



Polished stainless steel for food and pharmaceutical applications



Powder-coated steel for corrosive environments

Uniclean 900

The electro-pneumatic controller for fully automated pH measurement and cleaning

Maximum availability of the point of measurement: Cleaning without interrupting the process, even when measuring directly in the pressure tank.

Since the sensor is not removed for cleaning, the process can continue uninterrupted. This allows problem-free measurements in a pressure tank or in the main pipe. Elaborate and lockable bypasses are eliminated and accuracy increases.

Low maintenance

Fully automated cleaning of the sensor with water or special cleaning solution at user-defined intervals without interrupting the process. The cleaning solution is automatically pumped into the cleaning chamber. You just have to top up the container.

Cost-efficient

Low-wear and low-maintenance pump with extremely low consumption of cleaning agent

Long sensor life – also in critical processes

When measuring in aggressive media or at high process temperatures, the sensor rests in the cleaning chamber and is only briefly moved into the process for measurement. The cleaning chamber may be filled with water. This method decisively increases the sensor life.

Safe and easy measurement, even in strongly polluted media

Sensor cleaning and rinsing are performed at user-defined intervals. Cleaning solution and water are automatically pumped into the calibration chamber. Dismounting and manual cleaning of the sensor are not required..

Modern fieldbus integration

The interfaces to PROFIBUS PA or FOUNDATION Fieldbus allow the Uniclean system to be integrated directly in a field-bus network. Naturally also in hazardous locations.

Universal adaptation to retractable fittings

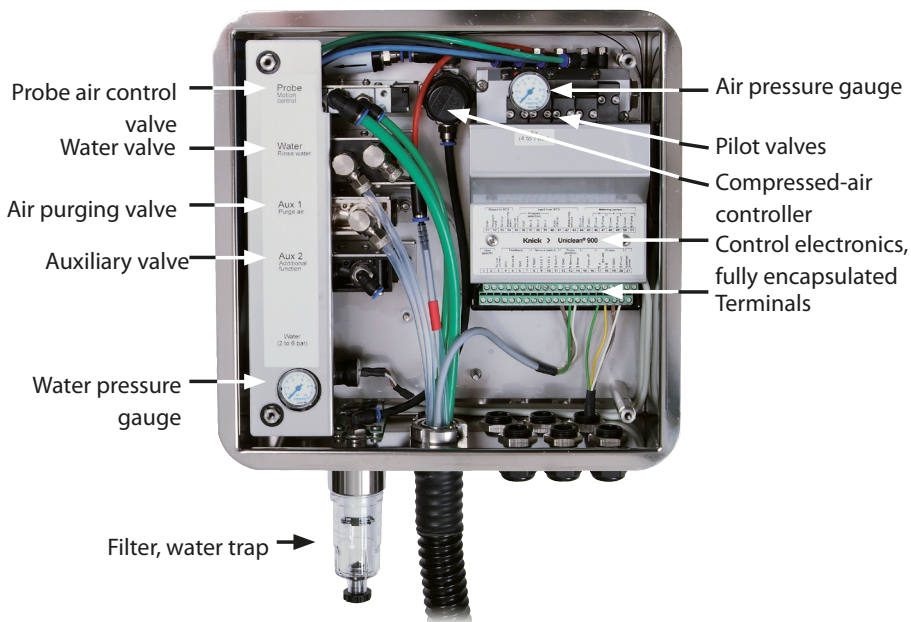
The modular structure of the Uniclean allows any retractable fittings to be used. Optimum functionality is achieved with the Ceramat and SensoGate sensor lock-gates

Clean and safe construction

All features for smooth, safe, and low-maintenance operation are provided as standard: water pressure gauge, air filter and water trap, integrated flooding sensor with alert message.

