

Models 2078 and 2085 (Including 2998 and 2999 Flow Chambers) Conductivity Cells

ABB Conductivity Cells
Powerful technology – simple
operation



Highly accurate cell constants 0.05, 0.10 and 1.00

- Measurements capability down to 0.055 $\mu\text{S}/\text{cm}$

Integral Pt100

- Enables automatic temperature compensation

316 stainless steel

- Corrosion-resistant wetted parts

Highly accurate cell constant

- No in-situ calibration required

Insertion and Retractable versions

- Easy installation and operation

Stainless Steel Cells – Models 2078 and 2085

Stainless steel conductivity cells are accurate, reliable and of rugged construction. The surface of the electrode is prepared specially, eliminating errors due to polarisation. The full range of cells incorporate designs for screw-in and withdrawable configurations. These cells are suitable for a wide variety of applications such as :

- Boiler Feedwater
- Steam Condensate.
- Desalination Plant
- Semi-conductor
- Distillation

| <p>Screw-in Model 2078</p> <p>Dims. in mm (in.)</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th>Model</th> <th>A mm (in)</th> <th>B mm (in)</th> </tr> </thead> <tbody> <tr> <td>2078-4</td> <td>184 (7.24)</td> <td>102 (4.0)</td> </tr> <tr> <td>2078-3</td> <td>184 (7.24)</td> <td>102 (4.0)</td> </tr> </tbody> </table> | Model | A mm (in) | B mm (in) | 2078-4 | 184 (7.24) | 102 (4.0) | 2078-3 | 184 (7.24) | 102 (4.0) | <p>Specification</p> <p>Cell constant available 0.05 or 0.1</p> <p>Type Screw-in</p> <p>Cell body 316 St. Steel</p> <p>Electrode material 316 St. Steel</p> <p>Fixing detail Threaded 3/4 in. BSP parallel or NPT</p> <p>Maximum press. bar (psi) 10.5 (150)</p> <p>Maximum temp. 110°C (230°F)</p> | <p>Ordering Information</p> <p>Order under part number 2078-000</p> <p>Cell constant K= 0.05 3</p> <p>Threaded 3/4 in. BSP fitted with plug & socket 0</p> <p>Threaded 3/4 in. NPT fitted with plug & socket 8</p> <p>Temperature compensated Pt100 5</p> |
|--|------------|-----------|-----------|--------|------------|-----------|--------|------------|-----------|---|--|
| Model | A mm (in) | B mm (in) | | | | | | | | | |
| 2078-4 | 184 (7.24) | 102 (4.0) | | | | | | | | | |
| 2078-3 | 184 (7.24) | 102 (4.0) | | | | | | | | | |

| | | |
|---|--|---|
| <p>Withdrawable Cell Model 2085</p> <p>Dims. in mm (in.)</p> | <p>Specification</p> <p>Cell constant available 0.05 or 0.1</p> <p>Type Withdrawable</p> <p>Cell body Naval brass and 316 St. Steel</p> <p>Electrode material 316 St. Steel</p> <p>Fixing detail Used with Model 2089 valve assembly 1 1/2 in. BSP parallel or NPT</p> <p>Maximum press. bar (PSI) 10.5 (150)</p> <p>Maximum temp. 110°C (230°F)</p> | <p>Ordering Information</p> <p>Order under part number 2085-000</p> <p>Cell constant K = 0.05 3</p> <p>Cell constant K = 0.1 4</p> <p>1 m (3.3 ft) cable 0</p> <p>2 m (6.6 ft) cable 1</p> <p>Non-temperature compensated 0</p> <p>Temperature compensated Pt100 5</p> |
|---|--|---|

Model 2999 Flow Chambers

A range of stainless steel flow chambers is available for flow applications which require the use of a screw-in type cell (e.g. ultrapure water applications). These are available as the 2999 Series, the most common versions of which are detailed below. Special requirements can be catered for under certain circumstances.

Dims in mm (in.)

Order withdrawable valve for this cell under part number 2089-800.

Ordering Information

| Part No. | Description | Process Connections |
|----------|---|----------------------------|
| 2999-190 | Flow jacket to fit Model 2078 on AC221 cell | 3/8 in. NPT (left outlet) |
| 2999-975 | Flow jacket to fit Model 2078 on AC221 cell | 3/8 in. NPT (front outlet) |
| 2999-350 | Flow jacket to fit Model 2078 on AC221 cell | 1/8 in. NPT (front outlet) |
| 2999-360 | Flow jacket to fit Model 2078 on AC221 cell | 3/8 in. BSP (front outlet) |

Note.
This is only a selection of flow chambers available. If your requirements are not listed above, please contact our Sales Department stating your needs as fully as possible.

Electrical Connections

Terminal Block B

| Terminal | Function | ABB Sensor Models 2078, 2085, 2089 |
|----------|-----------------|------------------------------------|
| 1 | Drive | Red |
| 2 | Sense | None |
| 3 | Sense | None |
| 4 | Drive | Black |
| 5 | RTD / TC | Blue and Green/Yellow |
| 6 | RTD / TC | Brown |
| 7 | Shield (Screen) | None |
| 8 | Not Used | None |

Connections of Cells to TB8xTE Conductivity Transmitters

| Terminal Block B | | Cell Connections | Cable Attached Cells | Cable Detached Cells |
|------------------|----------|---|----------------------|----------------------|
| Sensor B | Sensor A | | | |
| 1 | 9 | Temperature compensator common, Link B1 to B2 & B9 to 10 ** | Green | Green / Yellow |
| 2 | 10 | Temperature compensator third lead | Link to 1 or 9 | Blue |
| 3 | 11 | Temperature compensator | Yellow | Brown |
| 4 | 12 | Screen | No Connection ++ | Two Screens |
| 5 | 13 | Cell (Cell Electrodes) | Red | Red |
| 6 | 14 | Cell (Earth Electrodes) | Blue | Black |
| 7 | 15 | Not used | Not used | Not used |
| 8 | 16 | Not used | Not used | Not used |

** When a 2-wire Pt100, Pt1000 or BALCO 3K temperature compensator is fitted.
++ If in an all plastic system which is isolated (not earthed) link to 6 or 14.

Connections of Cells to AX400 Conductivity Transmitters

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