-segment display,
menu control, logbook, concentration display, temperature
compensation, Instrument Manual on CD (5 languages),
1 parameter set, power supply: DC 24 V, in field housing

Outputs

1 signal output: 4 to 20 mA without interface	**A**
1 signal output: 4 to 20 mA, with HART interface	**B**
2 signal outputs with HART interface	**C**
1st signal output: measured value 4 to 20 mA, 2nd signal output: temperature or switching contact for limit or cleaning or warning	
Profibus PA, 4 selectable parameter sets	**D**

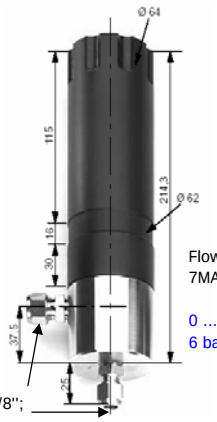
for SIPAN 34 only!



O2 Sensor
with 5m cable
7MA3100-8CC

0 ... 50°C
0 ... 10 bar

Bypass



Flow fitting
7MA8500-8AM

0 ... 50°C
6 bar

Thread G1/8";
ϕ 10mm pipe

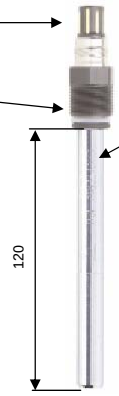
When fitting the O2 sensor 7MA3100–8CC, the flow fitting 7MA8500–8AM must always be used in the bypass with suitable piping in order to avoid contact between the measured medium and the ambient air and thus to prevent excessively high measured values.

for SIPAN 32 and 32X only!

O2 sensor
7MA3100-8HA

0 ... 130°C
0 ... 12 bar

for all SIPAN models



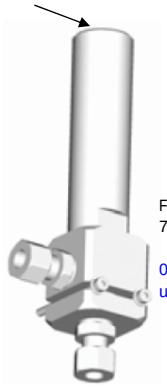
O2 sensor
7MA3100-8HD

0 ... 130°C
0.5 ... 4 bar

5 m Connection cable
7MA3100-8HH

Bypass

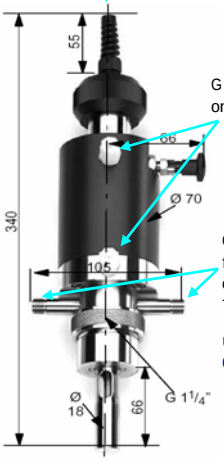
Pg13,5 Thread



Flow fitting
7MA3100-8HJ

0 ... 130°C
up to 16 bar

Insertion, retractable

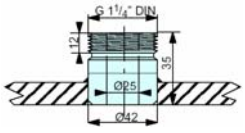


G 1/8" for pneumatic drive only with model 7MA8500-8FT

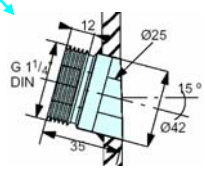
G 1/4" on both sides for flushing connections only with model 7MA8500-8FS, -8FT

up to 130°C
6 bar

Retractable fitting for pipes and tanks, SS/Viton
7MA8500-8FR, -8FS, -8FT



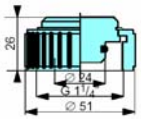
Welding connector, SS 1.4571
7MA8500–8EH



Welding connector, SS 1.4571
MA8500–8EC

For technical data of electrodes and fittings shown on this page, please refer to the Chapter DO Specs

