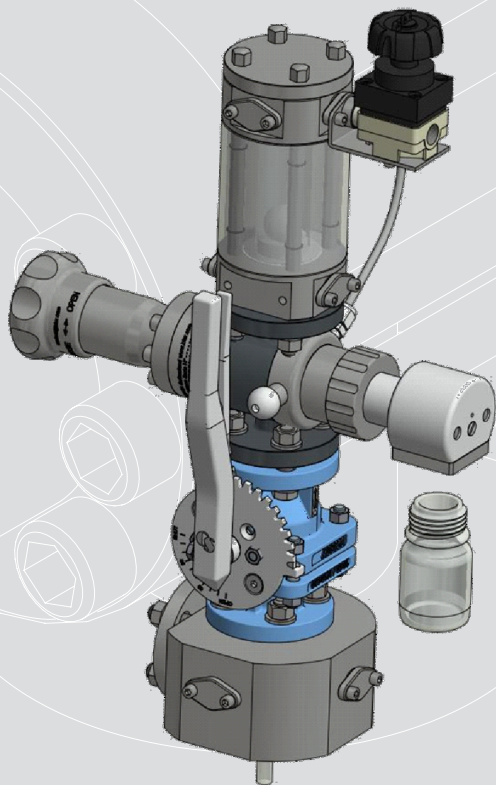


SECURITY | EFFICIENCY | SIMPLICITY

TECHNICAL DOCUMENTATION  
TECHNISCHE DOKUMENTATION  
DOCUMENTATION TECHNIQUE



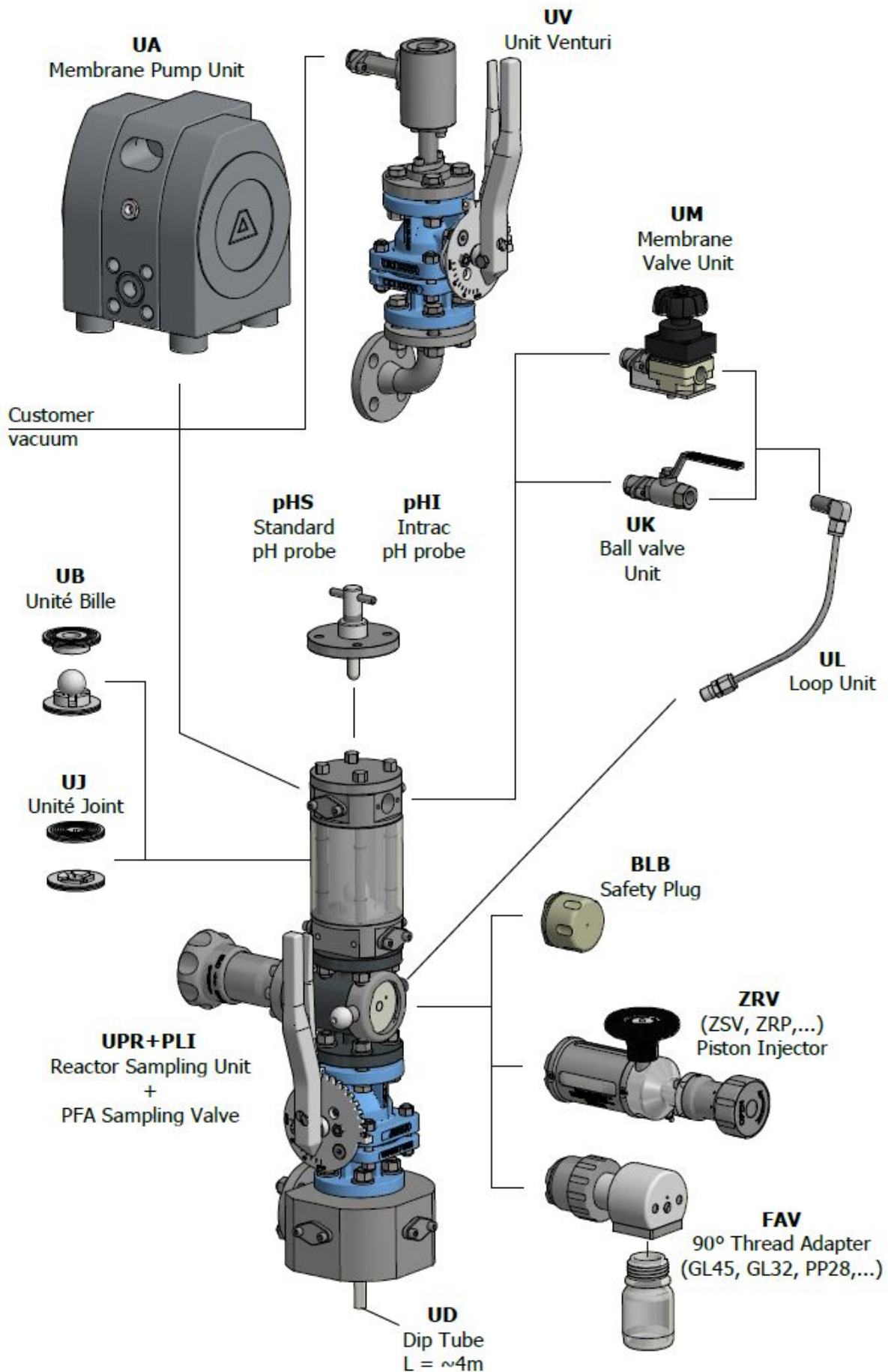
**BIAR SA**

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CH-1933 Sembracher  
SWITZERLAND

Tél. +41 27 779 11 11  
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[contact@biar.com](mailto:contact@biar.com)



**UPR OVERVIEW**



CODE	Designation	Description
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**BIAR REACTOR SAMPLING UPR**

<b>UPR 150/21</b>	Reactor Sampling Unit	<b>Sampling Unit</b> with connection to <b>Reactor</b> sample volume <b>150 ml</b> / all inner liner components comply with <b>FDA</b> (fluoropolymers/elastomers as <b>PFA, PTFE/FFKM, ...</b> )
<b>UPR 150/29</b>	Reactor Sampling Unit	<b>Sampling Unit</b> with connection to <b>Reactor</b> sample volume <b>150 ml</b> / all inner liner fluoropolymers are <b>conductive</b> (as <b>PFA, PTFE, ...</b> ) and do not comply with FDA

<b>UA</b>	Pump Unit	<b>Almatec pump Unit</b>
<b>UB</b>	Ball Unit	<b>Ball Unit</b> with ball, seats and gaskets
<b>UD</b>	Sample tube Unit	Sample <b>Dip</b> tube Unit with gasket, tube Ø12/9x4000 mm
<b>pHS</b>	End cap pH Unit	Cover with PG13.5 thread for <b>pH</b> probe, plugged ( <b>Standard</b> )
<b>pHI</b>	End cap pH Unit Intrac	Cover for <b>Intrac pH</b> probe
