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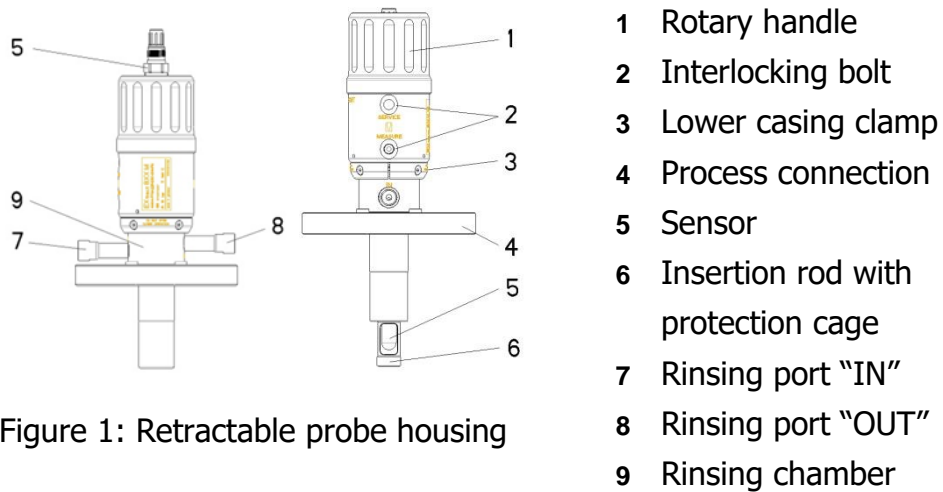
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1 Product description

1.1 EXtract M retractable probe housing

Components



Variations

Retractable housings are attached to tanks or tubing by an applicable process connection. In order to comply with the various process properties the **EXtract M** retractable housing is fabricated of stainless steel or plastic. You can further choose between different process and cleaning ports, sealing materials and sensors.

EXtract 810M/ 820M

EXtract 810M / 820M is a manual retractable housing made of stainless steel (810M) or plastic (820M) for installation of Ø12mm sensors on tanks or pipelines, with an extended immersion length up to 107mm.

- For all kind of Ø12/225mm or Ø12/280mm sensors with thread PG13.5 (pH-glass- and ISFET sensors, conductivity- or temperature sensors, turbidity and other optical sensors)
- Chemicals
- Water treatment
- Rough processes

EXtract 811M/ 821M **EXtract 811M / 821M** is a manually operated retractable housing made of stainless steel (811M) or plastic (821M) for installation of Ø12mm sensors on tanks or pipelines, with an extended immersion length up to 207mm.

EXtract 815M / 825M The **EXtract 815M / 825M** is a manually operated retractable housing made of stainless steel (815M) or plastic (825M) for the installation of Ø12mm sensors at welding sockets DN25 (Ingold-type socket) with an integrated PTFE scraper.

EXtract 830M **EXtract 830M** is a manually operated retractable housing made of stainless steel for hygienic installation of Ø12 sensors on tanks or pipelines

- For all kind of Ø12/225mm or Ø12/280mm sensors with thread PG13.5 (pH-glass- and ISFET sensors, conductivity- or temperature sensors, turbidity and other optical sensors)
- Food
- Pharmaceuticals

Drive unit The manually operated drive of the probe housing is a mechanical rotary drive that dissipates rotating motion into a stroke of the insertion rod. So the sensor can be moved from the cleaning chamber into the process liquid and back again. Because of the smart construction of the drive the sensor can be moved against high process pressure easily.

Measuring When reaching the final position of the "measuring" position, a bolt interlocks the position certainly. In this position the sensor head is immersed in the drive unit and cannot be removed. The sensor measures the chemical or physical properties of the process liquid.

Service Cleaning and rinsing of the sensor is possible while the process is running. For this purpose the housing must be moved to the "service" position. When the final position is reached, a bolt

interlocks the position certainly. In the "service" position the insertion rod seals the cleaning chamber against the process to prevent leakage of process liquid. The cleaning liquid is introduced into the cleaning chamber via the cleaning port "IN" and subsequently drained via the cleaning port "OUT".

1.2 Process integration

Transmitter The retractable probe housing inserts a sensor into the process liquid transmitting its measuring results to a transmitter.

