

# Type CONTIFLOW

Sample drawing without flow interruption



for liquids and solids-containing media

Sampling volume / operation:

$V_{P\ min}$  25 ml /  $V_{P\ max}$  100 ml

Bottle volume:  $V_{F\ min}$  50 ml /  $V_{F\ max}$  2000 ml

- safe and simple operation
- emission-free
- piggable

DN 15 - 100 / PN 10 - 40  
NPS 1/2 - 4 / Class 150 - 300

Ventilation: internally back to system or to atmosphere

### Design characteristics

- safe sample drawing - pressure-less
- representative sample, defined volume
- individual bottle connections
- closed needle system
- fully PFA / FEP / PTFE lined design available

### Options

- heating jacket
- air-evacuation device
- purge device

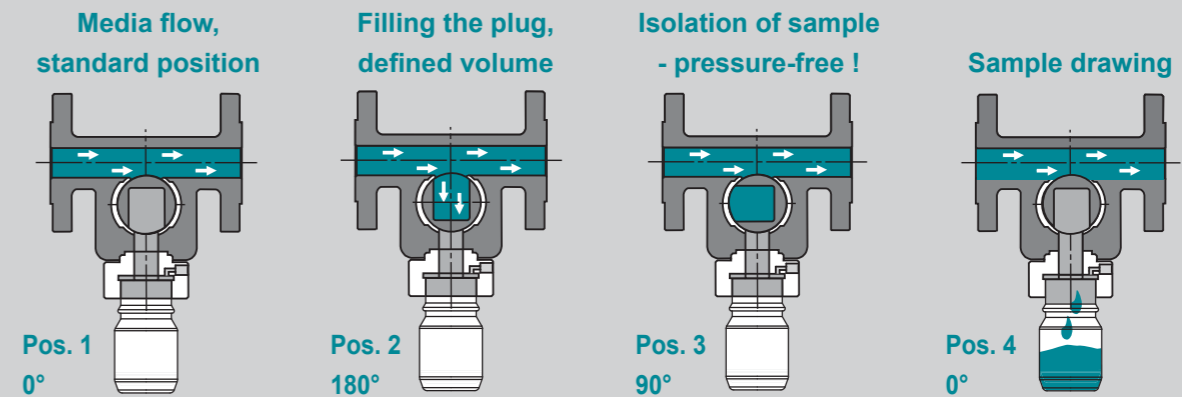


Pressure-less, safe, representative, defined sample volume

*Safety first!*



### Functionality



### Safe sample drawing

- pressure-free sampling for incompressible media
- isolated from the product flow (positive overlap)
- spillage-free sampling with individual bottle connections (option)

### Representative sample

- directly from main product flow, no flow interruption
- no contamination or sediment due to the cavity-free design

### Emission-free

- closed system
- product flow never exposed to atmosphere
- integrated ventilation into system during sample release (optional)

