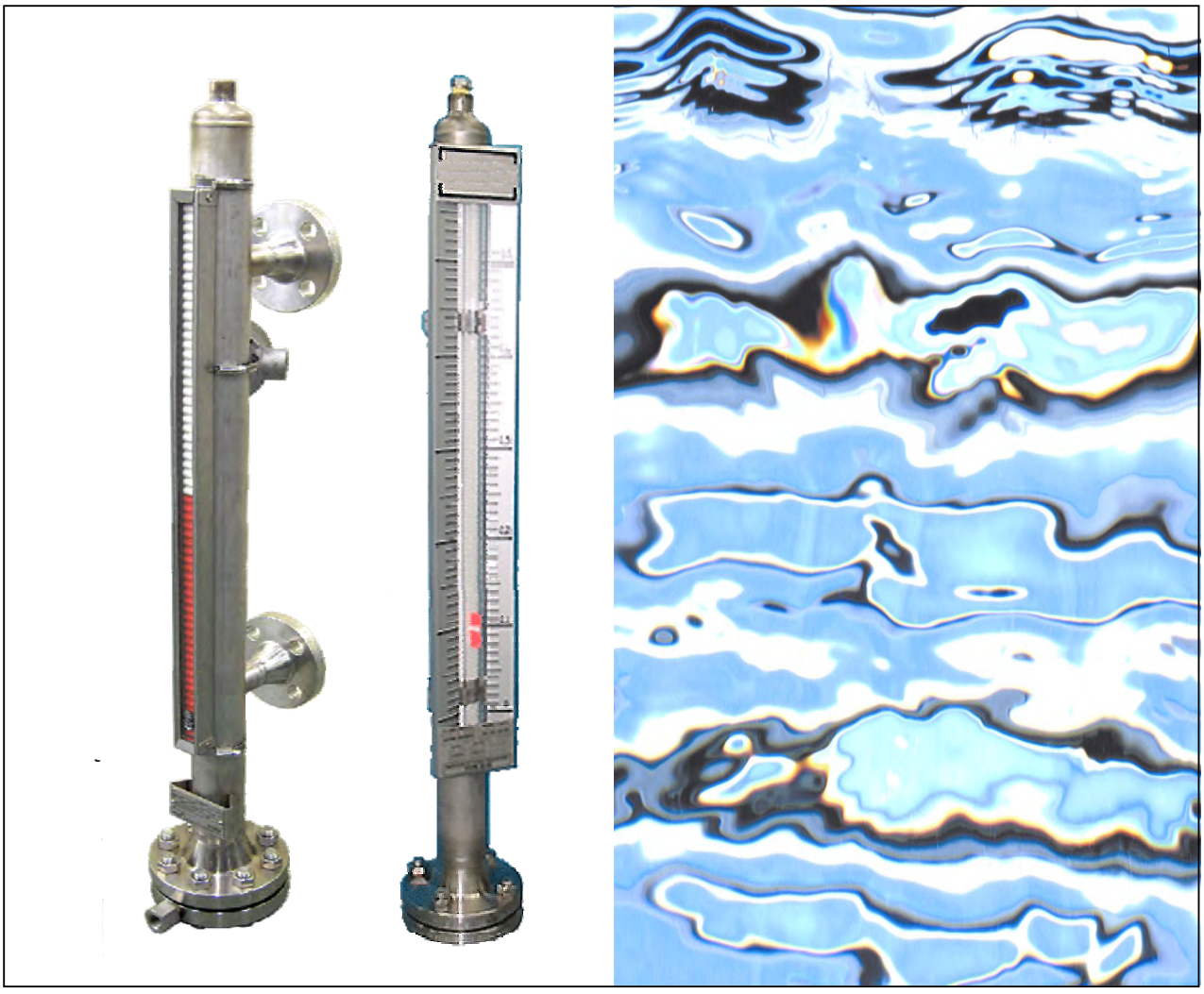
Data Sheet
DS-MLG-810-eng
June, 2008

Type 810
Magnetic level gauges



Brooks Instrument SAS

BROOKS® INSTRUMENT

Magnetic level gauge

Data Sheet
DS-MLG-810-eng
June, 2008

Magnetic level gauge

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Magnetic level gauge

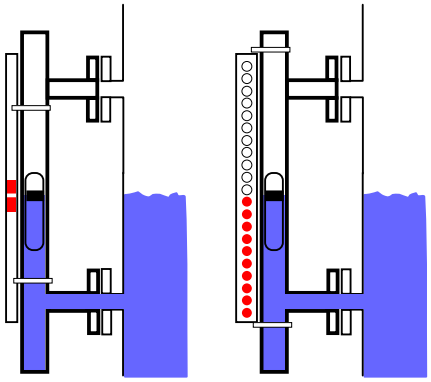
Type 810
General

The magnetic level gauge type 810 allows to measure directly liquid levels, even corrosive or dangerous, into vessels or under pressurized tanks.
The design of this equipment ensures a good accuracy, an excellent reliability and a safe use.

A float equipped with a permanent magnet follows the level variation of the liquid to be measured.

Slider version: the float drives a magnetic slider which slides into a pyrex tube mounted on a graduated scale.

Wafers/rollers version: the float reverses magnetically locked bi-coloured Rollers. The red zone indicates the level of liquid in the tank



Slider version Rollers version

Design

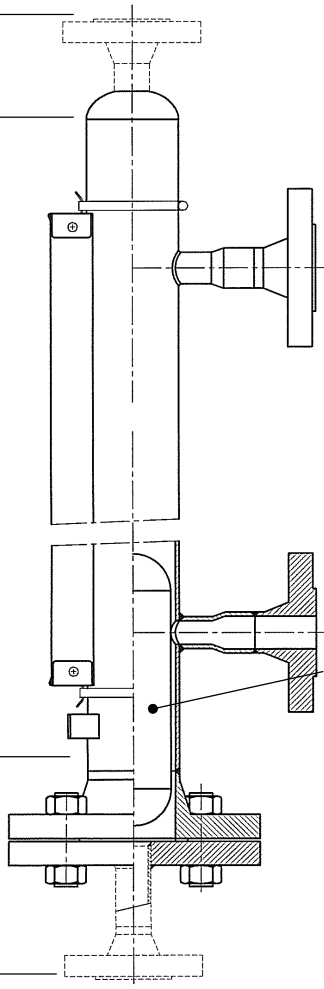
TOP of the instrument
Caps + options

Chamber / Body
Tubular pressurized chamber, fitted with flanges and connections to be installed on customer's tank.
This main part of the instrument is filled by the fluid to be measured. It is identically stressed (pressure, temperature, corosiveness…) than the main storage vessel on which it is connected.

All welded parts are TIG welded.

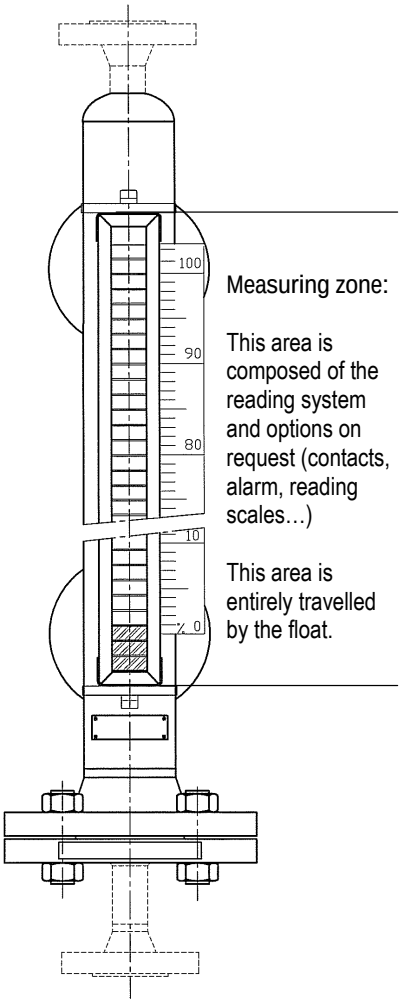
BOTTOM Flange
In order to allow the float to be inserted into the chamber

Options on request on bottom flange



CC dimension
The "Center- to- center" dimension. This area represents the mesuring zone thanks to the reading system and the float movement. It is located right between both side-side connections.

Float:
Hermetically Sealed item designed in accordance with the rating of the chamber and the process medium. It follows the variations of level of liquid. It carries the magnets to communicate with the reading system.

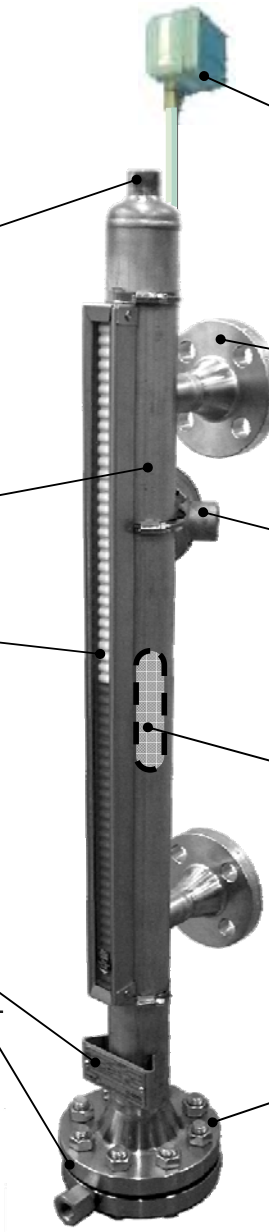


Measuring zone:

This area is composed of the reading system and options on request (contacts, alarm, reading scales…)

This area is entirely travelled by the float.

Type 810
Technical Coding



Continuous indicator
Mc 1000 4-20mA transmitter for remote measuring.
Available with standard housing , ATEX I.S. (ia), or ATEX explosion-proof ("d")version.

Plug + Vent (½ BSP or NPT)
For air draining according to customer process or application.
Many other connections types available.

Process Connections
Many option for process tank connections.

Float chamber
So called the primary tube, it consists of a stainless steel or synthetic tube fitted with flanges (in standard) for external side mounting.

Alarm contacts
Standard mounting on the float chamber using st.st jubilee clip.
Standard version or ATEX I.S (ia). or flame-proof version (EExd).

Reading system
Three versions are available according to customer's requirements:
S= slider
R= Rollers / version.
VA = Aluminum wafers flaps
Many additional options available.

Float
Equipped with 360°magnets – follow the variations of liquid inside the chamber.
Many material, magnet types and pressure rating on request.

Name plate
Manufacturer name plate including all main technical data and specifications according to applicable rules and standards.

The tube is also fitted with a **Bottom flange assembly** equipped with a drain plug.
Many other connections types available -

Example:

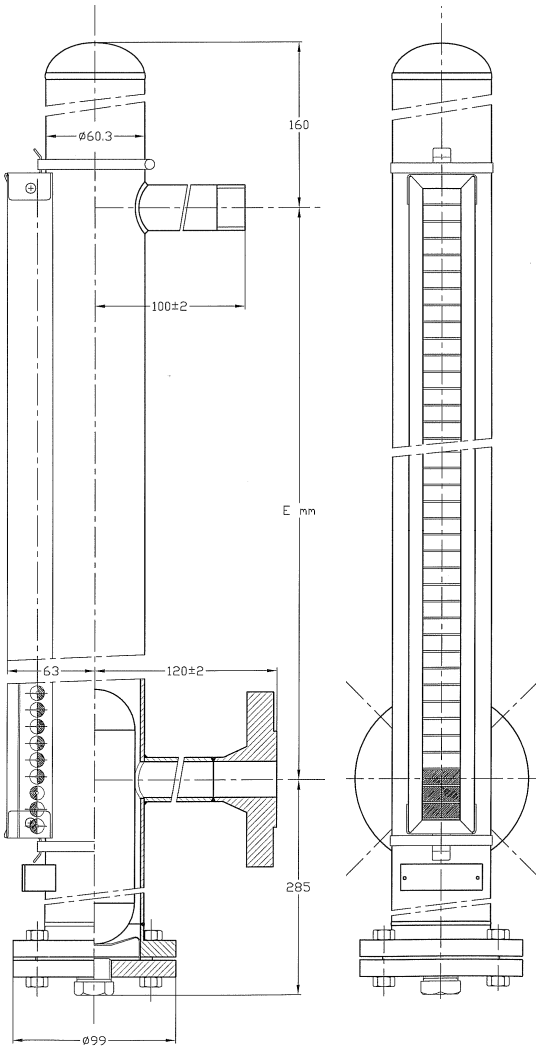
810 S – 25 – C4 – M1–T1– S1x2 –Z4 –Z13 – D0 – 1500 – CAT/II

Design Type	*Reading system*	*Nominal dimension*	*Process connections type*	*Float type*	*Transmitter type*	*Alarm contact type x Quantity*	*Option type*	*Option type*	*Document / certificates types*	*Center to center dimension*	*PED Category*
See Page 4	See Page 8	Standard ND 20,25 32,40 or ND50	See Pages 12	See Pages 30	See Page 36	See Page 40			See Page 42		CAT/0 = No PED CAT/3.3 = Art. 3§3 CAT/I = category 1 CAT/II = category 2 CAT/III = category 3 CAT/IV = category 4

Type 810
Standard designs

Metallic Versions Standard
304L Stainless Steel code C1 to C9

Chamber	Material: St. St. 304L Ø 60,3mm x 2mm welded
TOP	Welded caps 304L Option – see page 29
BOTTOM	Flange "Brooks type D100" (Pmax = 15,9 bar @ 20°C) Drain + ½" NPT plug Option – see page 29
Connections	Side-Side ND 20 to 50 Flange St.St. 304L ISO/ANSI PN 20 to 50 RF ½ Coupling SW 3000 ½ Coupling BSPP-F ½ Coupling NPT-F 3000 Tube 304L BSPP-M Tube 304L NPT-M See for connections specifications pages 12 -25
C- to- C dimension	Minimum: E= 300 mm Maximum: E= 5500 mm Longer dimensions on request (Instrument supplied with sections)
Floats	St. St. 316L titanium See for floats specifications pages 30 - 35
Reading system	R - Polyamid Rollers (PA6V) red / white VA – Aluminium red / white Wafers S – Slider Visual test of damaged float See for reading system specifications pages 8 -10
Alarm contacts	See for contacts specifications pages 40-41
Transmitter	See for transmitter specifications page 36 - 39
Reading scales	St.St. 316L/ or Aluminium Silk printed See for reading scales options page 10



Process conditions

Temperature	From -160°C to + 350°C
Pressure	From -1 Atm to 32 bars
S. gravity	From 0,52 kg/m³ Others on request

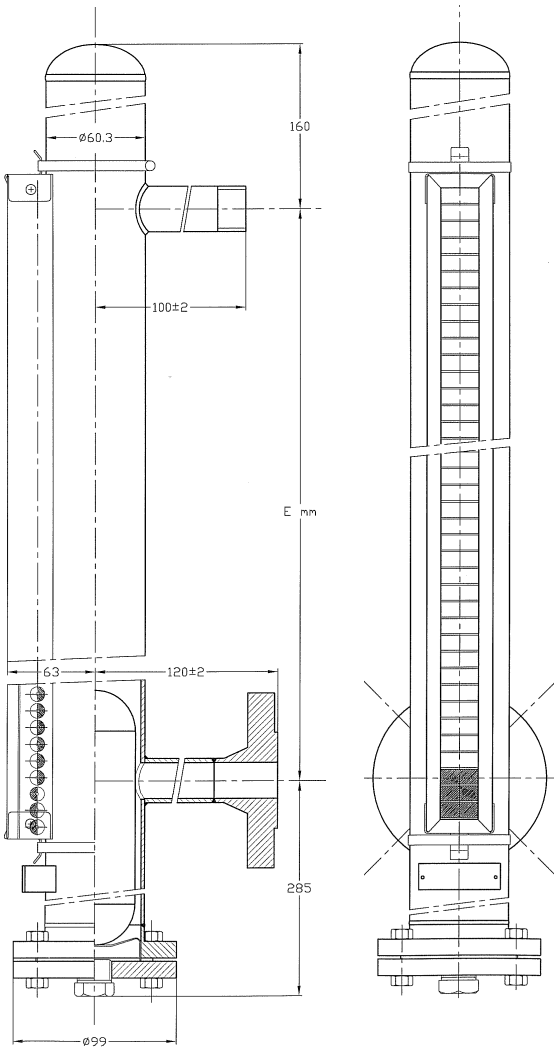
PED 97/23/EC	Max CAT I - Gases from group 2 only

Type 810
Standard designs

Metallic Versions Standard 316L Stainless Steel code C11 to C19	
Chamber	Material: St. St. 316L Ø 60,3mm x 2mm welded
TOP	Welded caps 316L Option – see page 29
BOTTOM	Flange "Brooks type D100" (Pmax = 15,9 bar à 20°C) Drain + plug ½" NPT Option – see page 29
Connections	Side-Side ND 20 to 50 Flange St.St. 316L ISO/ANSI PN 20 to 50 RF ½ Coupling SW 3000 ½ Coupling BSPP-F ½ Coupling NPT-F 3000 Tube 316L BSPP-M Tube 316L NPT-M See for connections specifications pages 12 -25
C- to- C dimension	Minimum: E= 300 mm Maximum: E= 5500 mm Longer dimensions on request (Instrument supplied with sections)
Floats	St. St. 316L titanium See for floats specifications pages 30 - 35
Reading system	R - Polyamid Rollers (PA6V) red / white VA – Aluminium red / white Wafers S – Slider Visual test of damaged float See for reading systems specifications pages 8 -10
Alarm contacts	See for contacts specifications pages 40-41
Transmitter	See for transmitter specifications page 36 - 39
Reading scales	St.St. 316L or aluminium Silk printed See for reading scales options page 10

Process conditions

Temperature	From 160°C to + 350°C
Pressure	From -1 Atm to 32 bars
S. gravity	From 0,52 kg/m³ Others on request
PED 97/23/EC	Max CAT I - Gases from group 2 only



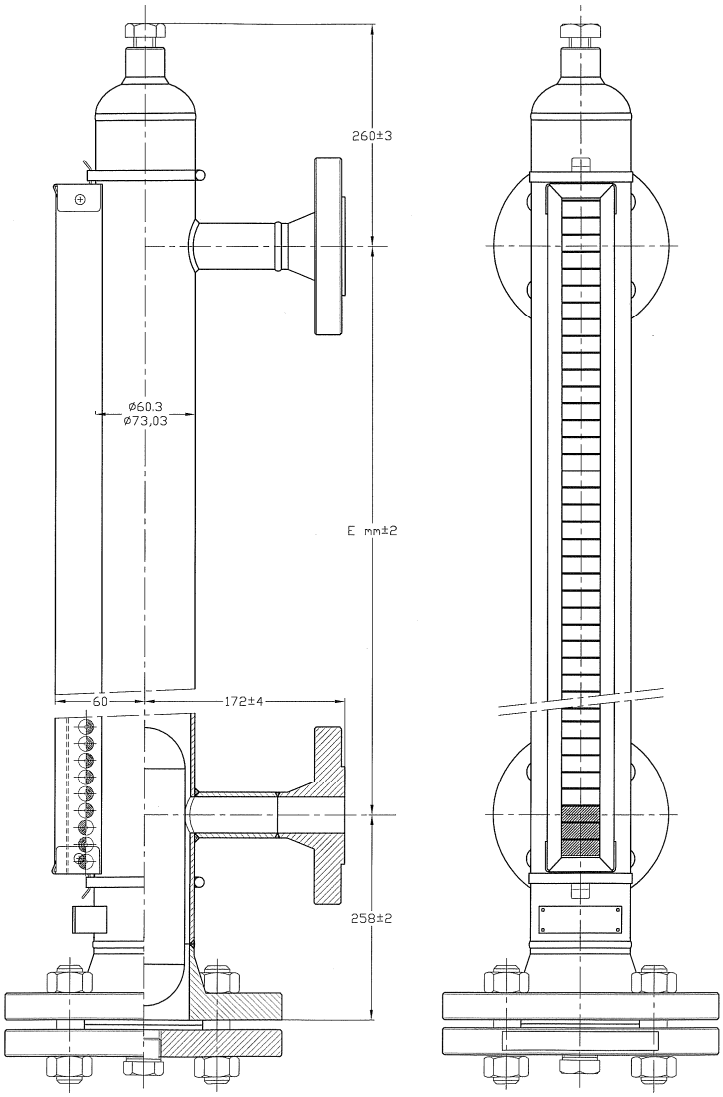
Type 810
Standard designs

Metallic Versions High durty
304L-316L Stainless Steel code C20...

