## Overview

Pointek CLS500 is an inverse frequency shift capacitance level switch for detecting interfaces, solids, liquids, toxic and aggressive chemicals in critical conditions of high temperature and pressure

## Benefits

- Patented Active-Shield technology so measurement is unaffected by material buildup in active shield section
- 2-wire loop powered with solid-state switch or 4 to 20/20 to 4 mA output
- Simple push-button calibration and integrated local display
- Full function diagnostics
- HART communications for remote commissioning and inspection
- SIL/IEC61508 compliant for use in safety integrated level applications [SIL-1(overfill or underfill)]

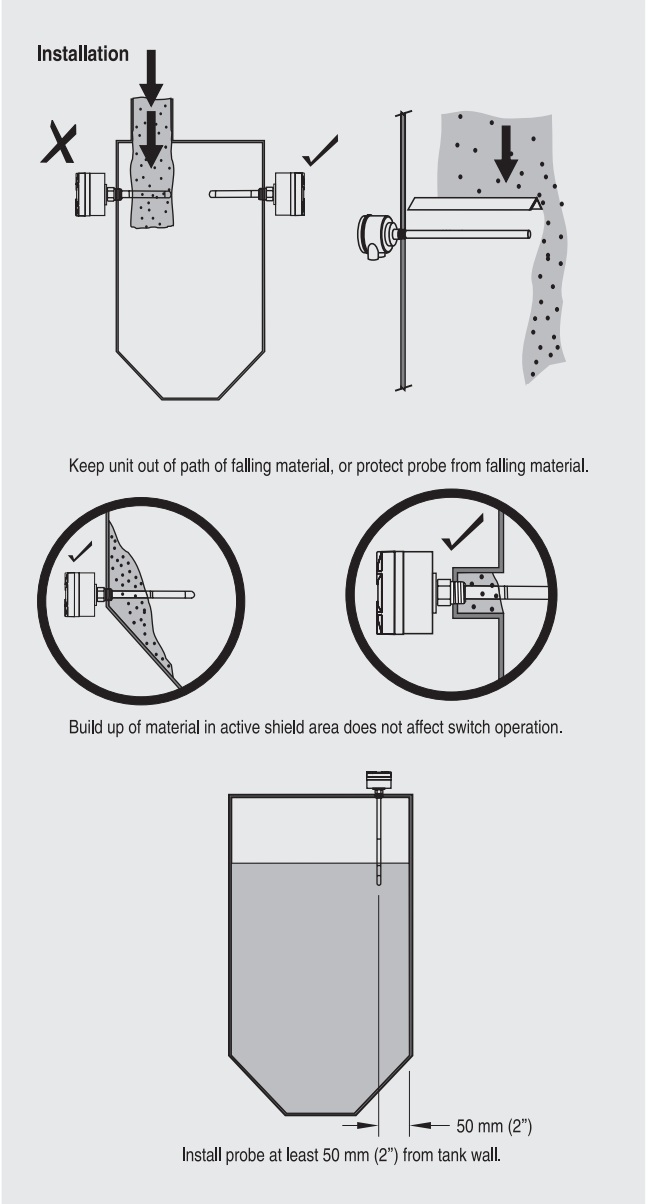
## Application

Patented Active-Shield technology ensures that measurement is unaffected by vapours, product deposits, dust and condensation. The unique mechanical probe design coupled with a high performance transmitter gives superior performance in a wide range of level detection applications.

Pointek CLS500's microprocessor-based electronics provide one-point calibration, making setup possible without shutting down your production process.

- Key Applications: foam or liquid/foam level, glycol regenerators, high-pressure coalescers, LNG applications

## Configuration




Pointek CLS500 installation

5

## Pointek CLS500

### Technical specifications

| | |
|---|---|
| **Input** | |
| Measuring range | 0 to 330 pF |
| Span | Min. 1 pF |
| **Output** | |
| Solid-state switch | |
| - Output | Galvanically isolated |
| - Protection | Against reversed polarity (bipolar) |
| - Max. switching voltage | 30 V (DC)<br>30 V peak (AC) |
| - Max. load current | 82 mA |
| - Voltage drop | < 1 V, typical at 50 mA |
| - Time delay (pre or post switching) | 1 to 60 s |
| Current loop | 4 to 20 mA/20 to 4 mA |
| **Accuracy (transmitter)** | |
| Temperature stability | 0.15 pF (0 pF) or < 0.25% (typical < 0.1%) of actual measurement value, whichever is greater over the full temperature range |
| Non-linearity and repeatability | 0.1% of full scale and actual measurement respectively |
| Accuracy | Deviation < 0.1% of measured value |
| **Rated operating conditions** [1] | |
| Installation conditions | |
| - Location | Indoor/outdoor |
| Ambient conditions | |
| • Ambient temperature (transmitter) | -40 to +85 °C (-40 to +185°F)[2] |
| • Installation category | I |
| • Pollution degree | 4 |
| Medium conditions | |
| • Relative dielectric constant $\varepsilon_r$ | Min. 1.5 |
| • Process temperature | Temperature ratings are pressure dependent. See Pressure/Temperature curves on page 5/67. |
| - Standard (PFA) | -50 to +200 °C (-58 to +392 °F) |
| - High temperature stainless steel version with enamel insulation and thermal isolator | -60 to +400 °C (-76 to +752 °F) |
| - High temperature stainless steel version with thermal isolator | -60 to +400 °C (-76 to +752 °F) |
| - Cryogenic version | -200 to +200 °C (-328 to +392 °F)<br>Contact nacc.smpi@siemens.com for details. |
| Process pressure | Pressure rating of process seal is temperature dependent.<br>See Pressure/Temperature curves on page 5/67. |
| • Standard (PFA) | -1 to +150 bar g<br>(-14.6 to +2175 psi g) |
| • High temperature version (Enamel) | -1 to +345 bar g<br>(-14.6 to +5004 psi g) |
| • High temperature version (Stainless steel) | -1 to +35 bar g<br>(-14.6 to +507.6 psi g) |
| **Design** | |
| Material | |
| • Wetted parts material | |
| - Standard rod | 316L stainless steel |
| • Probe isolation (rod) | PFA, enamel |
| Probe diameter | |
| • Standard rod version (PFA) | 16 mm (0.63") |
| • High temperature rodversion (Enamel) | 16 mm (0.63") |
| • High temperature rod version (Stainless steel) | 19 mm (0.75") |
| Probe length | |
| • Standard rod version (PFA) | Max. 1000 mm (39.4") with 16 mm (0.63") diameter probe |
| • High temperature rod version (Enamel) | Max. measuring length 1000 mm (39.4") with 16 mm (0.63") diameter probe |
| • High temperature rod version (Stainless steel) | Max. measuring length 1000 mm (39.4") with 19 mm (0.75") diameter probe |
| Process connection of probe | |
| • Threaded mounting | NPT [(Taper), ANSI/ASME B1.20.1]<br>R [(BSPT), EN 10226/PT (JIS-T), JIS B 0203]<br>G [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202] |
| • Flange mounting | ASME, EN 1092-1 |
| Enclosure | |
| • Material | Aluminium, epoxy-coated<br>(Stainless steel option available. Contact nacc.smpi@siemens.com) |
| • Cable inlet | 2 x ½" NPT |
| • Degree of protection | Type 4X/NEMA4X/IP65, IP68 |
| **Power supply** | Max. 33 V DC |
| **Features** | |
| Measurement current signalling | NAMUR NE 43 |
| Safety | • Inputs/outputs fully galvanically isolated<br>• Polarity-insensitive current loop<br>• Fully potted<br>• Integrated safety barrier |
| • Diagnostics with fault alarm when: | Primary variable (PV) out of limits, system failure in measurement circuit, deviation between A/D and D/A converter, check sum, watch dog and self-checking facility |
| • Function rotary switch | Positions 0 to 9, A to F |
| • SMART communication | Conforming to HART Communication Foundation (HCF) |
| **Certificates and approvals** | |
| • General Purpose | CE, CSA/FM, C-TICK |
| • Non incendive/Non sparking | CSA/FM Class I, Div. 2, Groups A, B, C, D T4<br>ATEX II 3G 2D EEx n A [ib] IIC T6 to T4 T100 °C |
| • Dust Ignition Proof | CSA/FM Class II and III, Div. 1, Groups E, F, G T4<br>ATEX II 1/2 GD EEx d [ia] T6 to T1 T100 °C |
| • Explosion Proof | FM Class 1, Div. 1, Groups A, B, C, D T4<br>ATEX II 1/2 GD EEx d [ia] IIC T6 to T1 T100 °C |
| • Marine | Lloyds Register of Shipping, Categories ENV1, ENV2, ENV3, ENV5, Bureau Veritas |
| • Other | SIL/IEC61508 Declaration of Conformity [SIL-1(overfill or underfill)] |