Unclean 900

Inside View



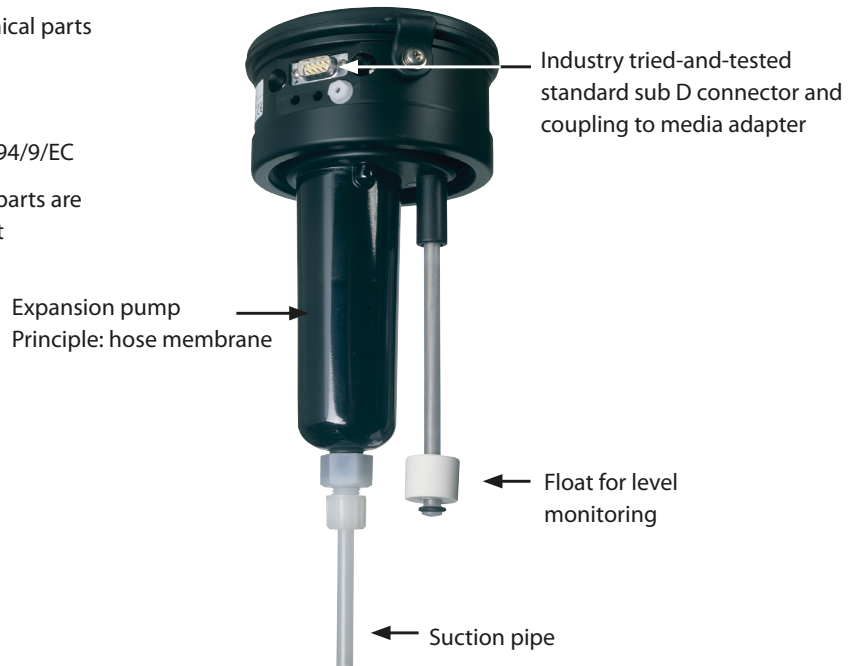
The valve units are expandable.

Facts

- consistent enclosure concept for all devices
- modular design, adaptable to virtually every measuring task
- easy assembly and retrofitting
- hygienic version (polished stainless steel) or corrosion-proof (powder-coated steel)
- low maintenance effort due to innovative pump technology and extremely low consumption of media
- time-controlled cleaning
- cleaning with water and additional cleaning solution
- reduced maintenance effort due to automatic cleaning
- no disruption of production for cleaning the sensor – operation in hazardous locations Zone 1 (all system components)
- longer sensor life due to short-time measurement and regular cleaning
- immediate readiness for measurement after production interruption since sensor is safely stored in liquid
- safety ensured by monitoring of the compressed air and water supply, the probe position and the cleaning solution level

New, Innovative Pump Design for Low Maintenance Costs

- no usual pistons/cylinders
- no moving mechanical parts
- no wear
- no stored energy as defined in ATEX 94/9/EC
- all process-wetted parts are chemically resistant



Modular Flexibility for Very Simple Adaptation

- The cleaning solution container (3.5 l) is a replaceable active, self-sustaining unit with integrated pump: easy refilling of cleaning agent, without removing the pump
- The pump unit is automatically recognized by the system.
- The closure consists of a conveyor cap with funnel and buttoned lid.
- This innovative construction provides previously unknown flexibility and service friendliness.



Uniclean 900

Übersicht - das komplette System

Protos II 4400
process analysis system



Uniclean 900
controller



SensoGate WA 130
sensor lock-gate



Metering pump with
cleaning solution



Media connection

pH sensor

Specifications

Compressed air	oil- and condensate-free
Permitted pressure range	4 ... 10 bar
Pressure monitoring	automatic monitoring, message
Connection	1/4; internal thread
Rinse water	filtered 100 µm
Permitted pressure range	2 ... 6 bar
Temperature range	5 ... 65 °C
Pressure monitoring	automatic monitoring, message
Connection	1/4; internal thread and 3/4; external thread (for coupling)
Pump (option)	cleaning solution
Number of bottles	3 max.
Usable bottle volume	3,5 l
Max. lifting height	10 m
Displaced volume	25 ml/stroke
Level monitoring	continuous, messages
Material	PP, PE, EPDM, (optional FKM), check valves: glass, HC4
Dimensions	150 mm x 150 mm x 340 mm with 3.5-L bottle
Weight	approx. 1.5 kg (with empty 3.5-L bottle)
Supply	supplied via Protos® PHU module
Connection	terminals, conductor cross section max 2.5 mm ² (preassembled connecting cable to Protos® 3400)
RS 485	communication with Protos® PHU module or external host computer (e.g. DCS/ PLC)
Transmission	1200 bauds / 8 data bits / 1 stop bit / no parity
Security	CRC16
Connection	terminals, conductor cross section max 2.5 mm ² (preassembled connecting cable to Protos® 3400) max. length 10 m
Media connection	compact multiplug connection for 1 x rinse water, 1 x cleaning liquid, 1 x purge air, 2 integrated check valves for water and cleaning liquid, 2 x compressed air connection for drive, noncontacting electrical limit position control
Media adapter	approx. 2 kg
DCS Input M/S	measuring / Service
Switching voltage	0 ... 2 V AC/DC inactive (measuring) 10 ... 30 V AC/DC active (service)
Connection	terminals, conductor cross section max. 2.5 mm ²
DCS input A/M	automatic mechanism blocked