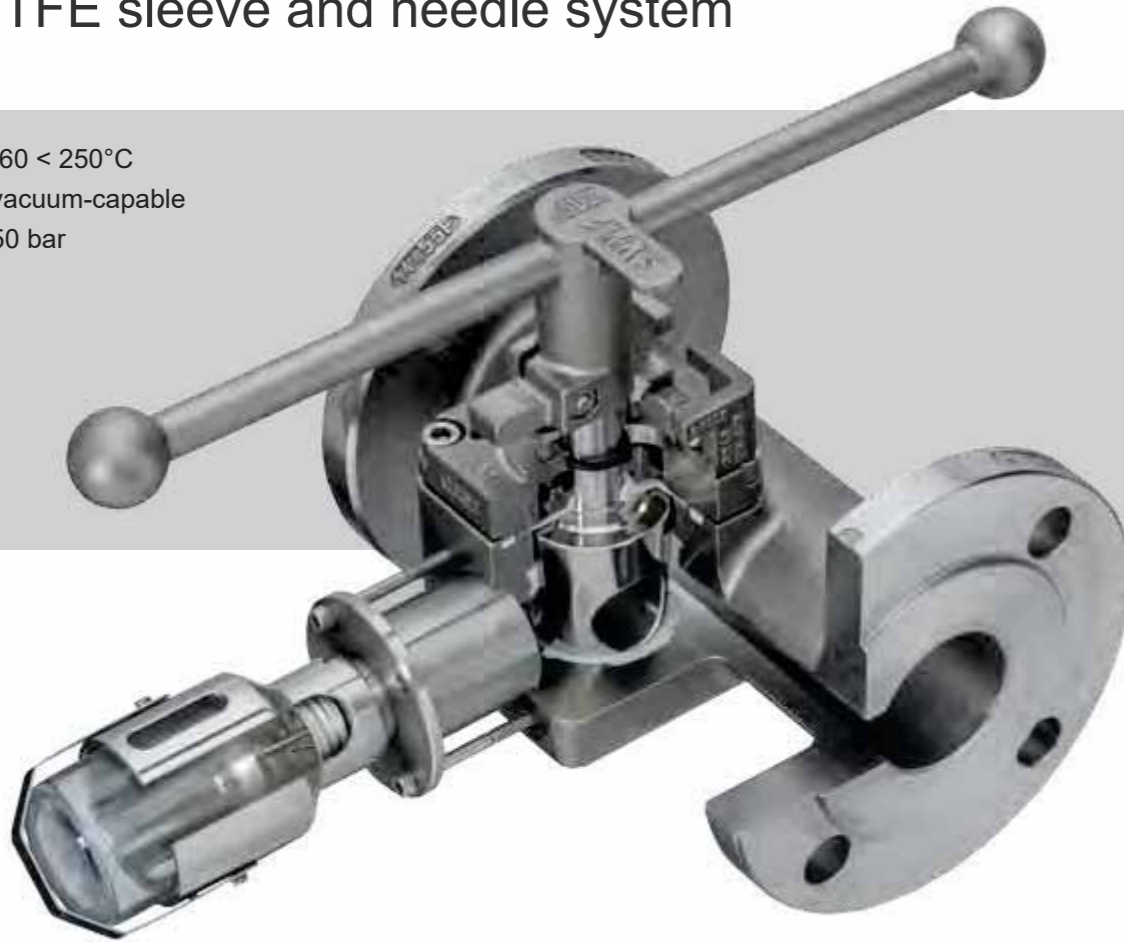
### Easy operation

- no failures due to single lever operation and position indicator
- optionally with
  - hand lever
  - actuator / gearbox 180°



## Type overview **CONTIFLOW** with PTFE sleeve and needle system

**T** -60 < 250°C  
**P<sub>MIN</sub>** vacuum-capable  
**P<sub>MAX</sub>** 50 bar



## Type overview **CONTIFLOW-A** with lining and PTFE bottle adapter

**T** -10 < 210°C  
**P<sub>MIN</sub>** vacuum-capable  
**P<sub>MAX</sub>** 25 bar



### Installation positions



STANDARD



HORIZONTAL



VERTICAL

### Type **CONTIFLOW**

with PTFE sleeve

Actuation: hand lever, front  
 Bottle holder: PTFE adapter

### Type **CONTIFLOW-W**

with PTFE sleeve

Actuation: hand lever, top  
 Bottle holder: needle system

### Type **CONTIFLOW-V**

with PTFE sleeve

Actuation: hand lever, front  
 Bottle holder: clamping bottle holder with bayonet fixing

### Installation positions



STANDARD



HORIZONTAL



VERTICAL

### Type **CONTIFLOW-A**

with PFA lining

Actuation: hand lever, front  
 Bottle holder: PTFE adapter

### Type **CONTIFLOW-A-W**

with PFA lining

Actuation: hand lever, top  
 Bottle holder: PTFE adapter

### Type **CONTIFLOW-A-V**

with PFA lining

Actuation: hand lever, front  
 Bottle holder: PTFE adapter

# CONTIFLOW

## Air-evacuation and purge devices

NEW!

