

# Manual Retractable Fittings

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## SensoGate® WA 131 M

**Innovative manual retractable fitting with safe-to-operate rotary drive**

For applications in which pneumatic fittings are not essential, Knick has developed the SensoGate® WA 131M, a state-of-the-art manual sensor lock-gate fully compatible with its pneumatically controlled "sister fittings". This applies to rinsing chambers and process connections as well as the materials used.

### 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 10 bar – and this in less than two turns. Regardless of how unfavorable the angle or the operating height at which the fitting is installed, the low rotary forces can easily be applied using the wrist. This is not possible with the sliding motion of conventional fittings.

### Maximum process safety

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

For reasons of safety, the sensor can only be removed in the service position. Automatic extension protection reliably blocks the movement of the fitting and prevents extension into the process position with no sensor. Furthermore, the immersion tube is secured against twisting, which guarantees constant flow conditions for the sensor in the process.



### Facts

- compact, smooth, and dirt-resistant design
- minimum maintenance costs and maximum flexibility thanks to completely modular design
- very 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
- cost reduction by simple installation, operation, and maintenance
- very high availability
- protective rinsing of the seals for a long service life
- SensoLock for high safety of operation
- integrated limit switches
- fast and uncomplicated replacement of calibration chamber and immersion tube
- all maintenance can be performed on site
- cyclone rinsing for optimum cleaning effect
- superior sensor immersion depth
- standard sensor length (225 mm) even for large immersion depths
- multiple process connections available
- flange version with scraper ring
- modular design allows specific replacement of the process-wetted materials: PEEK, PVDF, PP, 1.4571, Hastelloy
- plastic versions with high pressure and temperature resistance due to carbon-fiber-reinforced plastics
- special version for sensors with pressurizable liquid electrolyte

## Specifications

### Permissible process pressure and temperature during movement

Process adaptation 1.4571/ Hastelloy	10 bar (at 0 ... 140 °C)
Process adaptation PEEK HD	10 bar (at 0 ... 140 °C)
Process adaptation PVDF HD	10 bar (0 ... 120 °C), 6 bar (140 °C) 30 min
Process adaptation PEEK/PVDF	6 bar (0 ... 40 °C), falling linearly to 2 bar (120 °C)
Process adaptation PP	6 bar (5 ... 30 °C), falling linearly to 1 bar (80 °C)
Permissible process pressure and temperature, statically in service position	16 bar (at 0 ... 40 °C), PP 10 bar (at 5 ... 20 °C)

Ambient temperature	-10 ... +70 °C
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Ingress protection	IP 66
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Housing material	Stainless steel A2/PP or stainless steel/PEEK
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Permissible pressure for probe control	4 ... 7 bar
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### Sensors

With gel electrolyte	Ø 12 mm, length 225 mm with temp detector, Pg 13.5 thread
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With liquid electrolyte	Ø 12 mm, length 250 mm with temp detector
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### Process adaptations

Flanges, DIN EN 1092-1	DN 32 ... 100
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Flanges, ANSI B 16.5	1 1/2" to 3"
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Dairy pipe, DIN 11851	DN 50 ... 100
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Ingold socket, 25 mm	25 mm
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G 2 1/4"	for Knick ARF210/30X
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### Connections

Rinse and calibration media (optional)	internal thread G 1/8", hose coupling G 1/8"-DN 4/6
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Outlet (optional)	outlet hose, NW 8 EPDM 3m
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For pressurized sensors	hose connection NW 6, pressure in sensor chamber 0.5 ... 1 bar above process pressure (max. 7 bar)
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Immersion depths/ Installation dimensions	see dimension drawings, page 261
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Process-wetted materials	see order code, page 258
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## SensoGate® WA 131 M for process applications

Product Line

Order No.

