



## Ceramat WA 150

### Inline version with application-specific process connection

Retractable fitting with ceramic sealing to the process for maximum measuring point availability.

For measurement in highly viscous, abrasive, fibrous or clogging process media.

The no-wear process sealing and modular construction of the retractable fittings allow the drive to be disassembled for sensor adjustment, cleaning or replacement during the ongoing process. Particularly in conjunction with the automatic cleaning and calibration system, Ceramat achieves maximum measuring point availability with minimum maintenance effort. Also ideal for measurement with optical sensors.

#### Facts and Features

- Ceramic sealing to the process:
  - Extremely high hardness (Mohs hardness 9) prevents sealing surface wear in abrasive media.
  - Virtually wear-resistant
  - Maximum and permanent tightness due to lapped and polished sealing surfaces
  - High mechanical strength
  - High temperature stability
  - High chemical resistance
  - Sterilizable
- Plug & play for all process media thanks to central multiplug
- Corrosion-proof design with smooth surfaces
- All maintenance work possible on site
- Drive easy to replace under process conditions
- Cyclone rinsing for optimum cleaning effect
- Cavity rinsing for accurate measured values and improved hygiene
- Sensor dismount guard in conjunction with Uniclean 900/Unical 9000
- Superior sensor immersion depth
- Standard sensor length (225 mm)
- Special version for electrodes with pressurizable liquid electrolyte (for 250 mm-sensors with electrolyte reservoir)
- Wetted outer body PVDF or PEEK, carbon fiber-reinforced
- Measurement with optical sensors (Ø 12 mm or ½")

# Ceramat WA 150

## Product Range

Basic Unit		WA 150-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Explosion protection	ATEX Zone 0 Without	X N										
Sensor	Sensor, Ø 12 mm, with PG 13.5 pH sensor, Ø 12 mm, pressurized Optical sensor, Ø ½" (12.7 mm) Optical sensor, Ø 12 mm	0 1 2 3										
Gasket material	FKM EPDM FFKM / FKM FFKM / EPDM EPDM - FDA FFKM - FDA FFKM	A B C D E H K										
Material of probe housing and sensor socket	PEEK with integrated sensor protection PVDF with integrated sensor protection PEEK without integrated sensor protection PVDF without integrated sensor protection PEEK without integrated sensor protection, long sensor socket, 1.4571 PEEK without integrated sensor protection, long sensor socket, C22 PVDF without integrated sensor protection, long sensor socket, 1.4571 PVDF without integrated sensor protection, long sensor socket, C22 PEEK without integrated sensor protection, socket with PEEK scraper ring PEEK w/o integr. sensor prot., sensor socket with full sensor protection, 1.4571 PVDF w/o integr. sensor prot., sensor socket with full sensor protection, 1.4571 PEEK w/o integr. sensor prot., sensor socket with full sensor protection, C22 PVDF w/o integr. sensor prot., sensor socket with full sensor protection, C22	A B C D H J K L M N O P R										
Process connection	Flange, fixed, 1.4571, PN10/16, DN 50 Flange, loose, 1.4571, PN10/16, DN 50 Flange, loose, 1.4571, PN10/16, DN 65 Flange, loose, 1.4571, PN10/16, DN 80 Flange, loose, 1.4571, PN10/16, DN 100 Flange, loose, 1.4571, PN40, DN 50 Flange, loose, 1.4571, PN40, DN 65 Flange, loose, 1.4571, PN40, DN 80 Flange, loose, 1.4571, PN40, DN 100 Dairy pipe DN 50 Dairy pipe DN 65 Dairy pipe DN 80 Dairy pipe DN 100 Flange, loose, ANSI 316, 150 lbs, 2" Flange, loose, ANSI 316, 150 lbs, 2 ½" Flange, loose, ANSI 316, 150 lbs, 3" Flange, loose, ANSI 316, 150 lbs, 3.5" Flange, loose, ANSI 316, 150 lbs, 4" Flange, loose, 1.4571, PN10/16, DN 65, deposit remover, EPDM Flange, loose, 1.4571, PN10/16, DN 80, deposit remover, EPDM Flange, loose, 1.4571, PN10/16, DN 65, EPDM coated	A 1 B 1 B 2 B 3 B 4 E 1 E 2 E 3 E 4 C 1 C 2 C 3 C 4 D 1 D 2 D 3 D 4 D 5 F 2 F 3 Y 2										
Special variant	Without									0	0	0