### Air-evacuation device

Drawing vacuum from plug volume in 270° position directly before sample drawing in 180° position

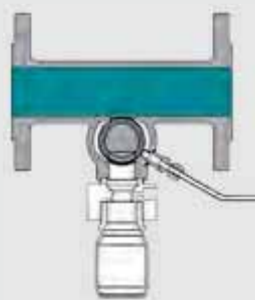
- locking pin ensures vacuum position
- direction of rotation only counterclockwise

OPTION: EV

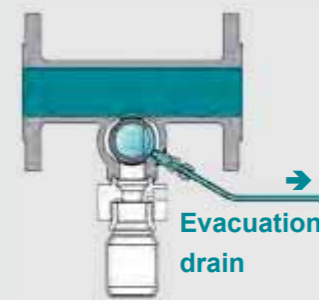


### Functionality

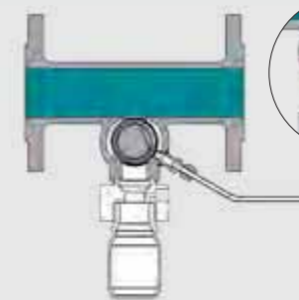
#### Basic position



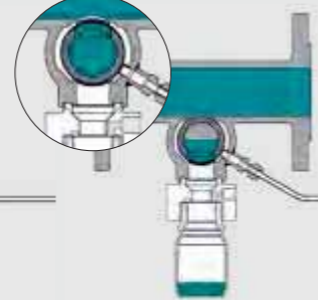
#### Evacuation



#### Vacuum



#### Filling the plug Sampling into bottle

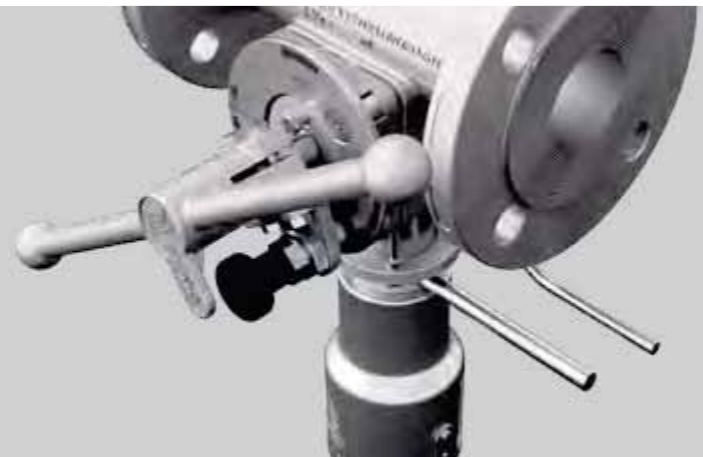


### Purge device

Purging of plug, needle system and lab bottle in 330° position with Nitrogen N<sub>2</sub> or steam

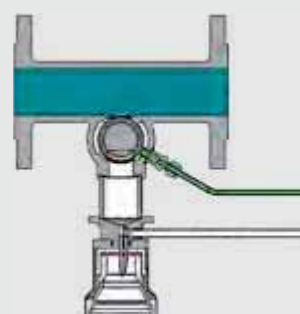
- locking pin ensures purging position
- OPEN/CLOSE of purging line by plug (no additional valve necessary)

OPTION: SP

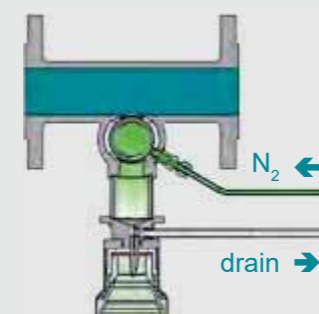


### Functionality

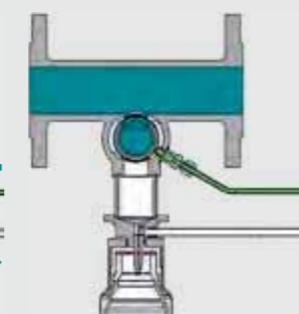
#### Basic position



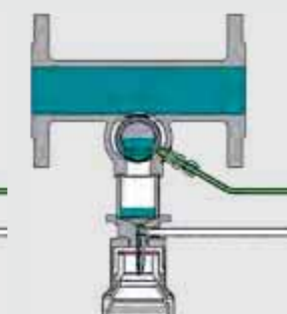
#### Nitrogen (N<sub>2</sub>) purge



#### Filling the plug



#### Sampling into bottle



# CONTIFLOW

## Supplementary equipment



### Increased sample volume

Increase of sample volume  $V_p$  by additional, modular adapter (standard installation position)

- plug volume  $V_p$ 
  - 75 ml
  - 100 ml
  - (standard plug 25/50 ml)
- modular design