1) When operation in areas classified as hazardous, observe restrictions according to relevant certificate.
See also Pressure/Temperature curves on page 5/67.
2) Thermal isolator is used if process connection temperature exceeds +85 °C (+185 °F)

| Pointek CLS500 probe version | Standard | HT Series |
|---|---|---|
| **Process connection types** | **Standard (PFA) (7ML5601, 7ML5602, 7ML5603)** | **High Temperature (Enamel or Stainless steel) (7ML5604)** |
| Threaded | Available as standard | – |
| Flange | Available as standard | Available as standard |
| **Process connection materials** | | |
| 316L stainless steel | Available as standard | Available as standard |
| **Probe insulation** | | |
| None | – | HT Stainless: available as standard |
| PFA | Available as standard | – |
| Enamel | | HT Enamel: available as standard |
| **Length parameters** | | |
| Max. rod length | 1000 mm (40") | 1000 mm (40") |
| **Process condtitions**[1)] | | |
| Max. process pressure | 150 bar g (2175 psi g) | Stainless steel:[2)] 35 bar g (507 psi g)<br>Enamel:[2)] 345 bar g (5004 psi g) |
| Max. process temperature | +200 °C (+392 °F) | +400 °C (+752 °F) |

1) When operation is in areas classified as hazardous, observe restrictions according to relevant certificate. See also Pressure/Temperature curves on page 5/67.
2) Pressure rating of process seal is temperature dependent. See Pressure/Temperature curves on page 5/67.
– Not available as standard

## Pointek CLS500

### Selection and Ordering data — Order No.

**Pointek CLS500, threaded** C) **7ML5601 - ▢▢ A0**

Inverse frequency shift capacitance level switch for detecting interfaces, solids, liquids, toxic and aggressive chemicals in critical conditions of extreme temperature and pressure.

**Electronic transmitter**
- No transmitter supplied — 0
- MSP 2002-1 (330 pF) — 1

**Process connection**
- ¾" — A
- 1" — B
- 1¼" — C
- 1½" — D
- 2" — E

**Threaded connection and rating**
- NPT [(Taper), ANSI/ASME B1.20.1] — A
- R [(BSPT), EN 10226/PT (JIS-T) JIS B 0203] — B
- G [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202] — D

**Probe insulation/material of process connection**
- PFA insulation/316L stainless steel — 1

**Approvals**
- General Purpose: CE, CSA/FM, C-TICK — 1
- CSA/FM Class I, Div. 2, Groups A, B, C, D T4; ATEX II 3GD 2D EEx nA [ib] IIC T6 to T4 T100 °C; CSA/FM Class II and III Div. 1, Groups E, F, G T4 — 2
- ATEX II 1/2 GD EEx d [ia] IIC T6 to T1 T100 °C — 4
- FM Class I, Div. 1, Groups A, B, C, D T4 — 6

**Probe/electrode diameter**
- 16 mm (0.63") rigid rod, minimum insertion length 200 mm (7.9"), maximum insertion length 1000 mm (39.4")[1] — 1

**Thermal isolator/remote version**
- Rigid thermal isolator [for process connection temperature over +85 °C (+185 °F)] — A
- No thermal isolator — B

| *Further designs* | Order code |
|---|---|
| Please add "**-Z**" to Order No. and specify Order code(s). | |
| Insertion length, specify in plain text: **Y01: ... mm [minimum 200 mm (7.87")]** | **Y01** |
| Active Shield length - minimum length is 50 mm. **Y02: ... mm** | **Y02** |
| Stainless steel tag [69 x 50 mm (2.71 x 1.97")]: Measuring-point number/identification (max. 16 characters) specify in plain text | **Y15** |
| Acceptance test certificate: Manufacturer's test certificate M to DIN 55350, Part 18 and ISO 9000 | **C11** |
| Inspection Certificate Type 3.1 per EN 10204 | **C12** |
| SIL/IEC61508 Declaration of Conformity [SIL-1 (overfill or underfill)] | **C20** |
| *Instruction manual* | **See page 5/66** |
| *Accessories* | **See page 5/66** |

1) Add order code Y01 and Y02 in plain text: "Insertion/active shield length ... mm"

C) Subject to export regulations AL: N, ECCN: EAR99

### Selection and Ordering data — Order No.

**Pointek CLS500, welded flange** C) **7ML5602 - ▢▢ A0**

Inverse frequency shift capacitance level switch for detecting interfaces, solids, liquids, toxic and aggressive chemicals in critical conditions of extreme temperature and pressure.

**Electronic transmitter**
- No transmitter supplied — 0
- MSP 2002-1 (330 pF) — 1

**Process connection and pressure rating**

Welded flange, 316L stainless steel, raised face
- 2" ASME, 150 lb — A A
- 2" ASME, 300 lb — A B
- 3" ASME, 150 lb — B A
- 3" ASME, 300 lb[1] — B B
- 4" ASME, 150 lb[1] — C A
- 4" ASME, 300 lb[1] — C B
- 6" ASME, 150 lb[1] — D A
- 6" ASME, 300 lb[1] — D B

Welded flange, 316L stainless steel, Type A flat faced
- DN 50 PN 16 — E C
- DN 50 PN 25 — E D
- DN 80 PN 16 — F C
- DN 80 PN 25 — F D
- DN 100 PN 16[1] — G C
- DN 125 PN 16[1] — H C

(Note: Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5 or EN 1092-1 standard.)

**Probe insulation/material of process connection**
- PFA insulation/316L stainless steel — 1

**Approvals**
- General Purpose — 1
- CSA/FM Class I, Div. 2, Groups A, B, C, D T4; ATEX II 3G 2D EEx nA [ib] IIC T6 to T4 T100 °C; CSA/FM Class II and III Div. 1, Groups E, F, G T4 — 2
- ATEX II 1/2 GD EEx d [ia] IIC T6 to T1 T100 °C — 4
- FM Class I, Div. 1, Groups A, B, C, D T4 — 6

**Probe/electrode diameter**
- 16 mm (0.63") rigid rod, min. length 200 mm (7.9"), max. length 1000 mm (39.4") — 1

**Thermal isolator**
- Rigid thermal isolator [for process temperature over +85 °C (+185 °F)] — A
- No thermal isolator — B

| *Further designs* | Order code |
|---|---|
| Please add "**-Z**" to Order No. and specify Order code(s). | |
| Insertion length, specify in plain text: **Y01: ... mm [minimum 200 mm (7.87")]** | **Y01** |
| Active Shield length - minimum length is 50 mm. **Y02: ... mm**[2] | **Y02** |
| Stainless steel tag [69 x 50 mm (2.71 x 1.97")]: Measuring-point number/identification (max. 16 characters) specify in plain text | **Y15** |
| Acceptance test certificate: Manufacturer's test certificate M to DIN 55350, Part 18 and ISO 9000 | **C11** |
| Inspection Certificate Type 3.1 per EN 10204 | **C12** |
| SIL/IEC61508 Declaration of Conformity [SIL-1 (overfill or underfill)] | **C20** |
| *Instruction manual* | **See page 5/66** |
| *Accessories* | **See page 5/66** |

1) Custom shipping methods required. Contact factory for more details

2) See dimension drawings on page 5/9 for further explanation of Y02

C) Subject to export regulations AL: N, ECCN: EAR99

| Selection and Ordering data | | Order No. |
|---|---|---|
| **Pointek CLS500, single piece flange** | C) | **7ML5603 -** |
| Inverse frequency shift capacitance level switch for detecting interfaces, solids, liquids, toxic and aggressive chemicals in critical conditions of extreme temperature and pressure. | | ■■■■■ - ■■ **A 0** |
| **Electronic transmitter** | | |
| No transmitter supplied | | **0** |
| MSP 2002-1 (330 pF) | | **1** |
| **Process connection and pressure rating** | | |
| Single piece flange, 316L stainless steel, raised face | | |
| 2" ASME, 150 lb | | **A A** |
| 2" ASME, 300 lb | | **A B** |
| 3" ASME, 150 lb | | **B A** |
| 3" ASME, 300 lb [1] | | **B B** |
| 4" ASME, 150 lb [1] | | **C A** |
| 4" ASME, 300 lb [1] | | **C B** |
| 6" ASME, 150 lb [1] | | **D A** |
| 6" ASME, 300 lb [1] | | **D B** |
| Single piece flange, 316L stainless steel, Type B1 raised faced | | |
| DN 50 PN 16 | | **E C** |
| DN 50 PN 25 | | **E D** |
| DN 80 PN 16 | | **F C** |
| DN 80 PN 25 | | **F D** |
| DN 100 PN 16 [1] | | **G C** |
| DN 100 PN 25 [1] | | **G D** |
| DN 125 PN 16 [1] | | **H C** |
| **Probe insulation/material of process connection** | | |
| PFA insulation/316L stainless steel | | **1** |
| **Approvals** | | |
| General Purpose: CE, CSA/FM, C-TICK | | **1** |
| CSA/FM Class I, Div. 2, Groups A, B, C, D T4; ATEX II 3G 2D EEx nA [ib] IIC T6 to T4 T100 °C; CSA/FM Class II and III Div. 1, Groups E, F, G T4 | | **2** |
| ATEX II 1/2 GD EEx d [ia] IIC T6 to T1 T100 °C | | **4** |
| FM Class I, Div. 1, Groups A, B, C, D T4 | | **6** |
| **Probe/electrode diameter** | | |
| 16 mm (0.63") rigid rod, maximum length 1000 mm (39.4") (Y01) | | **1** |
| **Thermal isolator** | | |
| Rigid thermal isolator [for process connection temperature over +85 °C (+185 °F)] | | **A** |
| No thermal isolator | | **B** |