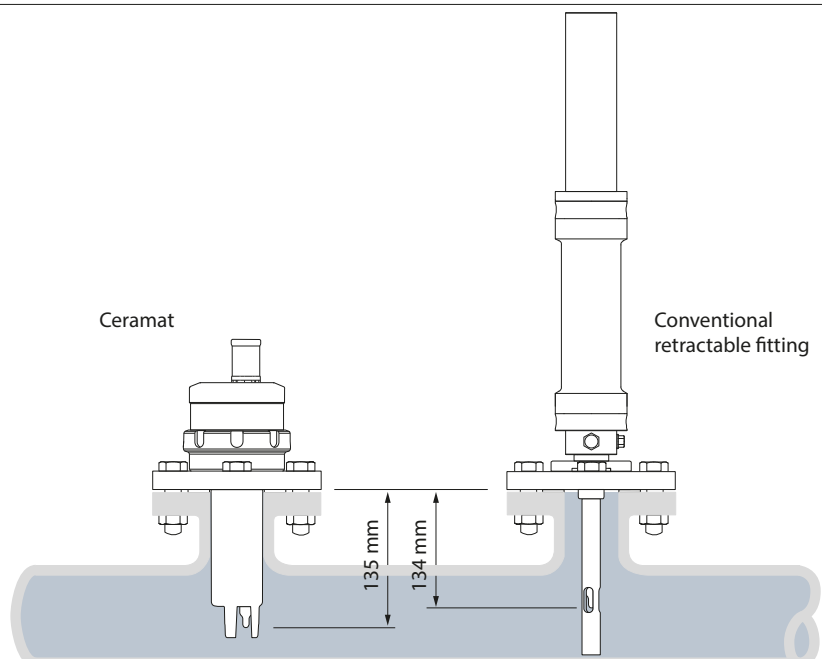
Further configurations of these options may be available on request.

**Specifications**

Permissible process temperature	During movement	5 ... 120 °C, briefly (30 min) 140 °C
Permissible process pressure	During movement	6 bar (at 0 ... 120 °C)
	Static in service position	16 bar (at 0 ... 40 °C)
Sensors	225 mm, PG-13.5 threaded coupling 250 mm with pressurized liquid electrolyte sensors Optical sensors Ø 12 mm, Ø 12.7 mm (½")	
Air supply	4 ... 7 bar	
Immersion depth	Approx. 135 mm, depending on process connection	
Process connection	Flanges DN 50/DN 65/DN 80/DN 100	
	Flanges DN 65/DN 80 with pneumatic deposit removal	
	Flanges ANSI 2", 2 ½", 3", 3 ½", 4"	
	Dairy-pipe screw joint DN 50/DN 65/DN 80/DN 100	
Outlet	Connection for hose nipple with coupling nut (Unical 9000/Uniclean 900) Internal shut-off by ceramic disks	
Inlet	Connection for multi-plug connection Unical/Uniclean Internal shut-off by ceramic disks	
Special functions	Rinsing interior cavities	
Process-wetted materials	PEEK carbon fiber-reinforced or PVDF carbon fiber reinforced; ceramic (aluminum oxide); O-rings made of EPDM, FKM or FFKM	
Housing	Stainless steel 1.4571	
Protection	IP 66	
Connection to Uniclean 900/Unical 9000	Compact multi-plug connection	
Sensor protection in the process	Integrated probe guard made of PVDF (carbon fiber-reinforced) or PEEK (carbon fiber-reinforced), sensor socket with protection tube made of Hastelloy C22, PEEK, 1.4404, titanium	
Limit switch	Contactless electrical limit position control in conjunction with Unical 9000/Uniclean 900 or standard media interface ZU 0631	
Certificates	Inspection Certificate 3.1 (optional) ATEX II 1 GD c II	