<b>UJ</b>	Seal Unit	Seal Unit for sight glass <b>WITHOUT BALL</b> (only with pump)
<b>UK</b>	SS Ball valve 3/8" Unit	SS Ball valve 3/8" with 2-hole-connection flange
<b>UL</b>	Unit vent return	<b>Loop</b> Unit for vent
<b>UM</b>	Diaphragm valve Unit	PVDF 3/8" diaphragm valve with 2 hole flange and strut
<b>UT</b>	Transfer Unit	PVDF <b>Transfer</b> Unit with GL45 thread adapter
<b>UV</b>	Venturi Unit	Injector Unit ( <b>Venturi</b> ) with 3/4" connection

**BIAR VALVES AND ACCESSORIES**

<b>PLI</b>	PFA lined sampling valve with flange connection
<b>BLB</b>	Bayonet safety plug for BIAR sampling valves
<b>FAV</b>	Bayonet elbow adapter for BIAR sampling valves
<b>ZRV</b>	SS piston injector with sight glass
<b>ZSV</b>	SS piston injector without sight glass
<b>ZRP</b>	PFA lined piston injector with sight glass
<b>ZSP</b>	PFA lined piston injector with PTFE lined SS sample cylinder

**BIAR MATERIAL CODE**

<b>01</b>	1.4404 (SS 316L)
<b>02</b>	1.4301 (SS 304)
<b>20</b>	PTFE pure (FDA)
<b>21</b>	PFA pure (FDA)
<b>29</b>	PFA conductive (do not comply with FDA)
<b>30</b>	FKM (Viton®, FDA)
<b>52</b>	PTFE with long carbon fibres, conductive (do not comply with FDA), Valflon® F117
<b>54</b>	FEP [MVQ (silicone) core] (FDA)
<b>57</b>	PTFE with 25% carbon, conductive (do not comply with FDA), Lubriflon® 225
<b>99</b>	FFKM 8703 (FDA)