| Selection and Ordering data | | Order No. |
|---|---|---|
| **Pointek CLS500, single piece flange** | C) | **7ML5603 -** |
| Inverse frequency shift capacitance level switch for detecting interfaces, solids, liquids, toxic and aggressive chemicals in critical conditions of extreme temperature and pressure. | | ■■■■■ - ■■ **A 0** |
| ***Further designs*** | | Order code |
| Please add "**-Z**" to Order No. and specify Order code(s). | | |
| Insertion length, specify in plain text: **Y01: ... mm [minimum 200 mm (7.87")]** | | **Y01** |
| Active Shield length - minimum length is 50 mm. **Y02: ... mm** [2] | | **Y02** |
| Stainless steel tag [69 x 50 mm (2.71 x 1.97")]: Measuring-point number/identification (max. 16 characters) specify in plain text | | **Y15** |
| Acceptance test certificate: Manufacturer's test certificate M to DIN 55350, Part 18 and ISO 9000 | | **C11** |
| Inspection Certificate Type 3.1 per EN 10204 | | **C12** |
| SIL/IEC61508 Declaration of Conformity [SIL-1 (overfill or underfill)] | | **C20** |
| ***Instruction manual*** | | **See page 5/66** |
| ***Accessories*** | | **See page 5/66** |

1) Custom shipping methods required. Contact factory for more details
2) See dimension drawings on page 5/73 for further explanation of Y02

C) Subject to export regulations AL: N, ECCN: EAR99

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## Pointek CLS500

### Selection and Ordering data — Order No.

**Pointek CLS500 High temperature** C) **7ML5604 -**

Inverse frequency shift capacitance level switch for detecting interfaces, solids, liquids, toxic and aggressive chemicals in critical conditions of extreme temperature and pressure. **A** - | Order No.

**Electronic transmitter**

| | |
|---|---|
| No transmitter supplied | **0** |
| MSP 2002-1 (330 pF) | **1** |

**Process connection and pressure rating**

316L stainless steel, raised face[1]

| | |
|---|---|
| 2" ASME, 150 lb | **A 1** |
| 2" ASME, 300 lb | **A 2** |
| 2" ASME, 600 lb | **A 3** |
| 2" ASME, 900 lb | **A 4** |
| 3" ASME, 150 lb | **B 1** |
| 3" ASME, 300 lb[2] | **B 2** |
| 3" ASME, 600 lb[2] | **B 3** |
| 3" ASME, 900 lb[2] | **B 4** |
| 4" ASME, 150 lb[2] | **C 1** |
| 4" ASME, 300 lb[2] | **C 2** |
| 4" ASME, 600 lb[2] | **C 3** |
| 4" ASME, 900 lb[2] | **C 4** |
| 6" ASME, 150 lb[2] | **D 1** |
| 6" ASME, 300 lb[2] | **D 2** |
| 6" ASME, 600 lb[2] | **D 3** |
| 6" ASME, 900 lb[2] | **D 4** |

316L stainless steel, Type B1 raised face[3]

| | |
|---|---|
| DN 50 PN 16 | **E 1** |
| DN 50 PN 25 | **E 2** |
| DN 50 PN 40 | **E 3** |
| DN 50 PN 63 | **E 4** |
| DN 80 PN 16 | **F 1** |
| DN 80 PN 25 | **F 2** |
| DN 80 PN 40[2] | **F 3** |
| DN 80 PN 63[2] | **F 4** |
| DN 100 PN 16[2] | **G 1** |
| DN 100 PN 25[2] | **G 2** |
| DN 100 PN 40[2] | **G 3** |
| DN 100 PN 63[2] | **G 4** |
| DN 125 PN 16[2] | **H 1** |
| DN 125 PN 25[2] | **H 2** |
| DN 125 PN 40[2] | **H 3** |
| DN 125 PN 63[2] | **H 4** |

(Note: Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5 or EN 1092-1 standard.)

**Probe insulation/material of process connection**

| | |
|---|---|
| No insulation/316L stainless steel[4) 7)] | **1** |
| Enamel insulation/316L stainless steel[5) 6) 7)] | **2** |

**Stilling well**

| | |
|---|---|
| No stilling well | **0** |

**Approvals**

| | |
|---|---|
| General Purpose | **A** |
| CSA/FM Class I, Div. 2, Groups A, B, C, D T4; ATEX II 3G 2D EEx nA [ib] IIC T6 to T4 T100 °C; CSA/FM Class II and III Div. 1, Groups E, F, G T4 | **B** |
| ATEX II 1/2 GD EEx d [ia] IIC T6 to T1 T100 °C | **D** |
| FM Class I, Div. 1, Groups A, B, C, D T4 | **F** |

**Probe/electrode diameter**

| | |
|---|---|
| Maximum length 1000 mm (39.37")[7)] | **A** |

**Thermal isolator**

| | |
|---|---|
| Rigid thermal isolator | **1** |

### Selection and Ordering data — Order No.

**Pointek CLS500 High temperature** C) **7ML5604 -**

Inverse frequency shift capacitance level switch for detecting interfaces, solids, liquids, toxic and aggressive chemicals in critical conditions of extreme temperature and pressure. **A** - | Order No.

| *Further designs* | Order code |
|---|---|
| Please add "**-Z**" to Order No. and specify Order code(s). | |
| Insertion length, specify in plain text: **Y01: ... mm** Y01 for probe insulation option 1: min. = 200 mm (7.87") Y01 for probe insulation option 2: min. = 200 mm (7.87") | **Y01** |
| Active Shield length, specify in plain text: **Y02: ... mm** Y02 for probe insulation option 1: min. = 105 mm (4.13") Y02 for probe insulation option 2: min. = 100 mm (3.94") | **Y02** |
| Stainless steel tag [69 x 50 mm (2.71 x 1.97")]: Measuring-point number/identification (max. 16 characters) specify in plain text | **Y15** |
| Acceptance test certificate: Manufacturer's test certificate M to DIN 55350, Part 18 and ISO 9000 | **C11** |
| Inspection Certificate Type 3.1 per EN 10204 | **C12** |
| SIL/IEC61508 Declaration of Conformity [SIL-1 (overfill or underfill)] | **C20** |
| *Instruction manual* | **See page 5/66** |
| *Accessories* | **See page 5/66** |

1) Welded flange for no insulation option only
2) Custom shipping methods required. Contact factory for more details.
3) Flat faced flange for no insulation option only
4) Non-conductive material only, stainless steel non-insulated probe diameter 19 mm (0.75")
5) Enamel insulated probe diameter 16 mm (0.63")
6) Single piece construction for enamel option only
7) Add order code Y01 and Y02 in plain text: "Insertion/active shield length ... mm" Minimum insertion length depends on probe version selected. See dimension drawings on page 5/73 for more details.

### Selection and Ordering data — Order No.

| *Instruction manual* | |
|---|---|
| English | **7ML1998-5GG01** |
| German | **7ML1998-5GG31** |
| French | **7ML1998-5GG11** |
| Dutch | **7ML1998-5GG41** |

Note: The instruction manual should be ordered as a separate line on the order.