Chamber	Material:St. St. 316L Ø 60,3mm x 2,77 mm Ø 73,03mm x 5,16 mm Ø 73,03mm x 7,1 mm Others on request
TOP	Welded caps 316L + Vent + Plug ½" NPT Option – see page 29
BOTTOM	Drain + plug ½" NPT Full Flanges Type 11B1 WN FS From PN20 (150#) to PN420(2500#) Option – see page 29
Connections	Side-side connections ISO/ ANSI Flanges PN 20(150#) to 420(2500#) RF and RTJ ½ Coupling SW 3000 ½ Coupling BSPP-F ½ Coupling NPT-F 3000 Tube 316L BSPP-M Tube 316L NPT-M See for connections specifications pages 12 -25
C- to- C dimension	Minimum: E= 300 mm Maximum: E= 5500 mm Longer dimensions on request (Instrument supplied with sections)
Floats	St. St..316L Titanium tube Machined Titanium Interface See for floats specifications pages 30 - 35
Reading system	R - Polyamid Rollers (PA6V) red / white VA – Aluminium red / white Wafers S – Slider Visual test of damaged float See for reading systems specifications pages 8 -10
Alarm Contacts	See for contacts specifications pages 40-41
Transmitteur	See for transmitter specifications page 36 - 39
Reading scales	St.St. 316L or aluminium Silk printed See for reading scales options page 10

Process conditions

Temperature	From -160°C to + 350°C
Pressure	From -1 Atm to 240 bars
S. gravity	From 0,4 kg/m³ Others on request
PED 97/23/EC	Max CAT IV



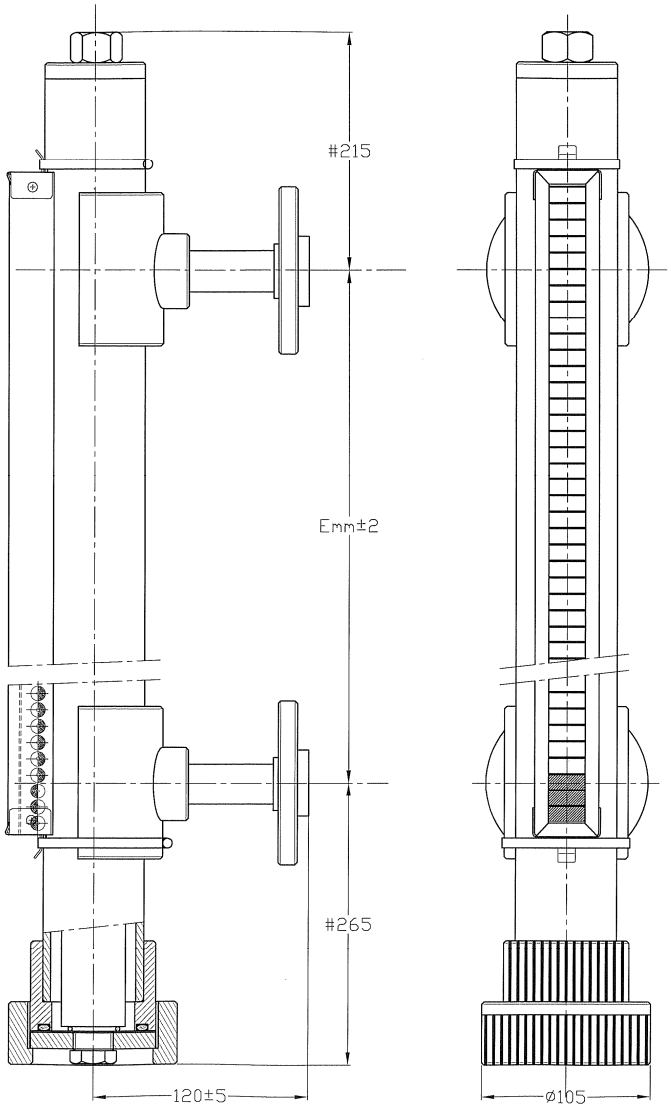
Type 810
Standard designs

Plastic Versions
U-PVC / PPH / PVDF

Chamber	Material: U-PVC/ PVDF/ PPH Ø 63mm x 4,7mm U-PVC Ø 63mm x 3,6mm PPH Ø 63mm x 3mm PVDF Top mounted version available on request Others on request
TOP	Welded caps Option – see page 29
BOTTOM	Drain + ½" BSPP plug Option – see page 29
Connection	Side – Side connection ISO/ ANSI flange from PN 16 to 20 ND25 Loose flange / tube See for connection details pages 12 to 25 Others on request
C- to- C dimension	Minimum: E= 300 mm Maximum: E= 5500 mm
Floats	U-PVC PPH PVDF Others on request See for floats specifications pages 30 - 35
Reading system	R - Polyamid Rollers (PA6V) red / white VA – Aluminium red / white Wafers S – Slider Visual test of damaged float See for reading systems specifications pages 8 -10
Alarm Contacts	See for contacts specifications pages 40-41
Transmitter	See for transmitter specifications page 36 - 39
Reading scale	St.St. 316L or aluminium Silk printed See for reading scales options page 10

Process conditions

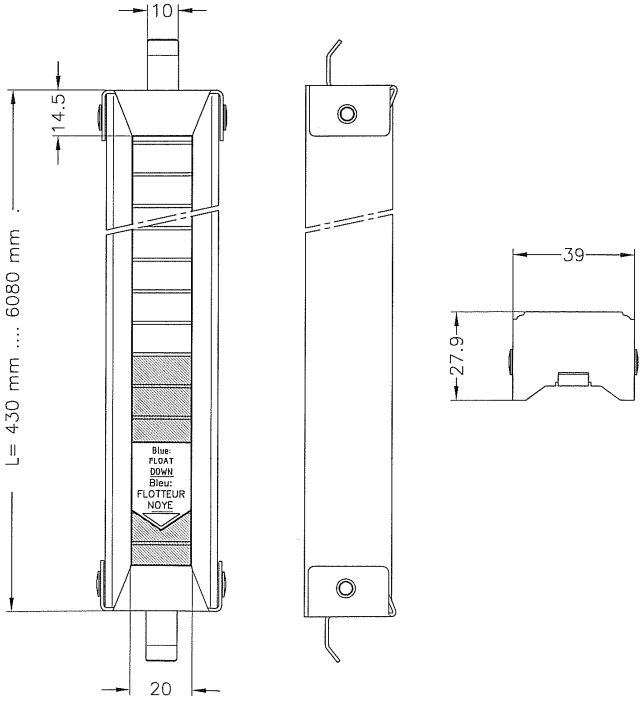
Temperature	U-PVC: 60°C max PPH: 80°C max PVDF: 130°C max
Pressure	10 bars max. (6bars with gases from Group 1)
S. gravity	From 0,9 kg/m³ Others on request
PED 97/23/EC	Art. 3. 3 only – Non CE approved



Type 810
Reading systems

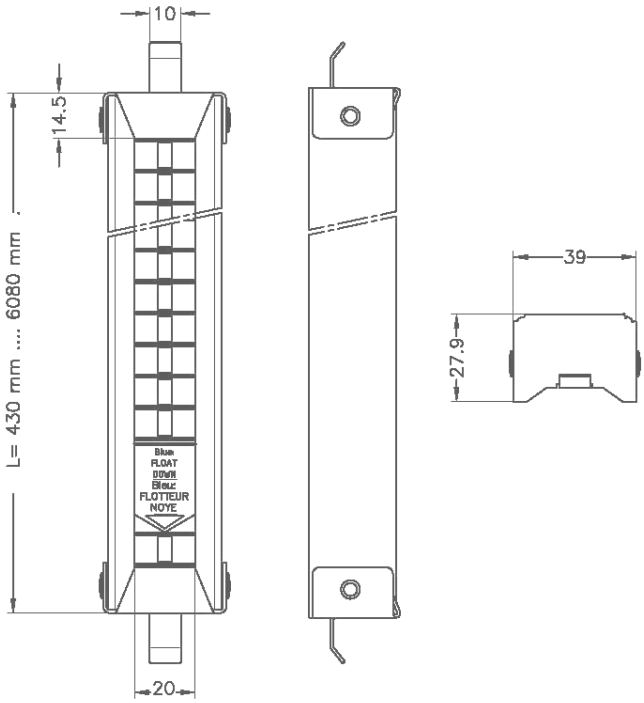
Bi-coloured Rollers indicator

Coding	R
Housing	Thickness: 1mm Material: 316L Stainless steel Gaskets: Silicone IP: 65
Rollers	Size: Ø9mm x 21mm Material: polyamid (PA6V – 30%) Stops to prevent rollers to rotate 360° Continuous visual indication Magnet: Ticonal (360°) Colours: red/ white/ blue
Screen	Material: transparent Polycarbonate
Process Temperature	From - 20°C to +120°C as standard Up to +200°C with insulation option
Accuracy	10mm
Float test	Visual test of damaged float by colour indication (three last rollers turn blue in case of problem)



Bi-coloured wafers (high temp. processes)

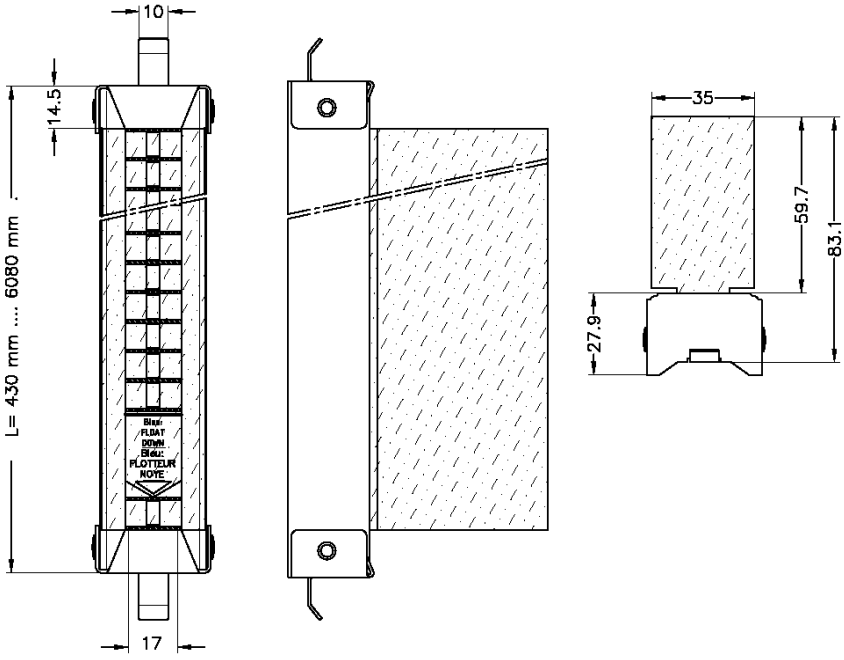
Coding	VA
Housing	Thickness: 1mm Material: 316L Stainless steel Gaskets: Silicone IP: 65
Flaps/ wafers	Size: 9mm x 21mm Material: Aluminium Magnet: Ticonal (360°) Colours: red/ white/ blue
Screen	Material: Glass "Vitroceramique" 4mm thick
Process Temperature	Up to + 400°C
Accuracy	10mm
Float test	Visual test of damaged float by colour indication (three last rollers turn blue in case of problem)



Type 810
Reading systems

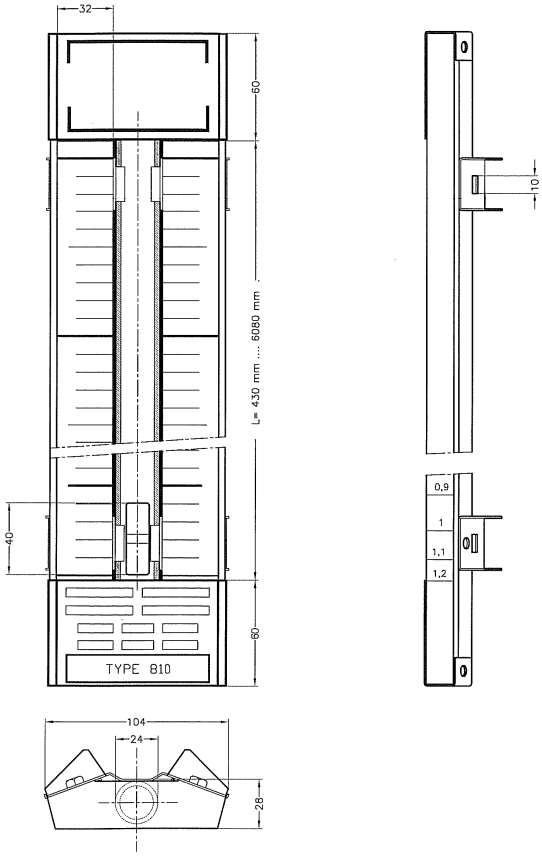
Bi-coloured wafers (low temp. processes)

Coding	VA + Z22
Housing	Thickness: 1mm Material: 316L Stainless steel Gaskets: Silicone IP: 65
Flaps/ wafers	Size: 9mm x 21mm Material: Aluminium Magnet: Ticonal (360°) Colours: red/ white/ blue
Screen	Polycarbonate block
Process Temperature	-20 to – 160°C
Accuracy	10mm
Float test	Visual test of damaged float by colour indication (three last rollers turn blue in case of problem)



Magnetic Slider

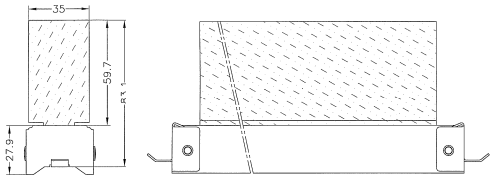
Coding	S
Glass Tube	Material: Glass "PYREX" Ø24 Plugs on both sides IP: 66
Slider	Size: 9mm x 21mm Material: Aluminium Magnet: Samarium cobalt Colour: fluorescent Red
Graduated scales	Material: aluminium/ 316L St. St. Scales: Silk printed (see page 10) Units: Cm as standard
Process Temperature	Up to + 400°C
Accuracy	5 mm



Type 810
Reading systems – Options and accessories

Anti-frost window
Coding Z22

Screen	Material: transparent Polycarbonate block
Suitability	Use on type "VA" models only
Temperatures	-20 to –160°C

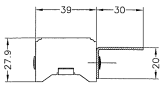


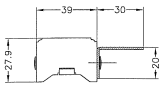
Thermal shield for indicators and/or tranmitters
Coding Z2

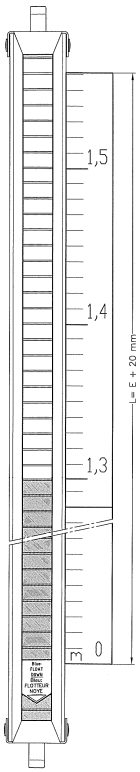
Screen	Material: Glass fiber
Temperatures	from 120°C on type "R" models from 150°C for transmitters from 200°C on type "VA" models

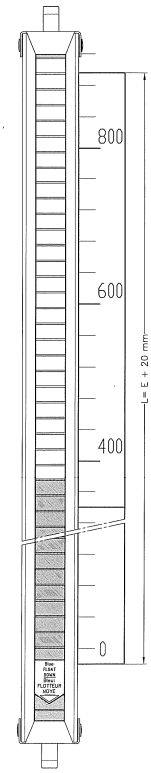
Graduated scales / Metallic scales

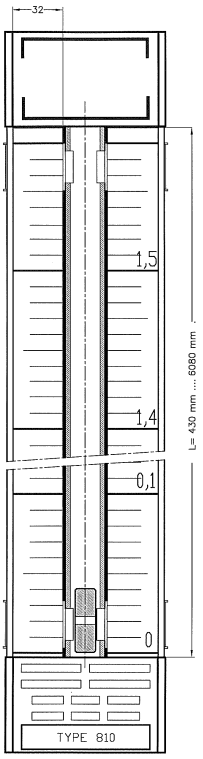
Coding	Z24/i	Z23/i	Z12 or Z12/i	Z11 or Z11/i
Indicator	R / VA	R / VA	S	S
Units	Graduations Cm , figures each dm	Customized	Graduations Cm , figures each dm	Customized
Material	316L St. St.	316L St. St.	Aluminium or 316L St. St.	Aluminium or 316L St. St.
Mounting	Point Welded	Point Welded	Part of the indicator frame	Part of the indicator frame
Dimensions	Square: 20mmx30mmx1,5mm	Square: 20mmx30mmx1,5mm	Width: 32mm	Width: 32mm