**REACTOR SAMPLING UNIT  
WITH SAMPLING VALVE**

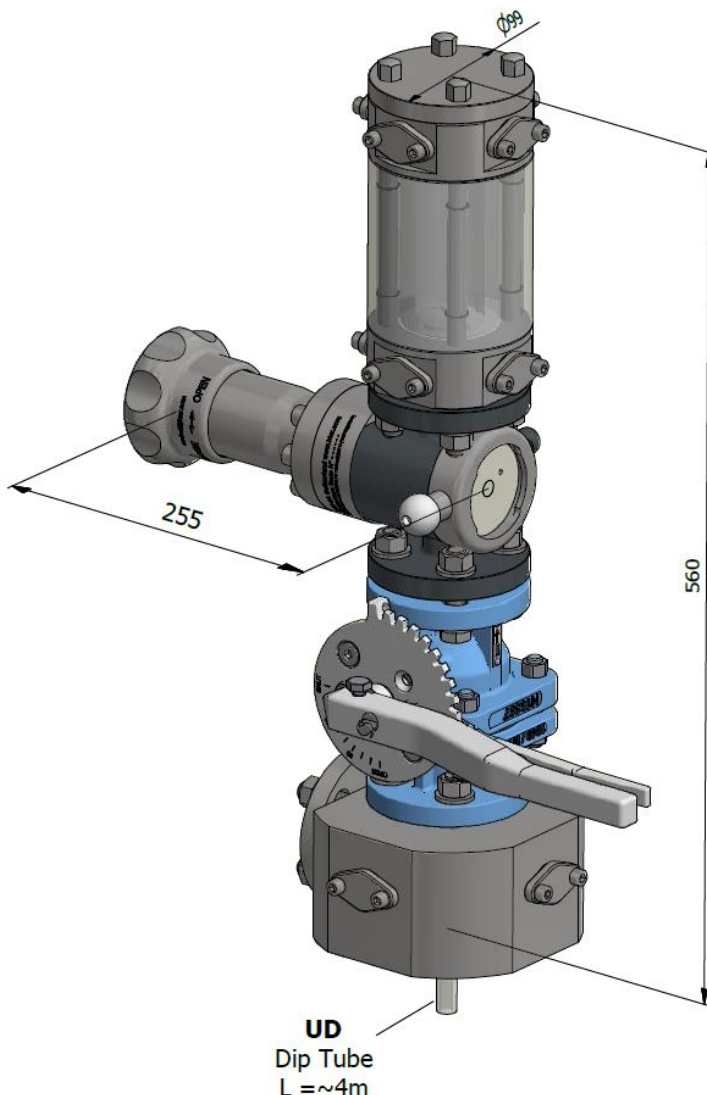
**REAKTOR PROBENAHMESYSTEME  
MIT PROBENAHMEVENTIL**

**SYSTEME POUR CUVE  
AVEC VANNE DE PRELEVEMENT**

**Material | Werkstoff | Matière**

1.4404 / 1.4408

All wetted parts PFA coated (nature or antistatic) / PTFE / TFM®1600 / Perfluorelastomers



**Technical information**

<b>TS</b>	<b>°C (°F)</b>	-20/180°C (-29 /356°F)
<b>PS</b>	<b>(bar)</b>	10 *
<b>Sample volume</b>	<b>(ml)</b>	150
<b>Reactor flange connexion</b>		min. DN50/2"
<b>Dip tube</b>	<b>(mm)</b>	ø12/9 x 4000
<b>Weight</b>	<b>(kg)</b>	23.50

\*the maximum admissible working pressure is given from the lowest nominal pressure of the accessories added to the device

**ACCESSORIES**

Piston injector   Kolbenspritze   Seringue	<b>Ref. 01706901</b>	<b>p. 4.120</b>
Elbow adapter   Winkeladapter   adaptateur coudé	<b>Ref. 01949901</b>	<b>p. 4.020</b>
Bottle   Flasche   Bouteille	<b>Ref. 01706301</b>	<b>p. 5.020</b>

**CODIFICATION EXAMPLE**

<b>1</b>	<b>2</b>	<b>3</b>
UPR150	<b>21 or 29</b>	PLI

<sup>1</sup> Reactor Sampling Unit – Volume 150ml / UD ~4m

<sup>2</sup> All wetted parts PFA coated (fluoropolymers and perfluorelastomers FDA compliant) **21=** PFA nature / **29=** PFA antistatic