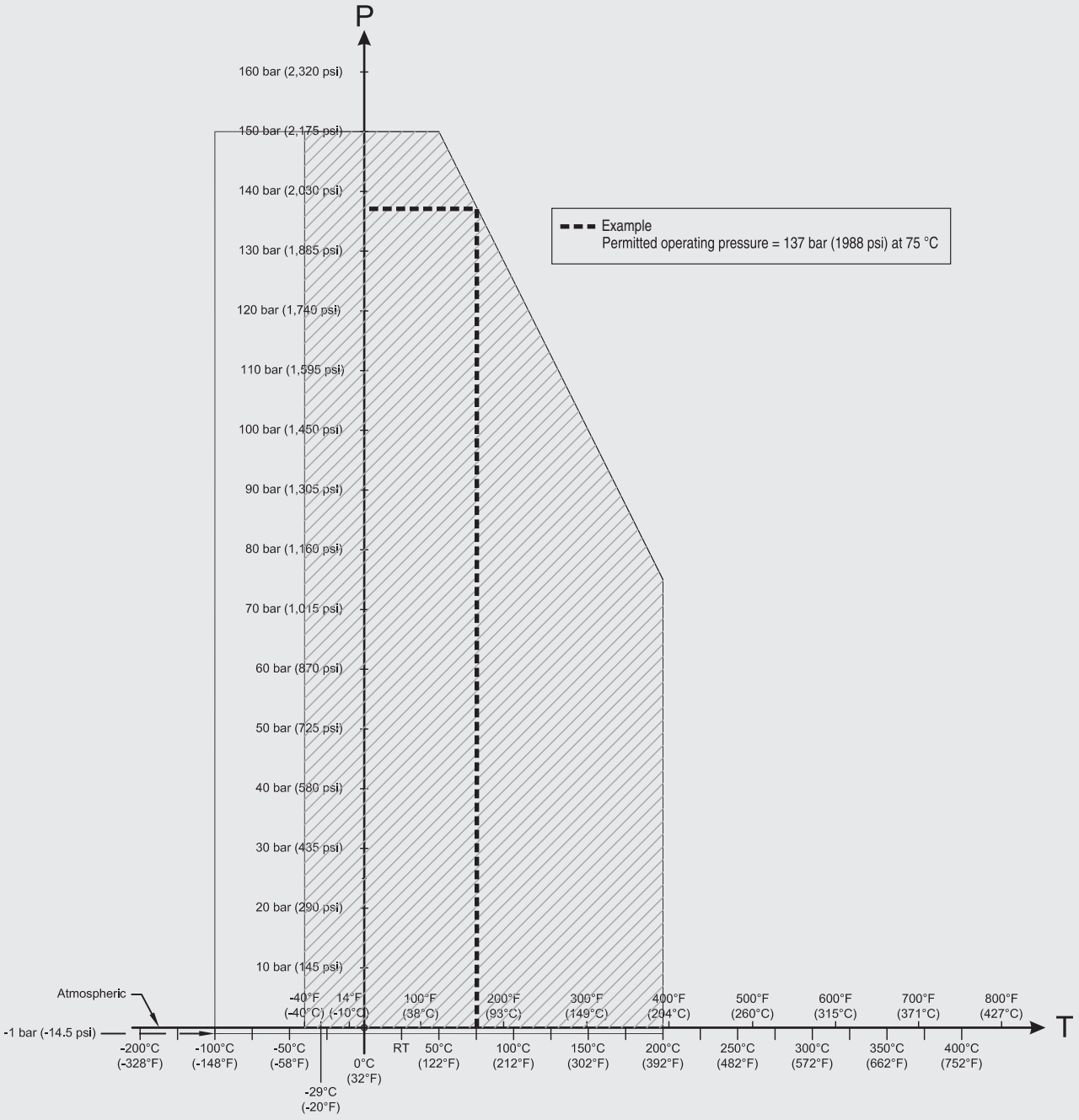
This device is shipped with the Siemens Milltronics manual CD containing the complete ATEX Quick Start and instruction manual library.

| *Accessories* | | |
|---|---|---|
| Transmitter, MSP 2002-1, 330 PF[1)] | L) | **7ML1830-1JP** |

1) Transmitters not suitable for Intrinsically Safe application ATEX II 1G EEx ia IIC T4 or CSA/FM Class 1 Div 1 Grp A, B, C and D)

C) Subject to export regulations AL: N, ECCN: EAR99
L) Subject to export regulations AL: N, ECCN: 3A991X

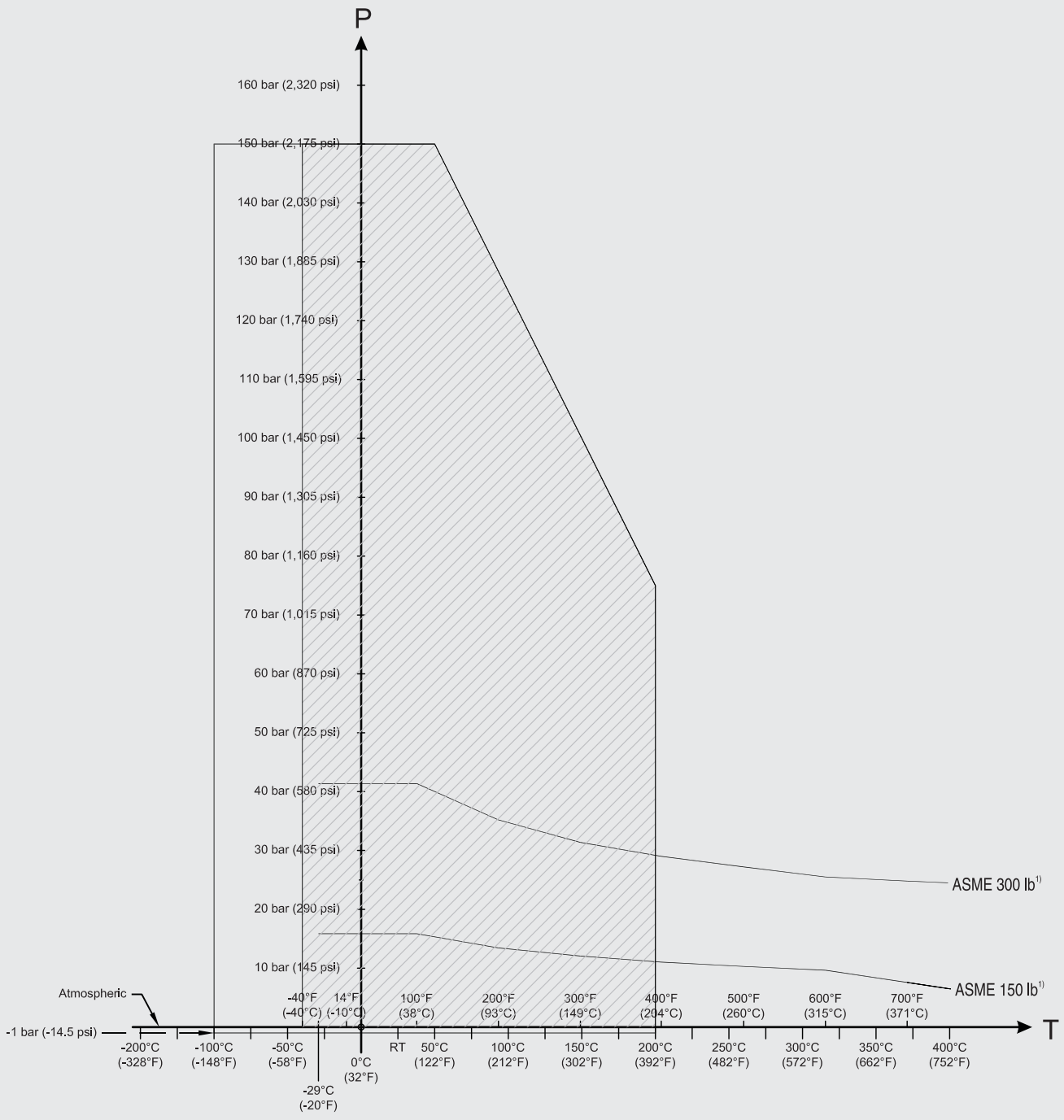
## Characteristic curves




**Pressure/Temperature Curve**
**CLS500 Rod Probes**
**Threaded Process Connections (7ML5601)**

P = Permitted Operating Pressures
T = Permitted Operating Temperature

Pointek CLS500 Process Pressure/Temperature derating curves (7ML5601)

