Manual Retractable Fittings

SensoGate® WA 131 M
Manual retractable fitting with safe-to-operate rotary drive

**Revolutionary operation**
The SensoGate® WA 131 M has a manual rotary drive, which enables the fitting to be operated up to a counter pressure of 145 psi (10 bar) – and this in less than two rotations. Regardless of how unfavorable the angle or the operating height at which the fitting is installed. Little rotary force is required and is easily applied manually. This is not possible with the sliding motion of conventional retractable fittings.

**Maximum process safety**
The configuration of the O-rings means that there is never any connection between the drain opening of the cleaning chamber and the process, even during inward and outward movement of the sensor.

For maximum process safety, the sensor can only be removed in the service position. Automatic insertion protection reliably blocks the movement of the fitting and prevents extension into the process position without a sensor.

**Facts**

- Compact, buildup resistant design
- Low maintenance
- Simple replacement of seals due to divided calibration/cleaning chamber
- Increased service life and reduced seal wear
- ATEX approval II 1GD c II for the complete fitting
- Low cost, simple installation, operation, and maintenance
- SensoLock for high operational safety
- Integrated limit switches
- Fast and easy replacement of calibration chamber and insertion tube
- All maintenance can be performed on site
- Cyclone cleaning effect
- Standard sensor length (225 mm) even for large immersion depths
- Multiple process connections available
- Flange version with scraping ring
- Modular design allows specific replacement of the process-wetted materials: PEEK, PVDF, PP, 316 SS, Hastelloy
- Plastic versions with high pressure and temperature resistance due to carbon-fiber-reinforced plastics
- Special version for sensors with pressurized liquid electrolyte
## Specifications

**Permissible process pressure and temperature during movement**

<table>
<thead>
<tr>
<th>Material</th>
<th>Permissible Pressure and Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>316 SS/Hastelloy</td>
<td>145 psi (10 bar) (32°F … 284°F) 0°F … 140°C)</td>
</tr>
<tr>
<td>PEEK HD</td>
<td>145 psi (10 bar) (32°F … 284°F) 0°F … 140°C)</td>
</tr>
<tr>
<td>PVDF HD</td>
<td>Permissible Pressure (32°F … 248°F) (0°C … 120°C), 6 bar (284°F (140°C)) 30 min</td>
</tr>
<tr>
<td>PEEK/PVDF</td>
<td>87 psi (6 bar) (32°F … 104°F (0°C … 40°C)), falling linearly to 29 psi (2 bar) (248°F (120°C))</td>
</tr>
<tr>
<td>PP</td>
<td>87 psi (6 bar) (41°F … 86°F (5°C … 30°C)), falling linearly to 14.5 psi (1 bar) (176°F (80°C))</td>
</tr>
<tr>
<td>PP, in service position</td>
<td>232 psi (16 bar) (32°F … 104°F (0°C … 40°C)), PP 10 bars (5°F … 20°C)</td>
</tr>
</tbody>
</table>

**Ambient temperature**

14°F … 158°F (-10°C … 70°C)

**Ingress protection**

IP 66

**Housing material**

Stainless steel A2/PP or stainless steel/PEEK

**Permissible pressure for probe control**

58 psi … 101 psi (4 bar … 7 bar)

### Sensors

- With gel electrolyte
  - Ø 12 mm, length 225 mm with temp detector, Pg 13.5 thread

- With liquid electrolyte
  - Ø 12 mm, length 250 mm with temp detector

### Process connections

- Flanges, DIN EN 1092-1
  - DN 32 … 100

- Flanges, ANSI B 16.5
  - 1 1/2" to 3"

- Threaded
  - 1" NPT

- Dairy pipe, DIN 11851
  - DN 50 … 100

- Ingold socket, 25 mm
  - 25 mm

- G 2 1/4"
  - For Knick ARF210/30X

### Connections

- Rinse and calibration media (optional)
  - Internal thread G 1/8", hose coupling G 1/8"-DN 4/6