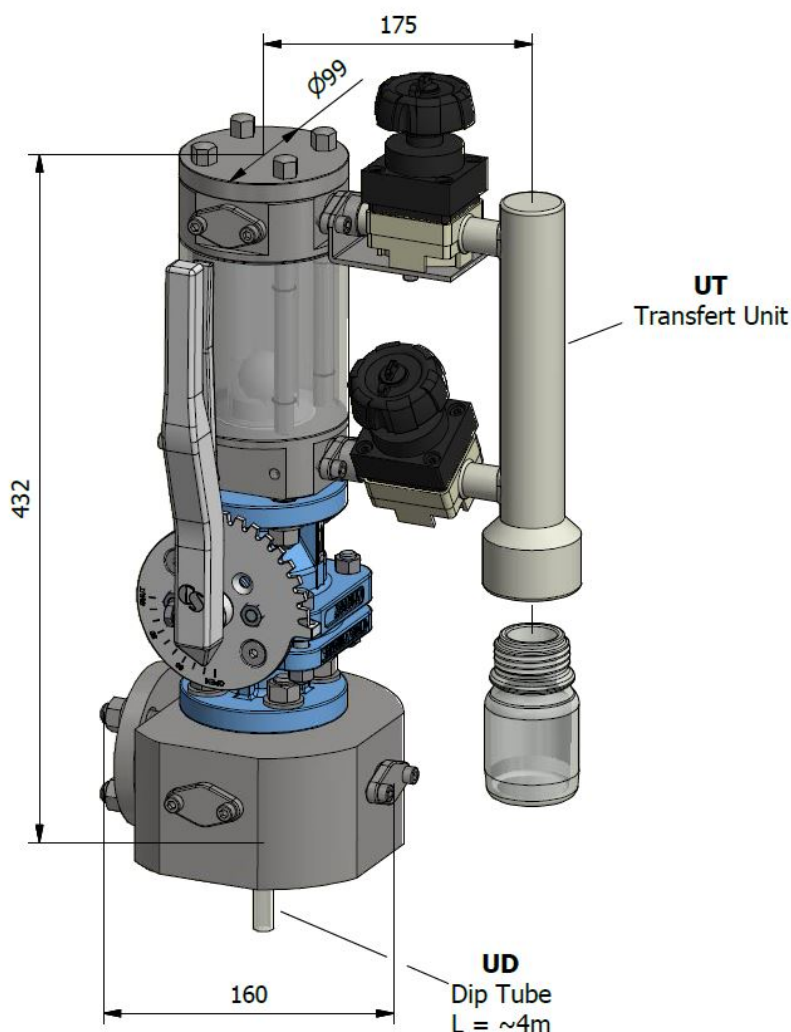
<sup>3</sup> Sampling valve Stainless Steel cast body

**REACTOR SAMPLING UNIT  
WITH TRANSFERT UNIT**

**REAKTOR PROBENAHMESYSTEME  
MIT TRANSFEREINHEIT**

**SYSTEME POUR CUVE  
AVEC UNITE DE TRANSFERT**

**Material | Werkstoff | Matière**  
PFA nature / PVDF / Perfluorelastomers



**Technical information**

Sample volume (ml)	150
Reactor flange connexion	min. DN50/2"
Dip tube (mm)	ø12/9 x 4000
Weight (kg)	18.70

	TS (C°)	-20 / +25	40	60	80
PS (bar) *	PN6 (bar)	6	4.8	3.8	2.8

\*the maximum admissible working pressure is given from the lowest nominal pressure of the accessories added to the device

**ACCESSORIES**

Bottle   Flasche   Bouteille	Ref. 01706301	p. 5.020
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**CODIFICATION**

1	2	3
UPR150	21	UT

<sup>1</sup> Reactor Sampling Unit – Volume 150ml / UD ~4m

<sup>2</sup> All wetted parts PFA coated (fluoropolymers and perfluorelastomers FDA compliant)

<sup>3</sup> PVDF Transfer Unit, GL45 thread

**PUMP UNIT**

AIR-OPERATED DIAPHRAGM PUMP

**PUMPE EINHEIT**

DRUCKLUFT MEMBRANPUMPE

**UNITÉ POMPE**

POMPE À DIAPHRAGME PNEUMATIQUE



Fixed to  
The UPR

**Material | Werkstoff | Matière**

PTFE / PTFE conductive



OPTION : [Transport Cart](#)