Process control The transmitter can be connected to a process control. According to the measuring signals a cleaning flag can be set. The cleaning has to be done manually.

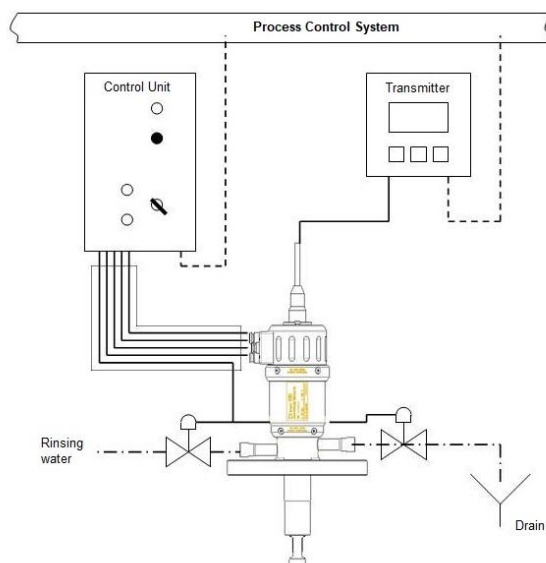


Figure 2: Process flow

Pressure / Temperature The choice of the applicable housing is subject to the pressure and temperature conditions of the process. The retractable housing of stainless steel can be used for a pressure of up to 16 bar and the plastic model up to 10 bar according to the temperature. The process temperature should be between -10° and 140°C

!!!

Observe pressure and temperature charts in chapter 8!

Installation position The operation of the probe housing is generally possible in any position. The reliability of the measuring results depends on the properties of the selected sensor.

2 Special functions

2.1 Manual operation of the probe housing

Drive sensor into position „Measure“



Figure 3: position "measure"

Push interlocking bolt and turn rotary handle clockwise until interlocking bolt locks in position „Measure“

Drive sensor into position „Service“



Figure 4: position "service"

Push interlocking bolt and turn rotary handle counter - clockwise until interlocking bolt locks in position „Service“.

2.2 Adjusting the protection cage

A protection cage is fitted to the lower end of the insertion rod and can be adjusted with the flow direction. The symbol on the drive unit cylinder indicates the position of the opening in the insertion rod. If the symbol is parallel to the flow direction the insertion rod is fully flown through. If the symbols are vertical to the flow the sensor is fully protected from direct flow. The insertion rod can be adjusted in any intermediate position.

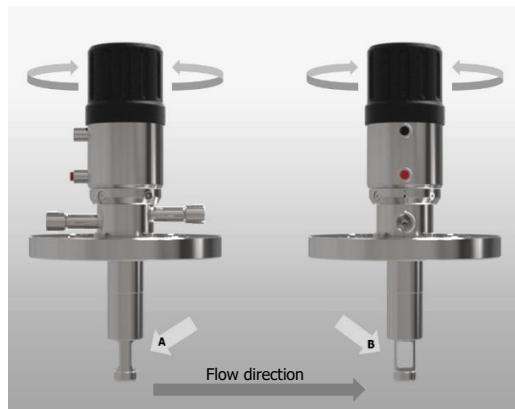


Figure 5: Protection cage

- A** Sensor maximally streamed
- B** Sensor minimally streamed



Figure 6: Symbol

2.3 Installing the sensor

Sensors with a diameter of 12mm and a connection thread PG 13.5 must be used in the EXTRACT M retractable probe housing.

The length of the sensor depends on the sensor type and the selected probe housing.

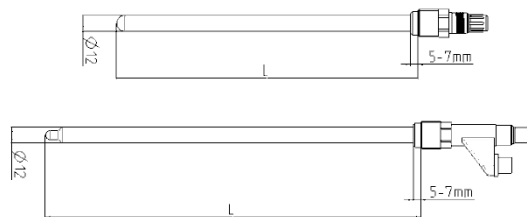


Figure 7: Sensor filled with gel (top), sensor filled with liquid (bottom)

2.4 Installing the rinsing lines

Cleaning of the sensor is possible while the process is running. This requires supply and draining of rinsing liquid to the rinsing chamber. If rinsing of the sensor is not desired the rinsing ports must be sealed by pegs.