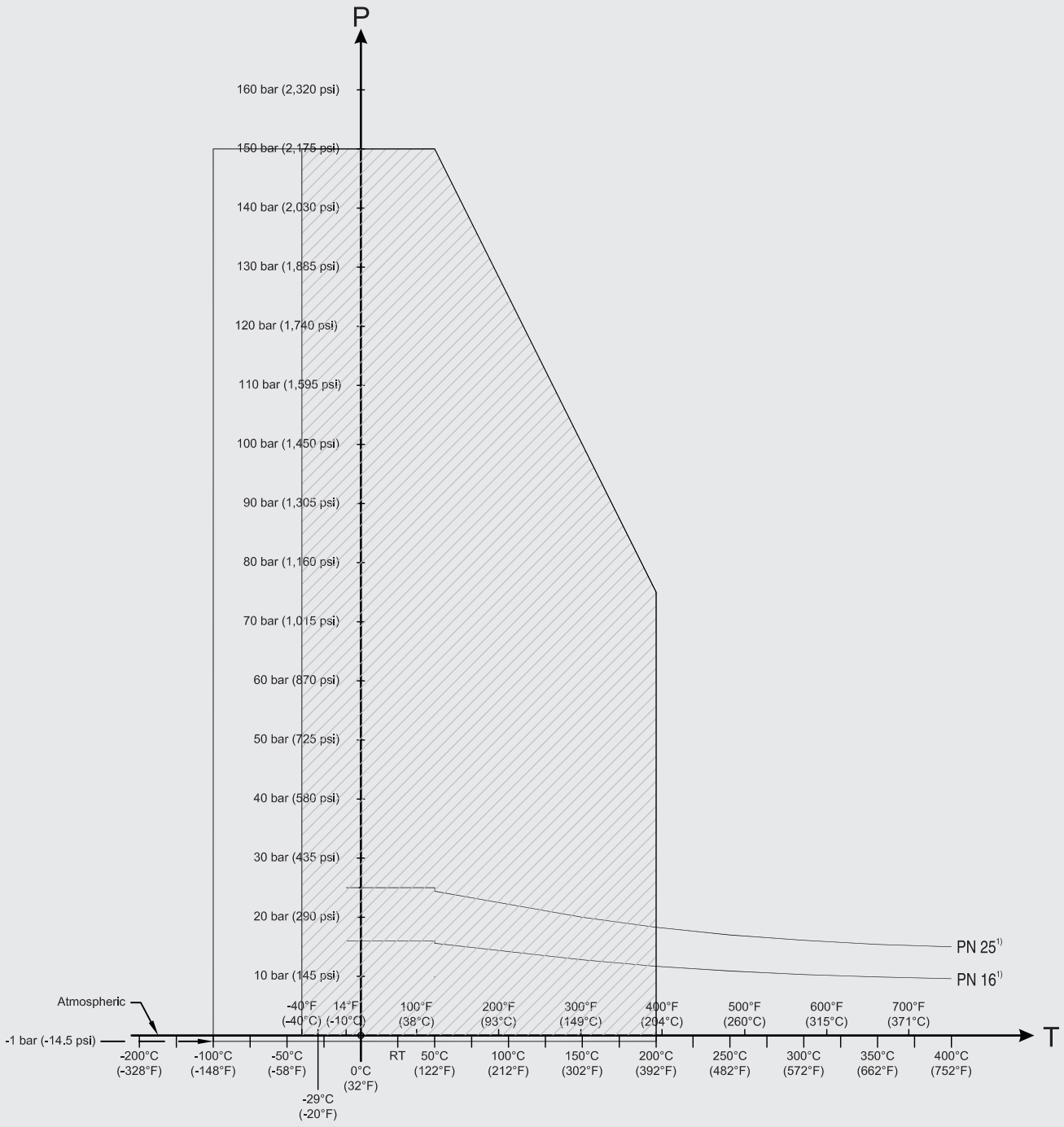



**Pressure/Temperature Curve**
**CLS500 Rod Probes**
**ASME Flanged Process Connections (7ML5602 and 7ML5603)**

P = Permitted Operating Pressures
T = Permitted Operating Temperature

1) The curve denotes the minimum allowable flange class for the shaded area below.

Pointek CLS500 Process Pressure/Temperature derating curves (7ML5602 and 7ML5603)



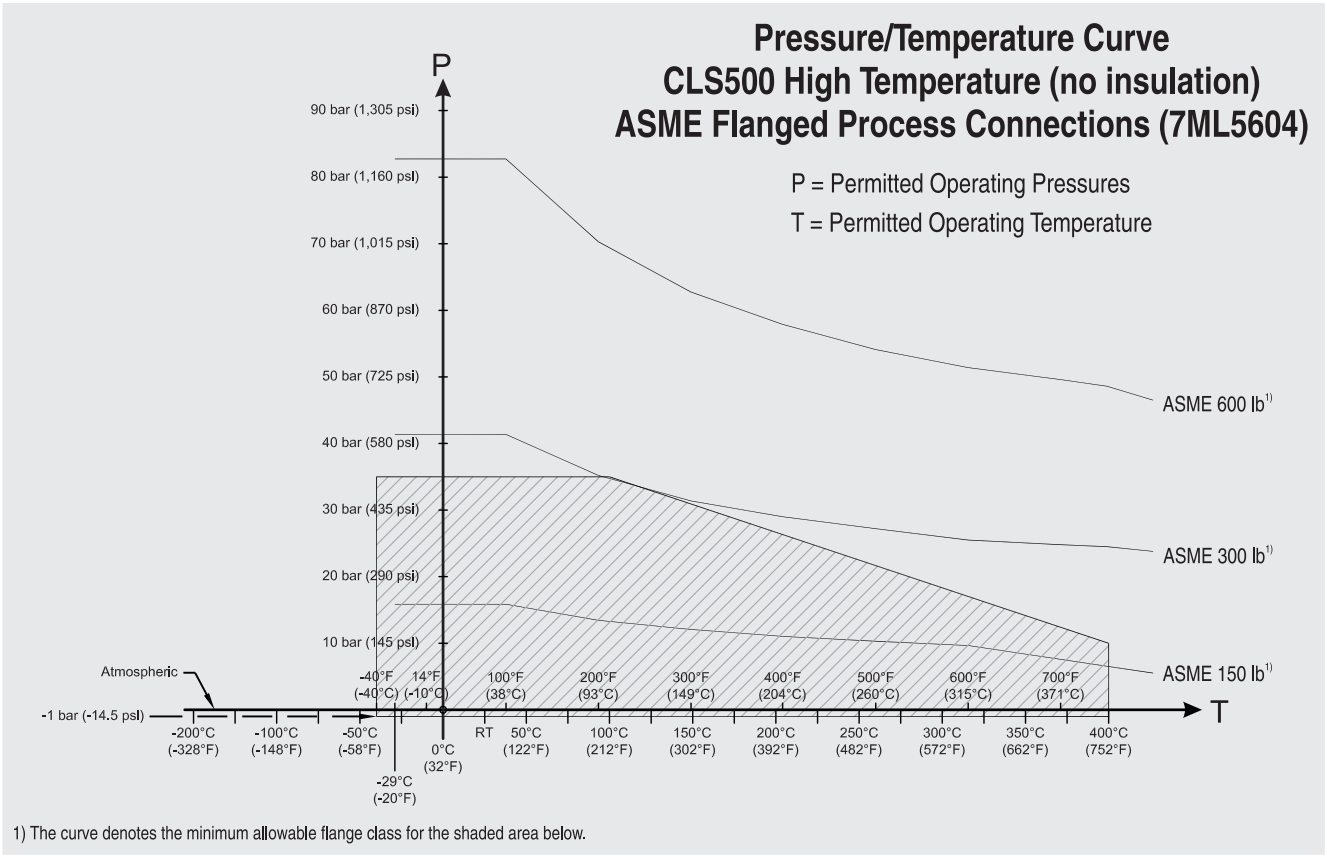

**Pressure/Temperature curve**
**CLS500 Rod Probes**
**EN Flanged process connections (7ML5602 and 7ML5603)**

P = Permitted Operating Pressures

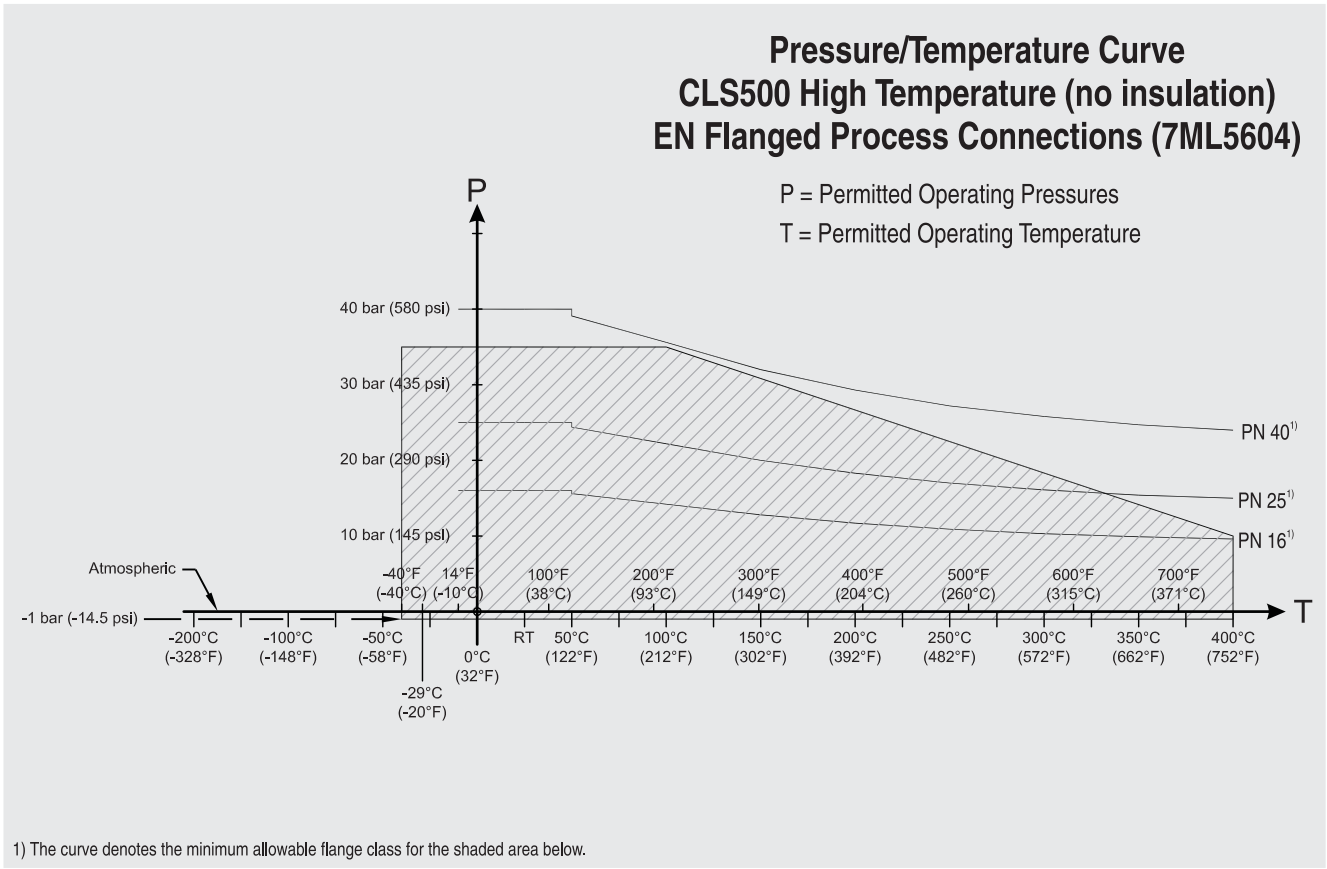
T = Permitted Operating Temperature

1) The curve denotes the minimum allowable flange class for the shaded area below.