Accessories, spare parts

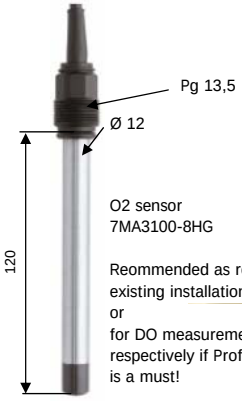


Dummy seal, SS 1.4571
7MA8500–8BT

	Siemens P/N	Designation
	7MA3100-8EF	**Complete Measuring system for Dissolved O_2 in ultra pure water** (for SIPAN 34 only!) Measuring range: 0 ... 10 µg/ to 0 ... 1000 µg/l consisting of: Dissolved Oxygen sensor with 5m fixed cable, flow-thru fitting, 1 Membrane-kit for DO sensors and 1 cleaning attachment
		Dissolved Oxygen sensor equipment for Ultrapure Water applications (content of 7MA3100-8EF)
	7MA3100-8CC	Oxygen sensor with fixed cable, 5m
	7MA8500-8AM	Flow fitting for sensor 7MA3100-8CC, complete
	7MA8500-8CC	Membranekit 1 for O2 sensor type 7MA3100-8CC, consisting of: 2 Membrane heads, Polishing foil, cleaning solution, electrolyte filling solution
	7MA8500-8DL	Cleaning attachment
		Please note: Analyser (SIPAN34) must be ordered separately!
		Measuring equipment for Dissolved O2 in ultra pure water (for SIPAN 32/32X only!) Please order individual items listed below:
	7MA3100-8HA	**OXYGOLD G Dissolved Oxygen sensor**, with IP68 VP connector head, steam sterilizable with integrated 22kOhm NTC thermistor Measuring range: 2 µg/l ... 20 mg/l, up to 12 bar and 0 ... 130°C suitable for ultra-pure water, non- or low-carbonated beverages and chemical industries. with 3.1B certificate, EXLabel: II 1/2G EEx IA II C T4/T5/T6 ATEX No: TUV 03 ATEX 7005X Pg 13,5 Thread, Sealing material: EDPM, 120mm shaft length, 12mm diameter, made of SS (1.4435), Response time T98% < 60sec Pressure equipment Directive for Gas 1/Liquids 1 Art. 3.3 SEP
	7MA3100-8HB	**OxyGOLD G Dissolved Oxygen Membrane Kit** for 7MA3100-8HA consting of: 3 Membrane heads, 2 O-rings (EDPM), Electrolyte filling solution 7MA3100-8HC must be ordered separately
	7MA3100-8HC	**OXYLYTE G filling solution** for OxyGOLD G sensor, 50 ml
	7MA3100-8HK	**Polarisation module G** for OxyGOLD G and OxyFERM Dissolved O2 sensors To stabilize spare sensors without an amplifier or analyzer
	7MA3100-8HH	**Connection cable** with VP plug connector (VP6.0), 5m with open end to instrument for OxyGOLD G and OxyFERM VP sensors, cable diameter: 7,5 mm
53	DXX:LZY353	**Connection cable** with VP plug connector (VP6.0), 10m with open end to instrument, for OxyGOLD G and OxyFERM VP sensors, cable diameter: 7,5 mm
54	DXX:LZY354	**Connection cable** with VP plug connector (VP6.0), 20m with open end to instrument, for OxyGOLD G and OxyFERM VP sensors, cable diameter: 7,5 mm

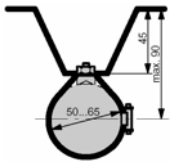
HACH LANGE P/N	Siemens P/N	Designation
		Measuring equipment for Dissolved O2 in liquids (for all SIPAN models) Please order individual items listed below:
	7MA3100-8HD	**OXYFERM VP Dissolved Oxygen sensor**, with IP68 VP connector head, suitable for steam sterilization, autoclavation and CIP with integrated 22kOhm NTC thermistor Measuring range: 10 µg/l ... 20 mg/l, up to 4 bar and 0 ... 130°C suitable for beverage (low carbonated media) and chemical industries. with 3.1B certificate EXLabel: II 1/2G EEx IA II C T4/T5/T6 ATEX No: TUV 03 ATEX 7005X PG13,5 Thread, Sealing material: EDPM, 120mm shaft length, 12mm diameter, made of SS (1.4435), low drift for reliable measurements and fast response Pressure equipment Directive for Gas 1/Liquids 1 Art. 3.3 SEP
	7MA3100-8HE	**OxyFERM Dissolved Oxygen Membrane Kit** for 7MA3100-8HD consting of: 3 Membrane heads, 3 O-rings (EDPM), Electrolyte filling solution 20ml, 1 pipette
	7MA3100-8HF	**OXYLYTE filling solution** for OxyFerm DO sensor, 50 ml
	7MA3100-8HK	**Polarisation module G** for OxyGOLD G and OxyFERM Dissolved O2 sensors For polarisation of spare sensors without an amplifier or analyzer
	7MA3100-8HH	**Connection cable** with VP plug connector (VP6.0), 5m with open end to instrument for OxyGOLD G and OxyFERM VP sensors, cable diameter: 7,5 mm
	DXX:LZY353	**Connection cable** with VP plug connector (VP6.0), 10m with open end to instrument, for OxyGOLD G and OxyFERM VP sensors, cable diameter: 7,5 mm
	DXX:LZY354	**Connection cable** with VP plug connector (VP6.0), 20m with open end to instrument, for OxyGOLD G and OxyFERM VP sensors, cable diameter: 7,5 mm
		Mounting accessories
		Flow-thru assembly
	7MA3100-8HJ	**Flow fitting,** for DO sensor 7MA3100-8HA, -8HD PG13,5 Thread, for sensors with 120mm shaft length, 12mm diameter, made of SS (1.4435), suitable up to 16 bar, 130°C, Process connection 10 mm swagelock, Pressure equipment Directive for Gas 1/Liquids 1 Art. 3.3 SEP
		Retractable fittings
	7MA8500-8FR	Retractable fitting for inline installation and for mounting on vessels, made of SS 1.4435/Viton (FPM), mounting with thread G1 1/4", for 120-mm plug connector sensors 7MA8500-8FA, -8FF and -8FG, with polymer electrolyte; Standard version (**without flushing connections or pneumatic drive**)
	7MA8500-8FS	Retractable fitting for inline installation and for mounting on vessels, made of stainless steel/Viton (FPM), mounting with thread G1 1/4", for 120-mm plug connector sensors 7MA8500-8FA, -8FF, -8FG with polymer electrolyte, **with 2 flushing connections**
	7MA8500-8FT	Retractable fitting for inline installation and for mounting on vessels, made of stainless steel/Viton (FPM), mounting with thread G1 1/4", for 120-mm plug connector sensors 7MA8500-8FA, -8FF and -8FG, with polymer electrolyte; **with 2 flushing connections and pneumatic drive**[2]
		[2] Pneumatic drive recommended for process pressure > 3 bar.
		Welding connectors & seals
	7MA8500-8EC	Welding-type connector, angled 15°, made of stainless steel (mat. No. 1.4571), connection G1 1/4"
	7MA8500-8EH	Welding-type connector, straight, made of stainless steel (mat. No. 1.4571), connection G 11/4"
	7MA8500-8BT	Dummy screw seal (stainless steel),with union nut G 1 1/4" for tight sealing of welding-type connectors 7MA8500-8EC and 7MA8500-8EH

for SIPAN 32/32X and 34 models



O2 sensor
7MA3100-8HG

Reommended as replacement for
existing installations using 7MA3100-8CF sensor
or
for DO measurement in EEx zones,
respectively if Profibus PA or HART Protocol option
is a must!