**Immersion Depth**

Comparatively large immersion depth with a very compact design:



# Ceramat WA 150

## Design Examples

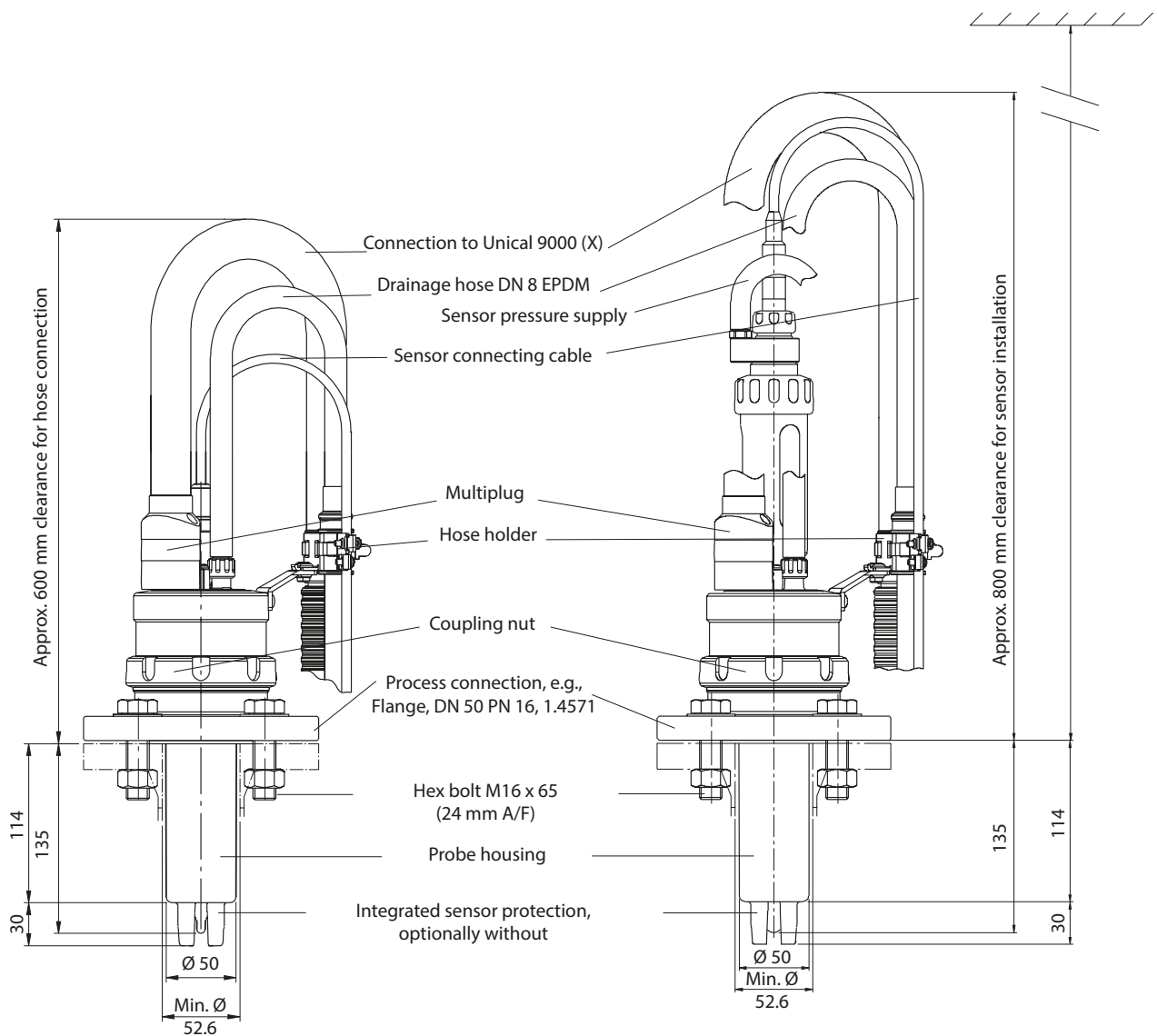
Sensor with solid electrolyte,  
225 mm



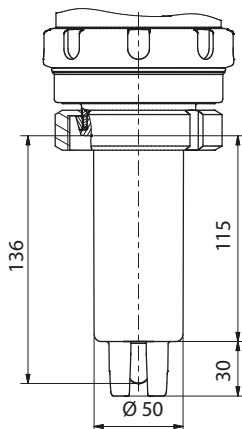
Sensor with liquid electrolyte,  
pressurizable, 250 mm



Dimension Drawings



Dairy pipe process connection



All dimensions in mm

# Ceramat WA 150

## Process Connection Design Examples

### Flange process connection

DN 50 ... DN 100



### Dairy pipe process connection

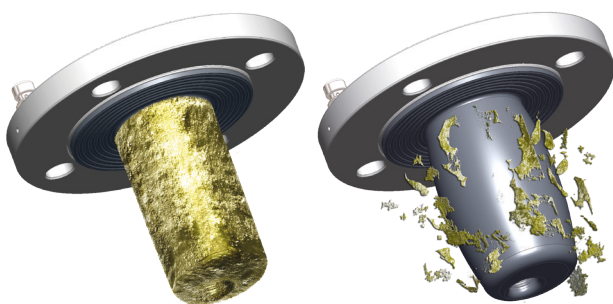
DN 50 ... DN 100



### Flange process connection with pneumatic deposit remover

For removal of brittle incrustations (e.g. lime), without process interruption.

Function principle: pneumatically moved elastomeric bellows



### Specifications

Air connection (drive)	Hose nipple DN 6
Pressure relief valve	Factory default settings corresponding to process pressure
Recommended accessories	Pressure reducer with manometer ZU 0670, sensor socket, long, ZU 0672 or ZU 0673
Operation on Unical 9000/Uniclean 900	"Supplementary external valve kit" required
Process-wetted materials	EPDM or FKM
Process connection	Flange DN 65 or DN 80