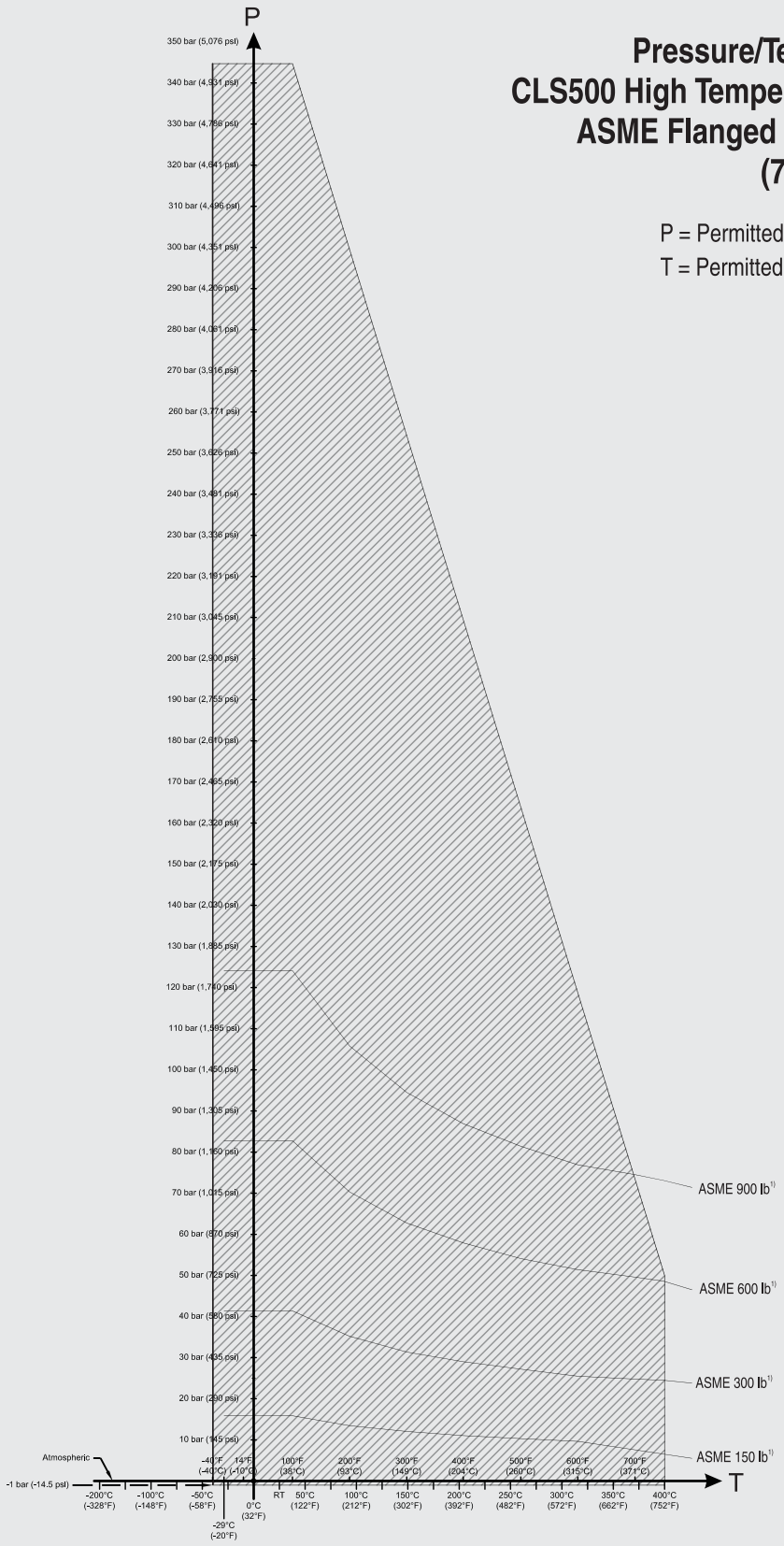
Pointek CLS500 Process Pressure/Temperature derating curves (7ML5602 and 7ML5603)




Pointek CLS500 Process Pressure/Temperature derating curves (7ML5604)



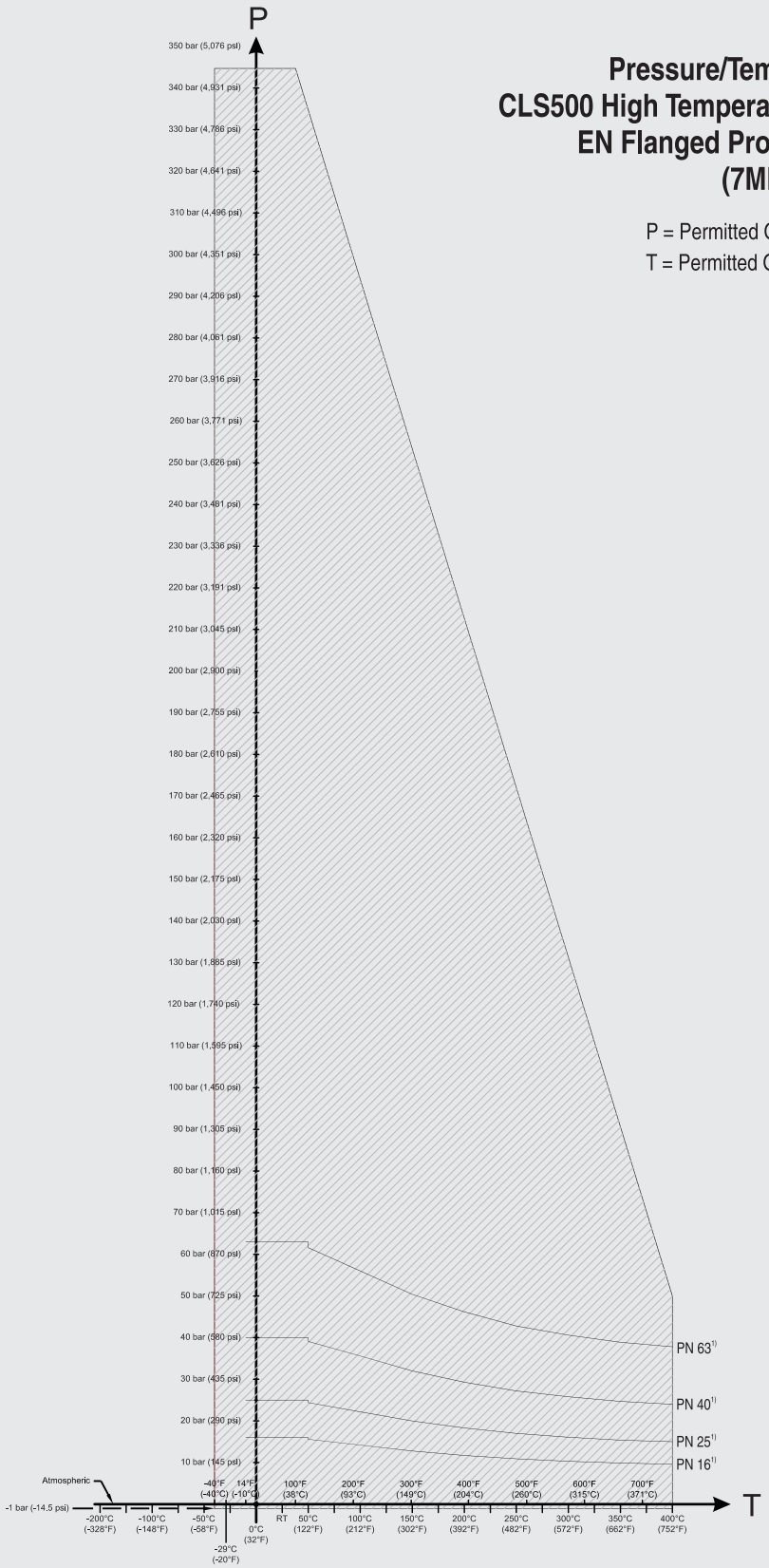

Pointek CLS500 Process Pressure/Temperature derating curves (7ML5604)




1) The curve denotes the minimum allowable flange class for the shaded area below.