- Outlet (optional)
  - Outlet hose, NW 8 EPDM 3m

- For pressurized sensors
  - Hose connection NW 6, pressure in sensor chamber

- Immersion depths/Installation dimensions
  - See dimensional drawings

- Process-wetted materials
  - See order code

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For up-to-date information, please visit [www.m4knick.com](http://www.m4knick.com)
## Manual Retractable Fittings

### SensoGate® WA 131 M for process applications

<table>
<thead>
<tr>
<th>Product Line</th>
<th>Order No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process sensor lock-gate, pneumatic WA 131 M /</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Explosion protection</strong></th>
<th><strong>Order No.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>for hazardous area Zone 1</td>
<td>X N</td>
</tr>
<tr>
<td>without</td>
<td>0 1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Sensor</strong></th>
<th><strong>Order No.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>solid electrolyte</td>
<td>A B E K</td>
</tr>
<tr>
<td>liquid electrolyte (pressurization possible)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Gasket material</strong></th>
<th><strong>Order No.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>elastomeric ring set A, FKM (Viton)</td>
<td></td>
</tr>
<tr>
<td>elastomeric ring set B, EPDM</td>
<td></td>
</tr>
<tr>
<td>elastomeric ring set E, EPDM FDA</td>
<td></td>
</tr>
<tr>
<td>elastomeric ring set K, FFKM, compl. (Kalrez)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Process-wetted materials</strong></th>
<th><strong>Order No.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>316 SS/316 SS/316 SS Hastelloy/Hastelloy/Hastelloy</td>
<td>A B</td>
</tr>
<tr>
<td>PEEK/PEEK/PEEK PVDF/PVDF/PVDF</td>
<td>C D</td>
</tr>
<tr>
<td>PEEK HD/PEEK HD/PEEK HD PVDF HD/PVDF HD/PVDF HD</td>
<td>E F</td>
</tr>
<tr>
<td>PP reinforced</td>
<td>P</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Process adaptation</strong></th>
<th><strong>Order No.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>flange, steel, 316 SS, DN 32</td>
<td>B 0</td>
</tr>
<tr>
<td>flange, steel, 316 SS, DN 40</td>
<td>B A</td>
</tr>
<tr>
<td>flange, steel, 316 SS, DN 50</td>
<td>B 1</td>
</tr>
<tr>
<td>flange, steel, 316 SS, DN 65</td>
<td>B 2</td>
</tr>
<tr>
<td>flange, steel, 316 SS, DN 80</td>
<td>B 3</td>
</tr>
<tr>
<td>flange, steel, 316 SS, DN 100</td>
<td>B 4</td>
</tr>
<tr>
<td>dairy pipe, DN 50</td>
<td>C 1</td>
</tr>
<tr>
<td>dairy pipe, DN 65</td>
<td>C 2</td>
</tr>
<tr>
<td>dairy pipe, DN 80</td>
<td>C 3</td>
</tr>
<tr>
<td>dairy pipe, DN 100</td>
<td>C 4</td>
</tr>
<tr>
<td>flange, ANSI 316 SS, 1 1/2&quot;</td>
<td>D 0</td>
</tr>
<tr>
<td>flange, ANSI 316 SS, 2&quot;</td>
<td>D 1</td>
</tr>
<tr>
<td>flange, ANSI 316 SS, 2 1/2&quot;</td>
<td>D 2</td>
</tr>
<tr>
<td>flange, ANSI 316 SS, 3&quot;</td>
<td>D 3</td>
</tr>
<tr>
<td>Ingold socket, 25 mm</td>
<td>H 0</td>
</tr>
<tr>
<td>G 2 1/4&quot; for ARF 210/30xxxx</td>
<td>K 1</td>
</tr>
<tr>
<td>NPT 1&quot; (male)</td>
<td>N 1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Immersion depth</strong></th>
<th><strong>Order No.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>short</td>
<td>A</td>
</tr>
<tr>
<td>long</td>
<td>B</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Electrical limit signal</strong></th>
<th><strong>Order No.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>with</td>
<td>A</td>
</tr>
<tr>
<td>without</td>
<td>B</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Rinse-medium connection</strong></th>
<th><strong>Order No.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>G 1/8&quot; complete with outlet hose (3 m)</td>
<td></td>
</tr>
<tr>
<td>G 1/8&quot; complete with outlet hose (3 m), inlet G 1/8&quot;</td>
<td></td>
</tr>
<tr>
<td>and inlet hose (5 m) complete with coupling nut</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Housing material</strong></th>
<th><strong>Order No.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>stainless steel / PP (&lt; 6 bars operating pressure)</td>
<td>1</td>
</tr>
<tr>
<td>stainless steel / PEEK (&lt; 10 bars operating pressure)</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Special variant</strong></th>
<th><strong>Order No.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>without equipped with special grease (provided by customer)</td>
<td>0 0 0</td>
</tr>
<tr>
<td>with scraper ring, reinforced version, PTFE/PEEK (ZU 0760)</td>
<td>0 0 1</td>
</tr>
<tr>
<td>reduced stroke (shortened immersion depth)</td>
<td>0 0 3 4</td>
</tr>
</tbody>
</table>