(product brochure p.8)

**Technical information**

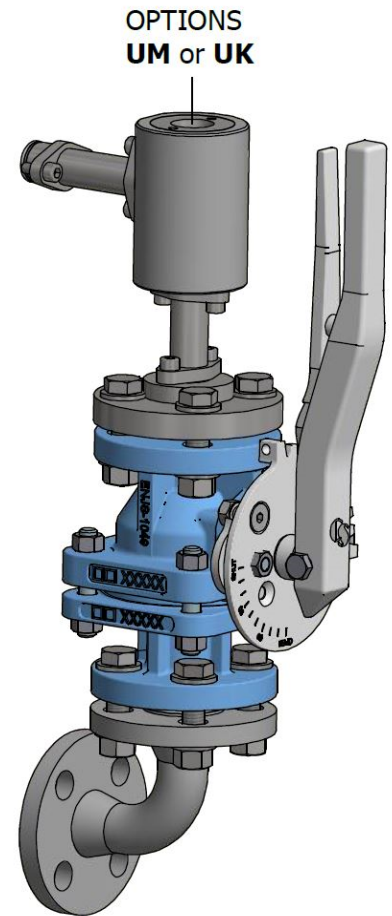
Pump size				DN 15	DN 25		
Dimensions	Maße	Dimensions	L   L   L	mm (in.)	166 (6.5)	220 (8.7)	
			W   B   I	mm (in.)	189 (7.4)	255 (10.0)	
			H   H   H	mm (in.)	240 (9.4)	320 (12.6)	
Nominal port size	Anschluss	Connection	NPT		½"	1"	
Air connection	Luftanschluss	Connection air	BSP		R¼	R¼	
Weight	Gewicht	Poids	PTFE	kg (lb)	12 (26)	29 (64)	
Discharge volume	Verdrängungsvolumens	Volume refoulement			l	0.1	0.34
Suction lift dry	Saughöhe, trocken	Hauteur aspiration sec			with cylinder valves	3 (9.8)	4 (13.1)
					with ball valves	2 (6.6)	3 (9.8)
Suction lift wet	Saughöhe Produktgefüllt	Hauteur api- ration rempli			mWC (ft)   mWS (ft)   mCE (ft)	9,5 (31.2)	9,5 (31.2)
Driving pressure	Antriebsdruck	Pression d'entraînement	max.	bar (psig)	7 (100)	7 (100)	
Operating T°	Betriebstemperatur	T° d'utilisation	max.	°C (°F)	120 (248)	120 (248)	
Particle size	Feststoff-Korngröße	Taille particules (with ball valves)	max.	mm (in.)	4 (0.16)	6 (0.24)	

**VENTURI UNIT**

**VENTURI EINHEIT**

**UNITÉ VENTURI**

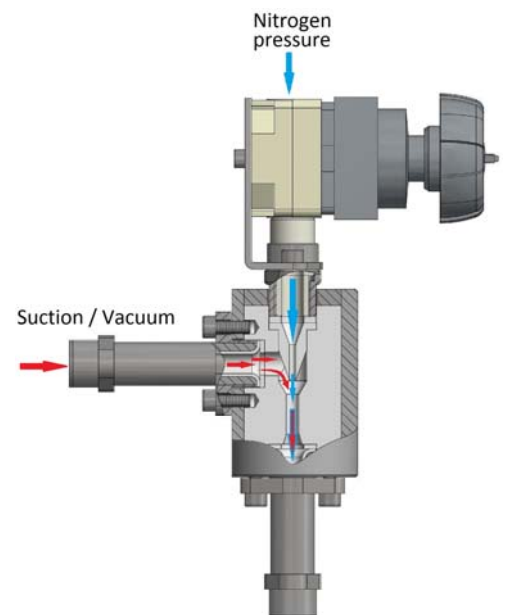
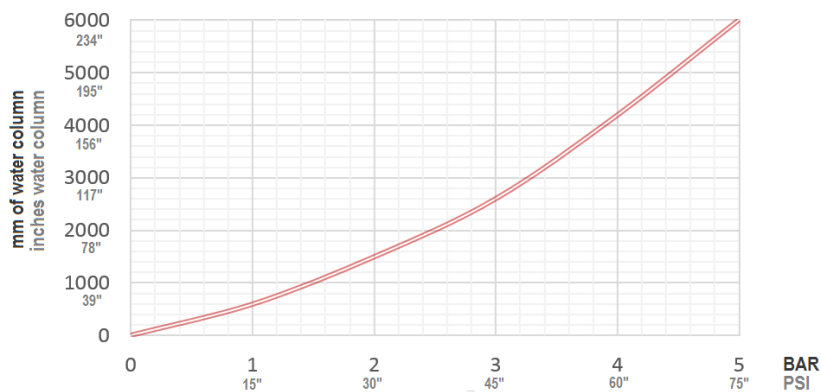
**Material | Werkstoff | Matière**  
1.4404/PTFE/TFM®1600