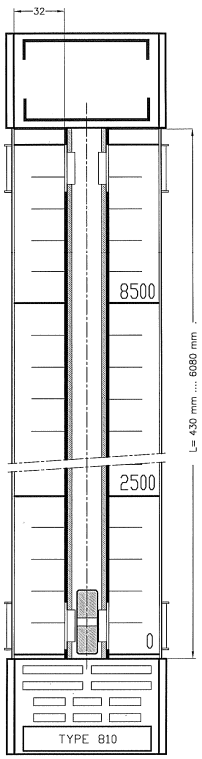












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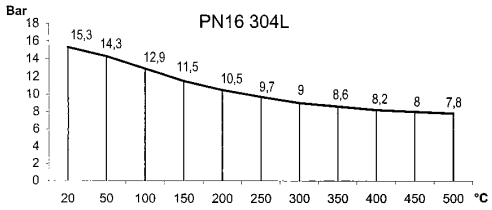
Type 810
Process connection

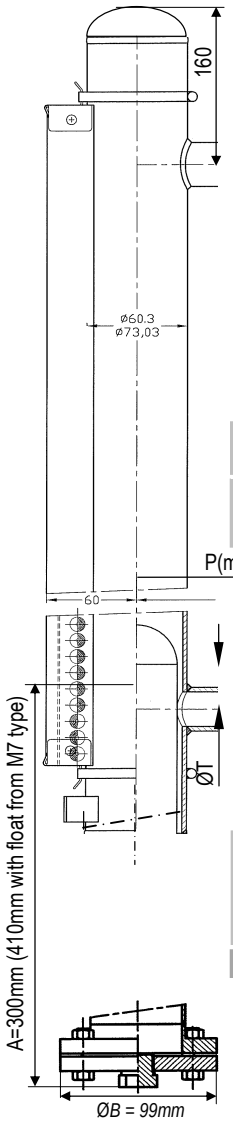
PN 16



304L Stainless steel

CODE

C2	C6		C8	C8/1	C8/2	C9	C9/1	C9/2
Full loose flange Carbon steel St.St. Collar	Full Flange Welding neck RF R_a=3,2-6,3	Drilled blind flange RF + 1" Tube R_a=3,2-6,3	½ Coupling SW 3000	½ Coupling BSPP- F	½ Coupling NPT- F	St. St. Tube BW	St. St. Tube BSPP Male	St. St. Tube NPT Male
Pmax= 11 bar @ 20°C	Pmax = 15,9 bar @ 20°C							
DN 20 *and* 25 *ANSI ¾" and 1"*	DN 32-40-50 *ANSI 1"¼ 1"½ - 2"*		DN 20 and 25 *ANSI ¾" and 1"*					
P=130mm (DN20-25) / P=120mm (DN32) P=135mm(DN40) / P=165mm (DN50)			ØT= 26,9mm / DN20 ØT= 33,7mm / DN25 th=2mm			ØT= 26,6mm th = 3,91mm / DN20 ØT= 33,7mm th = 3,27m/ DN25	ØT= 26,9mm th = 3,91mm / DN20 ØT= 33,7 mm th = 3,27mm/ DN25	
			P= 64 mm / DN20 P= 67 mm / DN25			P= 120mm	P= 120mm	
PED 97/23/CE : Liquids and gases from Group 2 Only – Catégory I max (Ps.V=200)								



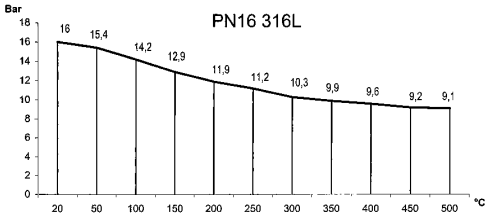
Type "D100" Flange
Drain + ½"NPT plug
"Klingersil C4430" gasket
304L Stainless steel bolting

See page 29 for vent and drain options

Z 14 : 316L St. St. Bolting

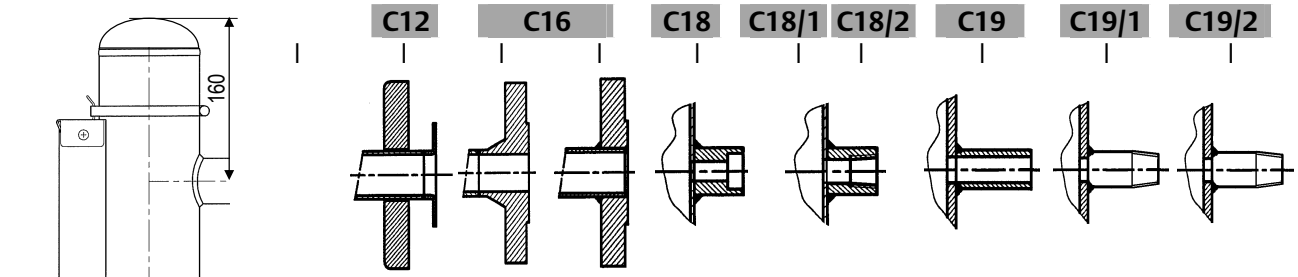
Type 810
Process connection

PN 16

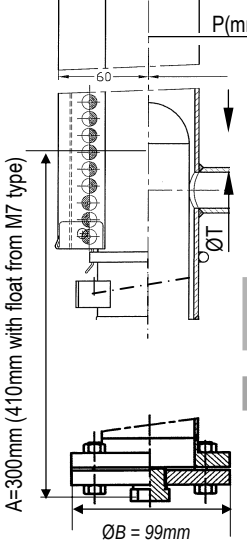


316L Stainless steel

CODE



C12	C16		C18	C18/1	C18/2	C19	C19/1	C19/2
Full loose flange Carbon steel St.St. Collar	Full Flange Welding neck RF R_a=3,2-6,3	Drilled blind flange RF + 1" Tube R_a=3,2-6,3	½ Coupling SW 3000	½ Coupling BSPP- F	½ Coupling NPT- F 3000	St. St. Tube BW	St. St. Tube BSPP Male	St. St. Tube NPT Male
Pmax= 13 bar @ 20°C			Pmax = 15,9 bar @ 20°C					
DN 20 and 25 *ANSI ¾" and 1"*		DN 32-40-50 *ANSI 1"¼ 1"½ - 2"*	DN 20 and 25 *ANSI ¾" and 1"*					
			P= 64 mm / DN20 P= 67 mm / DN25		P= 120 mm	P= 120 mm		
P=130 mm (DN20-25) /P=120mm(DN32) P=135mm(DN40)/ P=165mm (DN50)			ØT= 26,9mm / DN20 ØT= 33,7mm / DN25		ØT= 26,6mm th= 3,91mm / DN20 ØT= 33,7mm th = 3,27mm/ DN25	ØT= 26,6 mm th = 3,91 mm / DN20 ØT= 33,7 mm th = 3,2 mm / DN25		



PED 97/23/CE : Liquids and gases from Group 2 Only – Catégory I max (Ps.V=200)

Type "D100" Flange
Drain + ½"NPT plug
"Klingersil C4430" gasket
304L Stainless steel bolting

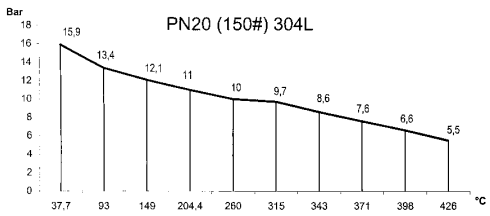
See page 29 for vent and drain options

Z 14 : 316L St. St. Bolting

Z 9 : Full penetration welds

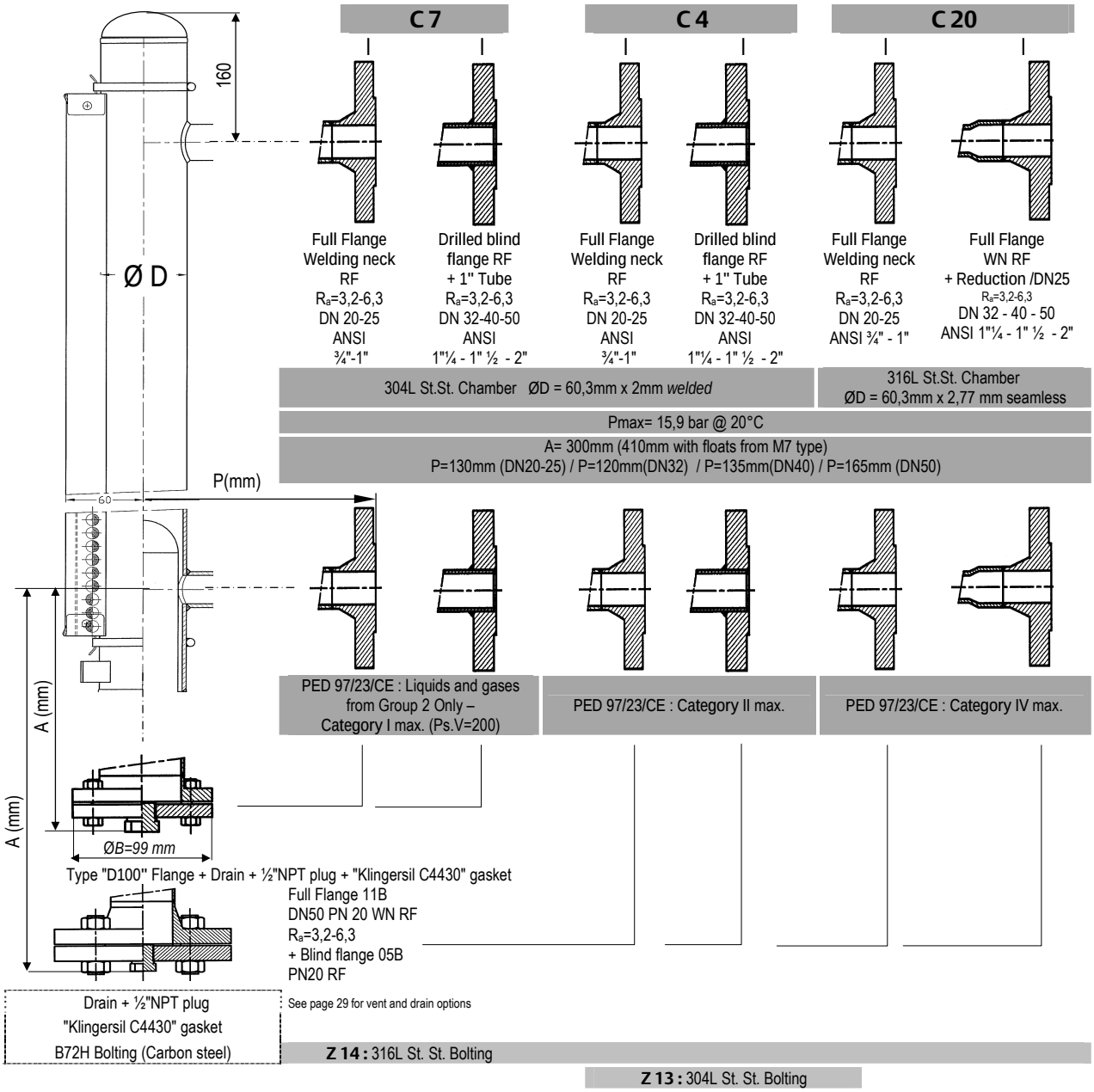
Type 810
Process connection

PN 20 *(ANSI 150#)*



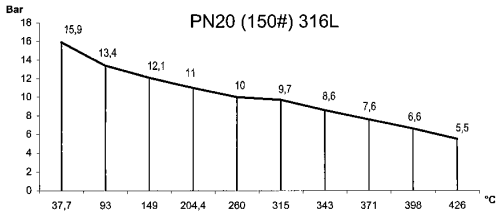
304L Stainless steel

CODE



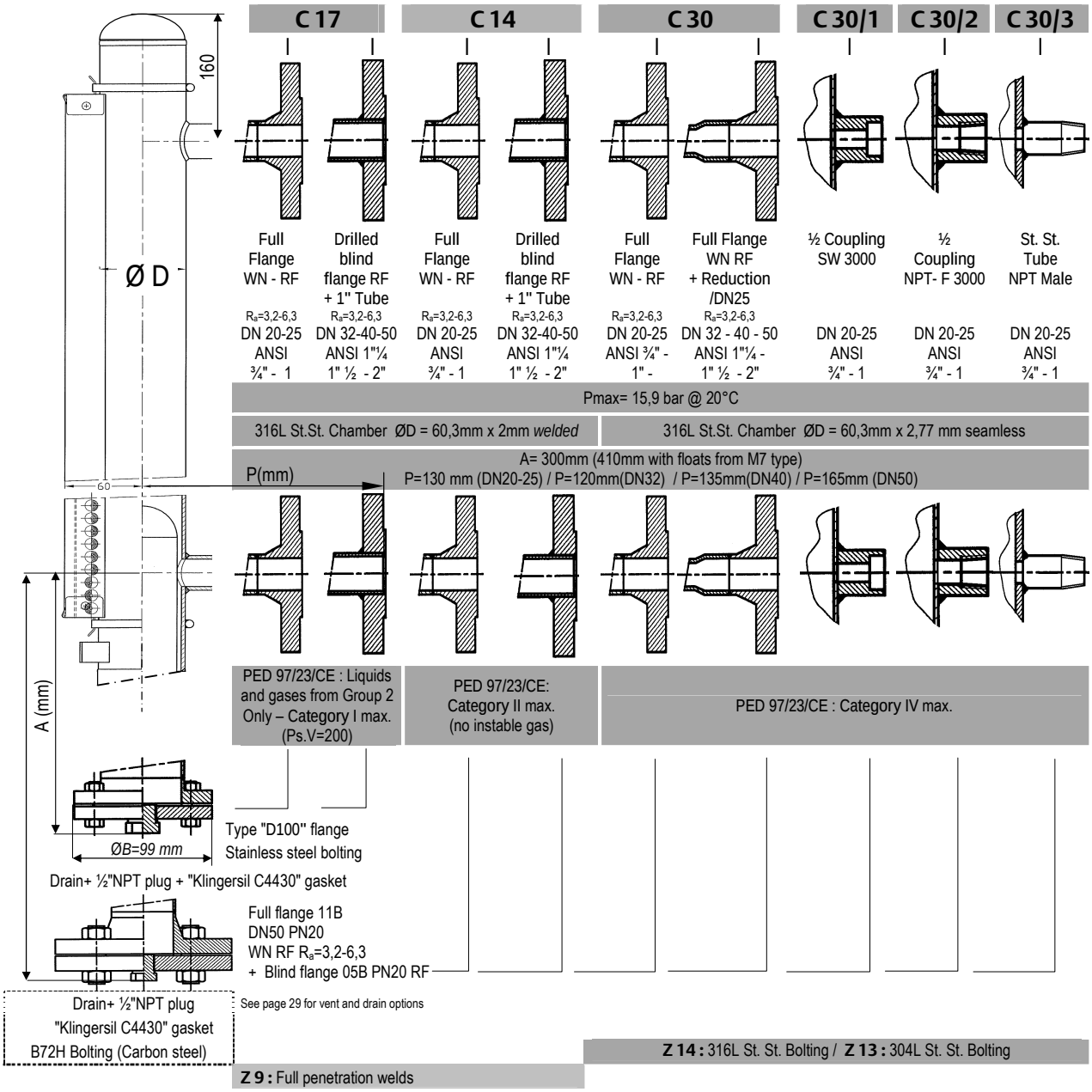
Type 810
Process connection

PN 20 *(ANSI 150#)*



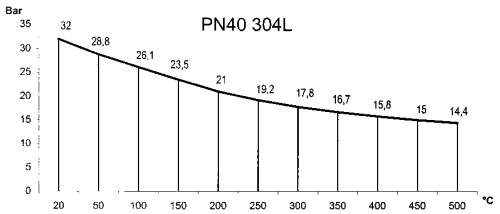
316L Stainless steel

CODE



Type 810
Process connection

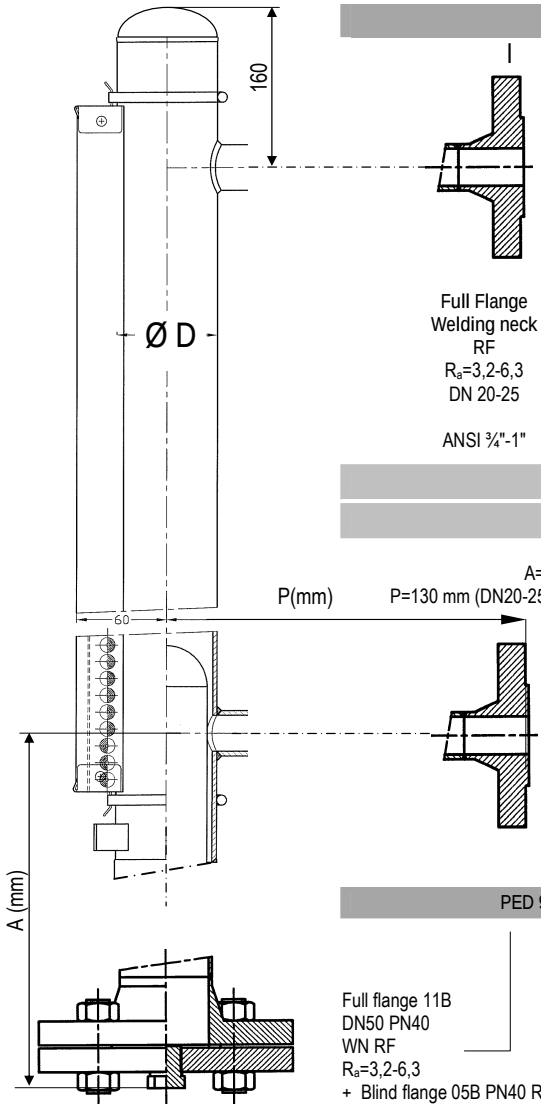
PN 40



304L Stainless steel

CODE

C 3



Full Flange
Welding neck
RF
R_a=3,2-6,3
DN 20-25

ANSI ¾"-1"