Uniclean 900

continued - Specifications

Switching voltage	0 ... 2 V AC/DC 10 ... 30 V AC/DC	inactive (automatic intervals enabled) active (automatic intervals blocked)
Connection	terminals, conductor cross section max. 2.5 mm ²	
DCS inputs PRG1 ... 3	program selection 1 ... 8	
Switching voltage	0 ... 2 V AC/DC 10 ... 30 V AC/DC	inactive active
Connection	terminals, conductor cross section max. 2.5 mm ²	
DCS outputs ML1 ... 3	check-back signals: Service, measuring, program electronic relay contacts, floating, inter-connected	
Voltage drop	< 1.2 V	
Connection	terminals, conductor cross section max. 2.5 mm ²	
Explosion protection	See Control Drawing or www.knick.de	
EMC	EN 61326 EN 61326/A1	
Lightning protection	EN 61000-4-5, Installation Class 2	
Protection against electric shock	according to EN 61010	
Ambient conditions	5 ... 55 °C (Ex: 5 ... +50 °C)	
Ambient temperature	(different temperature range on request)	
Transport/Storage temperature	-20 ... +70 °C	
Relative humidity	10 ... 95 %, not condensing	
Enclosure	Uniclean® 900 S Uniclean® 900 C	Stainless steel A2, polished Stainless steel A2, coated, color: pigeon blue
Assembly	wall and pipe mounting (see dimension drawing)	
Dimensions	W x H x D approx. 320 mm x 400 mm x 120 mm	
Ingress protection	IP 65/NEMA 4X	
Cable glands	4 cable glands M 20 x 1.5	
Weight	approx. 9 kg	

Uniclean 900

Basic Unit		900 -																
Explosion protection	For ATEX/IECEX/Nepsi Zone 1	X																
	Without	N																
Housing	Steel, coated	C																
	Stainless steel, polished	S																
Media connection (water rinsing)	5 m (gasket material: FKM)		1		0	0												
	10 m (gasket material: FKM)		2		0	0												
	15 m (gasket material: FKM)		5		0	0												
Media connection (water rinsing + cleaner)	5 m (gasket material: FKM)		3		1/A													
	10 m (gasket material: FKM)		4		1/A													
	14 m (gasket material: FKM)		7		1/A													
	17 m (gasket material: FKM)		6		1/A													
	5 m (gasket material: EPDM)		C		1/A													
	10 m (gasket material: EPDM)		D		1/A													
	14 m (gasket material: EPDM)		G		1/A													
	17 m (gasket material: EPDM)		F		1/A													
Media interface	With (interface for standard probes)		1															
	Without (for WA 130, 150, 154, 160)		0															
Media adapter with port	With (gasket material: FKM)				1													
	With (gasket material: EPDM)				A													
	Without				0													
Port	Metering pump with empty 3.5-L bottle (EPDM)				2													
	Metering pump with empty 3.5-L bottle (FKM)				B													
	Not equipped				0													
Supplementary air purging kit	With							C										
	Without							N										
Supplementary ext. valve kit	With								E									
	Without								N									
Special variant	Without												0	0	0			
	With protective cabinet, non-Ex												1	0	0			
	With protective cabinet and heater, non-Ex												2	0	0			
	With protective cabinet, Ex												3	0	0			
	With protective cabinet and heater, Ex												4	0	0			

Uniclean 900

Accessories for Uniclean 900

Accessories	Order No.
Pipe-mount kit for Uniclean 900	ZU 0601
Pipe-mount kit for media adapter	ZU 0606
Connection kit for Uniclean 900 (water and air)	ZU 0656
Chemical pump (Aux 2 / ZU 0588 ext. valve kit required)	ZU 0741
Additional cleaner connection	ZU 0956