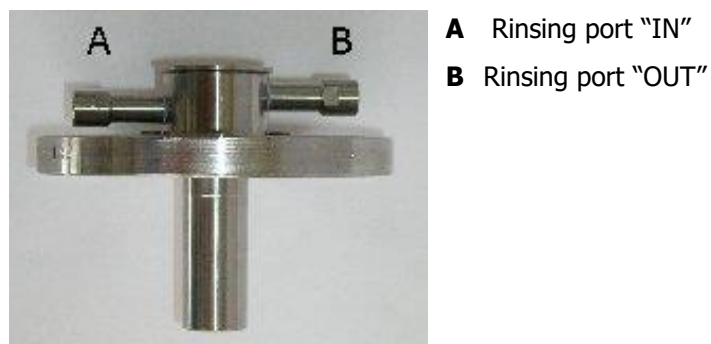


Figure 8: Rinsing connection



How to install the rinsing lines:

1. Install valve and dirt trap in the rinsing pipe for the rinsing liquid supply.
2. Attach supply rinsing pipe to the cleaning port "IN".
3. Install valve in rinsing pipe for drainage of the rinsing liquid.
4. Attach rinsing pipe to the rinsing port "OUT".
5. Check all connections for tightness.



To avoid premature contamination of the sensor the pressure of the cleaning liquid should be at least 1 bar!

2.5 Checking wetted seals

The retractable housing is fitted with an inspection window situated between the lower casing clamps.

Check inspection window for leaking process liquid on a regular basis.

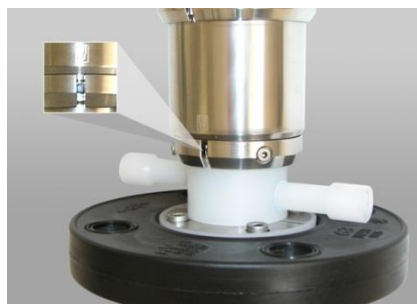


Figure 9: Inspection window on lower casing clamp

3 Technical specifications

3.1 Standards

Pressure equipment directive

3.2 Material properties

Wetted components						
Housing						
EXTRACT	stainless steel		plastic			seals
810M	1.4404/316L	Alloy C22, 2.4602				<ul style="list-style-type: none"> • EPDM • FPM • FFKM
811M	1.4404/316L	Alloy C22, 2.4602				
815M	1.4404/316L	Alloy C22, 2.4602				
820M			PVDF	PEEK	PP	
821M			PVDF	PEEK		
825M			PVDF	PEEK	PP	
830M	1.4404/316L					<ul style="list-style-type: none"> • EPDM (FDA) • FPM

Drive unit			
EXTRACT	cylinder	cylinder extension	seals
All types	1.4404/316	PA66 GF30	EPDM

3.3 IP protection

Drive unit	
All types	IP 66

3.4 Rinsing connections

Thread	
without gland	• G 1/8" (internal)
with gland	• G1/4" (internal)
with gland	• NPT 1/4" (internal)