Pointek CLS500 Process Pressure/Temperature derating curves (7ML5604)

## Pointek CLS500



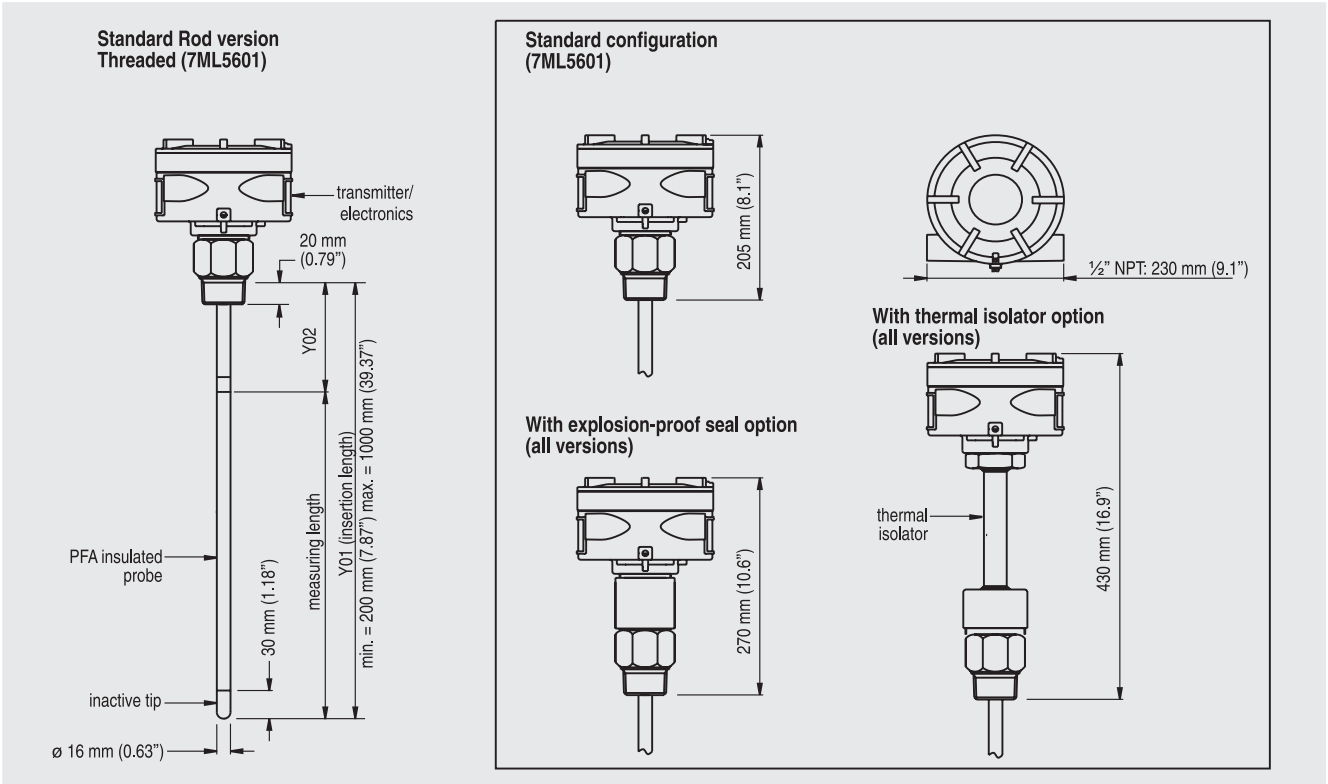

**Pressure/Temperature Curve**
**CLS500 High Temperature Enamel Rod Probes**
**EN Flanged Process Connections**
**(7ML5604)**

P = Permitted Operating Pressures
T = Permitted Operating Temperature

1) The curve denotes the minimum allowable flange class for the shaded area below.

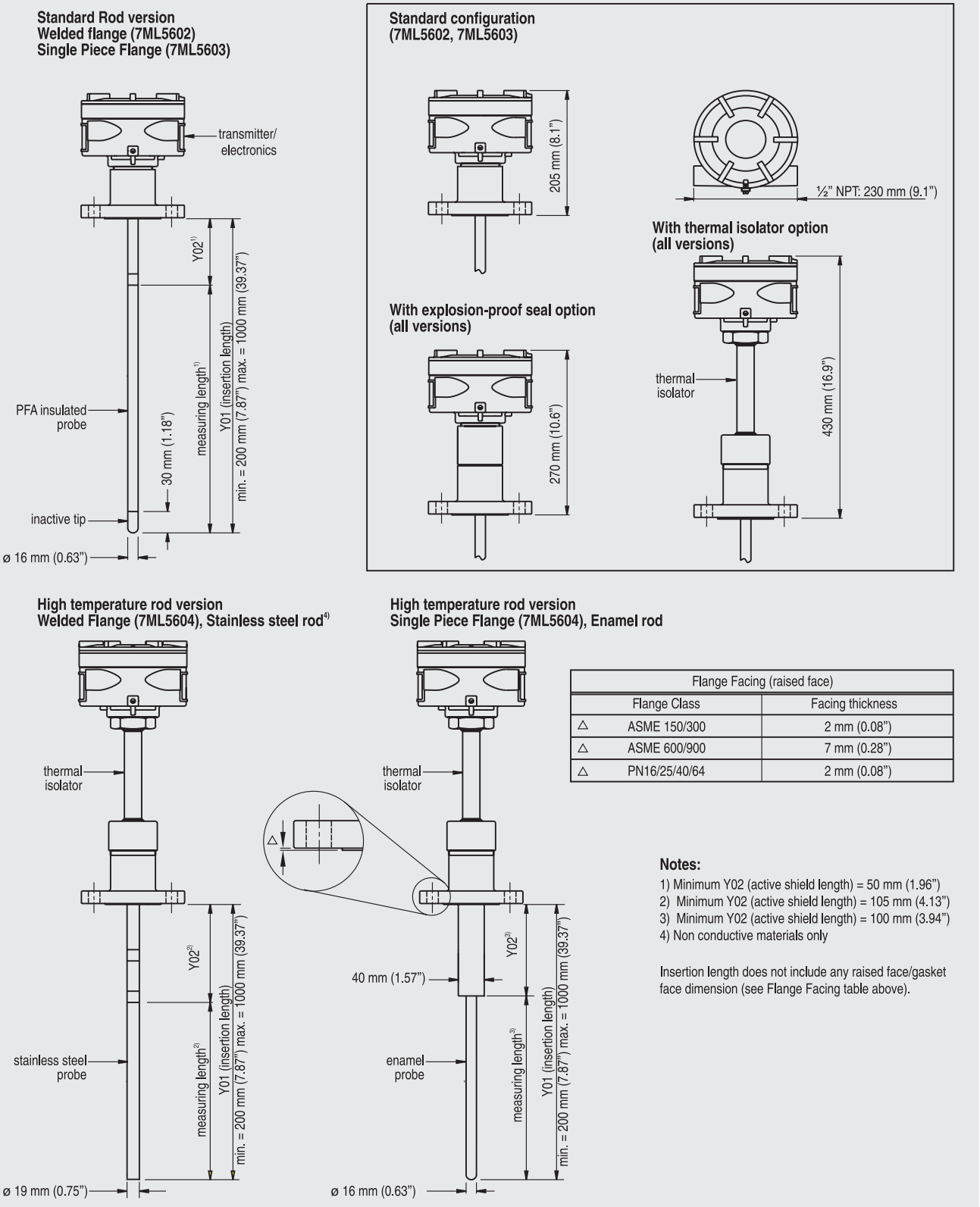
Pointek CLS500 Process Pressure/Temperature derating curves (7ML5604)

## Dimensional drawings




Pointek CLS500 dimensions - Threaded Process Connections

## Pointek CLS500




| Flange Facing (raised face) | |
|---|---|
| Flange Class | Facing thickness |
| △ ASME 150/300 | 2 mm (0.08") |
| △ ASME 600/900 | 7 mm (0.28") |
| △ PN16/25/40/64 | 2 mm (0.08") |

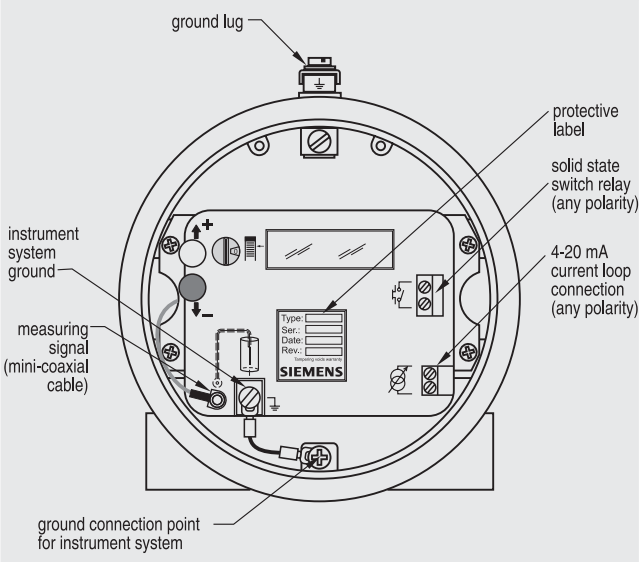
**Notes:**

1) Minimum Y02 (active shield length) = 50 mm (1.96")
2) Minimum Y02 (active shield length) = 105 mm (4.13")
3) Minimum Y02 (active shield length) = 100 mm (3.94")
4) Non conductive materials only

Insertion length does not include any raised face/gasket face dimension (see Flange Facing table above).