Mounting clamb
C74451-A1789-D1
for Immersion fitting
C74451-A1789-A10, -A16
must be ordered separately

Ø 103

Electrode holder, PP
C74451-A1789-B1
must be ordered separtely

Immersion fittings, Length L = 778 mm
C74451-A1789-A10,
Immersion Depth Et = 600mm,
C74451-A1789-A16,
Immersion Depth Et = 1800mm

For further alternatives or details about the mounting hardware and accessories, please refer to the chapter Mounting assemblies!

Prefered DO measuring solution
for non-Ex zone installations

Proposal 1:
EVITA OXY System
with USC signal converter
consiting of:
USC5000, 6000 or 7000 Display and Programming Unit

OXY4100 Oxygen transmitter (2 wire technique with superposed HART protocoll on current output

OXY1100 Oxygen sensor Mounting bracket

Proposal 2:
EVITA OXY System
with direct connection to PLC/SCADA
consiting of:
OXY4100 Oxygen transmitter (2 wire technique with superposed HART protocoll on current output

OXY1100 Oxygen sensor Mounting bracket

Proposal 3:
EVITA OXY System 3 - 20 mg/l O2
with direct wiring to PLC/SCADA with or without LED Display for Fishfarming Applications

OXY3150 Oxygen transmitter (2 wire technique with superposed HART protocoll on current output
OXY1100 Oxygen sensor

Please refer to HACH LANGE EVITA Product line for DO measurement

sc100 sc1000

LDO sc sensor 5740 sc

Please refer to HACH LANGE Tender Documents to select a suitable configuration, respectively contact HACH LANGE.

Siemens P/N	Designation
7MA3100-8HG	**OXYSENS Dissolved Oxygen sensor**, with 5m sealed and fixed cable, for all SIPAN models! maintenance-free disposable sensor, with integrated 22 kOhm NTC thermistor suitable for waste water and water applications, e.g. fish farming etc. Measuring range: 40 µg/l ... 20 mg/l, up to 4 bar and 0 ... 60°C with 3.1B certificate Eex-Label: II 1/2G EEx IA II C T4/T5/T6 ATEX No: TUV 03 ATEX 7005X PG13,5 Thread, Sealing material: EDPM, 120mm shaft length, 12mm diameter, made of SS 1.4435, low drift for reliable measurements and fast response Pressure equipment Directive for Gas 1/Liquids 1 Art. 3.3 SEP
	Mounting assembly
	Electrode holder
C74451-A1789-B1	Electrode holder made of polypropylene (PP), for installation of up to 3 sensors, Pg 13.5
	Immersion Mounting hardware
C74451-A1789-A10	Immersion fitting made of polyvinyl chloride (PVC), for basins or open vessels, with immersion tube and protective cage; **Max. immersion length 600 mm**
C74451-A1789-A16	Immersion fitting made of polyvinyl chloride (PVC), for basins or open vessels, with immersion tube and protective cage; **Max. immersion length 1800 mm**
7MA8500-8CG	Mounting stand, SS 1.4301
7MA8500-8BP	Wall mount, SS 1.4301
7MA8500-8CJ	Support for immersion fittings, made of SS 1.4301, for fitting to mounting stand 7MA8500-8CG or to wall mount 7MA8500-8BP
C74451-A1789-D1	Set of mounting parts (mounting clamp)

O_2 sensor model				
Siemens P/N	7MA3100-8CC [1]	7MA3100-8HA	7MA3100-8HD	7MA3100-8HG
Compatible controler	SIPAN 34 only	SIPAN 32/32X only	all SIPAN models	all SIPAN models
				