Rinsing pressure

1 - 4 bar

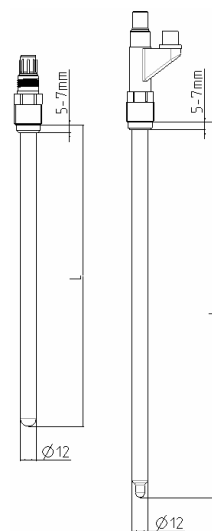
3.5 Sensors

Gel filled sensor

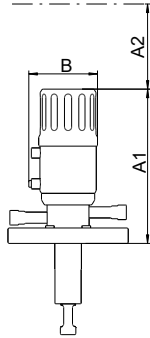
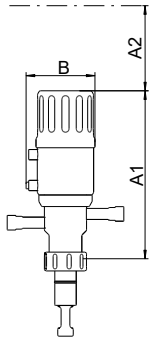
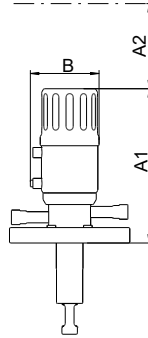
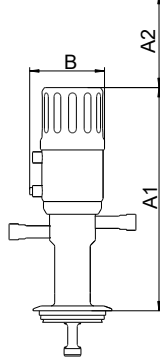
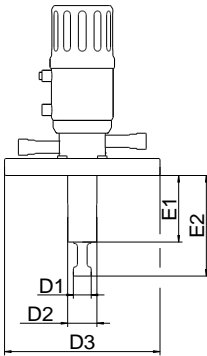
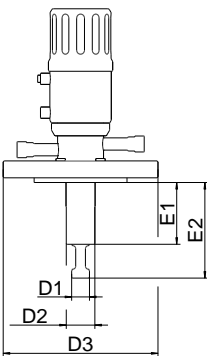
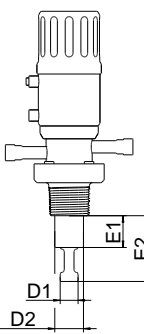
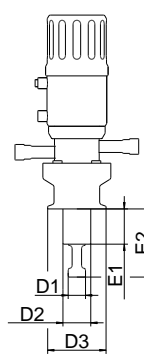
EXTRACT	l [mm]	d [mm]	PG
810M / 820M	225	12	13.5
811M / 821M	325	12	13.5
815M / 825M	225	12	13,5
830M	225	12	13,5

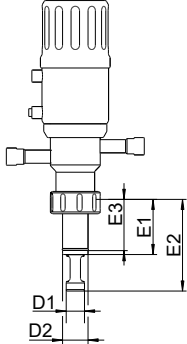
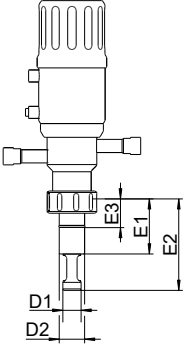
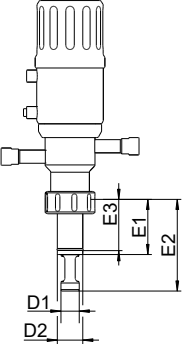
Sensor filled with liquid with refill connection

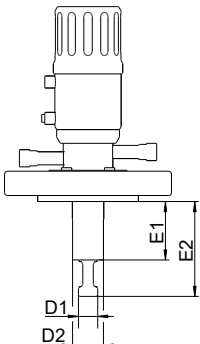
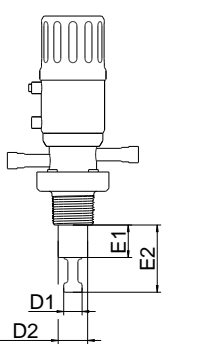
EXTRACT	l [mm]	d [mm]	PG
810M / 820M	280	12	13.5
811M / 821M	380	12	13.5
815M / 825M	280	12	13,5
830M	280	12	13,5

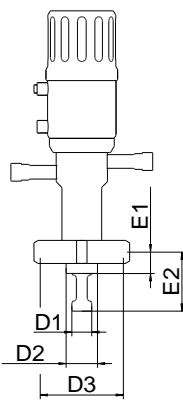
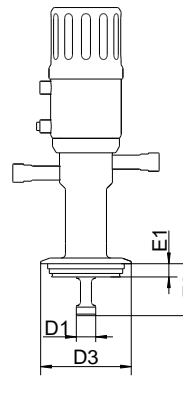
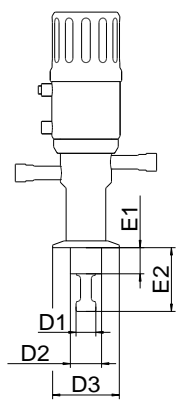
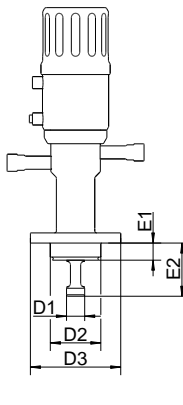


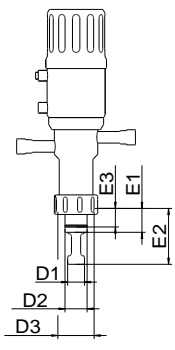
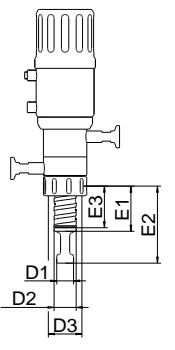
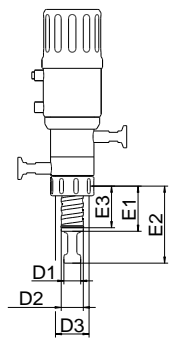
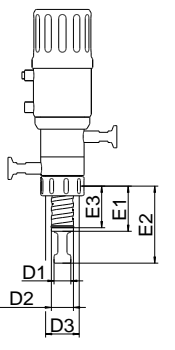
3.6 Dimensions