Drilled blind
flange RF
+ 1" Tube
R_a=3,2-6,3
DN 32-40-50

ANSI 1"¼ - 1" ½ - 2"

Pmax= 32 bar @ 20°C

ØD = 60,3mm x 2mm *welded*

A= 300mm (410mm with floats from M7 type)
P=130 mm (DN20-25) / P=120mm(DN32) / P=135mm(DN40) / P=150mm (DN50)

PED 97/23/CE: Category II max. (no instable gas)

Full flange 11B
DN50 PN40
WN RF
R_a=3,2-6,3
+ Blind flange 05B PN40 RF

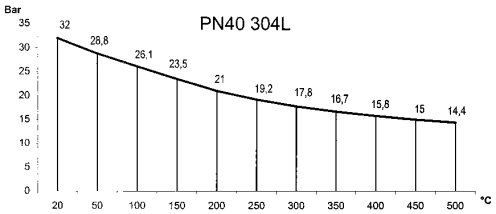
Drain + ½"NPT plug
"Klingersil C4430" gasket
B72H Bolting (Carbon steel)

See page 29 for vent and drain options

Z 13 : 304L St. St. Bolting

Type 810
Process connection

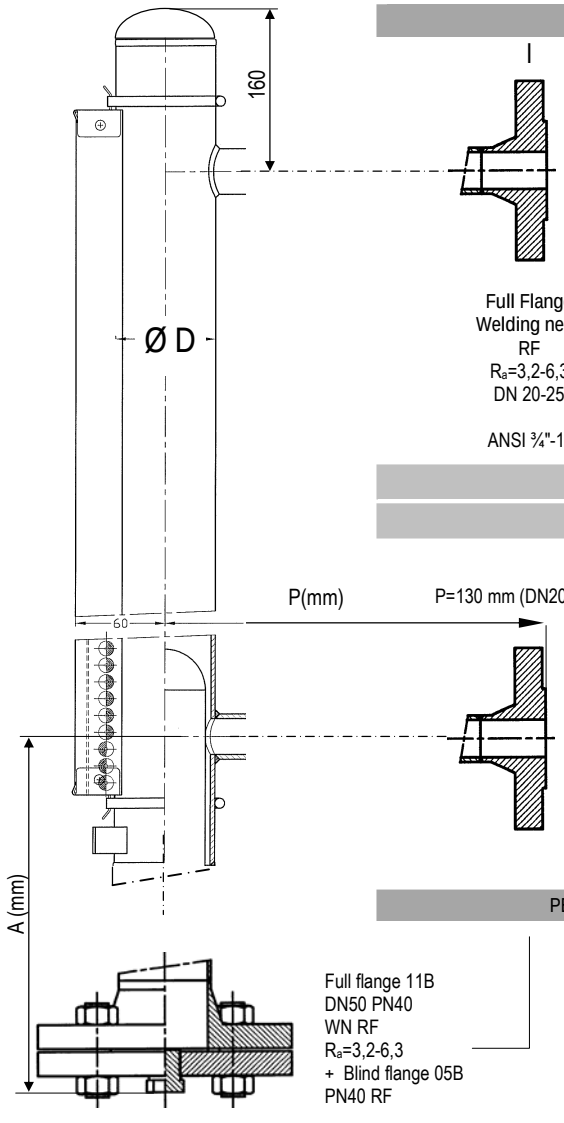
PN 40



316L Stainless steel

CODE

C 13



Full Flange
Welding neck
RF
R_a=3,2-6,3
DN 20-25

ANSI ¾"-1"

Drilled blind flange RF
+ 1" Tube
R_a=3,2-6,3
DN 32-40-50

ANSI 1"¼ - 1" ½ - 2"

Pmax= 32 bar @ 20°C

ØD = 60,3mm x 2mm *welded*

A= 300mm (410mm with floats from M7 type)
P=130 mm (DN20-25) / P=120mm(DN32) / P=135mm(DN40) / P=150mm (DN50)

PED 97/23/CE: Catégory II max. (no instable gas)

Full flange 11B
DN50 PN40
WN RF
R_a=3,2-6,3
+ Blind flange 05B
PN40 RF

Drain + ½"NPT plug
"Klingersil C4430" gasket
B72H Bolting (Carbon steel)

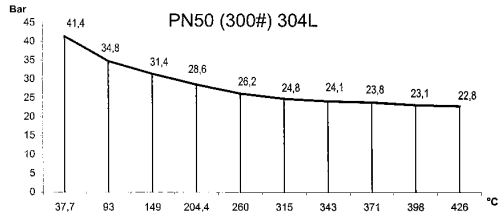
See page 29 for vent and drain options

Z 13 : 304L St. St. Bolting / **Z 14 :** 316L St. St. Bolting

Z 9 : Full penetration welds

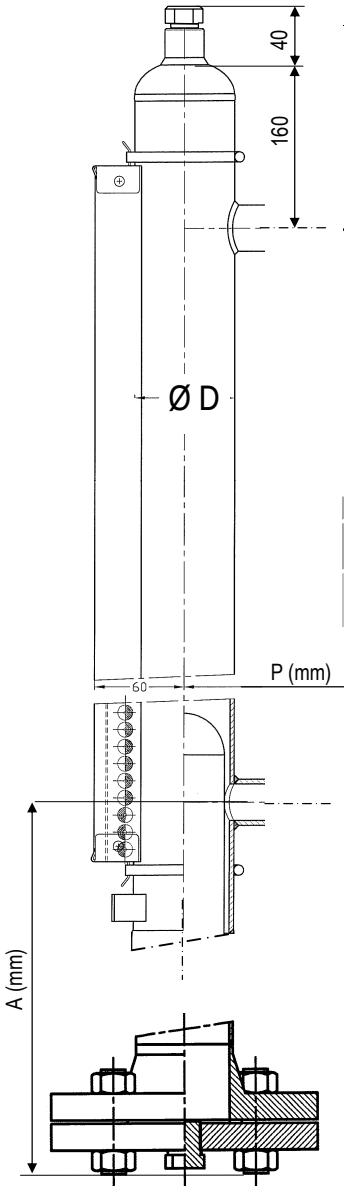
Type 810
Process connection

PN 50 *(ANSI 300#)*



304L Stainless steel

Vent + ½" NPT plug (option for C5)



CODE

C5		C21		C26	
Full Flange WN RF R_a=3,2-6,3 DN 20 - 25 ANSI ¾" - 1"	Full Flange WN RF + Reduction /DN25 R_a=3,2-6,3 DN 32 - 40 - 50 ANSI 1"¼ - 1" ½ - 2"	Full Flange WN RF R_a=3,2-6,3 DN 20 - 25 ANSI ¾" - 1"	Full Flange WN RF + Reduction /DN25 R_a=3,2-6,3 DN 32 - 40 - 50 ANSI 1"¼ - 1" ½ - 2"	Full Flange WN RF R_a=3,2-6,3 DN 20 - 25 ANSI ¾" - 1"	Full Flange WN RF + Reduction /DN25 R_a=3,2-6,3 DN 32 - 40 - 50 ANSI 1"¼ - 1" ½ - 2"
Pmax = 32 bars @ 20°C		Pmax = 40 bars @ 20°C		Pmax = 40 bars @ 20°C	
304L St.St. Chamber ØD= 60,3mm th= 2mm welded		316L St.St. Chamber ØD= 60,3mm th= 2,77 mm seamless		316L St.St. Chamber ØD= 73,03mm th= 5,16 mm	
PED 97/23/CE: Category II max. (no instable gas)		PED 97/23/CE : Category IV max.			

A= 300mm (410mm with floats from M7 type)
P= 140 mm(DN20); 150mm(DN25); 140mm(DN32); 155mm(DN40); 170 (DN50)

A(mm) see below
P= 160 mm(DN20-DN25);
170mm(DN32); 180mm(DN40-DN50)

A(mm) according to float type									
M10	M11	M12	M13	M14	M15	M40	M41	M45
530	460	480	410	340	260	430	570	580

Full flange 11B
DN50/65 PN50
WN RF
R_a=3,2-6,3
+ Blind flange 05B
PN50 RF

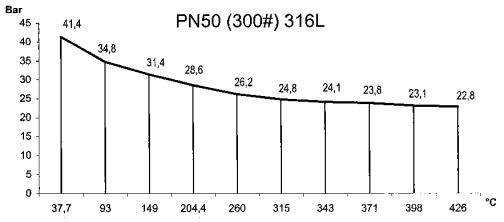
Drain + ½"NPT plug
Gasket ----------
B72H Bolting (Carbon steel)

See page 29 for vent and drain options

	"Klingersil C4430" *as std*	Spiralé inox 316/Graphite *asstd*
	Z 28 : Spiral Wounded 316/Graphite	
Z 13 : 304L St. St. Bolting	**Z 14 :** 316L St. St. Bolting / **Z 13 :** 304L St. St. Bolting	

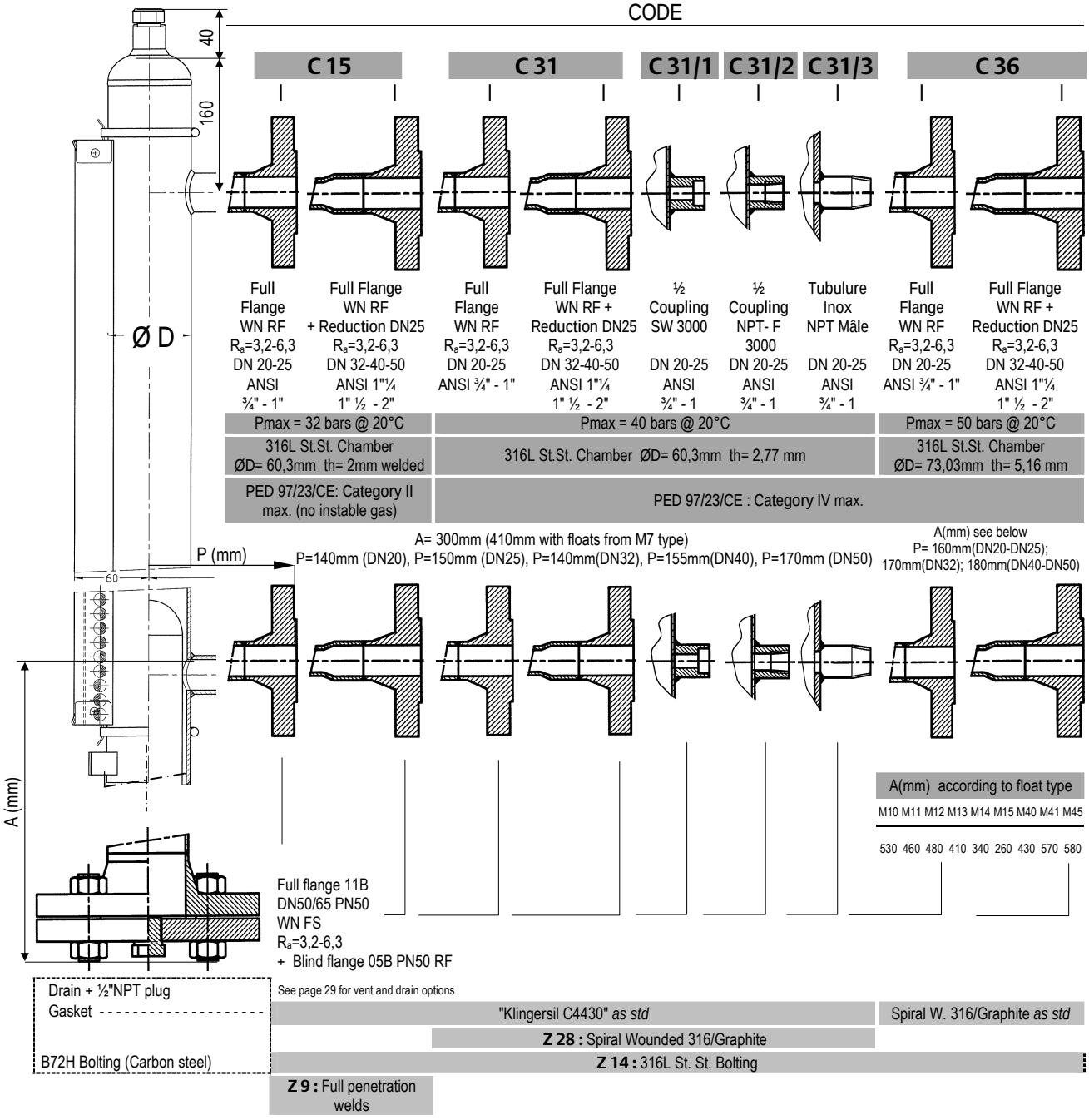
Type 810
Process connection

PN 50 *(ANSI 300#)*



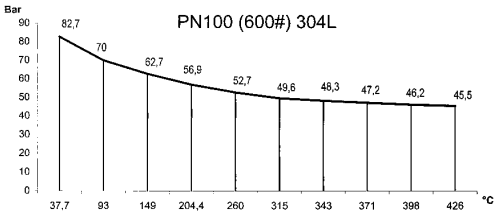
316L Stainless steel

Vent + ½" NPT plug (option for C15)

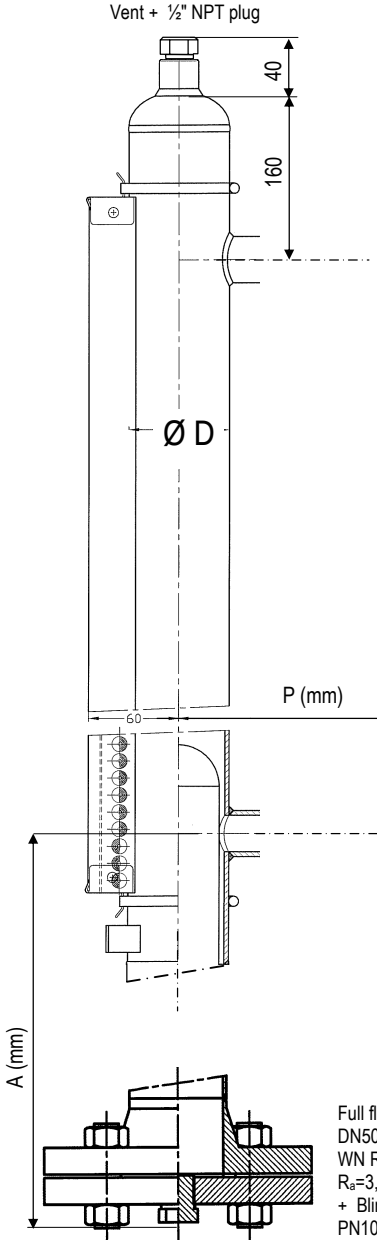


Type 810
Process connection

PN 100 *(ANSI 600#)*



304L Stainless steel



CODE

C 22		C 23	
Full Flange WN RF R_a=3,2-6,3 DN 20 - 25 ANSI ¾" - 1"	Full Flange WN RF + Reduction R_a=3,2-6,3 DN 32 - 40 - 50 ANSI 1"¼ - 1" ½ - 2"	Full Flange WN RF R_a=3,2-6,3 DN 20 - 25 ANSI ¾" - 1"	Full Flange WN RF + Reduction /DN25 R_a=3,2-6,3 DN 32 - 40 - 50 ANSI 1"¼ - 1" ½ - 2"
Pmax = 78 bars @ 20°C		Pmax = 80 bars @ 20°C	
316L St.St. Chamber ØD= 60,3mm th= 2,77 mm		316L St.St. Chamber ØD= 73,03mm th= 5,16 mm	
A= 310mm (410mm with floats from M7 type)		A(mm) see below	
P=150mm (DN20); 160mm (DN25) 150mm(DN32); 165mm(DN40); 180mm (DN50)		P=160mm (DN20); 170mm (DN25) 170mm(DN32); 180mm(DN40); 180mm (DN50)	

PED 97/23/CE : Category IV max.

A(mm) according to float type								
M10	M11	M12	M13	M14	M15	M40	M41	M45
530	460	480	410	340	260	430	570	580

Full flange 11B
DN50/65 PN100
WN RF
R_a=3,2-6,3
+ Blind flange 05B
PN100 RF

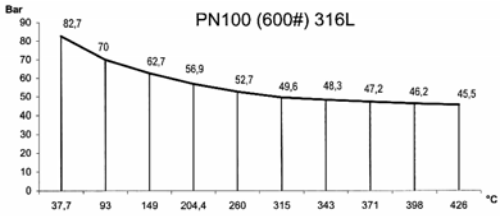
Drain + ½"NPT plug
Gasket - - - - - - - - - - - - -
B72H Bolting (Carbon steel)

See page 29 for vent and drain options

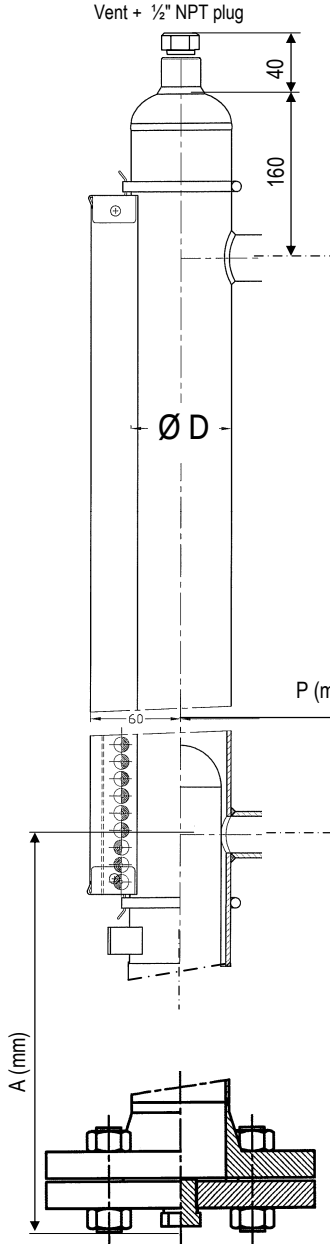
"Klingersil C4430" *as std*	Spiral Wounded. 316/Graphite *as std*
Z 14 : 316L St. St. Bolting	

Type 810
Process connection

PN 100 *(ANSI 600#)*



316L Stainless steel



CODE

C 32		C 33	
Full Flange WN RF R_a=3,2-6,3	Full Flange WN RF + Reduction /DN25 R_a=3,2-6,3	Full Flange WN RF R_a=3,2-6,3	Full Flange WN RF + Reduction /DN25 R_a=3,2-6,3
DN 20 - 25 ANSI ¾" - 1"	DN 32 - 40 - 50 ANSI 1"¼ - 1" ½ - 2"	DN 20 - 25 ANSI ¾" - 1"	DN 32 - 40 - 50 ANSI 1"¼ - 1" ½ - 2"
Pmax = 78 bars @ 20°C		Pmax = 80 bars @ 20°C	
316L St.St. Chamber ØD= 60,3mm th= 2,77 mm seamless		316L St.St. Chamber ØD= 73,03mm th= 5,16 mm	
A= 310mm (410mm with floats from M7 type) P=150 mm (DN20); 160mm (DN25); 150mm(DN32); 165mm(DN40); 180mm (DN50)		A(mm) see below P=160 mm (DN20); 170mm (DN25) 170mm(DN32); 180mm(DN40); 180mm (DN50)	

PED 97/23/CE : Category IV max.