**Technical information**

<b>PN</b>	<b>bar (PSI)</b>	10 (150)	
<b>TS</b>	<b>°C (°F)</b>	max. 180 (360)	
<b>Air or N2 supply</b>	<b>bar (PSI)</b>	max. 5 (75)	G3/8" connection
<b>Suction height</b>	<b>mm (water column)</b>	max. 6000 (235")	

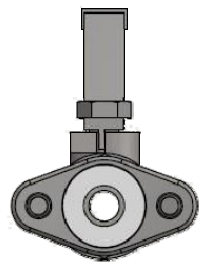
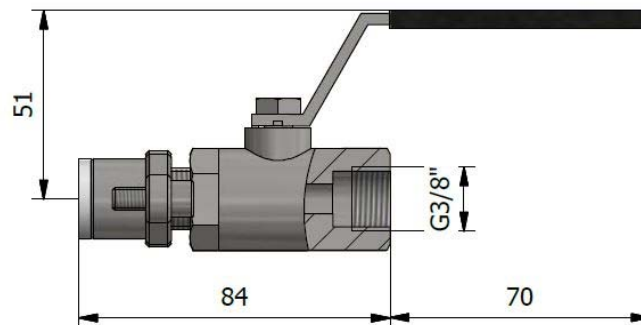
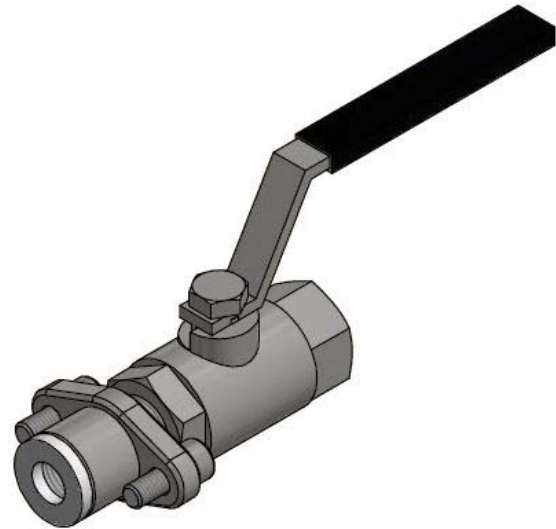
Efficiency venturi - air supply vs. vacuum (water column)  
Pumpenwirkungsgrad | Rendement du système venturi



**BALL VALVE**  
BALL VALVE 3/8" WITH 2-HOLE-  
CONNECTION FLANGE

**KUGELHAHN**  
KUGELHAHN 3/8" MIT 2-LOCH-  
ANSCHLUSSFLANSCH

**VANNE A BILLE**  
VANNE 3/8" AVEC BRIDE 2 TROUS DE  
RACCORDEMENT



**Material | Werkstoff | Matière**  
1.4408/1.4404/TFM®1600

**Technical information**

<b>PN</b>	<b>bar (PSI)</b>	16 (232)
<b>TS</b>	<b>°C (°F)</b>	-20/200 (-4/392)
<b>Outlet connection</b>	<b>(inch)</b>	G3/8"