Retractable probe housing							
							
	EXTRACT		EXTRACT		EXTRACT		EXTRACT
Dimens.	810M	811M	815M	825M	820M	821M	830M
A1 [mm]	180	180	196	196	180	180	238
A2 [mm]	350	480	350	350	350	480	350
B [mm]	69	69	69	69	69	69	69
Process connections EXTRACT 810M/811M							
	Flange 4404	Flange HC22	NPT	TriClamp			
							
	EXTRACT		EXTRACT		EXTRACT	EXTRACT	
Dimens.	810M	811M	810M	811M	810M	810M	
E1 [mm]	71	171	66	166	34	39	
E2 [mm]	107	207	102	202	70	75	
D1 [mm]	19	19	19	19	19	19	
D2 [mm]	31	36	31	36	31	31	
D3 [mm]	-	-	-	-	-	64	

Process connections EXTRACT 815M		EXtract 825M	
	Ingold DN 25	Ingold DN 25	Ingold DN 25
			
	EXtract	EXTRACT	EXTRACT
Dimens.	825M	815M	815M
E1 [mm]	54	54	54
E2 [mm]	90	90	90
E3 [mm]	25	28	50
D1 [mm]	18	18	18
D2 [mm]	25	25	25

Process connections EXTRACT 820M/821M				
	Flange		NPT	
				
	EXTRACT		EXTRACT	
Dimens.	820M	821M	820M	821M
E1 [mm]	58	158	29	-
E2 [mm]	94	194	65	-
D1 [mm]	19	19	19	-
D2 [mm]	31	36	30.5	-

Process connections EXTRACT 830M					
	DIN 11851	Varivent N	TriClamp		Neumo BioCon.
					
Dimens.	DN50	DN40 - 125	1,5"	2"	DN50
E1 [mm]	18	12,3	22	25	17
E2 [mm]	54	48,3	58	61	48
D1 [mm]	19	19	19	19	19
D2 [mm]	30	-	30	30	50
D3 [mm]	Rd78 x 1/6"	84	50,5	64	89,5

Process connections EXTRACT 830M				
	Ingold DN 25	Ingold HyCIP25	Ingold HyCIP50	Ingold HyCIP55
				
Dimens.	O-RINGPOS. 28MM	O-RINGPOS. 25MM	O-RINGPOS. 50MM	O-RINGPOS. 25MM
E1 [mm]	34	29	54	59
E2 [mm]	70	65	90	95
E3 [mm]	28	25	50	55
D1 [mm]	19	19	19	19
D2 [mm]	25	25	25	25
D3 [mm]	G 1 1/4"	G 1 1/4"	G 1 1/4"	G 1 1/4"

Insertion rods		
EXTRACT	Part	Item number
810M	Insertion rod 1.4404 / 316L	2-061-33-004
	Insertion rod 2.4602 / Alloy C22	2-061-34-004
811M	Insertion rod 1.4404 / 316L	2-061-33-005
	Insertion rod 2.4602 / Alloy C22	2-061-34-005
815M	Insertion rod 1.4404 / 316L	2-061-33-006
	Insertion rod 2.4602 / Alloy C22	2-061-34-006
820M	Insertion rod PP	2-061-22-004
	Insertion rod PVDF / Alloy C22	2-061-23-004
	Insertion rod PEEK	2-061-29-004
821M	Insertion rod PVDF / Alloy C22	2-061-23-005
	Insertion rod PEEK	2-061-29-005
825M	Insertion rod PP	2-061-22-011
	Insertion rod PVDF / Alloy C22	2-061-23-011
	Insertion rod PEEK	2-061-29-011
830M	Insertion rod 1.4404 / 316L	2-061-33-004



Please state serial number of your probe housing when ordering parts and accessories.

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