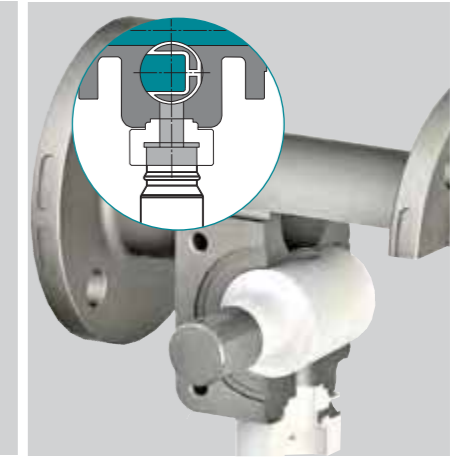
OPTION:  $V_p$



### Heating / cooling jacket

- solid cast full heating jacket, flange to flange
- heated cover seat
- different connections for heating medium
  - flanges
  - threaded
  - welding ends

OPTION: HM



### Cleaning in Place – CIP

- CIP-compliant
- with PTFE/PFA lined plug
- without sleeve
- gapless
- for pharmaceutical applications



### Protection box

Types

- for the whole sampling valve
- with ventilation, exhaust
- lockable
- heatable / coolable
- with lighting
- detection of bottles, filling level etc.



CONTIFLOW-PLC with protection box

ATEX option



### Protection box combination

Integrated control cabinet for automated sampling

- individual setting of time period, sampling cycle, volume
- sensors monitoring the sampling operation
- standard interface for actuator, sensor, pneumatic

# CONTIFLOW

## Operation



### Hand operation

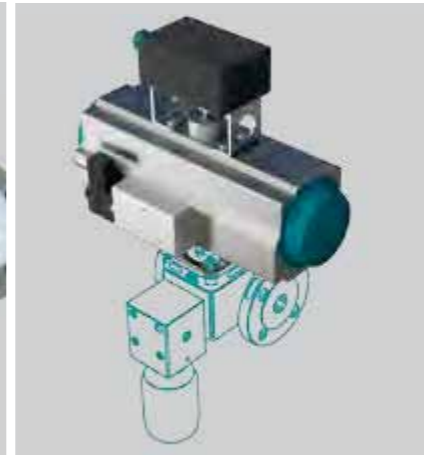
- Standard lever, Stainless Steel
- T-wrench with plug stem extension, Type KSV, 150 mm high, stainless steel
- Locking devices (option)



### Gearbox Type CGB

- smooth operation
- transmission ratio 80 : 1
- plug position indicator

**Type CGB 125**  
recommended for CONTIFLOW  
**Type CGB 250**  
recommended for CONTIFLOW-A



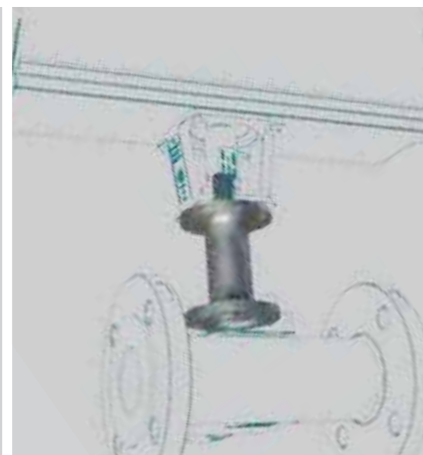
### Actuator, pneumatic 180°

- single or double acting
- optional with switch boxes, positioners, solenoid valves



### Operation switch

for single or multiple operation to increase the sample volume



### Plug stem extension, type FV

- simple mounting of the extension and the actuators
- 100 mm height, others on request