Field of applications:	ultra-pure water	ultra-pure water, non- or low-carbonated beverages and chemical industries; steam sterilizable; with 3.1b certificate	low carbonated beverage and chemical applications, steam sterilization, autoclavation and CIP; with 3.1b certificate	water and waste water
measuring range:	continous 0...1000 µg/l short term 0...10 mg/l	2 µg/l ... 20 mg/l	10 µg/l ... 20 mg/l	40 µg/l ... 20 mg/l
Permissible Operation				
temperature T_B	0 ... 50°C	0 ... 130°C	0 ... 130°C	0 ... 60°C
pressure P_B	10 bar	0 ... 12 bar	0.5 ... 4 bar	0.5 ... 4 bar
Response time	< 30s (90%)	<60s (98%)		
flow rate	> 0.2m/s	> 0,1 m/s	> 0,02 m/s	
flow quantity	> 6l/h			
electrode diameter	40mm	12mm		
Installation	flow fitting 7MA8500-8AM	Adapter PG13,5 thread		
weight	appr. 1kg			
Pressure Equipment Directive	Gas G2 / Liquids G1 Art 3.3 SEP	Gas G1 / Liquids G1 Art 3.3 SEP		
dimensions	see picture	see picture		
protection acc.EN 60529	IP68	IP68		
Membrane material	FEP[2]			
sensor body material	SS 1.4571 / POM [3]	SS 1.4435 sealing EPDM		SS 1.4435 and PEEK sealing EPDM
Mounting length	193mm	120mm		
EEx protection	not applicable	II 1/2G EEx ia II C T4/T5/T6		
General Information	electrode material: cathode gold reference electrode and counter electrode silver; starting time following regeneration: 3 h	Polarisation voltage 670 ± 50mV thermometer 22 KOhm NTC integrated	Polarisation voltage 670 ± 50mV thermometer 22 KOhm NTC integrated	Polarisation voltage 670 ± 50mV thermometer 22 KOhm NTC integrated
Special Information			UpSide Down Mounting possible using special electrolyte, e.g. for almost empty tanks	
cable	5m fixed	7MA3100-8HH 5 m, VP plug		5m fixed and sealed
		DXX:LZY353 10 m, VP plug		
		DXX:LZY354 20 m, VP plug		
max permissible cable length	100m	5m max for EEx applications		

[1] for use with SIPAN34 only
[2] FEP: Perfluorethylenpropylen
[3] Polyoxymethylene
[4] Polypropylene

O_2 flow fitting			
Siemens P/N	7MA8500-8AM [1]	7MA3100-8HJ	7MA8500-8FR / -8FS/ -8FT
			
Permissible Operation			
temperature T_B	0 ... 50°C	max. 130°C	max. 130°C
pressure P_B	10 bar	0 ... 12 bar	0.5 ... 4 bar
wetted parts material	Stainless steel 1.4571	Stainless steel 1.4435	Stainless steel 1.4571 Gasket made of FPM (Viton)
sensor connection	for 7MA3100-8CC Union nut POM[3] Pipe clamp: PP[4] female thread G1/8"	7MA3100-8HA/-8HD/-8HG and other sensors with 12mm diameter, length 120mm, PG13,5 thread	7MA3100-8HA/-8HD/-8HG and other sensors with 12mm diameter, length 120mm, PG13,5 thread
process connection	screw in for pipe diameter 10mm	process connection 10mm swagelock	compatible with Welding connectors 7MA8500–8EH and MA8500–8EC
weight	appr. 2kg	appr. 2kg	approx. 3kg
Pressure Equipment Directive	Gas G1 / Liquids G1 Art 3.3 SEP	Gas G1 / Liquids G1 Art 3.3 SEP	Gas G1 / Liquids G1 Art 3.3 SEP
dimensions	see DataSheet	see DataSheet	see DataSheet

[1] for use with 7MA3100-8CC sensor only
[2] FEP: Perfluorethylenpropylen
[3] Polyoxymethylene
[4] Polypropylene

Measuring equipment for Dissolved Oxygen

Standard combinations

Siemens P/N	Designation	Required Qty
Dissolved Oxygen measuring equipment in ultra-pure water (e.g. boiler feedwater)		
Installation in bypass following cooler (0...50°C) and pressure reduction (up to 6 bar)		
	Analyzer Proposal; for any other configuration please refer to the chapter SIPAN O2 Analyzer	
7MA3034-2CA00-0AA0	SIPAN 34	1,00
7MA3100-8EF	**Complete Measuring system for Dissolevd O2 in ultra pure water** for SIPAN34 only! Measuring range: 0 ... 10 µg/ to 0 ... 1000 µg/l consisting of:	1,00
7MA3100-8CC	Oxygen sensor with fixed cable, 5m	
7MA8500-8AM	Flow fitting for sensor 7MA3100-8CC, complete	
7MA8500-8CC	Membrane-Kit 1 for O_2 sensor 7MA3100-8CC consisting of: 2 Membrane heads, Polishing foil, cleaning solution, electrolyte filling solution	
7MA8500-8DL	Cleaning attachment	
	alternatively	
7MA3040-8AA	SIPAN 32	1,00
7MA3100-8HA	**OXYGOLD G Dissolved Oxygen sensor**, for SIPAN 32/32X only! with IP68 VP connector head, steam sterilizable, with integrated 22kOhm NTC thermistor Measuring range: 2 µg/l ... 20 mg/l, up to 12 bar and 0 ... 130°C suitable for ultra-pure water, non- or low-carbonated beverages and chemical industries. with 3.1B certificate, EXLabel: II 1/2G EEx IA II C T4/T5/T6 ATEX No: TUV 03 ATEX 7005X PG13,5 Thread, Sealing material: EDPM, 120mm shaft length, 12mm diameter, made of SS (1.4435),Response time T98% < 60sec Pressure equipment Directive for Gas 1/Liquids 1 Art. 3.3 SEP	1,00
7MA3100-8HH	**Connection cable** with VP plug connector (VP6.0), 5m with open end to instrument for OxyGOLD G and OxyFERM VP sensors, cable diameter: 7,5 mm	1,00
7MA3100-8HJ	**Flow fitting,** for DO sensor 7MA3100-8HA, -8HD PG13,5 Thread, for sensors with 120mm shaft length, 12mm diameter, made of SS (1.4435), suitable up to 16 bar, 130°C, Process connection 10 mm swagelock, Pressure equipment Directive for Gas 1/Liquids 1 Art. 3.3 SEP	1,00
7MA3100-8HB	**OxyGOLD G Dissolved Oxygen Membrane Kit** for 7MA3100-8HA consting of: 3 Membrane heads, 2 O-rings (EDPM) Electrolyte filling solution 7MA3100-8HC must be ordered separately	1,00
7MA3100-8HC	**OXYLYTE G filling solution** for OxyGOLD G sensor, 50 ml	1,00