**MEMBRANE VALVE**

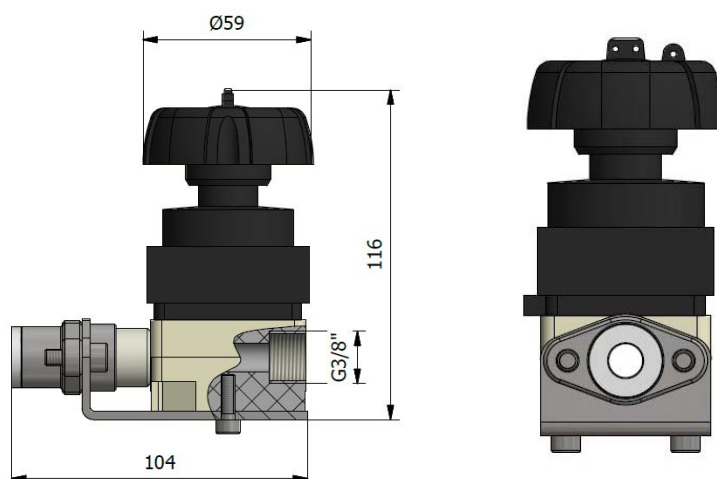
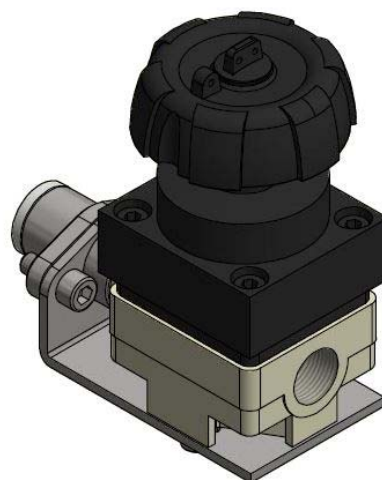
3/8" DIAPHRAGM VALVE WITH 2 HOLE  
FLANGE AND STRUT

**MEMBRANVENTIL**

3/8" MIT 2-LOCH-ANSCHLUSSFLANSCH  
UND STREBE

**VANNE A MEMBRANE**

3/8" AVEC BRIDE 2 TROUS DE  
RACCORDEMENT ET RENFORT



**Material | Werkstoff | Matière**  
PVDF/TFM®1600/1.4301

**Technical information**

<b>PN</b>	<b>bar (PSI)</b>	16 (87)
<b>TS</b>	<b>°C (°F)</b>	-20/80°C (-4/392°F)
<b>Outlet connection</b>	<b>(inch)</b>	G3/8"

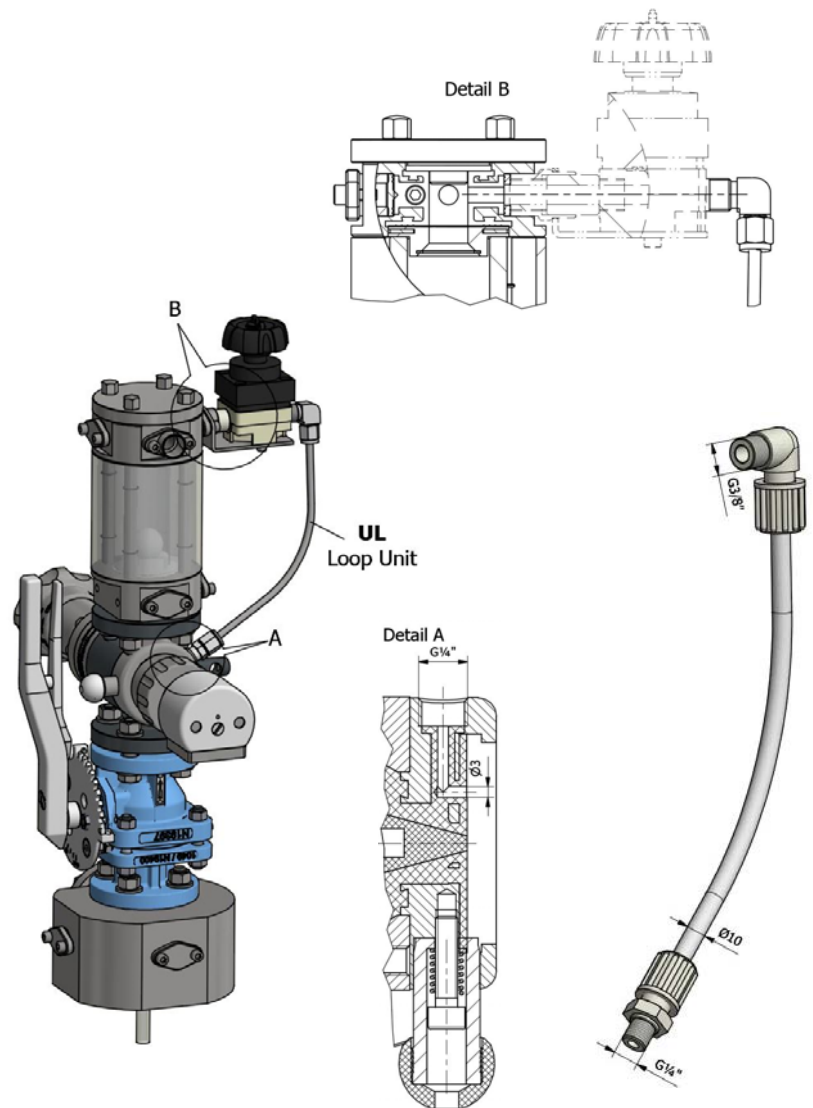
	TS (C°)	-20	40	60	80
PS	PN6 (bar)	6	4.8	3.8	2.8