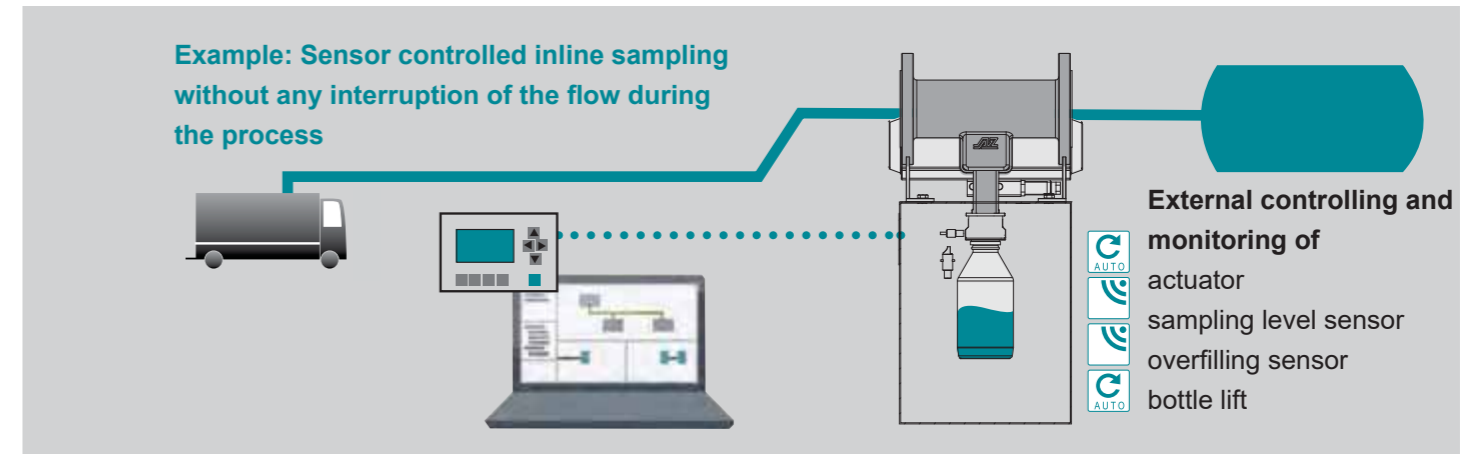


### Locking device

- for the safety operation for authorized personnel only
- optional for position
  - open
  - close
  - both positions

# Type CONTIFLOW-PLC-II

fully automated sampling - easily programmable controller



### Sampling protection box combination with integrated control box for advanced functions, e.g.

- runtime error
- sampling interruption
- collective fault signal

**NEW!**

### CONTIFLOW-PLC-II with protection box



### Process of the sampling

- 1 Insert empty or partly filled bottle
- 2 The bottle is lifted pneumatically
- 3 Automated sampling system
- 4 Indication after termination of program (no overflowing of bottle due to sensor)

**Order example: CONTIFLOW-PLC - V<sub>F</sub>1000ml-SRA-TK-FGW-FK-Lift**

V<sub>F</sub>1000ml=Bottle volume, SRA=protection box door stop right, TK-FGW-FK= door control sensor (TK), fluid level control (FGW), bottle control (FK), Lift = bottle lift

# CONTIFLOW

## Technical information

Type CONTIFLOW								Type CONTIFLOW-V								Type CONTIFLOW-W							

EN 1092-1 / 568	DN	PN	L [mm]	R [mm]	E [mm]	H* [mm]	weight [kg]	ASME B16.5 / B16.10	NPS	class	L [mm]	R [mm]	E [mm]	H* [mm]	weight [kg]
	15	10-40	130	330	78	135/128	7,5		1/2	150	127	330	78	135/128	7,2
25	10-40	160	330	85	135/128	8,5	1	150	127	330	85	135/128	8,0		
40	10-40	200	330	90	135/128	10,5	1 1/2	150	165	330	90	135/128	9,0		
50	10-40	230	330	96	135/128	13,5	2	150	178	330	96	135/128	11,5		
80	10-40	310	330	110	190/173	20,5	3	150	203	330	110	190/173	17,5		
100	10-16	350	330	125	190/173	22,0	4	150	229	330	125	190/173	20,5		

\*) Size CONTIFLOW / CONTIFLOW-A

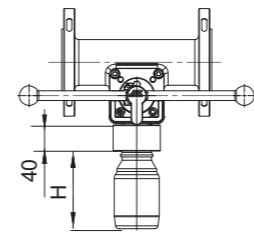
Other sampling valves on request.

Some designs, sizes and/or configurations may be fitted with threaded flange holes.