**Accessories for Ceramat WA 150**

Accessories	Order No.
Mounting wrench for Ceramat	ZU 0648
Sensor mounting wrench, 19 mm	ZU 0647
Standard media (SM) interface, PP/FKM	ZU 0631
Standard media (SM) interface, PEEK/FKM	ZU 0631/PEEK-FKM
Standard media (SM) interface, PEEK/EPDM	ZU 0631/PEEK-EPDM
Standard media (SM) interface, PEEK/FFKM	ZU 0631/PEEK-FFKM
Pneumatically operated manual control valve	ZU 0646
Pneumatically controlled 3/8" valve for additional medium	ZU 0669
Adapter for additional medium, PEEK/FKM	ZU 0654/1
Adapter for additional medium, PEEK/EPDM	ZU 0654/2
Adapter for additional medium, PEEK/FFKM	ZU 0654/3
Adapter for additional medium, steel 1.4571/FKM	ZU 0655/1
Adapter for additional medium, steel 1.4571/EPDM	ZU 0655/2
Adapter for additional medium, steel 1.4571/FFKM	ZU 0655/3
Flange protector DN 80, PEEK	ZU 0595
Flange protector DN 80, PVDF	ZU 0596
Flange protector DN 100, PEEK	ZU 0597
Flange protector DN 100, PVDF	ZU 0598
Air supply for pressurized sensors, 0.5 ... 4 bar	ZU 0670/1
Air supply for pressurized sensors, 1 ... 7 bar	ZU 0670/2
Hose, 20 m (extension for ZU 0670)	ZU 0713
Outlet hose	ZU 0889
Inspection certificate 3.1 according to EN 10204	ZU 0268/WA15n