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*1 Material combinations: Process-wetted part of calibration chamber/rinse-wetted part of calibration chamber/immersion tube

1) With the lower calibration chamber made of plastic, you require one of the following flange protectors: ZU 0755, ZU 0756, ZU 0757, ZU 0758
<table>
<thead>
<tr>
<th><strong>Accessories</strong></th>
<th><strong>Order No.</strong></th>
</tr>
</thead>
</table>
| **Service set** | basic equipment ZU 0680  
| | maintenance, repair, retrofit ZU 0740  
| | calibration chamber ZU 0754  |
| **Sensor mounting wrench, 19 mm** | ZU 0647  |
| **Mounting aid** | for 20 x 2.5 O-rings ZU 0747  
| | for scraper ring ZU 0746  |
| **Bellows** | version for liquid-electrolyte sensors ZU 0739  |
| **Protective cap** | version for sensors with polymeric electrolyte ZU 0759  |
| **Scraper ring** | reinforced version, PTFE/PEEK ZU 0760  |
| **Material Certificate 3.1** | ZU 0708  |
| **Air supply** | for pressurized sensors, 7 … 58 psi (0.5 … 4 bar) ZU 0670/1  
| | for pressurized sensors, 14.5 … 101 psi (1 … 7 bar) ZU 0670/2  |
| **Hose** | 20 m (extension for ZU 0670) ZU 0713  |
| **Flange protectors** | PEEK/FFKM DN 80 ZU 0755  
| | PEEK/FFKM DN 100 ZU 0756  
| | PVDF/FFKM DN 80 ZU 0757  
| | PVDF/FFKM DN 100 ZU 0758  |
| **Weld-in socket, beveled 15°, PP, length 60 mm** | ZU 0821  |
| **Safety weld-in socket, straight, 40 mm** | for tank wall ZU 0717  
| | for pipe, DN 50 ZU 0717/DN50  
| | for pipe, DN 65 ZU 0717/DN65  
| | for pipe, DN 80 ZU 0717/DN80  
| | for pipe, DN 100 ZU 0717/DN100  |
| **Safety weld-in socket, beveled 15°, 40 mm** | for tank wall ZU 0718  
| | for pipe, DN 50 ZU 0718/DN50  
| | for pipe, DN 65 ZU 0718/DN65  
| | for pipe, DN 80 ZU 0718/DN80  
| | for pipe, DN 100 ZU 0718/DN100  
| | for tank wall, Hastelloy C22 ZU 0718/C22  |
| **Retainer clamp for 25-mm socket** | ZU 0818  |
# Manual Retractable Fittings