Type	plug sample volume V <sub>p</sub> [ml]			bottle volume V <sub>f</sub> [ml]	sample volume V <sub>p</sub> [ml]	N [mm]	S [mm]
	PTFE adapter	needle system	clamping bottle				
CONTIFLOW	25/50/75/100	25/50/75/100	25/50/75/100	50 (GL32) / 60 (PP25)	25	172	224
CONTIFLOW-V	25	25	25	50	50	202	224
CONTIFLOW-W	25	25	25	100 (GL 45 / PP28)	25	185	224
CONTIFLOW-A	25/50*	**	25/50*	100 (GL 45 / PP28)	≥50	215	224
CONTIFLOW-A-V	25	**	25	250 (GL45) / 300 (PP28)	25	225	224
CONTIFLOW-A-W	25	**	25	250 (GL45) / 300 (PP28)	≥50	255	224
CONTIFLOW-CIP	25	25	25	500 (GL45 / PP28)	25	259	258
				500 (GL45 / PP28)	≥50	289	258
				1000 (GL45 / PP28)	25	314	-
				1000 (GL45 / PP28)	≥50	344	-

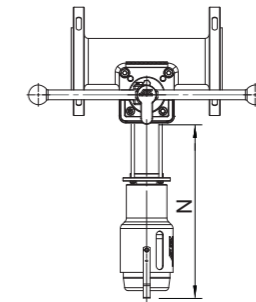
\*) V<sub>p</sub> 50 ml only for metal plugs (not lined)  
 \*\*) on request

PTFE adapter

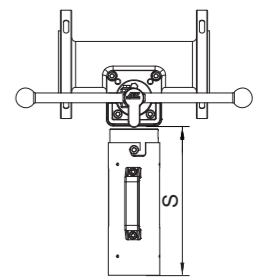


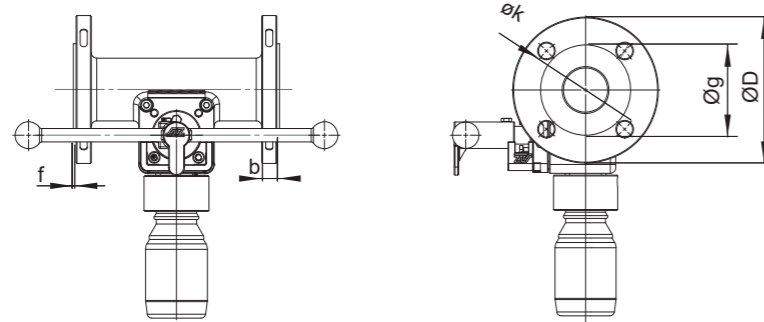
H = height of lab bottle

needle system, type NH



clamping bottle holder, type SFH





DN	PN	øD [mm]	flange bore		No.	ø [mm]	øg [mm]	b [mm]	f [mm]
			øk [mm]	ø [mm]					
15	10-40	95	65	65	4	14	45	16	2
20	10-40	105	75	75	4	14	58	18	2
25	10-40	115	85	85	4	14	68	18	2
32	10-40	140	100	100	4	18	78	18	2
40	10-40	150	110	110	4	18	88	18	3
50	10-40	165	125	125	4	18	102	20	3
65	10-16	185	145	145	4	18	122	18	3
80	25-40				8			22	
80S	10-40	200	160	160	8	18	138	24	3
80S	10-40	200	160	160	8	18	138	24	3
100	10-16	220	180	180	8	18	158	20	3
100	25-40	235	190	190	8	22	162	24	3

NPS	Class	øD [mm]	flange bore		no.	ø [mm]	øg [mm]	b [mm]	f [mm]
			øk [mm]	ø [mm]					
½	150	90	60,3	60,3	4	15,7	34,9	10,0	2
½	300	95	66,7	66,7	4	15,7	34,9	14,7	2
¾	150	100	69,9	69,9	4	15,7	42,9	10,9	2
¾	300	115	82,5	82,5	4	19,1	42,9	16,3	2
1	150	110	79,4	79,4	4	15,7	50,8	11,6	2
1	300	125	88,9	88,9	4	19,1	50,8	17,9	2
1¼	150	115	88,9	88,9	4	15,7	63,5	13,2	2
1¼	300	135	98,4	98,4	4	19,1	63,5	19,5	2
1½	150	125	98,4	98,4	4	15,7	73,0	14,7	2
1½	300	155	114,3	114,3	4	22,3	73,0	21,1	2
2	150	150	120,7	120,7	4	19,1	92,1	16,3	2
2	300	165	127,0	127,0	8	19,1	92,1	22,7	2
2½	150	180	139,7	139,7	4	19,1	104,8	17,9	2
2½	300	190	149,3	149,3	8	22,3	104,8	25,9	2
3	150	190	152,4	152,4	4	19,1	127	19,5	2
3	300	210	168,3	168,3	8	22,3	127	29,0	2
4	150	230	190,5	190,5	8	19,1	157,2	24,3	2
4	300	255	200,0	200,0	8	22,3	157,2	32,2	2