A(mm) according to float type								
M10	M11	M12	M13	M14	M15	M40	M41	M45
530	460	480	410	340	260	430	570	580

Full flange 11B
DN50/65 PN100
WN RF
R_a=3,2-6,3
+ Blind flange 05B
PN100 RF

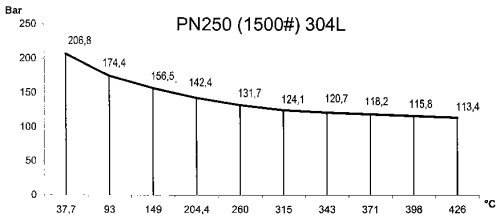
Drain + ½"NPT plug
Gasket - - - - - - - - - - - - - -
B72H Bolting (Carbon steel)

See page 29 for vent and drain options

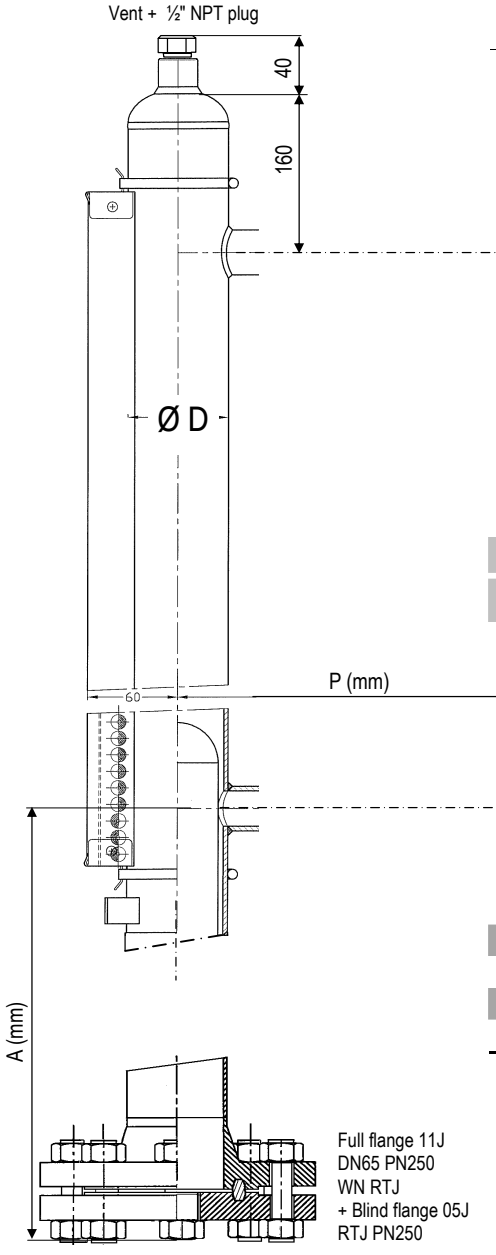
"Klingersil C4430" *as std*	Spiral Wounded. 316/Graphite *as std*
Z 14 : 316L St. St. Bolting	

Type 810
Process connection

PN 250 *(ANSI 1500#)*

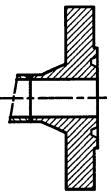


304L Stainless steel



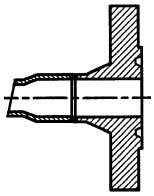
CODE

C 24



Full
Flange
WN RTJ

DN 20 - 25
ANSI ¾" - 1"



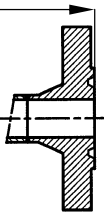
Full Flange
WN RTJ
+ Reduction /DN25

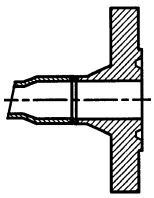
DN 32 - 40 - 50
ANSI 1"¼ - 1" ½ - 2"

Pmax = 200 bars @ 20°C

316L St.St. Chamber ØD= 73,03mm th= 7,1 mm

A(mm) see below
P=180 mm (DN20), P=190mm (DN25)
P=190mm (DN32), P=190mm (DN40), P=210mm (DN50)





PED 97/23/CE : Category IV max.

A(mm) according to float type

M10	M11	M12	M13	M14	M15	M20	M21	M22	M23
550	480	500	430	360	310	500	430	360	270

Full flange 11J
DN65 PN250
WN RTJ
+ Blind flange 05J
RTJ PN250

Drain + ½"NPT plug
St.St. 304 RTJ O ring
B72H Bolting (Carbon steel)

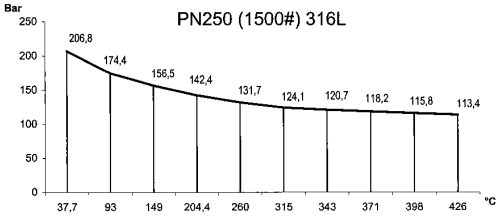
See page 29 for vent and drain options

Z 15 : St.St. 316 RTJ O ring

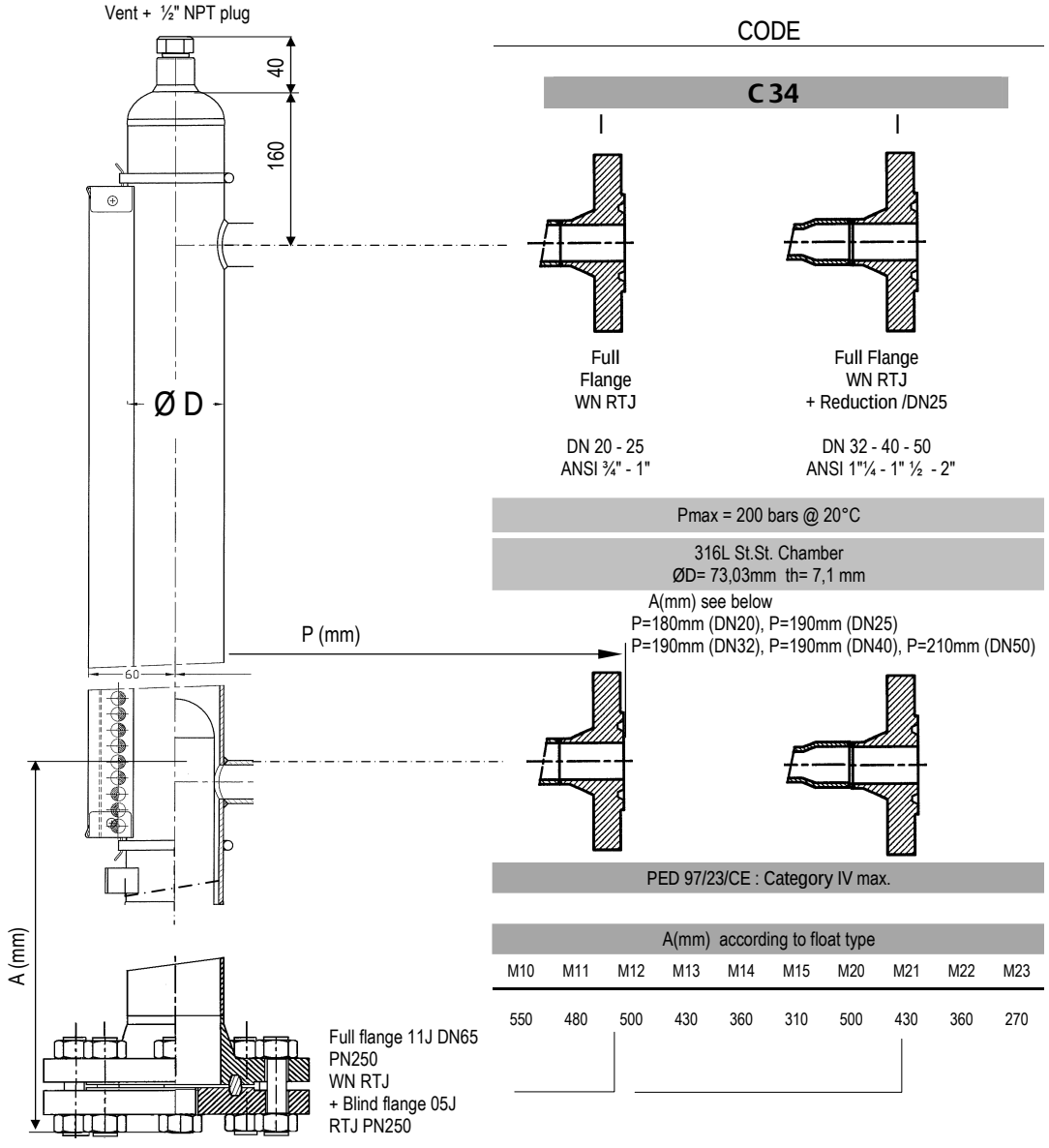
Z 14 : 316L St. St. Bolting

Type 810
Process connection

PN 250 *(ANSI 1500#)*



316L Stainless steel



CODE

C 34

Full Flange WN RTJ	Full Flange WN RTJ + Reduction /DN25
DN 20 - 25 ANSI ¾" - 1"	DN 32 - 40 - 50 ANSI 1"¼ - 1" ½ - 2"

Pmax = 200 bars @ 20°C

316L St.St. Chamber
ØD= 73,03mm th= 7,1 mm

A(mm) see below
P=180mm (DN20), P=190mm (DN25)
P=190mm (DN32), P=190mm (DN40), P=210mm (DN50)

PED 97/23/CE : Category IV max.

A(mm) according to float type

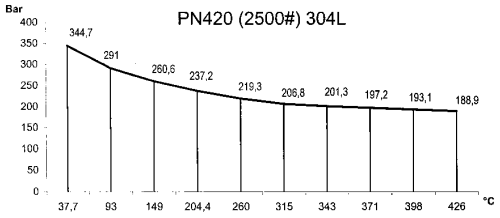
M10	M11	M12	M13	M14	M15	M20	M21	M22	M23
550	480	500	430	360	310	500	430	360	270

See page 29 for vent and drain options

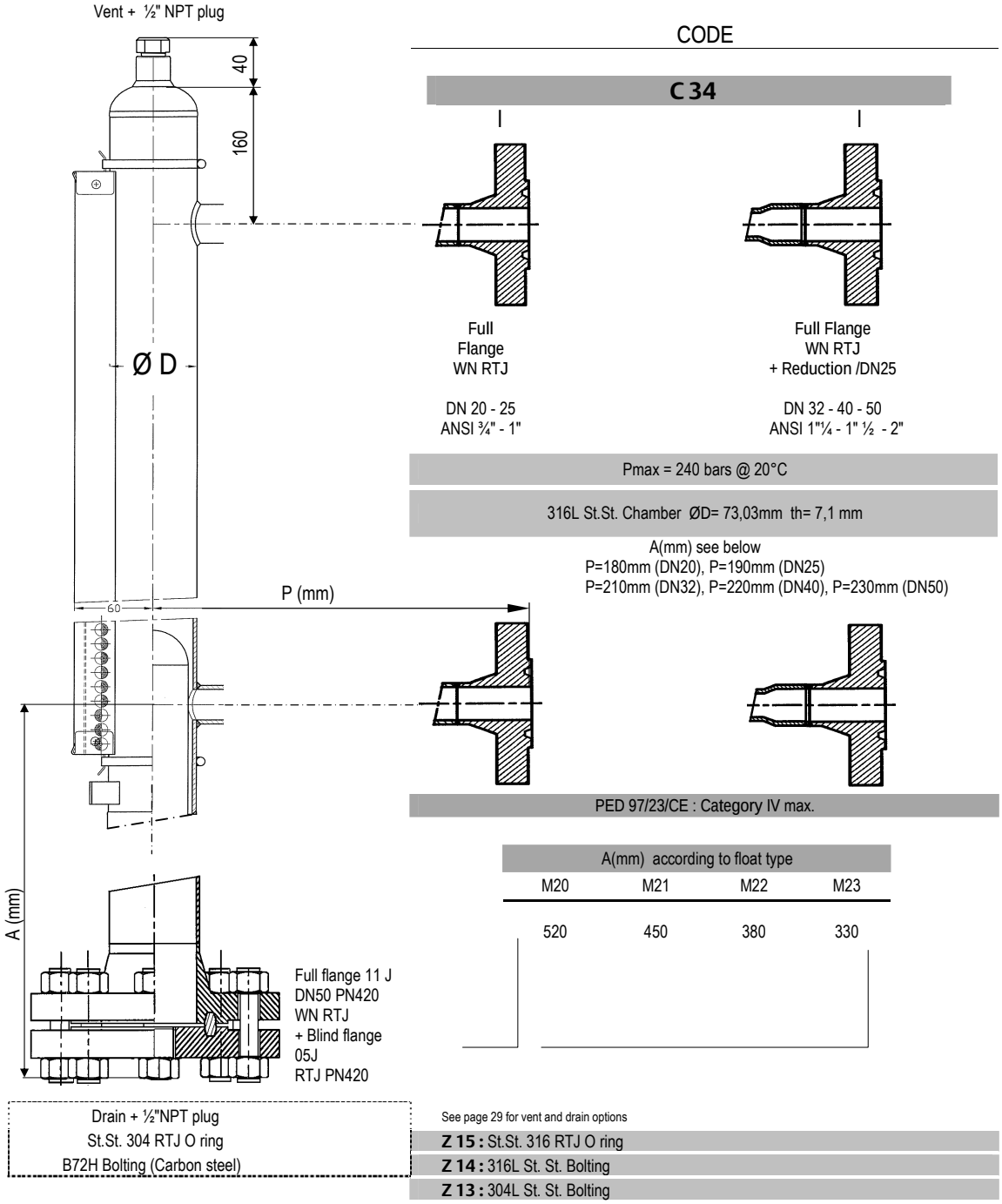
Z 15 : St.St. 316 RTJ O ring
Z 14 : 316L St. St. Bolting
Z 13 : 304L St. St. Bolting

Type 810
Process connection

PN 420 *(ANSI 2500#)*



304L Stainless steel



CODE

C 34

Full Flange WN RTJ
DN 20 - 25
ANSI ¾" - 1"

Full Flange WN RTJ + Reduction /DN25
DN 32 - 40 - 50
ANSI 1"¼ - 1" ½ - 2"

Pmax = 240 bars @ 20°C

316L St.St. Chamber ØD= 73,03mm th= 7,1 mm

A(mm) see below
P=180mm (DN20), P=190mm (DN25)
P=210mm (DN32), P=220mm (DN40), P=230mm (DN50)

PED 97/23/CE : Category IV max.

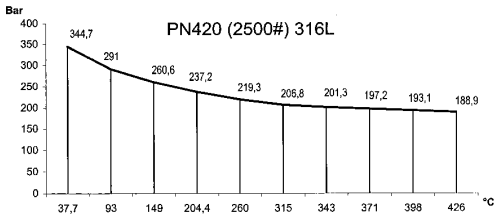
A(mm) according to float type			
M20	M21	M22	M23
520	450	380	330

See page 29 for vent and drain options

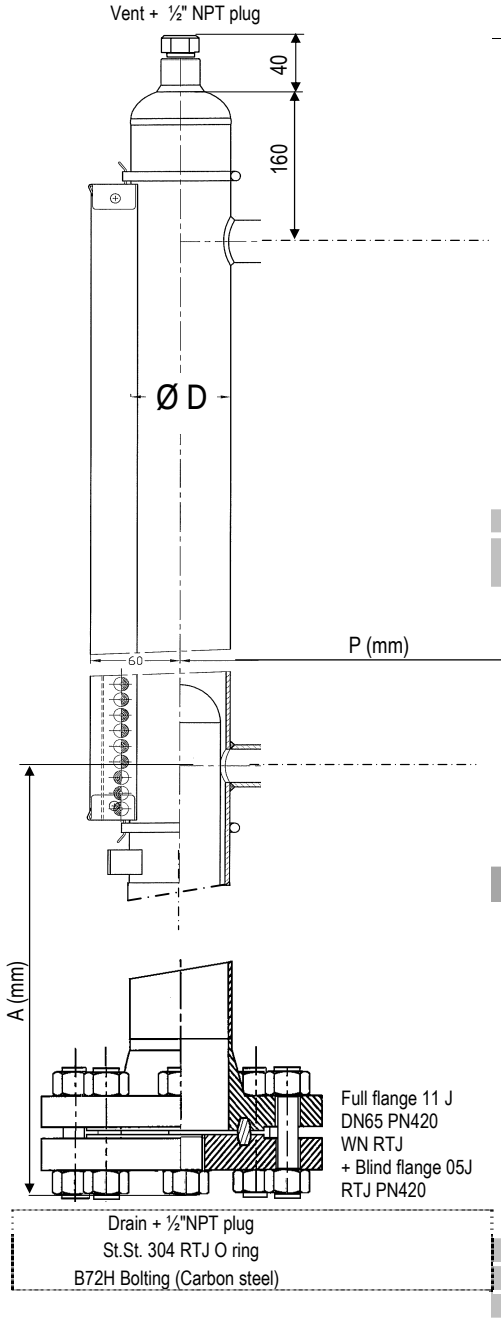
Z 15 : St.St. 316 RTJ O ring
Z 14 : 316L St. St. Bolting
Z 13 : 304L St. St. Bolting

Type 810
Process connection

PN 420 *(ANSI 2500#)*

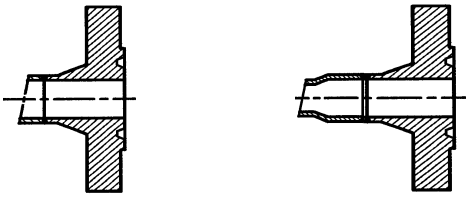


304L Stainless steel



CODE

C 35



Full
Flange
WN RTJ

DN 20 - 25
ANSI ¾" - 1"

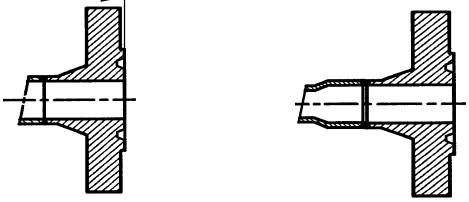
Full Flange
WN RTJ
+ Reduction /DN25

DN 32 - 40 - 50
ANSI 1"¼ - 1" ½ - 2"

Pmax = 240 bars @ 20°C

316L St.St. Chamber ØD= 73,03mm th= 7,1 mm

A(mm) see below
P=180 mm (DN20) / P=190mm (DN25)
P=210mm (DN32) / P=220mm (DN40) / P=230mm (DN50)



PED 97/23/CE : Catégorie IV max.