## SensoGate® WA 131 M for process applications

### Gaskets

<table>
<thead>
<tr>
<th>Flange or dairy pipe</th>
<th>Set</th>
<th>Contact (process/rinse medium)</th>
<th>Order No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A/1</td>
<td>FKM</td>
<td>ZU 0689/1</td>
<td></td>
</tr>
<tr>
<td>A/2</td>
<td>FKM/FKM</td>
<td>ZU 0829</td>
<td></td>
</tr>
<tr>
<td>B/1</td>
<td>EPDM</td>
<td>ZU 0690/1</td>
<td></td>
</tr>
<tr>
<td>B/2</td>
<td>EPDM/EPDM</td>
<td>ZU 0830</td>
<td></td>
</tr>
<tr>
<td>E/1</td>
<td>EPDM FDA</td>
<td>ZU 0692/1</td>
<td></td>
</tr>
<tr>
<td>E/2</td>
<td>EPDM FDA/EPDM</td>
<td>ZU 0831</td>
<td></td>
</tr>
<tr>
<td>K/1</td>
<td>FFKM</td>
<td>ZU 0691/1</td>
<td></td>
</tr>
<tr>
<td>K/2</td>
<td>FFKM/FFKM</td>
<td>ZU 0832</td>
<td></td>
</tr>
<tr>
<td>Ingold socket H0</td>
<td>A/1</td>
<td>FKM</td>
<td>ZU 0693/1</td>
</tr>
<tr>
<td>A/2</td>
<td>FKM/FKM</td>
<td>ZU 0833</td>
<td></td>
</tr>
<tr>
<td>B/1</td>
<td>EPDM</td>
<td>ZU 0694/1</td>
<td></td>
</tr>
<tr>
<td>B/2</td>
<td>EPDM/EPDM</td>
<td>ZU 0834</td>
<td></td>
</tr>
<tr>
<td>E/1</td>
<td>EPDM FDA</td>
<td>ZU 0696/1</td>
<td></td>
</tr>
<tr>
<td>E/2</td>
<td>EPDM FDA/EPDM</td>
<td>ZU 0835</td>
<td></td>
</tr>
<tr>
<td>K/1</td>
<td>FFKM</td>
<td>ZU 0695/1</td>
<td></td>
</tr>
<tr>
<td>K/2</td>
<td>FFKM/FFKM</td>
<td>ZU 0836</td>
<td></td>
</tr>
</tbody>
</table>

FKM: Viton  
FFKM: Kalrez, Chemraz, Perlast  

### Spare Parts

<table>
<thead>
<tr>
<th>Immersion tube, short</th>
<th>316 SS</th>
<th>Order No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>316 SS</td>
<td>ZU 0722</td>
<td></td>
</tr>
<tr>
<td>Hastelloy C22</td>
<td>ZU 0853</td>
<td></td>
</tr>
<tr>
<td>PEEK</td>
<td>ZU 0724</td>
<td></td>
</tr>
<tr>
<td>PVDF</td>
<td>ZU 0726</td>
<td></td>
</tr>
<tr>
<td>PP</td>
<td>ZU 0825</td>
<td></td>
</tr>
<tr>
<td>Immersion tube, long</td>
<td>316 SS</td>
<td>Order No.</td>
</tr>
<tr>
<td>316 SS</td>
<td>ZU 0723</td>
<td></td>
</tr>
<tr>
<td>Hastelloy C22</td>
<td>ZU 0854</td>
<td></td>
</tr>
<tr>
<td>PEEK</td>
<td>ZU 0725</td>
<td></td>
</tr>
<tr>
<td>PVDF</td>
<td>ZU 0727</td>
<td></td>
</tr>
<tr>
<td>PP</td>
<td>ZU 0826</td>
<td></td>
</tr>
</tbody>
</table>
For up-to-date information, please visit www.m4knick.com

Dimensional Drawings

Installation dimensions for SensoGate® WA 131 M with short immersion depth for sensors with gel electrolyte

Installation dimensions for SensoGate® WA 131 M with long immersion depth for sensors with gel electrolyte

Installation dimensions for SensoGate® WA 131 M for sensors with liquid electrolyte

SensoGate® WA 131 M
Process adaptation for flange, DN 32 … DN 100 ANSI 316 SS, 1 1/2” … 3”, short and long immersion depth (ID)

SensoGate® WA 131 M
Process adaptation for 25 mm Ingold socket, short and long immersion depth (ID)

SensoGate® WA 131 M
Process adaptation for dairy pipe, DIN 11851 DN 50 … DN 100, short and long immersion depth (ID)