**Order Example**

CONTIFLOW - NPS2 PN16 FS PTFE virg 1.4408/1.4408 V<sub>p</sub>25 PTFE GL45 250 HL HM/FV

**TYPE**  
CONTIFLOW  
CONTIFLOW-A

**INSTALLATION**  
- standard  
W horizontal  
V vertical

**SIZE**  
NPS ½ up to 6  
DN 15 up to 150

**PRESSURE RATING**  
CL150 PN10  
CL300 PN16  
PN25  
PN40

**SEALING SYSTEMS**  
STD for all major applications  
FS Fire-Safe sealing  
FSN Fire-Safe safety sealing  
FSN-SL Fire-Safe safety sealing (live loaded disc spring)  
CA Chemical sealing  
CASN Chemical safety sealing  
CASN-SL Chemical safety sealing (live loaded disc spring)

**SLEEVE MATERIALS**  
PTFE (virgin) T<sub>max</sub> 230°C  
PTFE (glass) T<sub>max</sub> 230°C  
TFM T<sub>max</sub> 250°C  
PTFE graphite T<sub>max</sub> 250°C  
PTFE-P T<sub>max</sub> 280°C

**STANDARD MATERIALS**  
CONTIFLOW  
body Stainless Steel A351 Gr. CF8M 1.4408  
plug Stainless Steel A351 Gr. CF8M 1.4408  
CONTIFLOW-A  
body Carbon Steel A216 Gr. WCB 1.0619  
Stainless Steel A351 Gr. CF8M 1.4408  
Lining PFA, PFA-conductive, FEP  
plug Lining PTFE, PFA, PFA-conductive, FEP

**SAMPLE VOLUME (plug)**  
V<sub>p</sub> 25 / 50 / 75 / 100 ml


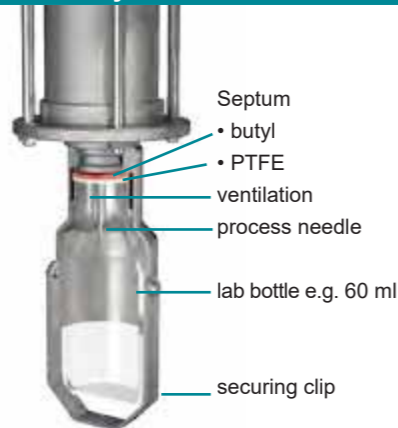
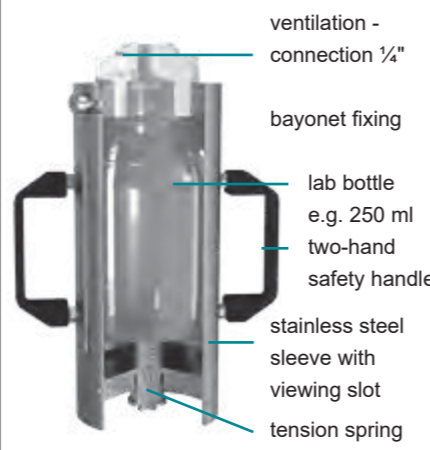

**SAMPLING CONNECTION**  
PTFE PTFE adapter, GL 32/45 PP 25/28  
NH Needle system, needle 2 / 3 / 4 / 6 mm  
SFH Clamping bottle holder, GL 32/45 PP 25/28

**BOTTLE VOLUME**  
GL 50 / 100 / 250 / 500 / 1000  
for PTFE adapter and  
Clamping bottle holder  
PP 60 / 100 / 300 / 500  
for needle system

**ACTUATION**  
HL lever  
HLL lever, lockable  
KSV T-wrench  
KSVL T-wrench, lockable  
CGB gearbox  
GBL hand gear, lockable  
AT Actuator (please note type and accessories)  
PLC fully automated sampling (separate description)