A(mm) according to float type			
M20	M21	M22	M23
520	450	380	330

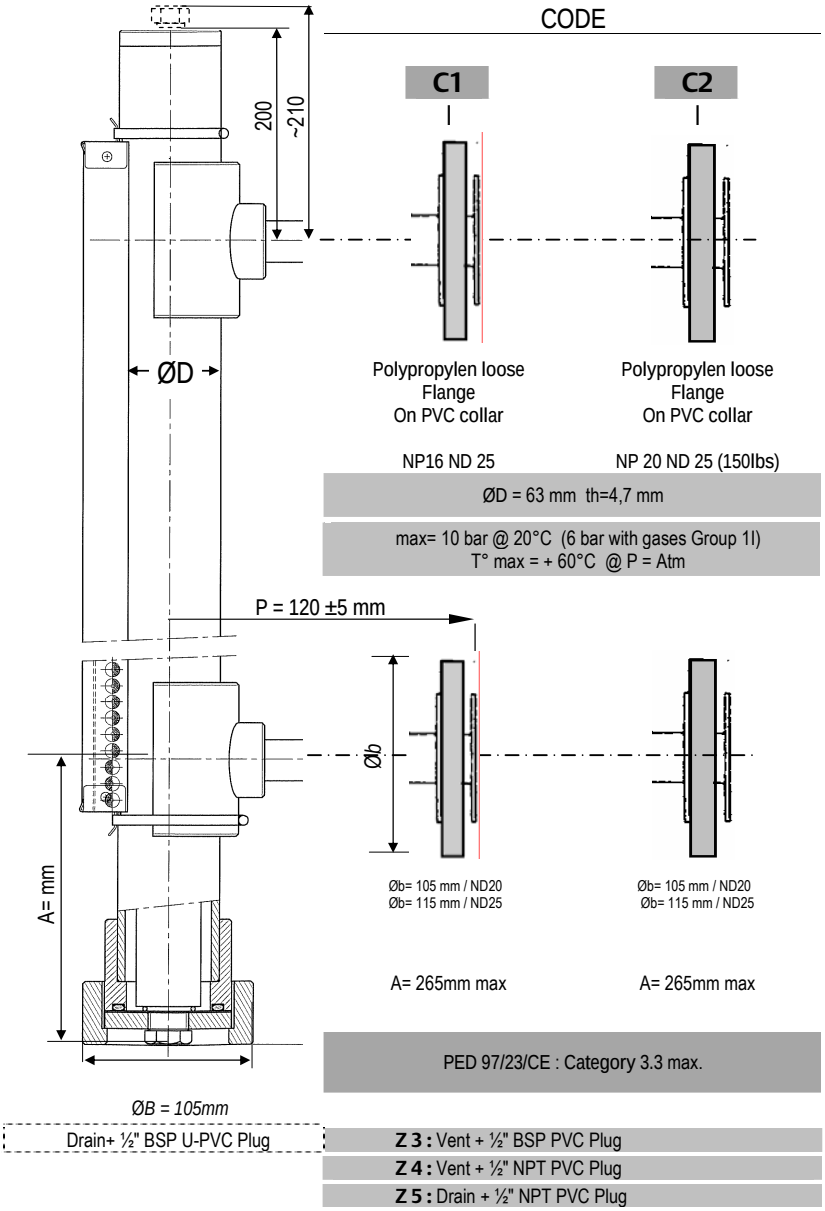
See page 29 for vent and drain options

Z 15 : St.St. 316 RTJ O ring
Z 14 : 316L St. St. Bolting
Z 13 : 304L St. St. Bolting

Type 810
Process Connection

PN 16-20

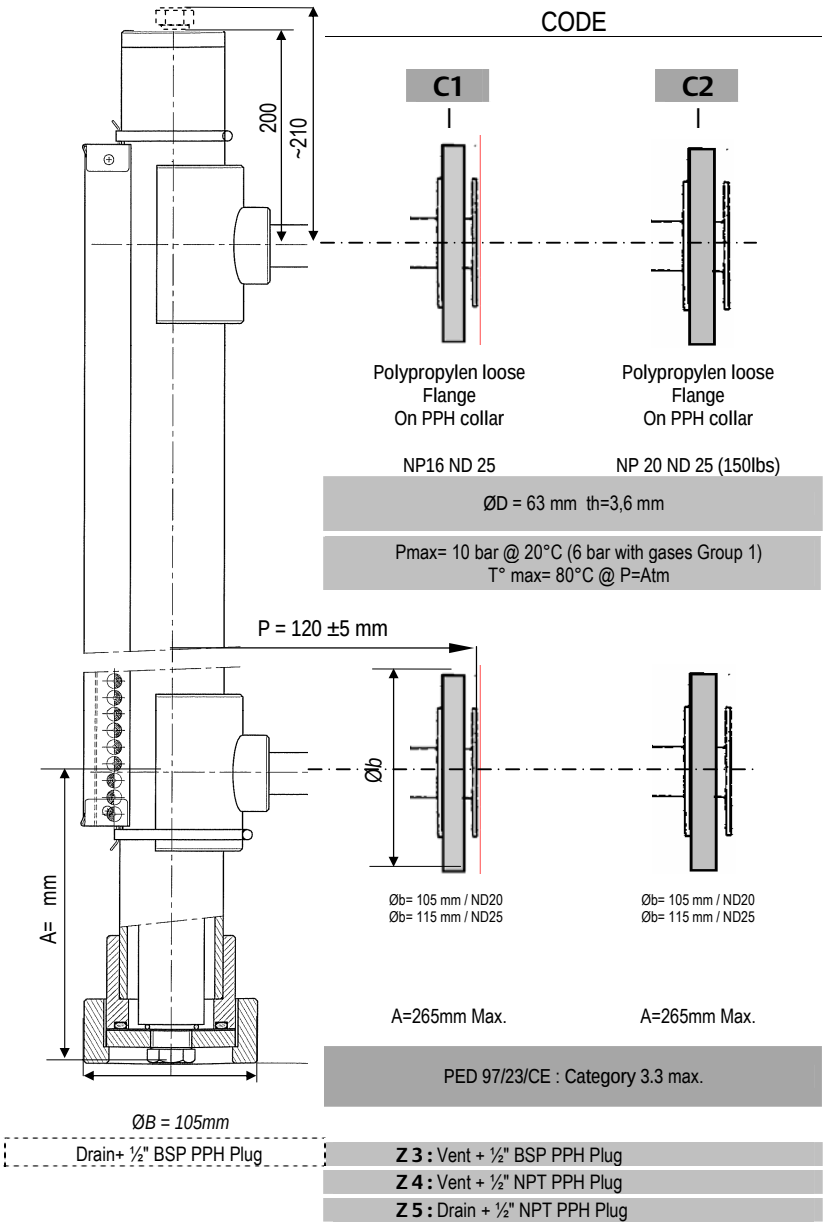
U-PVC Version



Type 810
Process Connection

NP 16-20

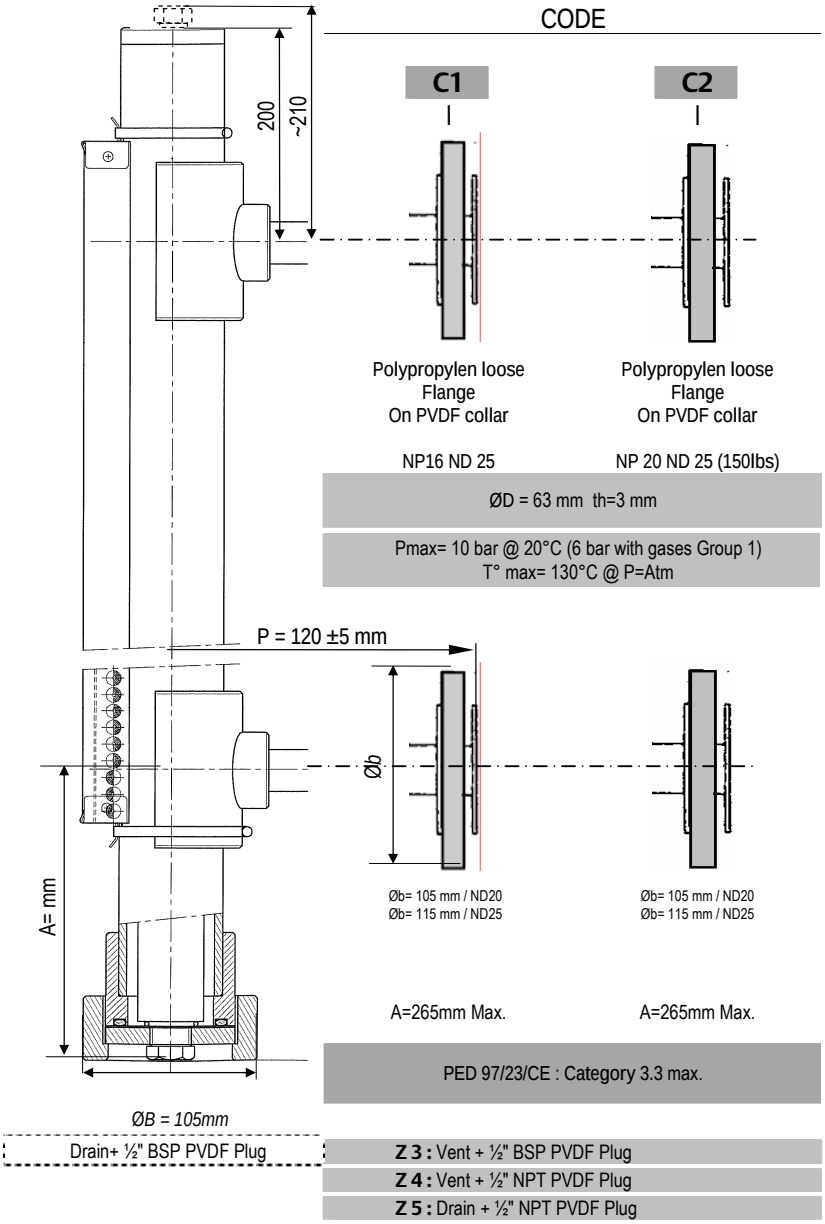
POLYPROPYLENE (PPH) Version



Type 810
Process Connection

NP 16-20

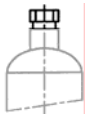
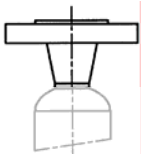
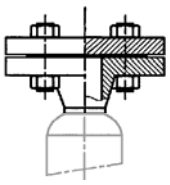
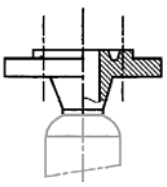
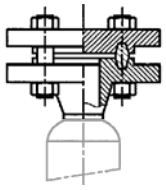
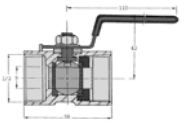
PVDF Version



C1	C2
Polypropylen loose Flange On PVDF collar	Polypropylen loose Flange On PVDF collar
NP16 ND 25	NP 20 ND 25 (150lbs)
ØD = 63 mm th=3 mm	
Pmax= 10 bar @ 20°C (6 bar with gases Group 1) T° max= 130°C @ P=Atm	
Øb= 105 mm / ND20 Øb= 115 mm / ND25	Øb= 105 mm / ND20 Øb= 115 mm / ND25
A=265mm Max.	A=265mm Max.
PED 97/23/CE : Category 3.3 max.	
Drain+ ½" BSP PVDF Plug	**Z 3 :** Vent + ½" BSP PVDF Plug
	Z 4 : Vent + ½" NPT PVDF Plug
	Z 5 : Drain + ½" NPT PVDF Plug

Type 810
TOP and BOTTOM connections Options

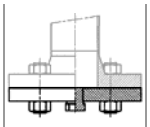
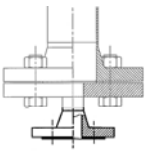
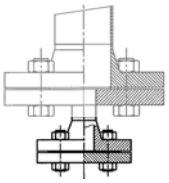
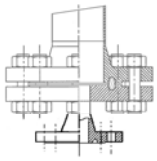
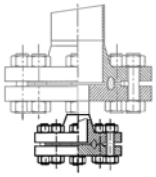
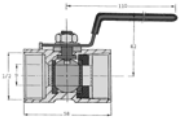
TOP Connections
Designations

	Vent Plug 1/2" NPT	Vent Plug 1/2" BSP	Vent Plug 3/4" NPT	WN RF Type 11 Flange	WN RF type 11 Flange + Blind type 05 Flange		WN RTJ Flange	WN RTJ Flange + Blind Flange	316 St.St. Valve 1/2" NPT-F	316 St.St. Valve 1/2" BSP-F
	NP Rating According to chamber rating									
Gasket	/	/	/	/	"Klingersil C4430"	St. St. spiral wounded	/	304 St. St. RTJ	NP max 50 bar T 20°C Other on request	
Bolting	/	/	/	/	B8.8 St. St	B8.8 St. St	/	B8.8 St. St.		
	Z 4	**Z 3**	**Z 25**		**Z66***					
ND 15	-			**Z 33**	**Z 40**	**Z 58**	**Z 46**	**Z 52**		
ND 20	-			**Z 34**	**Z 41**	**Z 59**	**Z 47**	**Z 53**		
ND 25	-			**Z 35**	**Z 42**	**Z 60**	**Z 48**	**Z 54**	**Z 17/T**	**Z 16/T**
ND 50	-			**Z 61**	**Z 63**	**Z64**	-	-		
ND 65	-			**Z 62**	-	**Z65**	-	-		

* Vent Flange type "100" identical to the bottom flange type

BOTTOM connections
Designations

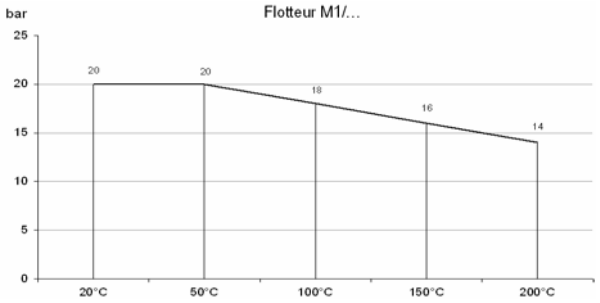







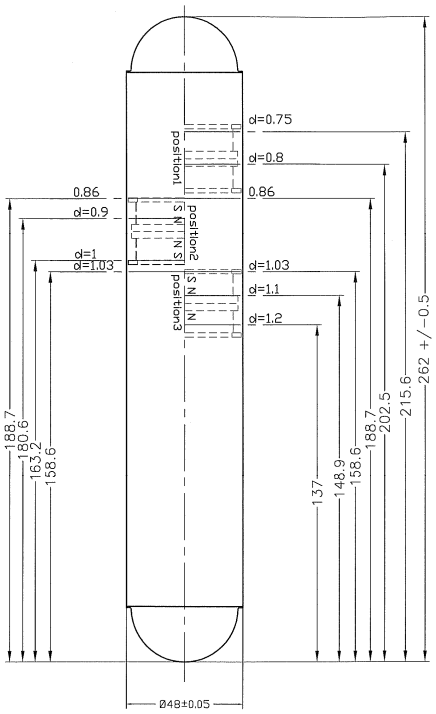
	Drain Plug 3/4" NPT	WN RF Type 11 Flange On pipe	WN RF Type 11 Flange On pipe + Blind RF type 05 Flange		WN RF RTJ Flange On pipe	Flange WN RTJ On pipe + Blind RTJ Flange	316 St.St. Valve 1/2" NPT-F	316 St.St. Valve 1/2" BSP-F
	NP Rating According to chamber rating							
Gasket	/	/	"Klingersil C4430"	St. St. spiral wounded	/	304 St. St. RTJ	NP max 50 bar T 20°C Other on request	
Bolting	/	/	B8.8 St. St	B8.8 St. St	/	B8.8 St. St		
	Z 26							
ND 15	-	**Z 30**	**Z 37**	**Z 55**	**Z 43**	**Z 49**		
ND 20	-	**Z 31**	**Z 38**	**Z 56**	**Z 44**	**Z 50**	**Z 17/B**	**Z 16/B**
ND 25	-	**Z 32**	**Z 39**	**Z 57**	**Z 45**	**Z 51**		

Type 810
Floats

Standard 316L St. St.