Spare Parts for Uniclean 900

Spare Parts + Retrofit Parts for Uniclean 900	Order No.	EUR
Media connection, rinse, 5 m (FKM gaskets)	ZU 0572/1	986,00
Media connection, rinse 5 m (EPDM gaskets)	ZU 0572/2	986,00
Media connection, rinse, 10 m (FKM gaskets)	ZU 0573/1	1.289,00
Media connection, rinse 10 m (EPDM gaskets)	ZU 0573/2	1.289,00
Media connection, rinse, 15 m (FKM gaskets)	ZU 0652/1	2.069,00
Media connection, rinse 15 m (EPDM gaskets)	ZU 0652/2	2.069,00
Media connection, rinse + clean, 5 m (FKM gaskets)	ZU 0574/1	1.589,00
Media connection, rinse + clean, 5 m (EPDM gaskets)	ZU 0574/2	1.589,00
Media connection, rinse + clean, 10 m (FKM gaskets)	ZU 0575/1	2.069,00
Media connection, rinse + clean, 10 m (EPDM gaskets)	ZU 0575/2	2.069,00
Media connection, rinse + clean, 14 m (FKM gaskets)	ZU 0932/1	2.723,00
Media connection, rinse + clean, 14 m (EPDM gaskets)	ZU 0932/2	2.723,00
Media connection, rinse + clean, 17 m (FKM gaskets)	ZU 0653/1	3.216,00
Media connection, rinse + clean, 17 m (EPDM gaskets)	ZU 0653/2	3.216,00
Media interface for standard probes	ZU 0576	353,00
Metering pump (PP, FKM) with empty 3.5 L bottle	ZU 0580/1	1.374,00
Metering pump (PP, EPDM) with empty 3.5 L bottle	ZU 0580/2	1.188,00
Metering pump (PP, FKM) with empty 3.5 L bottle, Ex	ZU 0580 X/1	1.463,00
Metering pump (PP, EPDM) with empty 3.5 L bottle, Ex	ZU 0580 X/2	1.280,00
Supplementary air purging kit	ZU 0587	470,00
Supplementary Aux2 kit	ZU 0588	470,00
Media adapter (FKM gaskets)	ZU 0715/1	762,00
Media adapter (EPDM gaskets)	ZU 0715/2	762,00
Media adapter, Ex (FKM gaskets)	ZU 0715 X/1	833,00
Media adapter, Ex (EPDM gaskets)	ZU 0715 X/2	833,00
Pressure gauge replacement kit (water pressure indication)	ZU 0984	156,00