Siemens P/N	Designation	Required Qty
Dissolved Oxygen measuring equipment in food industry (e.g. drinks manufacture)		
Temperature 0...60°C, Sterilization up to 130°C, pressure up to 4 bar		
Installation in bypass		
	Analyzer Proposal; for any other configuration please refer to the chapter SIPAN O2 Analyzer	
7MA3040-8AA	SIPAN 32	1,00
	or	
7MA3034-2CA00-0AA0	SIPAN 34	1,00
	or	
7MA3041-8AA	SIPAN 32X	1,00
7MA3100-8HD	**OXYFERM VP Dissolved Oxygen sensor**, for all SIPAN models! with IP68 VP connector head, suitable for steam sterilization, autoclavation and CIP, with integrated 22kOhm NTC thermistor Measuring range: 10 µg/l ... 20 mg/l, up to 4 bar and 0 ... 130°C suitable for beverage (low carbonated media) and chemical industries. with 3.1B certificate EXLabel: II 1/2G EEx ia II C T4/T5/T6 ATEX No: TUV 03 ATEX 7005X Pg13,5 Thread, Sealing material: EDPM, 120mm shaft length, 12mm diameter, made of SS (1.4435), low drift for reliable measurements and fast response Pressure equipment Directive for Gas 1/Liquids 1 Art. 3.3 SEP	1,00
7MA8500-8FR	Retractable fitting for inline installation and for mounting on vessels, made of SS 1.4435/Viton (FPM), mounting with thread G1 1/4", for 120-mm plug connector sensors 7MA8500-8FA, -8FF and -8FG, with polymer electrolyte; Standard version (**without flushing connections or pneumatic drive**)	1,00
7MA8500-8EH	Welding-type connector, straight, made of stainless steel (mat. No. 1.4571), connection G 11/4"	1,00
7MA8500-8BT	Dummy screw seal (stainless steel),with union nut G 1 1/4" for tight sealing of welding-type connectors 7MA8500-8EC and 7MA8500-8EH	1,00
	Option:	
7MA8500-8FS	Retractable fitting for inline installation and for mounting on vessels, made of stainless steel/Viton (FPM), mounting with thread G1 1/4", for 120-mm plug connector sensors 7MA8500-8FA, -8FF, -8FG with polymer electrolyte, **with 2 flushing connections** (only with SIPAN34 7MA3031-2AA00-0AB0)	1,00
7MA8500-8FT	Retractable fitting for inline installation and for mounting on vessels, made of stainless steel/Viton (FPM), mounting with thread G1 1/4", for 120-mm plug connector sensors 7MA8500-8FA, -8FF and -8FG, with polymer electrolyte; **with 2 flushing connections and pneumatic drive**[2] (only with SIPAN34 7MA3031-2AA00-0AB0)	1,00
7MA3100-8HE	**OxyFERM Dissolved Oxygen Membrane Kit** for 7MA3100-8HD consting of: 3 Membrane heads, 3 O-rings (EDPM) Electrolyte filling solution 20ml, 1 pipette	
7MA3100-8HF	**OXYLYTE filling solution** for OxyFerm DO sensor, 50 ml	

Measuring equipment for Dissolved Oxygen

Standard combinations

Siemens P/N	Designation	Required Qty
Dissolved Oxygen measuring equipment in waste water treatment plant		
e.g. inflow to sewage treatment plant, Temperature 0...50°C, pressure up to 10 bar		
	Analyzer Proposal; for any other configuration please refer to the chapter SIPAN O2 Analyzer	
7MA3040-8AA	SIPAN 32	1,00
	or	
7MA3034-2BA00-0AA0	SIPAN 34	1,00
	or	
7MA3041-8AA	SIPAN 32X	1,00
7MA3100-8HG	**OXYSENS Dissolved Oxygen sensor**, with 5m sealed and fixed cable, (for all SIPAN models) maintenance-free disposable sensor, with integrated 22 kOhm NTC thermistor suitable for waste water and water applications, e.g. fish farming etc. Measuring range: 40 µg/l ... 20 mg/l, up to 4 bar and 0 ... 60°C with 3.1B certificate EXLabel: II 1/2G EEx ia II C T4/T5/T6 ATEX No: TUV 03 ATEX 7005X Pg13,5 Thread, Sealing material: EDPM, 120mm shaft length, 12mm diameter, made of SS 1.4435, low drift for reliable measurements and fast response Pressure equipment Directive for Gas 1/Liquids 1 Art. 3.3 SEP	1,00
7MA8500-8CG	Mounting stand, SS 1.4301	1,00
C79451-A3177-D12	Protective hood (mat. No. 1.4571) with base plate C79451-A3177-D11	1,00
7MA8500-8CJ	Support for immersion fittings, made of SS 1.4301, for fitting to mounting stand 7MA8500-8CG or to wall mount 7MA8500-8BP	1,00
C74451-A1789-A10	Immersion fitting made of polyvinyl chloride (PVC), for basins or open vessels, with immersion tube and protective cage Max. **immersion length 600 mm**	1,00
C74451-A1789-B1	Electrode holder made of polypropylene (PP), for installation of 3 sensors, Pg 13.5	1,00
C74451-A1789-D1	Set of mounting parts (mounting clamp)	2,00

