



Ceramat WA 153

Retractable fitting with ceramic sealing for extreme conditions

The Ceramat WA 153 retractable fitting enables the reliable, automatic cleaning and calibration of 12 mm sensors without process interruption, ensuring reliable process management. Thanks to their indestructible ceramic sealing to the process, Ceramat retractable fittings are suitable for particularly complex measuring tasks for a wide range of applications in which conventional fittings typically fail. And the special design accommodates the use of optical probes. The sensor receives a steady stream of data since measurement is no longer affected by conventional immersion tube design.

Applications

Highly corrosive processes (chlorine production, phosgenation) and processes with depositing, abrasive and incrusting solids. Flue gas desulfurization, gas scrubbers, sugar production, dyes and pigment synthesis, special incrusting industrial wastewaters.

Facts and Features

- For extreme conditions
- Ceramic sealing to the process:
 - Extremely high hardness (Mohs hardness 9) prevents sealing surface wear in abrasive media.
 - Virtually wear-resistant
 - High, 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
- Contamination-resistant 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 made of stainless steel 1.4404, PEEK, Hastelloy C22 or titanium
- Special designs for optical probes:
 - Torsion prevention for fiber optic cable thanks to special rotary fitting
 - Bracket for holding the corrugated conduit that contains the fiber optic cables

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Product Range

Basic Unit		WA 153-	<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"/>	<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	<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"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sensor	Sensor, Ø 12 mm, with PG 13.5 pH sensor, Ø 12 mm, pressurized Optical sensor, Ø 1/2" (12.7 mm) Optical sensor, Ø 12 mm	0 1 2 3	<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"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Gasket material	FKM EPDM EPDM - FDA FKM - FDA FFKM - FDA FFKM	A B E F H K	<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"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sensor protection tube	Hastelloy C22 PEEK 1.4404 Titanium	B E H T	<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"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sensor socket	Hastelloy C 22, without protection Hastelloy C 22, short protection 1.4404, without protection 1.4404, short protection 1.4404, long protection 1.4404, full protection PEEK, without protection Titanium, without protection Titanium, short protection	B 0 B 1 H 0 H 1 H 2 H 3 E 0 T 0 T 1	<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"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Scrapper for sensor socket	Without PEEK, natural	0 1	<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"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Immersion depth	Special immersion depth 23-104 mm (1 mm increments) Immersion depth 105 mm (max.)	0 0 0 1 0 5	<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"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Fitting material, wetted	Hastelloy C22 1.4404 Titanium	B H T	<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"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Process connection	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 Flange, loose, ANSI 316, 150 lbs, 2" Flange, loose, ANSI 316, 150 lbs, 3" Clamp 2.5" BioControl, 1.4404, DN 65 Varivent, 1.4404 (≥ DN 50)	B 1 B 2 B 3 B 4 E 1 E 2 E 3 E 4 C 1 C 2 C 3 D 1 D 3 J 3 L 2 V 1	<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"/>	<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"/>
Probe guard	Without With, version 1	0 1	<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"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Special version	Without Inlet and outlet made of 1.4404	0 0 0 K	<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"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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	10 bar (at 0 ... 140 °C)
	Static in service position	16 bar (at 0 ... 40 °C)
Ambient temperature	-10 ... 70 °C	
Protection	IP 66	
Permissible pressure for probe control	4 ... 7 bar	
Immersion depth	Approx. 135 mm, depending on process connection	
Process connection	Flanges DN 50/DN 65/DN 80/DN 100	Flanges ANSI 2", 2 1/2", 3", 3 1/2", 4"
	Dairy-pipe screw joint DN 50/DN 65/DN 80/DN 100	
	Clamp 2.5"	BioControl, 1.4404, DN 65
	Varivent, 1.4404 (≥ DN 50)	
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	
Sensors	With solid electrolyte	Ø 12 mm, length 225 mm with temperature detector, thread PG 13.5
Special functions	Rinsing interior cavities with liquid electrolyte	Ø 12 mm, length 250 mm with temp detector
	Optical sensors	Ø 12 mm, Ø 12.7 mm (1/2")
	See product code	
Process connections	See product code	
Connections	Outlet	Socket for Unical media hose
	For pressurized sensors	Hose connection NW 6 Pressure in sensor chamber 0.5 ... 1 bar above process pressure (max. 7 bar)
	For compressed air, rinse and calibration media (control air for retractable fitting)	for Unical multiplug
Limit switch	Contactless electrical limit position control in conjunction with Unical 9000/Uniclean 900 or standard media interface ZU 0631	
Immersion depths / Dimensions	See dimension drawings	
Wetted materials	See product code	
Certificates	Inspection Certificate 3.1 (optional) ATEX II 1 GD c II	