**Check Valve for Ceramat WA 150**


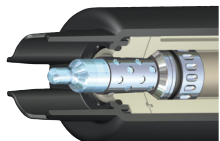

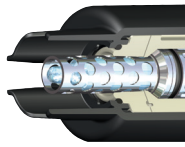

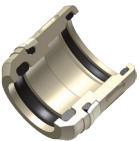
		RV01-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Housing material, valve body	Stainless steel 1.4404 PEEK	H E				
Gasket material	FKM EPDM FFKM FKM FDA EPDM FDA FFKM FDA	A B C F E H				
Inlet connection, female thread	G¼ G½			4 8		
Outlet connection, male thread	G¼ G½				4 8	

# Ceramat WA 150

## Gaskets for Ceramat WA 150

	Set	Process-wetted material	Order No.
Flange or dairy pipe	A	FKM	ZU 0624
	B	EPDM	ZU 0625
	C	FFKM	ZU 0626
	E	EPDM FDA	ZU 0661

## Sensor Sockets for Ceramat WA 150

		Order no.
	<b>Sensor socket with mounted O-rings</b>	
	Sensor socket PEEK/O-rings FKM	ZU 0616
	Sensor socket PEEK/O-rings EPDM	ZU 0617
	Sensor socket PEEK/O-rings FFKM	ZU 0618
	Sensor socket PEEK/O-rings EPDM FDA	ZU 0619
	Sensor socket PVDF/O-rings FKM	ZU 0620
	Sensor socket PVDF/O-rings EPDM	ZU 0621
	Sensor socket PVDF/O-rings FFKM	ZU 0622
Sensor socket PVDF/O-rings EPDM FDA	ZU 0623	
	<b>Long sensor socket with mounted O-rings</b>	
	This sensor socket is recommended for brittle incrustations (e.g. lime)	
	Sensor socket long 1.4571/O-rings FKM	ZU 0672/A
	Sensor socket long 1.4571/O-rings EPDM	ZU 0672/B
	Sensor socket long 1.4571/O-rings FFKM	ZU 0672/C
	Sensor socket long Hastelloy/O-rings FKM	ZU 0673/A
	Sensor socket long Hastelloy/O-rings EPDM	ZU 0673/B
	Sensor socket long Hastelloy/O-rings FFKM	ZU 0673/C
	<b>Sensor socket, full sensor protection with mounted O-rings</b>	
	This sensor socket is recommended for brittle incrustations (e.g. lime). In addition, the sensor is better mechanically protected.	
	Sensor socket, full sensor protection 1.4571/O-rings FKM	ZU 0808/A
	Sensor socket, full sensor protection 1.4571/O-rings EPDM	ZU 0808/B
	Sensor socket, full sensor protection 1.4571/O-rings FFKM	ZU 0808/C
	Sensor socket, full sensor protection Hastelloy/O-rings FKM	ZU 0820/A
Sensor socket, full sensor protection Hastelloy/O-rings EPDM	ZU 0820/B	
Sensor socket, full sensor protection Hastelloy/O-rings FFKM	ZU 0820/C	
	<b>Sensor socket with mounted O-rings and scraper ring with scraper edge made of PEEK</b>	
	This sensor socket is recommended for sticky media and for particles in the process medium.	
	Sensor socket PEEK/O-rings FKM (with scraper ring)	ZU 0705
	Sensor socket PEEK/O-rings EPDM (with scraper ring)	ZU 0706
	Sensor socket PEEK/O-rings FFKM (with scraper ring)	ZU 0707