For other solutions based on HACH LANGE EVITA or LDO products, please contact HACH LANGE directly.

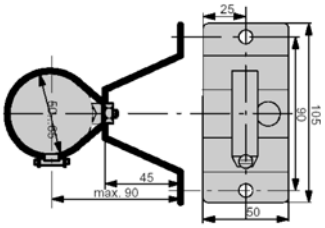
Immersion mounting assembly

for installations in basins or open channels

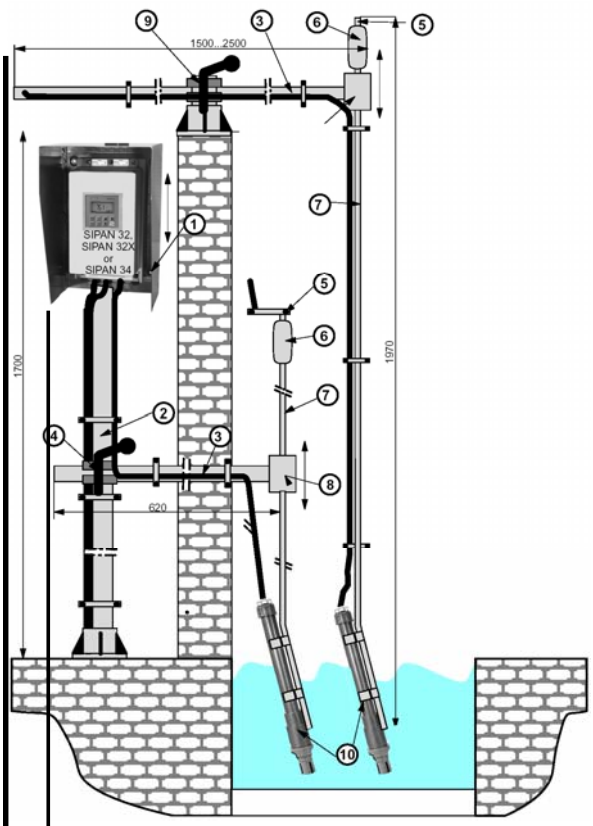
Siemens P/N Designation

Electrode holder, PP
C74451-A1789-B1
must be ordered separtely

Immersion fittings, Length L = 778 mm
C74451-A1789-A10,
Immersion Depth Et = 600mm
C74451-A1789-A16
Immersion Depth Et = 1800mm



Mounting clamb, C74451-A1789-D1



Support 7MA8500-8CJ
for mounting stand 7MA8500-8CG
or wall mount 7MA8500-8BP

1 Protective hood C79451-A3177-D12
2 Mounting stand, Ø 50 mm, stainless steel, 7MA8500-8CG
3 Support for free rod 7MA8500-8CJ, pipe 30 x 1.5, made of stainless steel
4 Mount
5 Freely suspended rod, drawn offset by 90°
6 Counterweight with adjustable height
7 Pipe 18 x 1, stainless steel
8 Suspension bearing with prism guide
9 Wall mount 7MA8500-8BP
10 Immersion fitting C74451-A1789-A10, -A16

7MA8500-8CJ includes items 4 to 8 listed above

Immersion Mounting hardware

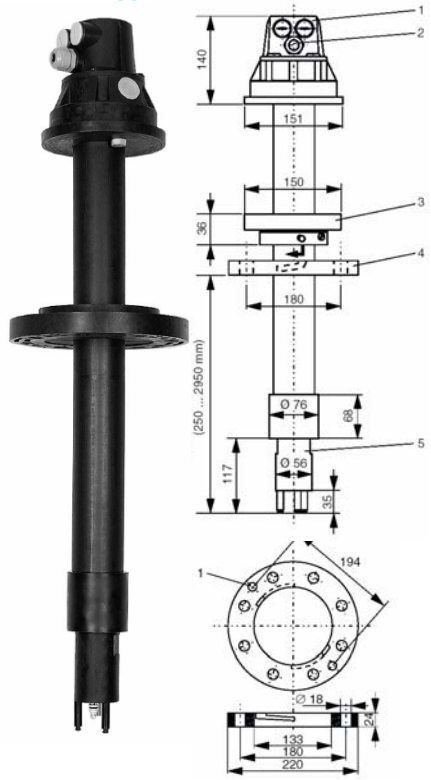
C74451-A1789-A10	Immersion fitting made of polyvinyl chloride (PVC), for basins or open vessels, with immersion tube and protective cage Max. **immersion length 600 mm**
C74451-A1789-A16	Immersion fitting made of polyvinyl chloride (PVC), for basins or open vessels, with immersion tube and protective cage Max. **immersion length 1800 mm**
C74451-A1789-B1	Electrode holder made of polypropylene (PP), for installation of 3 sensors, Pg 13.5
7MA8500-8CG	Mounting stand (mat. No. 1.4301)
7MA8500-8BP	Wall mount (mat. No. 1.4301)
7MA8500-8CJ	Support (mat. No. 1.4301) for immersion fittings, for fitting to mounting stand 7MA8500-8CG or to wall mount 7MA8500-8BP
C74451-A1789-D1	Set of mounting parts