Process sensor lock-gate, pneumatic		WA 131 M /	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Explosion protection</b>	for hazardous area Zone 1 without	X N																
<b>Sensor</b>	solid electrolyte liquid electrolyte (pressurization possible)	0 1																
<b>Gasket material</b>	elastomeric ring set A, FKM (Viton) elastomeric ring set B, EPDM elastomeric ring set E, EPDM FDA elastomeric ring set K, FFKM, compl. (Kalrez)	A B E K																
<b>Process-wetted materials*</b>	1.4571/1.4571/1.4571 Hastelloy/Hastelloy/Hastelloy	A B																
	PEEK/PEEK/PEEK PVDF/PVDF/PVDF	C D																
	PEEK HD/PEEK HD/PEEK HD PVDF HD/PVDF HD/PVDF HD	E F																
	PP reinforced	P																
<b>Process adaptation</b>	flange, steel, 1.4571, DN 32 flange, steel, 1.4571, DN 40 flange, steel, 1.4571, DN 50 flange, steel, 1.4571, DN 65 flange, steel, 1.4571, DN 80 <sup>1)</sup> flange, steel, 1.4571, DN 100 <sup>1)</sup>	B 0 B A B 1 B 2 B 3 B 4																
	dairy pipe, DN 50 dairy pipe, DN 65 dairy pipe, DN 80 dairy pipe, DN 100	C 1 C 2 C 3 C 4																
	flange ANSI 316, 1 1/2" flange ANSI 316, 2" flange ANSI 316, 2 1/2" flange ANSI 316, 3" <sup>1)</sup>	D 0 D 1 D 2 D 3																
	Ingold socket, 25 mm	H 0																
	G 2 1/4; for ARF 210/30xxxx	K 1																
<b>Immersion depth</b>	short long	A B																
<b>Electrical limit signal</b>	without with	A B																
<b>Rinse-medium connection</b>	G 1/8" complete with outlet hose (3 m) G 1/8" complete with outlet hose (3 m), inlet G 1/8" G 1/8" complete with outlet hose (3 m), inlet G 1/8" and inlet hose (5 m) complete with coupling nut	0 1 2																
<b>Housing material</b>	stainless steel / PP (< 6 bar operating pressure) stainless steel / PEEK (< 10 bar operating pressure)	1 2																
<b>Special variant</b>	without equipped with special grease (provided by customer) with scraper ring, reinforced version, PTFE/PEEK (ZU 0760) reduced stroke (shortened immersion depth)	0 0 0 0 0 1 0 0 3 0 0 4																

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

<sup>1)</sup> With the lower calibration chamber made of plastic, you require one of the following flange protectors: ZU 0755, ZU 0756, ZU 0757, ZU 0758

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

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## SensoGate® WA 131 M for process applications

### Gaskets

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

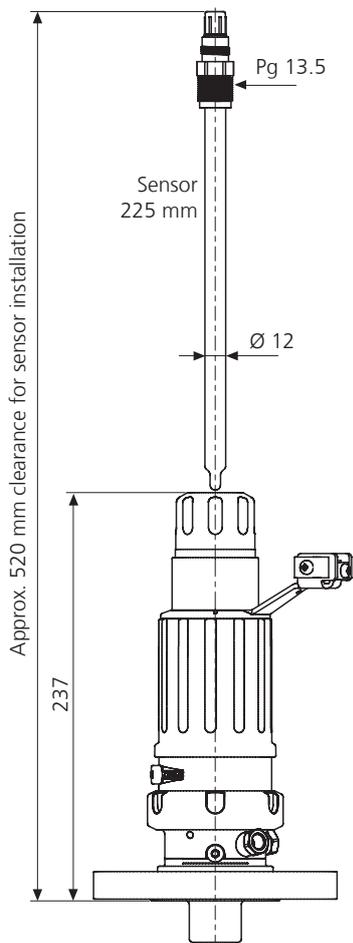
FKM: Viton  
FFKM: Kalrez, Chemraz, Perlast

### Spare Parts

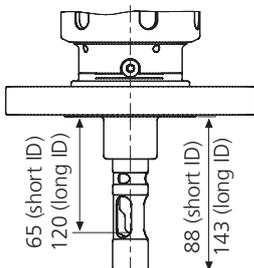
		Order No.
Immersion tube, short	1.4571	<b>ZU 0722</b>
	Hastelloy C22	<b>ZU 0853</b>
	PEEK	<b>ZU 0724</b>
	PVDF	<b>ZU 0726</b>
	PP	<b>ZU 0825</b>
	Immersion tube, long	1.4571
Hastelloy C22		<b>ZU 0854</b>
PEEK		<b>ZU 0725</b>
PVDF		<b>ZU 0727</b>
PP		<b>ZU 0826</b>