**OPTIONS (multiple use possible)**  
CIP clean-in-place  
HM heating jacket / cooling jacket  
SP purge device  
EV air-evacuation device  
FV cover extension  
SK Protection box (separate description)  
ATEX

# Bottle connection designs

PTFE adapter	Needle system	Clamping bottle holder
 <p>ventilation - connection 1/4" drain nozzle lab bottle e.g. 250 ml GL45</p>	 <p>Septum • butyl • PTFE ventilation process needle lab bottle e.g. 60 ml securing clip</p>	 <p>ventilation - connection 1/4" bayonet fixing lab bottle e.g. 250 ml two-hand safety handle stainless steel sleeve with viewing slot tension spring</p>
for lab bottles with ISO thread GL32/45 or PP25/28GL32/45 oder PP25/28	for lab bottles with septum (consisting of butyl and PTFE diaphragm) Process needle and ventilation needle with bevel cut	bayonet fixing application for quick and simple replacement of the sampling container for insulated, splinter-protected insertion of the lab bottles
<b>Application</b>		
for liquids and solids-containing media (less toxic resp. polluted media)	for high-toxic liquid media	for hot, cold or less toxic or contaminated media (toxic / non toxic)
<b>Ventilation</b>		
external (1/4" connection at the PTFE adapter)	internal	external (1/4" connection at the PTFE adapter)
<b>Bottle holder design</b>		
threaded PTFE adapter	needle system (septum) with safety Stainless Steel bracket	Clamping bottle holder, with two-hand handle, bayonet fitting, Stainless Steel, PTFE adapter without thread, adaption of the lab bottle with internal spring
<b>Outlet (internal diameter)</b>		
Type CONTIFLOW I.D. = 20 mm PTFE drain nozzle  Type CONTIFLOW-A I.D. = 20 mm PTFE drain nozzle	needle I.D. = 2 mm 	Type CONTIFLOW I.D. = 20 mm PTFE drain nozzle  Type CONTIFLOW-A I.D. = 20 mm PTFE drain nozzle
<b>Options</b>		
<ul style="list-style-type: none"> <li>customer threaded PTFE adapter</li> <li>perspex splinter-protection with bayonet fixing</li> <li>flushing device e.g. for N<sub>2</sub> or steam</li> <li>Modul for V<sub>p</sub> 75 / 100 ml</li> </ul>	<ul style="list-style-type: none"> <li>Side holes in the needles for minimized puncturing impact on septum</li> <li>needle I.D. = 3 / 4 / 6 mm</li> <li>flushing device e.g. for N<sub>2</sub> or steam</li> <li>Modul for V<sub>p</sub> 75 / 100 ml</li> </ul>	<ul style="list-style-type: none"> <li>flushing device e.g. for N<sub>2</sub> or steam</li> <li>Modul for V<sub>p</sub> 75 / 100 ml</li> </ul>

# Bottle connection designs



Standard lab bottle	Bottle volume V <sub>F</sub> [ml]	Packing unit [pieces]	Thread / cap size	Diameter [mm]	Height H [mm]
<ul style="list-style-type: none"> <li><b>DURAN® (clear glass)</b> with plastic cap</li> <li><b>DURAN® Protect</b> (shatter protected) with plastic cap</li> </ul>	50	10	GL 32	46	87
	100	10	GL 45	56	100
	250	10	GL 45	70	138
	500	10	GL 45	86	176
<ul style="list-style-type: none"> <li><b>DURAN® Pressure Plus+</b> (vacuum-capable up to 1 bar vacuum and pressure tight up to +1,5 bar)</li> </ul>	100	10	GL 45	56	100
	250	10	GL 45	70	138
	500	10	GL 45	86	176
	1000	10	GL 45	101	225
<ul style="list-style-type: none"> <li><b>Lab bottle with septum</b> (clear glass) with Aluminum cap and plastic cap</li> </ul>	60	127	PP 25	39	93
	100	10	PP 28	52	97
	300	10	PP 28	65	151
	500	10	PP 28	77	178
	1000	10	PP 28	98	217



## Sample volume

- Standard sample volume 25 ml enough for laboratory tests
- no disposal of waste (saving of costs)

- optionally higher sample volume through repeating operations
- 50/75/100 ml sample volume available for certain executions