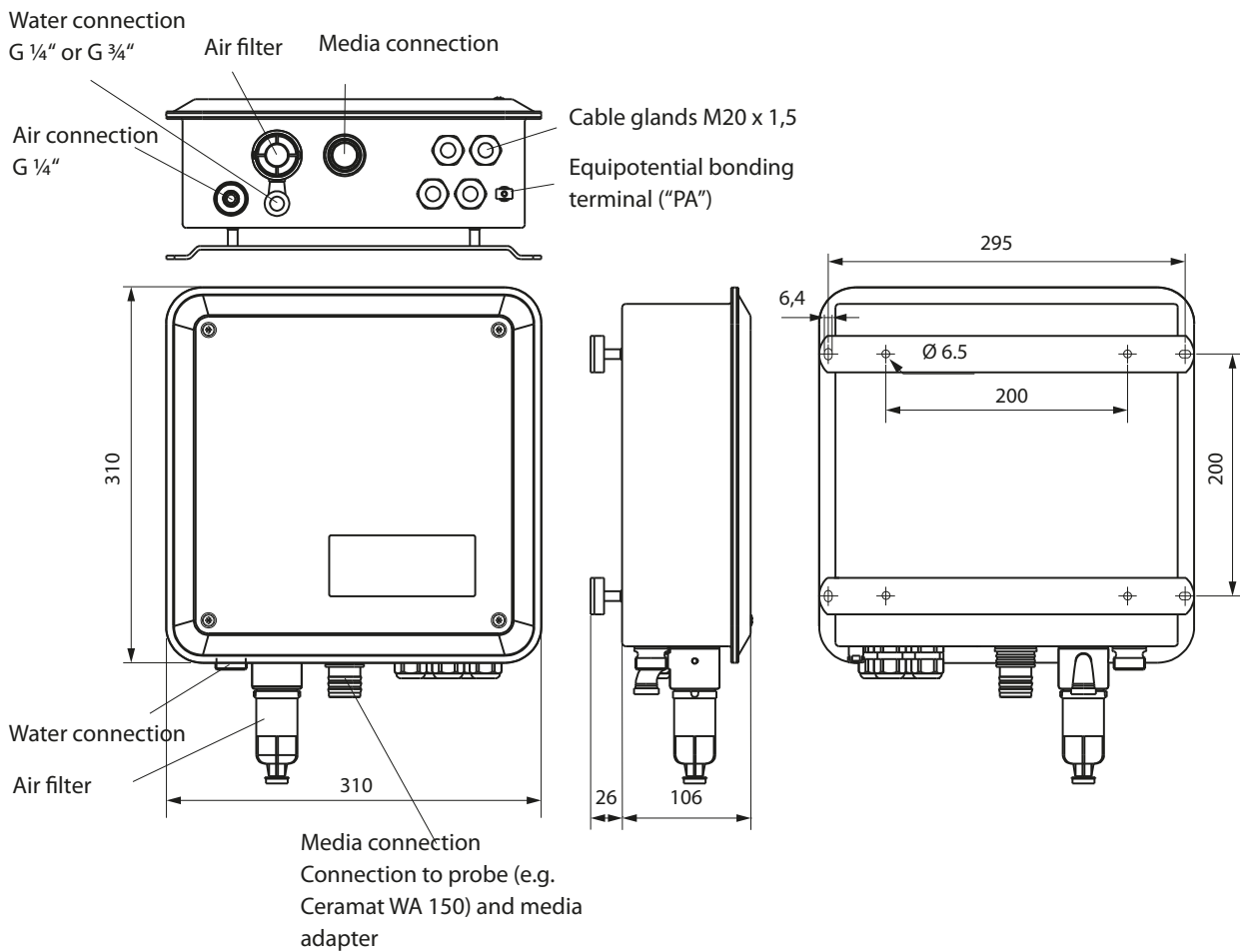
Service Parts for Uniclean 900

Service Parts for Uniclean 900	Order No.	EUR
Air pressure switch	ZU 0632	187,00
Water pressure switch	ZU 0633	194,00
Probe valve, complete	ZU 0634	381,00
Water valve	ZU 0714	420,00
Sensor dismount guard, complete	ZU 0644	391,00
Air purge valve, complete	ZU 0636	215,00
Aux 2 valve, complete	ZU 0637	228,00
Piezo valve for valve block	ZU 0638	391,00
Gasket for port at media adapter (EPDM)	ZU 0639	11,00
Filter insert (5 ... 10 µm)	ZU 0640	37,00
Replacement filter housing	ZU 0641	85,00
Electronics module, tested, encapsulated	ZU 0716	982,00
Electronics module, tested, encapsulated, Ex	ZU 0716 X	1.069,00
Small parts kit	ZU 0643	63,00
Multiplug service set, FKM gaskets	ZU 0812/A	148,00
Multiplug service set, EPDM gaskets	ZU 0812/B	148,00
Reed switch, short (service part for multiplug)	ZU 0813/1	116,00