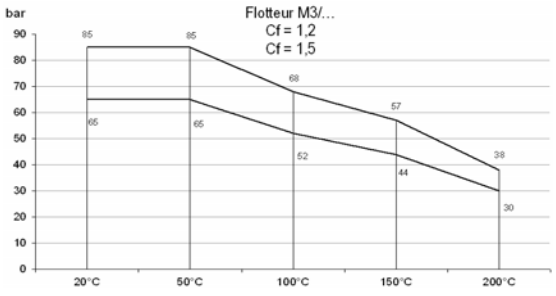
Coding	M1/.	M2/.
Body	Material: 316L Stainless Steel Ø 48 mm L=262 ± 0,5 mm	
Magnets	Ferritic ring	Samarium Cobalt
Temperature	Up to +200°C	Up to +350°C
Specific gravity	M1/1 0,75 < sg < 0,86 M1/2 0,87 < sg < 1,03 M1/3 1,04 < sg < 1,2	M2/1 0,75 < sg < 0,86 M2/2 0,87 < sg < 1,03 M2/3 1,04 < sg < 1,2
Weight	285±5 g	
Pressure Rating	20 bar @ 20°C	
Pressure test	30 bar	

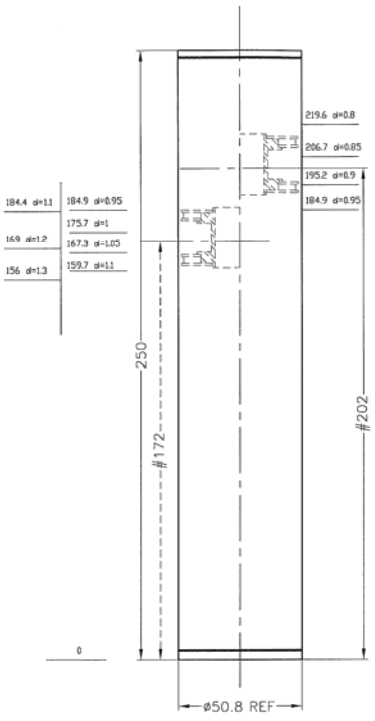




Titanium Gr2

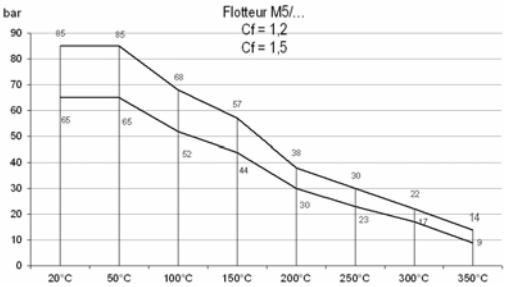
Coding	M3/.
Body	Material: Titanium Grade 2 Tube Tube Ø 50,8 mm L=250 ± 0,5 mm
Magnets	Ferritic ring
Temperature	Up to +200°C
Specific gravity	M3/1 0,8 < sg < 0,95 M3/2 0,95 < sg < 1,1 M3/3 1,1 < sg < 1,3
Weight	M3/1 356±5 g M3/2 356±5 g M3/3 411±5 g
Pressure Rating	65 bar @ 20°C
Pressure test	102 bar

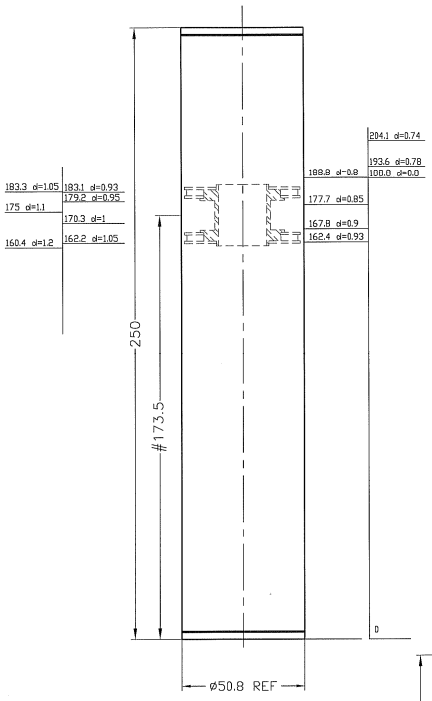




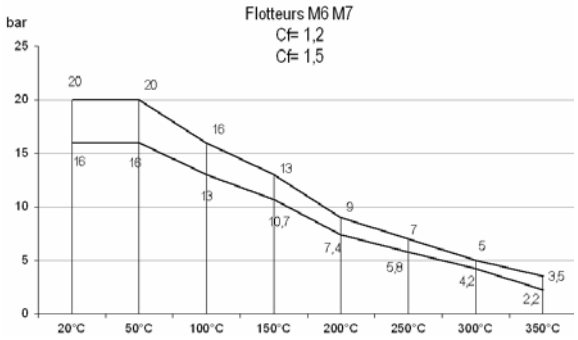
Type 810
Floats

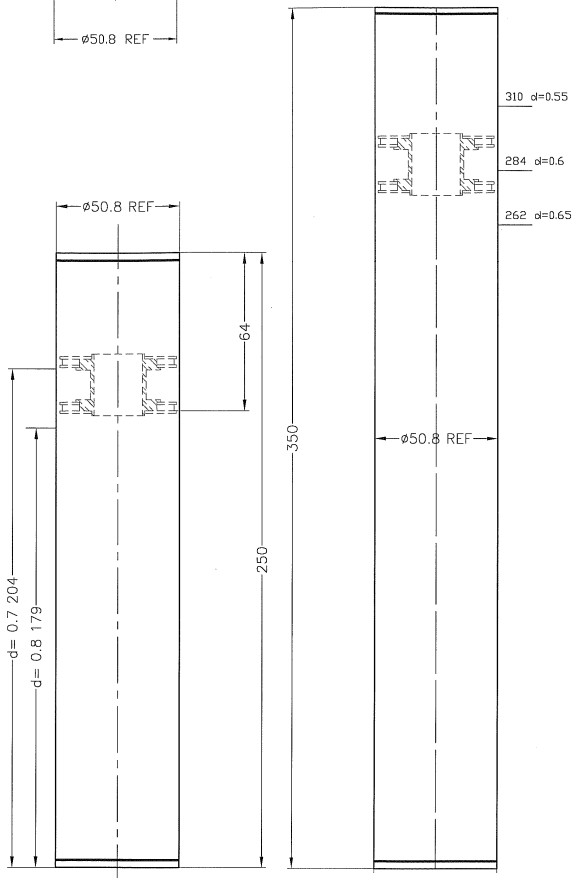
Titanium Gr2	
Coding	**M5/...**
Body	Material: Titanium Grade 2 Tube Tube Ø 50,8 mm L=250 ± 0,5 mm
Magnets	Samarium Cobalt
Temperature	Up to + 350°C
Specific gravity	M5/1 0,74 < sg < 0,8 M5/2 0,8 < sg < 0,93 M5/3 0,93 < sg < 1,05 M5/4 1,05 < sg < 1,2
Weight	M5/1 306±5 g M5/2 306±5 g M5/3 345±5 g M5/4 390±5 g
Pressure Rating	65 bar @ 20°C
Pressure test	102 bar





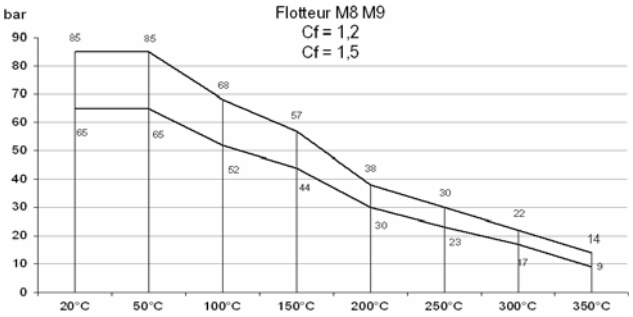
Titanium Gr2		
Coding	**M6**	**M7**
Body	Material: Titanium Grade 2 Tube Tube Ø 50,8 mm L=250 ± 0,5 mm	L=350± 0,5 mm
Magnets	Samarium Cobalt	
Temperature	Up to + 350°C	
Specific gravity	0,65 < sg < 0,75	0,55 < sg < 0,65
Weight	290g (sg =0,8) 274g (sg =0,74)	342,5g (sg =0,75) 326g (sg =0,67)
Pressure Rating	20 bar @ 20°C	
Pressure test	25 bar	

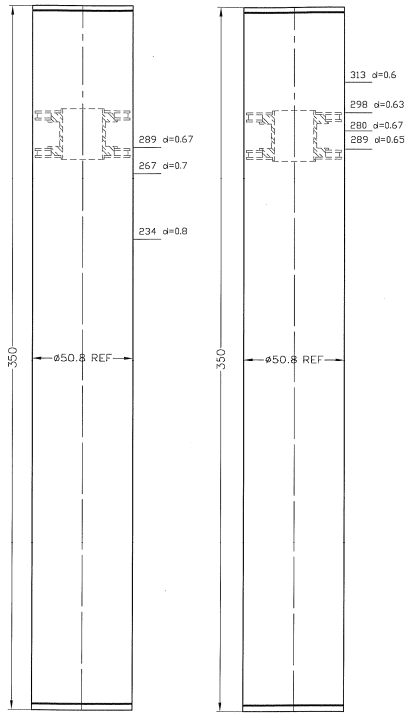




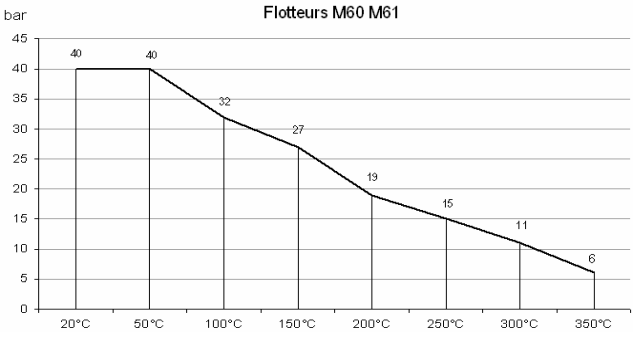
Type 810
Floats

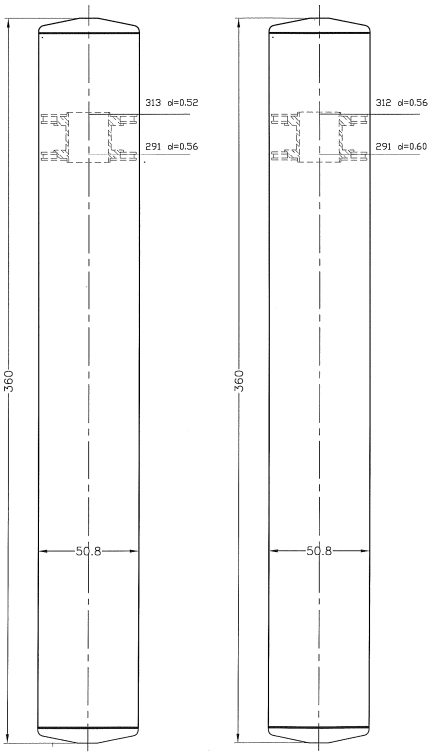
Titanium Gr2		
Coding	**M8**	**M9**
Body	Material: Titanium Grade 2 Tube Tube Ø 50,8 mm L=350 ± 0,5 mm	
Magnets	Samarium Cobalt	
Temperature	Up to + 350°C	
Specific gravity	0,67 < sg < 0,75	0,6 < sg < 0,67
Weight	380g	
Pressure Rating	85 bar @ 20°C	
Pressure test	102 bar	





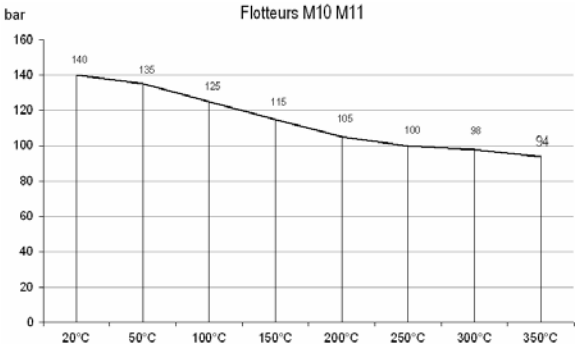
Titanium Gr2		
Coding	**M60**	**M61**
Body	Material: Titanium Grade 2 Tube Tube Ø 50,8 mm L=360 ± 0,5 mm	
Magnets	Samarium Cobalt	
Temperature	Up to + 350°C	
Specific gravity	0,52 < sg < 0,56	0,56 < sg < 0,6
Weight	330g	354g
Pressure Rating	40 bar @ 20°C	
Pressure test	60 bar	

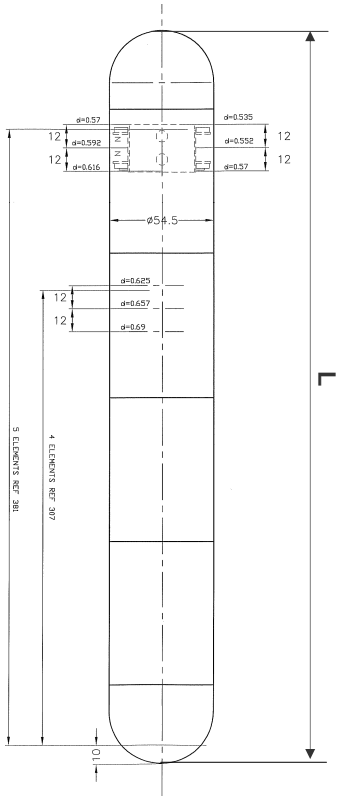




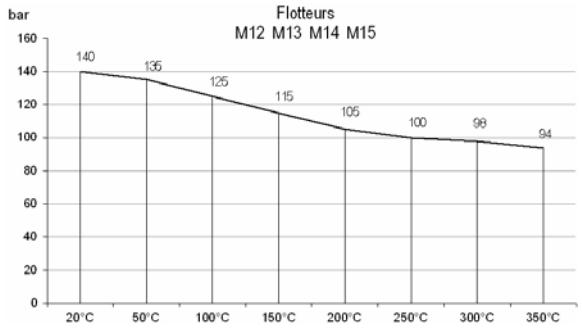
Type 810
Floats

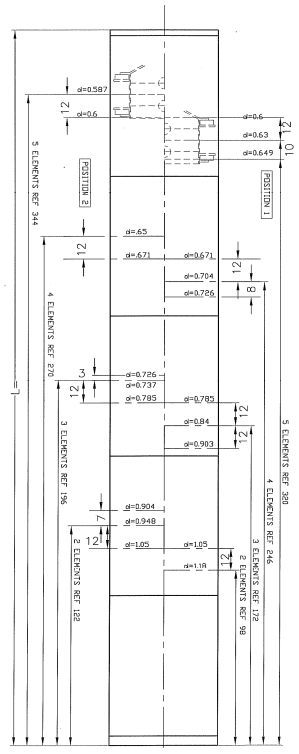
Titanium Gr5		
Coding	**M10**	**M11**
Body	Material: Titanium Grade 5 machined / turned Ø 54,5 mm L= 452 ± 0,5 mm	L =378± 0,5 mm
Magnets	Samarium Cobalt	
Temperature	Up to + 400°C	
Specific gravity	0,535< sg < 0,57	0,57 < sg < 0,635
Weight	491g	424g
Pressure Rating	140 bar @ 20°C	
Pressure test	210 bar	





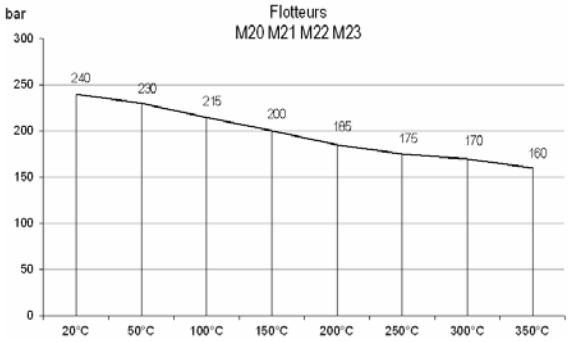
Titanium Gr5								
Coding	**M12**		**M13**		**M14**		**M15**	
	M12/1	M12/2	M13/1	M13/2	M14/1	M14/2	M15/1	M15/2
Body	Material: Titanium Grade 5 machined / turned Tube Ø 54,5 mm							
Length L	378 ± 0,5 mm		304 ± 0,5 mm		230 ± 0,5 mm		156 ± 0,5 mm	
Bits Qty	5		4		3		2	
Magnets	Samarium Cobalt							
Temperature	Up to + 350°C							
Specific gravity	0,6⇨ 0,65	0,58⇨ 0,6	0,67⇨ 0,73	0,65⇨ 0,67	0,785⇨ 0,903	0,726⇨ 0,785	1,05⇨ 1,18	0,904⇨ 1,05
Weight	471g		404g		337g		270g	
Pressure Rating	140 bar @ 20°C							
Pressure test	210 bar							

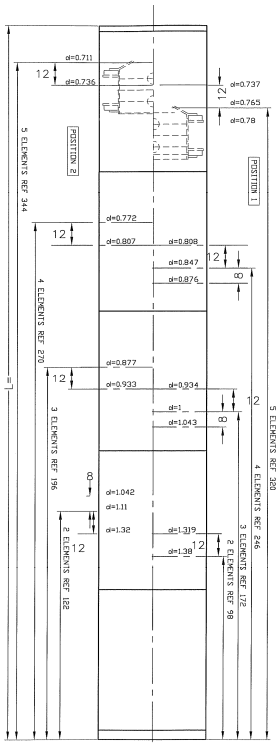




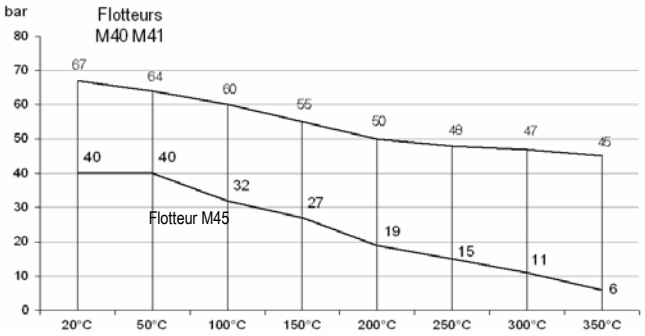
Type 810
Floats

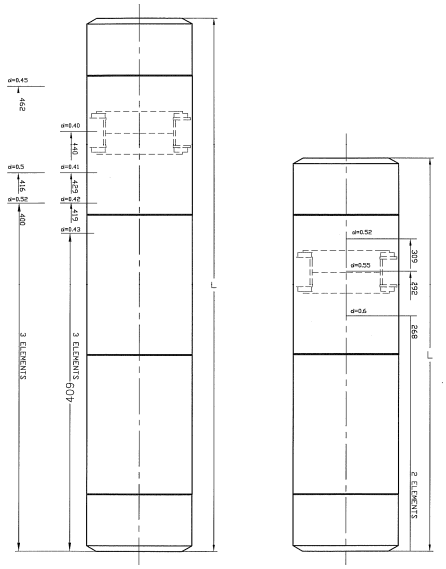
Titanium Gr5								
Coding	**M20**		**M21**		**M22**		**M23**	
	M20/1	M20/2	M21/1	M21/2	M22/1	M22/2	M23/1	M23/2
Body	Material: Titanium Grade 5 machined / turned Tube Ø 54,5 mm							
Length L	378 ± 0,5 mm		304 ± 0,5 mm		230 ± 0,5 mm		156 ± 0,5 mm	
Bits Qty	5		4		3		2	
Magnets	Samarium Cobalt							
Temperature	Up to + 350°C							
Specific gravity	0,737⇨ 0,78	0,711⇨ 0,736	0,808⇨ 0,876	0,772⇨ 0,807	0,934⇨ 1,043	0,877⇨ 0,933	1,319⇨ 1,38	1,042⇨ 1,32
Weight	571g		486g		401g		316g	
Pressure Rating	240 bar @ 20°C							
Pressure test	360 bar							