Immersion mounting assembly

for installations in tanks open or closed vessels

Siemens P/N Designation

DN100



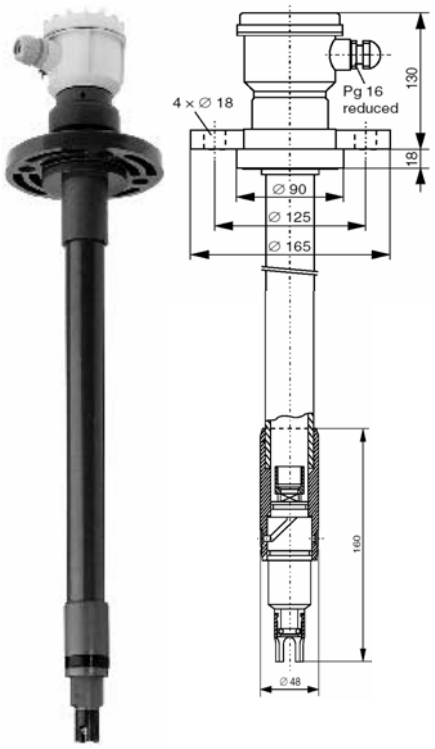
1 Assembly head
2 Pg13.5
3 Adapter for adjustable flange
4 DN 100 flange
5 Electrode holder

1 Through hole for captive star handle screws with loss protection
180
220

Immersion fitting, PP, with adjustable flange DN100,
Immersion length 1000 mm; holder for up to 3 sensors

Order Number: DXX:LZY263

DN50



Immersion fitting (PVC or PVDF), with fixed flange DN50
Immersion length 1000 or 1500 mm, holder for 1 sensor

Order Number	Description
DXX:LZY262	PVC, immersion length 1000mm
DXX:LZY293	PVC, immersion length 1500mm
DXX:LZY291	PVDF immersion length 1000mm
DXX:LZY292	PVDF immersion length 1500mm

Mounting accessories

Immersion assembly with adjustable DN100 flange

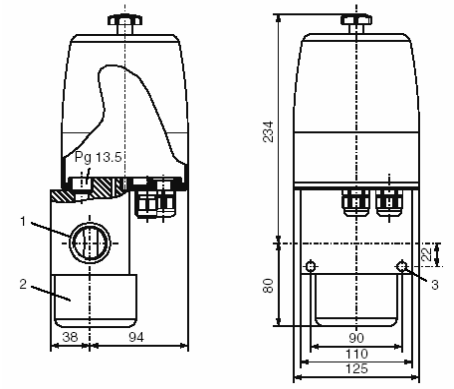
DXX:LZY263 **Immersion assembly with DN100 adjustable flange**,
installation up to 3 sensors, made of PP, 1000 mm length, EPDM o-ring,
Potential matching pin stainless steel 1.4571, variable adjustment of immersion depth

Immersion assembly with fixed DN50 flange

DXX:LZY262	Immersion assembly with DN50 flange, made of PVC, 1000 mm length
DXX:LZY293	Immersion assembly with DN50 flange, made of PVC, 1500 mm length
DXX:LZY291	Immersion assembly with DN50 flange, made of PVDF, 1000 mm length
DXX:LZY292	Immersion assembly with DN50 flange, made of PVDF, 1500 mm length

Mounting assembly
for Bypass or inline installation

Siemens P/N Designation

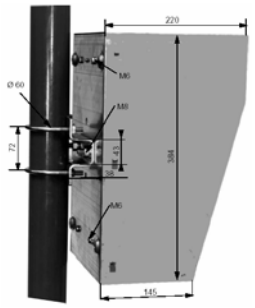


1 Connection thread G1, nominal flow diameter DN 20
2 Cap (measuring chamber) for calibration and cleaning, unscrewable
3 Two mounting holes, Ø 9mm
4 Three electrode mounting places
5 Electrode mounting plate (drawn without cover and seal)

PP	6 bar at 20 °C, unpressurised at 90 °C
Cable entry	Pg 16, Pg 13.5
Electrode mounting places	max. 3
Measuring chamber cap for calibration and cleaning	unscrewable

DXX:LZY264 **Flow fitting for bypass installation**, PP,
max. three sensors Pg 13.5, built in potential matching pin stainless steel SS 316Ti,
EPDM o-rings, sensors protected by removeable cover,
connection: G1 thread, nominal flow diameter DN20,
measuring chamber unscrewable for cleaning and calbration of sensors