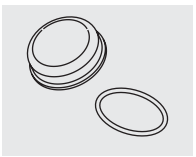
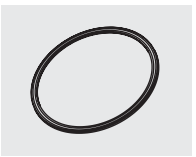
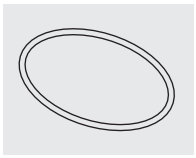
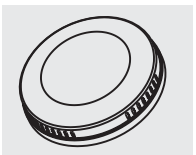
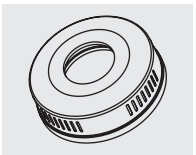
Pointek CLS500 dimensions - Flanged Process Connections

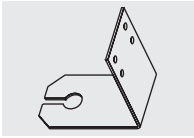
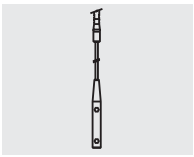
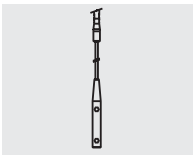
## Schematics

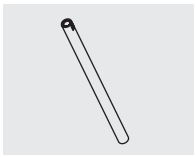
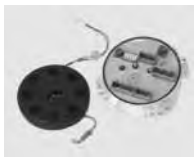


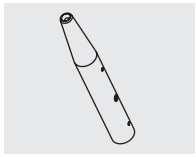
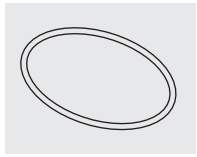

Pointek CLS500 connections

## Pointek CLS Specials

| Pointek Specials. See note 1. | | Order No. |
|---|---|---|
| **CLS100 Polycarbonate Lid and Gasket, FKM** | |  |
| Kit, Lid and gasket, CLS100 enclosure version | F) | **A5E01163671** |
| **CLS100 Miscellaneous Parts** | | |
| Custom length of cable is available only for 7ML5501-xxx1x and 7ML5501-xxx5x | | **See note 2.** |
| **CLS200 Gasket (IP65), Synprene** | |  |
| Spare gasket, enclosure version (IP65 versions only) | F) | **A5E01163672** |
| **CLS200 Gasket (IP68), Silicone** | |  |
| Spare gasket, enclosure version (IP68 versions) | F) | **A5E01163673** |
| **CLS200 Blind Lid** | |  |
| Spare aluminum blind lid (for standard versions only) | | **A5E01163674** |
| **CLS200 Lid with window** | |  |
| Spare aluminum lid with window | | **A5E01163676** |
| **CLS200 Sensor Kit for cable units** | |  |
| Kit, Sensor for cable units, PPS, Standard, FKM | C) | **A5E01163677** |
| Kit, Sensor for cable units, PPS, Digital, FKM | C) | **A5E01163678** |
| Kit, Sensor for cable units, PPS, Standard, FFKM | C) | **A5E01163679** |
| Kit, Sensor for cable units, PPS, Digital, FFKM | C) | **A5E01163680** |
| Kit, Sensor for cable units, PVDF, Standard, FKM | C) | **A5E01163681** |
| Kit, Sensor for cable units, PVDF, Digital, FKM | C) | **A5E01163682** |

| Pointek Specials. See note 1. | | Order No. |
|---|---|---|
| Kit, Sensor for cable units, PVDF, Standard, FFKM | C) | **A5E01163683** |
| Kit, Sensor for cable units, PVDF, Digital, FFKM | C) | **A5E01163684** |
| **CLS200 Mounting Bracket, 316L stainless steel** | |  |
| Spare mounting bracket | | **A5E01163685** |
| **CLS200 PROFIBUS Connector (IP65)** | |  |
| Spare, PROFIBUS connector (IP65 versions only) | | **A5E01163686** |
| **CLS200 Miscellaneous Parts** | | |
| CLS200 with FFKM O-rings (any version) | | **See note 2.** |
| **CLS300 Cable Extensions, 316L stainless steel** | |  |
| Kit, Stainless steel cable extension, 1 m, adjustable by customer | | **A5E01163688** |
| Kit, Stainless steel cable extension, 3 m, adjustable by customer | | **A5E01163689** |
| Kit, Stainless steel cable extension, 5 m, adjustable by customer | | **A5E01163690** |
| Kit, Stainless steel cable extension, 10 m, adjustable by customer | | **A5E01163691** |
| Kit, Stainless steel cable extension, 15 m, adjustable by customer | | **A5E01163693** |
| Kit, Stainless steel cable extension, 20 m, adjustable by customer | | **A5E01163695** |
| **CLS300 Cable Extensions, 316 stainless steel with PFA coating** | |  |
| Kit, PFA cable extension, 1 m, adjustable by customer | | **A5E01163697** |
| Kit, PFA cable extension, 3 m, adjustable by customer | | **A5E01163698** |
| Kit, PFA cable extension, 5 m, adjustable by customer | | **A5E01163699** |
| Kit, PFA cable extension, 10 m, adjustable by customer | | **A5E01163700** |
| Kit, PFA cable extension, 15 m, adjustable by customer | | **A5E01163701** |
| Kit, PFA cable extension, 20 m, adjustable by customer | | **A5E01163702** |

| Pointek Specials. See note 1. | | Order No. |
|---|---|---|
| **CLS300 Rod Kits, 316L stainless steel** | |  |
| Kit, Stainless steel rod 180 mm (7.09") to be used with CLS300 units only (with standard active shield). Insertion length after installation is 350 mm (13.78"). | | **A5E01163719** |
| Kit, Stainless steel rod 330 mm (12.99") to be used with CLS300 units only (with standard active shield). Insertion length after installation is 500 mm (19.69"). | | **A5E01163720** |
| Kit, Stainless steel rod 580 mm (22.83") to be used with CLS300 units only (with standard active shield). Insertion length after installation is 750 mm (29.53"). | | **A5E01163721** |
| Kit, Stainless steel rod 830 mm (32.68") to be used with CLS300 units only (with standard active shield). Insertion length after installation is 1000 mm (39.37"). | | **A5E01163722** |
| Kit, Stainless steel rod 1330 mm (52.36") to be used with CLS300 units only (with standard active shield). Insertion length after installation is 1500 mm (59.06"). | | **See note 2.** |
| Kit, Stainless steel rod 1830 mm (72.05") to be used with CLS300 units only (with standard active shield). Insertion length after installation is 2000 mm (78.74"). | | **See note 2.** |
| Kit, Stainless steel rod customized length up to 1 m | | **See note 2.** |
| Kit, Stainless steel rod customized length up to 2 m | | **See note 2.** |
| **CLS300 Electronics Kits with drivers (for rod or cable versions)** | |  |
| Kit, Electronics with driver, standard CLS300. To be used in rod or cable versions with length less than 5 m. See note 3 and 4. | C) | **A5E01163723** |
| Kit, Electronics with driver, digital CLS300. To be used in rod or cable versions with length less than 5 m. See note 3 and 4. | C) | **A5E01163725** |
| **CLS300 Electronics Kits with drivers (for cable versions)** | |  |
| Kit, Electronics with driver, standard CLS300. To be used in cable versions with length greater than 5 m. See note 3 and 4. | C) | **A5E01163724** |
| Kit, Electronics with driver, digital CLS300. To be used in cable versions with length greater than 5 m. See note 3 and 4. | C) | **A5E01163726** |

| Pointek Specials. See note 1. | Order No. |
|---|---|
| **CLS300 Weight Kit, 316L stainless steel** |  |
| Kit, Spare stainless steel weight. To be used in any cable version of CLS300 | **A5E01163727** |
| **CLS500 Gasket (IP65), Silicone** |  |
| Spare gasket, CLS500 enclosure version, IP65 | **A5E01163728** |
| **CLS500 Blind Lid** |  |
| Spare CLS500 aluminum blind lid | **A5E01163729** |

Note 1: Special flange sizes and facings are available. Please contact nacc.smpi@siemens.com for part number and pricing. Submit Application Questionnaire found on page 5/8.

Note 2: Please contact nacc.smpi@siemens.com for part number and pricing.

Note 3: For General Purpose approvals only.

Note 4: To maintain approvals, qualified trained Siemens personnel required for part replacement.

Please contact nacc.smpi@siemens.com for special requests.

C) Subject to export regulations AL: N, ECCN: EAR99

F) Subject to export regulations AL: 91999, ECCN: N

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