**LOOP UNIT  
FOR GAZ VENT RECYCLING**

**SCHLEIFENEINHEIT  
FÜR ENTLÜFTUNGSGAZRECYCLING**

**UNITÉ BOUCLE  
POUR RECYCLAGE GAZ ÉVENT**

**Material | Werkstoff | Matière  
PFA/PVDF**



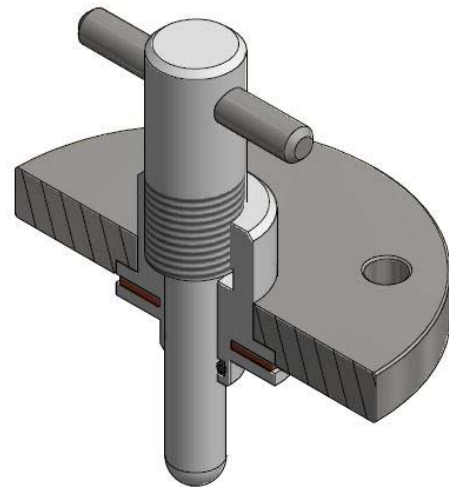
**Technical information**

<b>PN</b>	<b>bar (PSI)</b>	<b>10 (150)</b>
<b>Vent connection</b>	<b>(inch)</b>	<b>G1/4"</b>
<b>UM connection</b>	<b>(inch)</b>	<b>G3/8"</b>

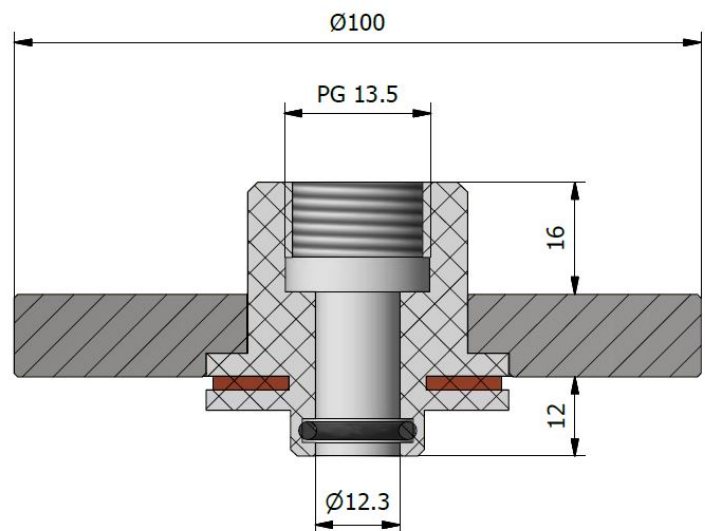
**PH METERING UNIT**

**PH MESSEINHEIT**

**UNITÉ DE MESURE PH**



**Material | Werkstoff | Matière**  
PFA / PFA conductive



**Technical information**

Depends on model | je nach Modell | Selon modèle

**OPTIONS**

Electrode type   Elektrode Type   Type électrode (Expl   Bspl: <a href="http://www.mt.com/int/en/home/products/Process-Analytics/pH-probe.html">http://www.mt.com/int/en/home/products/Process-Analytics/pH-probe.html</a> )	Standard
Retractable electrode type   Wechselelektrode Typ   Type électrode rétractable (Expl   Bspl: <a href="http://www.mt.com/int/en/home/products/Process-Analytics/sensor-cleaning-housing/retractable-housing.html">http://www.mt.com/int/en/home/products/Process-Analytics/sensor-cleaning-housing/retractable-housing.html</a> )	Intrac



**BIAR**   
sampling systems

**BIAR SA**

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