## Dimension Drawings

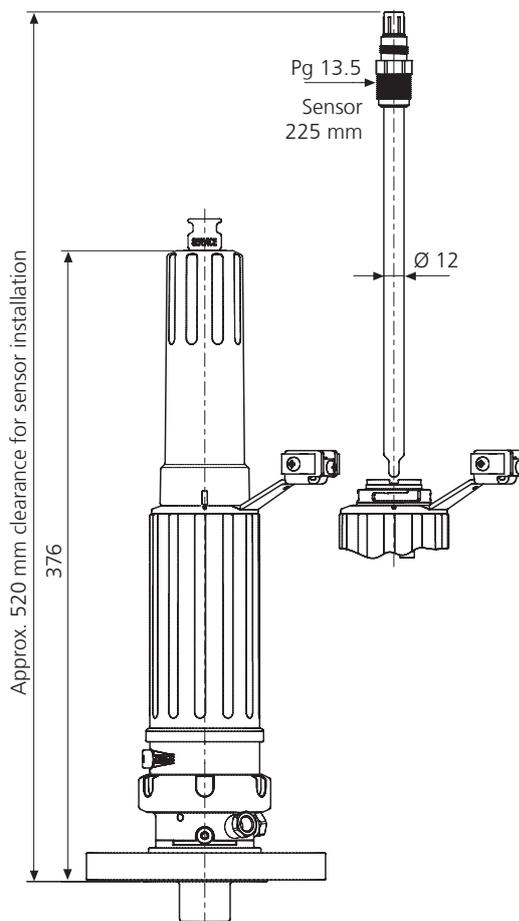
Installation dimensions for SensoGate® WA 131 M with short immersion depth for sensors with gel electrolyte



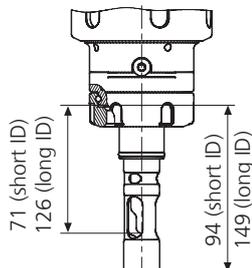
SensoGate® WA 131 M  
Process adaptation for flange, DN 32 ... DN 100  
ANSI 316, 1 1/2" ... 3", short and long immersion depth (ID)



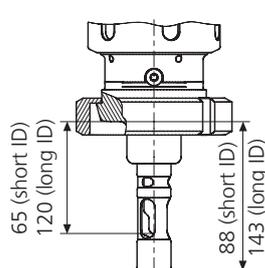
Installation dimensions for SensoGate® WA 131 M with long immersion depth for sensors with gel electrolyte



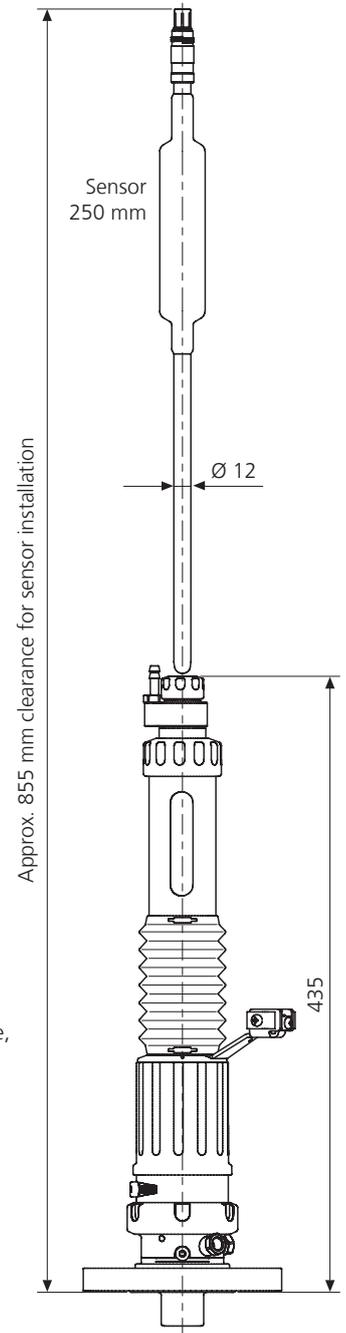
SensoGate® WA 131 M  
Process adaption for 25 mm Ingold socket, short and long immersion depth (ID)



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



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



All dimensions in mm