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Design Examples

Sensor with solid electrolyte,
225 mm



Sensor with liquid electrolyte,
pressurizable, 250 mm

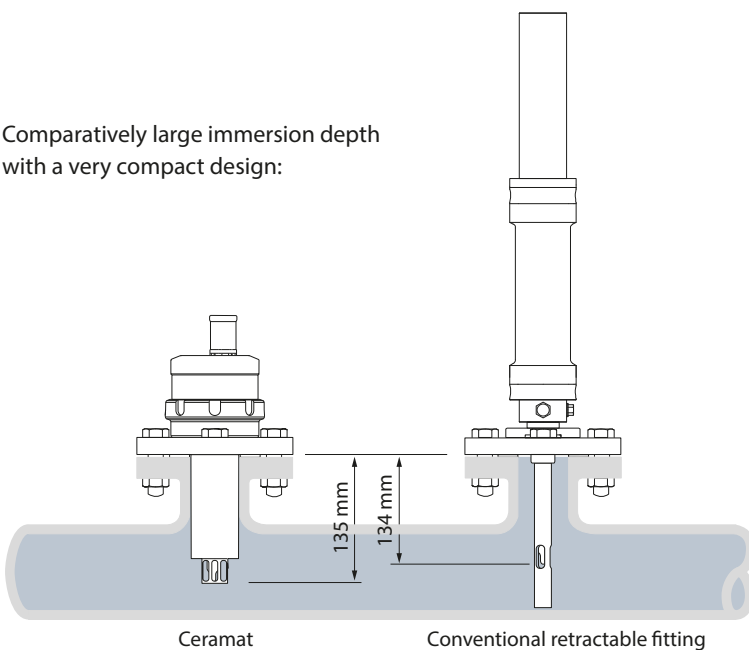


Optical probe Ø 12 mm
or Ø 12.7 mm



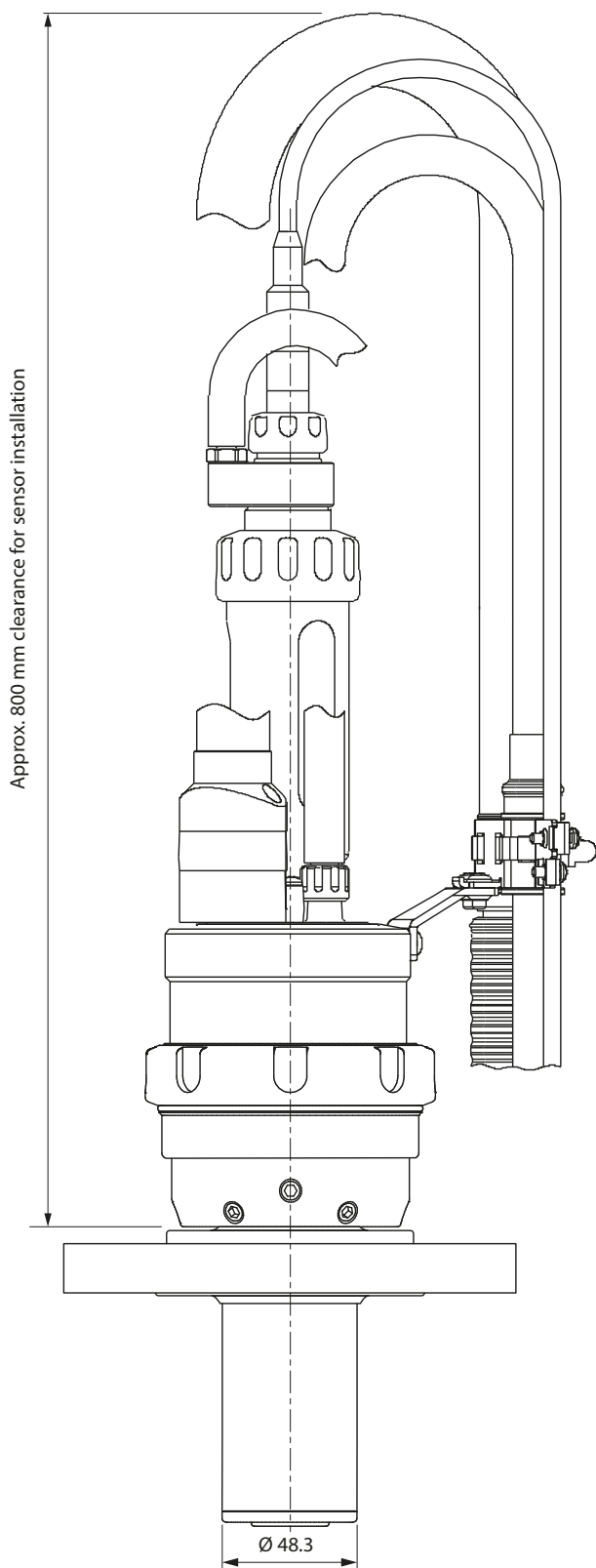
Immersion Depth

Comparatively large immersion depth
with a very compact design:

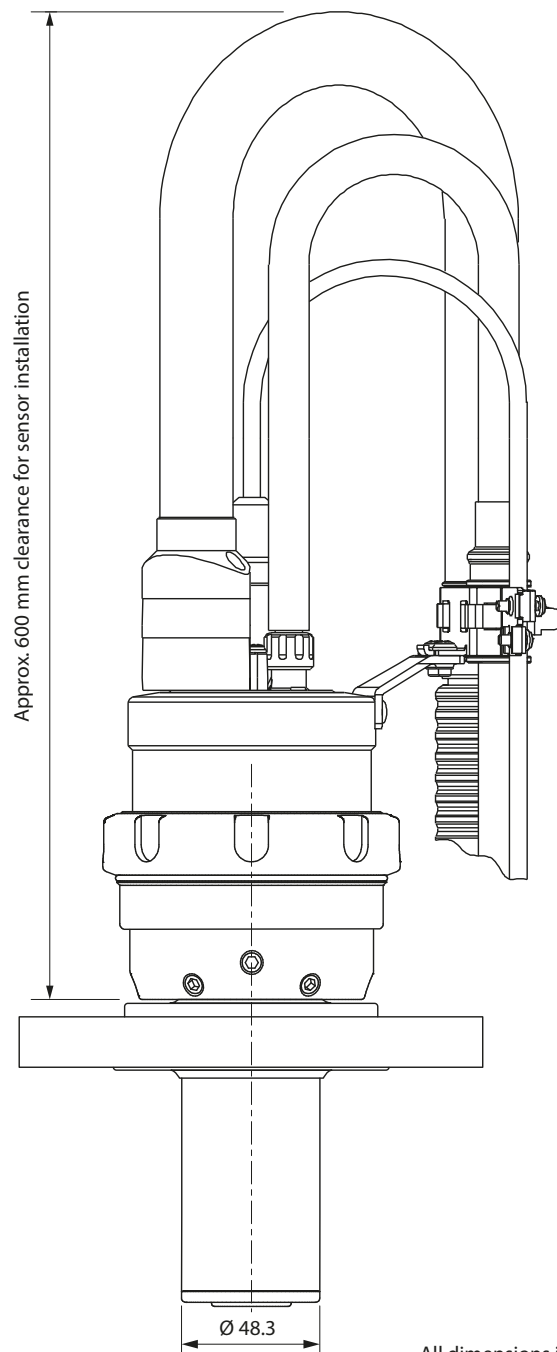


Dimension Drawings

Ceramat WA 153 for sensors with liquid electrolyte



Ceramat WA 153 for sensors with solid electrolyte

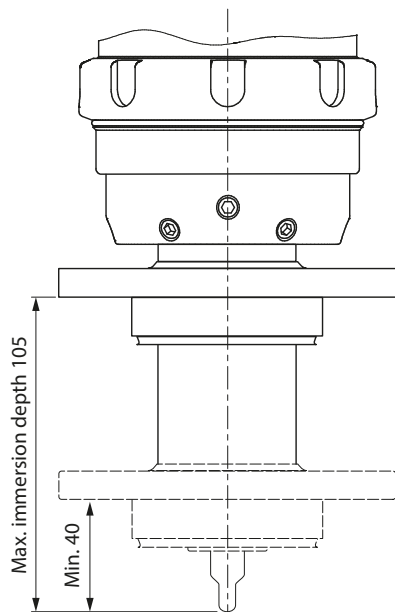


All dimensions in mm

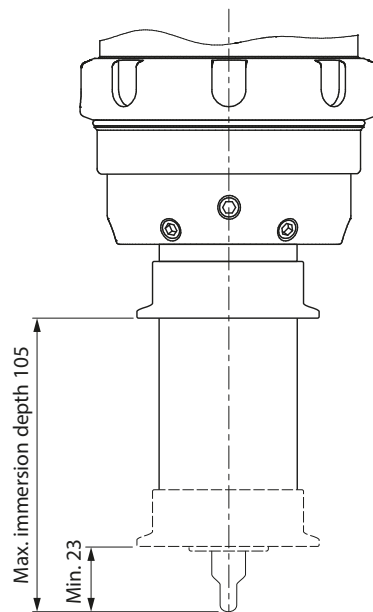
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Process Connection Design Examples

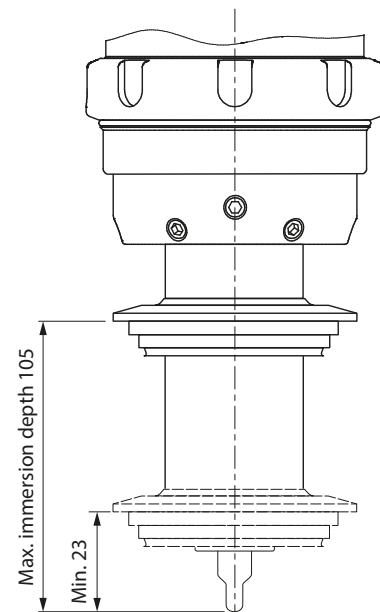
BioControl process connection



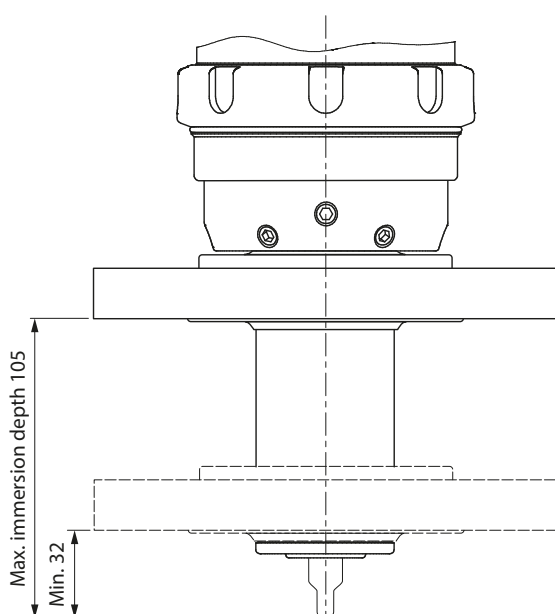
Tri-Clamp process connection



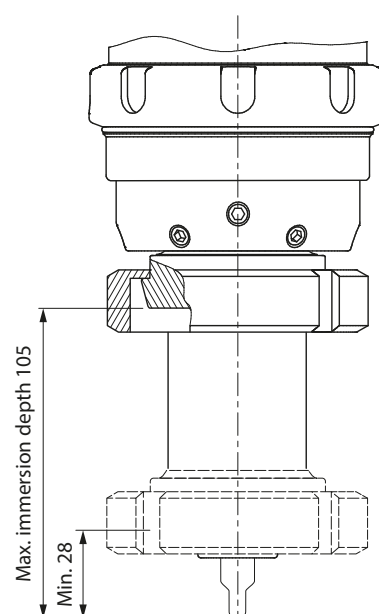
Varivent process connection



Flange process connection



Dairy pipe process connection



All dimensions in mm

Accessories for Ceramat WA 153

	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
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
3.5 m	ZU 0889-010
10 m	
Gaskets for Ceramat WA 153	On request
Sensor sockets for Ceramat WA 153	On request
Inspection Certificate 3.1 according to EN 10204	ZU 0268/WA15n

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Check Valve for Ceramat WA 153

		RV01-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Housing material, valve body	Stainless steel 1.4404	H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	PEEK	E	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gasket material	FKM	A	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	EPDM	B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	FFKM	C	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	FKM FDA	F	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	EPDM FDA	E	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	FFKM FDA	H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inlet connection, female thread	G1/4				4	<input type="checkbox"/>
	G1/8				8	<input type="checkbox"/>
Outlet connection, male thread	G1/4					4
	G1/8					8