Uniclean 900

Dimension Drawings

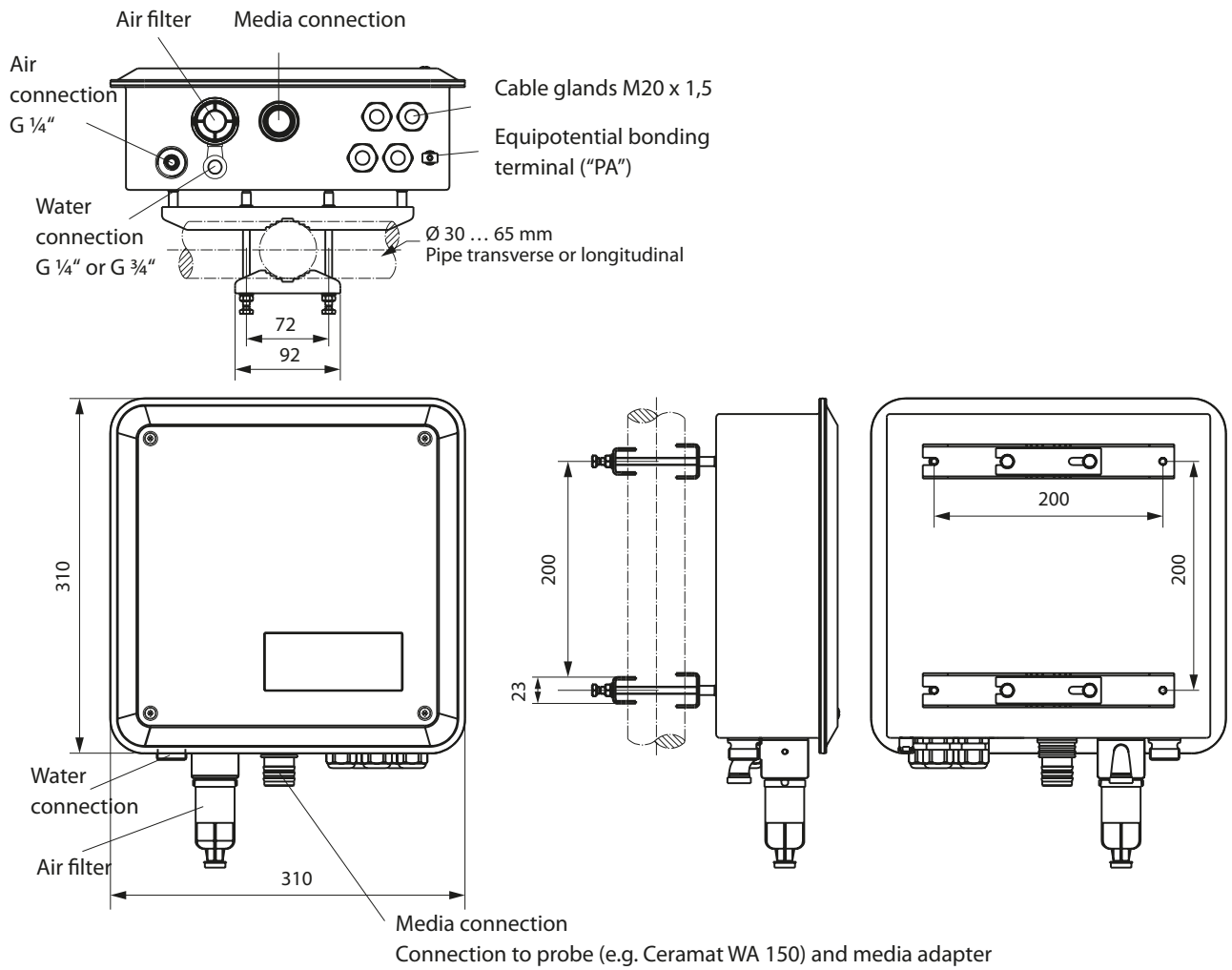
Wall Mounting



All dimensions in mm.

Dimension Drawings

Pipe mouting

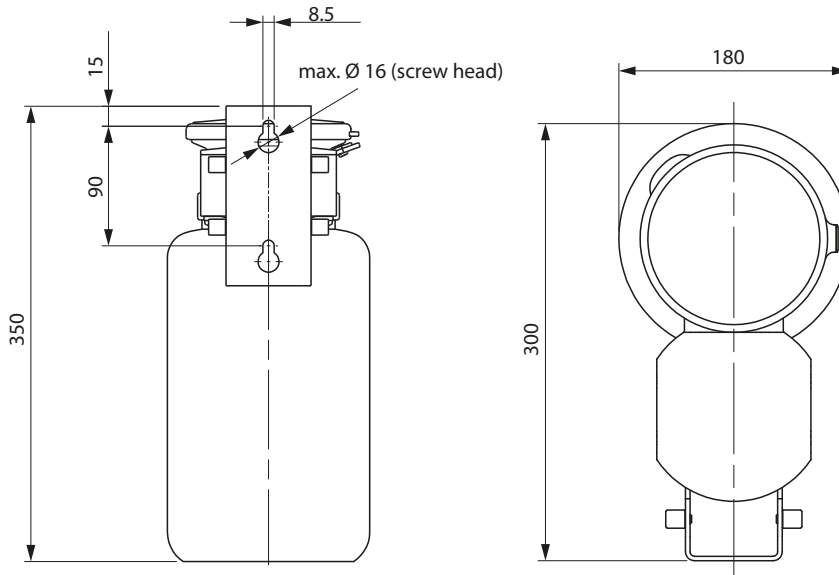


All dimensions in mm.

Uniclean 900

continued – Dimension Drawings

Media adapter



Terminal Assignments

Valves												Monitoring									
GND	Reserve	GND	Auxiliary 2	GND	Auxiliary 1	GND	Water	GND	Probe	Not used	Not used	GND	Sense pressure (air)	Sense reserve	GND	Sense water	Not used	Not used	GND	Sense water stop	
61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	

Output to DCS				Input from DCS							Metering pump									
GND	Program runs	Service	Measuring/ alarm	Do not connect	GND	Program selection	Bin 3	Bin 2	Bin 1	Auto/manual	Measuring/ service	Do not connect	GND	Level	Pump	Not used	Not used	Not used	Not used	
31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51



Knick > Uniclean® 900



ext. Start		Feedback				Probe position				Protos										
Start	Start	Do not connect	GND	Sense B	GND	Sense A	Not used	Not used	Not used	Not used	GND	Service	Meas	Power off	A	RS 485	B	GND	Power	External power
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21