Siemens P/N	Designation



Protective hood with base plate C79451-A3177-D12
fitted on pipe clamp 7MA8500-8DG

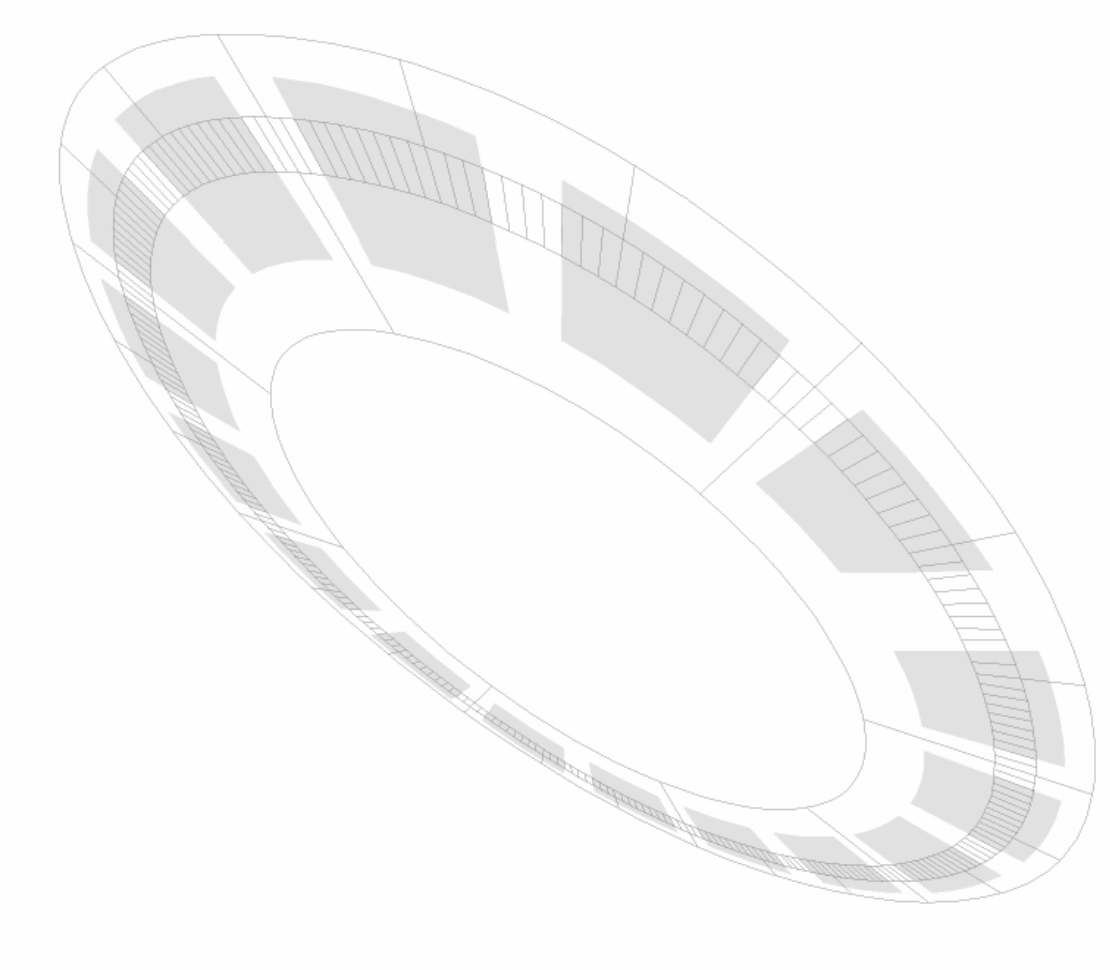
Base plate C79451–A3177–D11

Analyzer fitted on base plate and integrated
in protective hood
(base plate also available separately)

C79451-A3177-D12	Protective hood, SS 1.4571, with base plate (C79451-A3177-D11)
7MA8500-8DG	Pipe clamp, SS 1.4571
C79451-A3177-D11	Base plate (only), SS 1.4571

Spare parts & accessories

for discontinued products



Siemens P/N	Designation
	Conductivity
DXX:LZY289	cable, 10m with 6 wires + shielding; (replacement for cable: C79451-A3298-N100) for connection to discontinued µS-sensor 7MA2000-8AA, -8BA, -8CA and 7MA2000-8AB, -8BB, -8CB
	Mounting assembly for 2 EL conductivity sensors
C74451-A1789-A2	**Flow fitting**, **stainless steel**, for bypass applications, sensor mounting using six-hole flange, connection 3/8-18 NPT
	Dissolved Oxygen
	Spare Parts for Dissolved Oxygen sensors
7MA8500-8CD	Membrane kit 3 (waste water) for discontinued O2 sensor 7MA3100-8CE and 7MA3100-8CF contains: 2 membrane heads, polished foil, cleaning solution, electrolyte
7MA8500-8CC	Membrane kit 1 (ultra-pure water)
	Mounting Hardware for DO measurement
7MA8500-8CH	Swinging support, SS, for O2 sensor for fitting on mounting stand 7MA8500-8CG or wall mounting 7MA8500-8BP