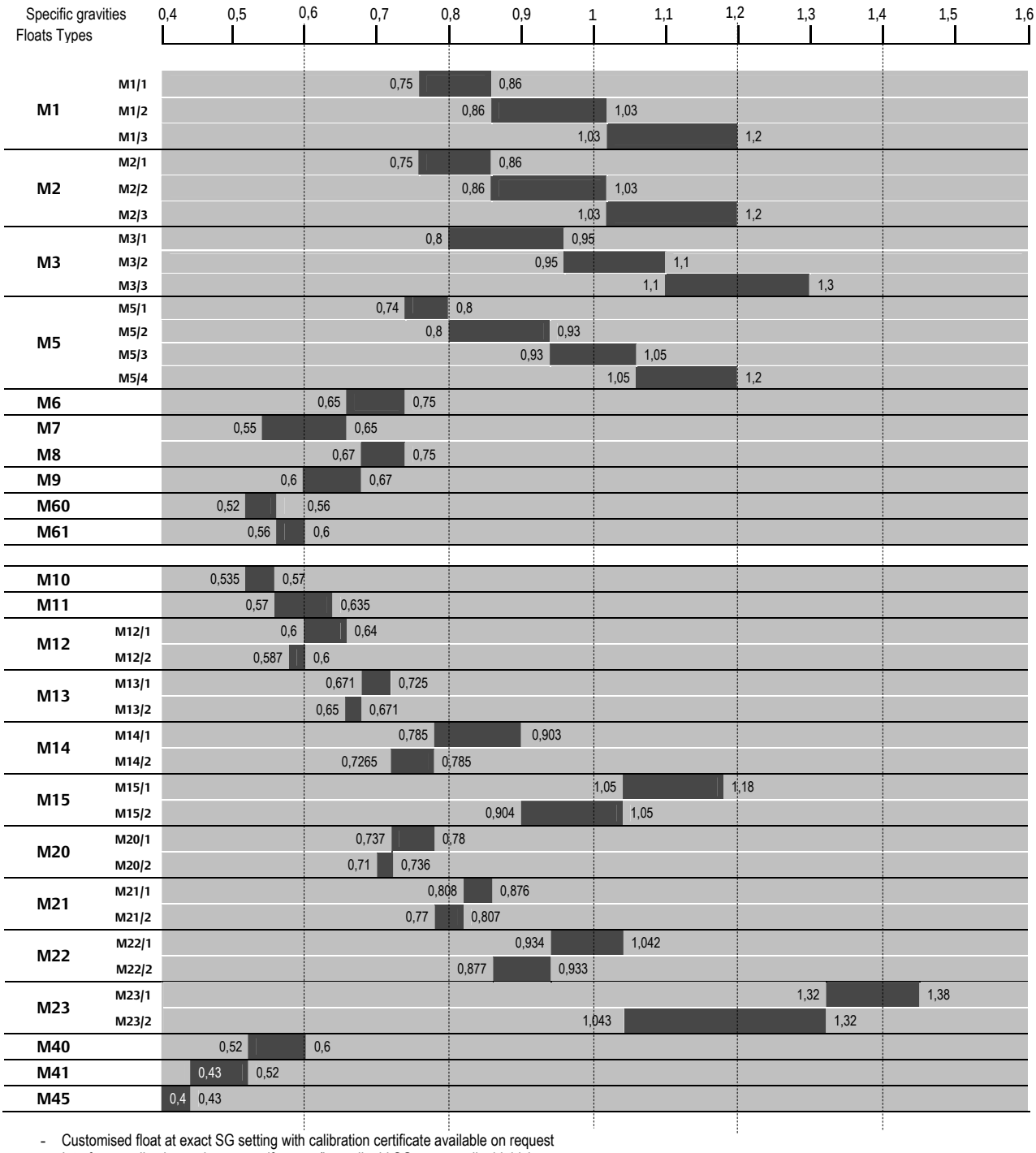
Titanium Gr5			
Coding	**M40**	**M41**	**M45**
Body	Material: Titanium Grade 5 machined / turned Ø 54,5 mm		
Length L	452 ± 0,5 mm	378± 0,5 mm	498 ± 0,5 mm
Bits Qty	2	3	3
Magnets	Samarium Cobalt		
Temperature	Up to + 400°C		
Specific gravity	0,52 < d < 0,6	0,43 < d < 0,52	0,4 < d < 0,43
Weight	375g	485g	410g
Pressure Rating	140 bar @ 20°C		40 bar @ 20°C
Pressure test	210 bar		60 bar





M45 / M41 M42

Type 810
Floats Buoyancy range

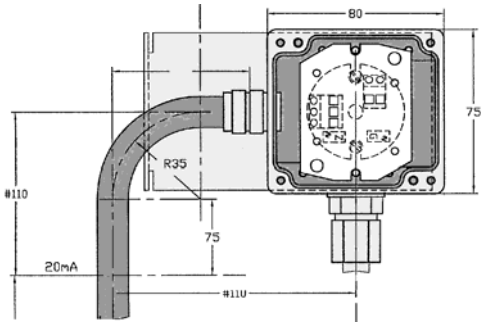


- Customised float at exact SG setting with calibration certificate available on request
- Interface application – please specify upper/lower liquid SG + approx liquid thickness.

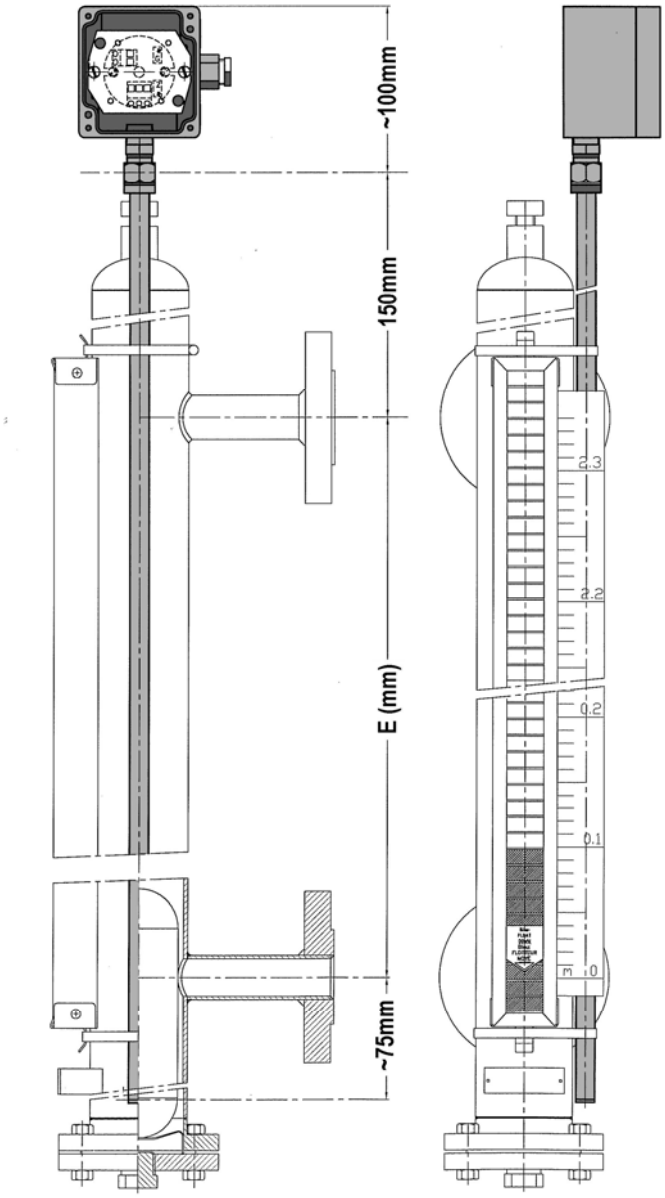
Type 810
4-20mA Output / Level transmitter

Each level gauge can be equipped with a magnetic transmitter for remote mesuring and continuous indication. A stainless steel tube protects a PCB fitted with reed-contact parts. This potentiometric line is driven by the float of the level gauge.
The transmitter housing is IP65 in standard, EExia (IS) or flame-proof (EExd) on request. The level transmitter option for level gauges type 810 could be fitted either for slider or flaps indicator type versions. It is simply jubilee-clip mounted against the main body tube of the instrument and could be connected and wired using its top housing/cable gland.

Design	
Type	4-20mA Transmitter
Dimensions (Lxlxh)	See drawing
Rod	Ø 14mm 316L St. St.
Housings	Aluminium IP65 as standard Aluminium Explosion proof "d" Aluminium IS "ia" 316L St. St.
Top design	Vertical design as standard 90° as an option (see below)
Mounting	Stainless Steel Jubilee clips
Transmitter Electrical Units	XT42 Standard XT42 ATEX IS. "ia" XTpro-HART XTpro-HART ATEX IS "ia" XTpro-HART LIN XTpro-HART LIN ATEX IS. "ia"
Range max.	5,5m
Resolution	15mm
Protection	IP65 – IP67
Max Temperature	300°C (Insulation required from +150°C)



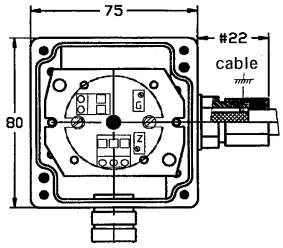
Head bent version



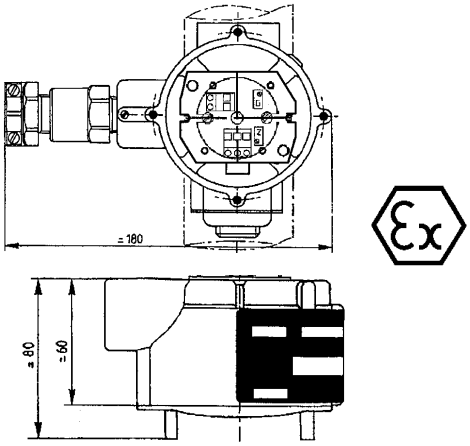
Standard version

Type 810
4-20mA Output / Level transmitter

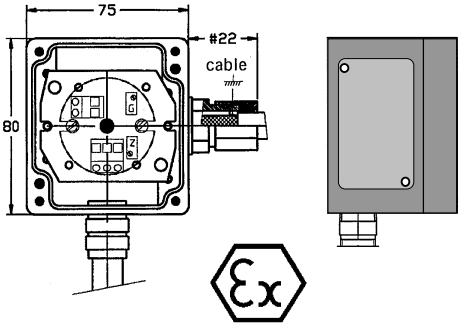
Housings selection	
Type	**Standard IP65**
Dimensions (Lxlxh)	80mm x 75mm x 57mm
Material	Aluminium
Rod	Ø 14mm 316L St. St. on ¾" NPT brass connection
Connection	PG9 Polyamid cable gland for Ø 5 à 9mm cables
Protection	IP65 – 4 screws cover
Coating	Polyester paint



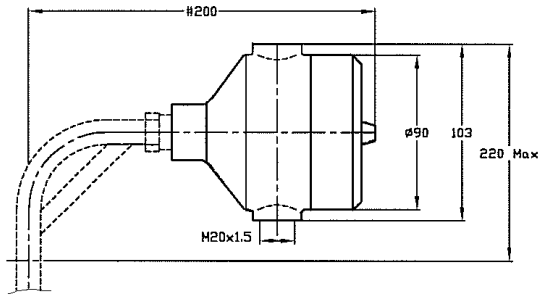
Type	**B4 – Explosion proof ("d")**
Dimensions (Lxlxh)	See below drawing
Material	Aluminium
Rod	Ø 14mm 316L St. St. ¾" NPT
Connection	¾"NPT Aluminium cable gland (Ø 5 à 12mm cables) (supplied) ATEX certified ("d")
Protection	IP65/IP66 – screwed cover
Coating	No – Raw Aluminium finish
Certificate	ATEX N° LCIE01ATEX6060X
Marking***	⟨Ex⟩ II 2G EExdIICT6
Electrical data	Supply Max.: 230V Current Max. : 15A Power Max. : 20W
Temperature	Ta = -40°C = +75°C
Name plate	Aluminium / St. St rivets



Type	**Intrinsically safe ("ia")***
Dimensions (Lxlxh)	See below drawing
Rod	Ø 14mm 316L St. St. on ¾" NPT brass connection
Connection	PG9 Polyamid blue cable gland for Ø 5 à 8 m cables (EExe certified)
Protection	IP65
Coating	Polyester paint
Certificate	ATEX N° LCIE05ATEX6034X
Marking **	⟨Ex⟩ II 1 G EExiaIICT6/T5/T4
Electrical data	Ui≤30V; Ii≤101mA; Pi≤758mW Or Ui≤28,4V; Ii≤116mA; Pi≤824mW Ci=0nF ; Li=0mH
Temperature	T6: Ta=50°Cmax./ T5:Ta=65°Cmax./ T4: Ta=80°Cmax.
Plaque signalétique	Aluminium / St. St rivets



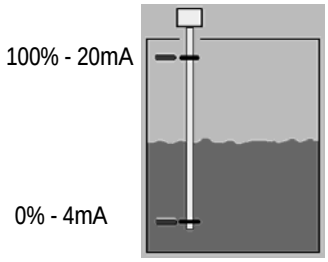
Type	**ISA - 316L St. St.**
Dimensions (Øxh)	Ø 103mm, h=117mm
Rod	Ø 14mm 316L St. St.
Connection	M20x1,5 cable gland (cables Ø 5 à 9mm)
Protection	IP67– screwed cover
Coating	No - Raw Stainless steel finish
Explosion proof "d"certified version	
Marking ***	⟨Ex⟩ II 2G EExdIICT6
Certificate	ATEX "d"
Connection	M20x1,5 cable gland "d" certified
Protection	IP67– screwed cover
Coating	No - Raw Stainless steel finish



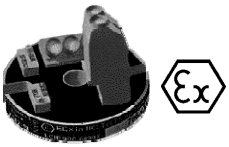
* The transmitter electronical unit must be choosen among the ATEX IS certified units (see next page)
** The ATEX marking complies with the 94/09/EC Directive and certify the transmitter, the reed switch line and the housing.
*** The ATEX marking complies with the 94/09/EC Directive and certify the reed switch line and the housing

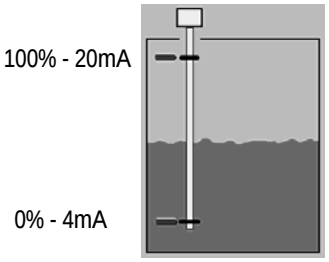
Type 810
4-20mA Output / Level transmitter

Transmiter range	
Type	**XT42-NIV (standard)**
Output	4-20mA 2 wires
Maximum Range	5,5 m
Power supply	12V < V < 30V
Temperature	-20°C < T < 70°C
Accuracy	0,15% full scale
Resolution	15mm

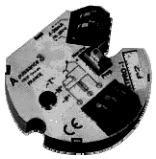


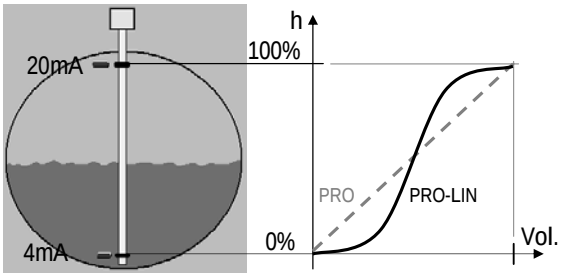
Type	**XT42-NIV I.S.**
Output	4-20mA 2 wires
Maximum Range	5,5 m
Power supply	12V < V < 30V
Temperature	-20°C < T < 65°C
Accuracy	0,15% full scale
Resolution	15mm
ATEX certified	Intrinsically safe EExia



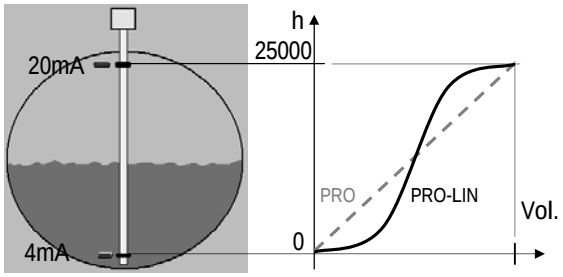


Types	**XT PRO-HART** **XT PRO-HART LIN**
Output	4-20mA 2 wires
Maximum Range	5,5 m
Power supply	9,5V < V < 30V
Temperature	-20°C < T < 70°C
Accuracy	0,1% full scale
Resolution	15mm
Protocol	HART
Data Acquisition	10/s
Burnout	3,8mA / 22mA
Linearization	XTPRO LIN version only





Types	**XT PRO-HART S.I.** **XT PRO-HART LIN S.I.**
Output	4-20mA 2 wires
Maximum Range	5,5 m
Power supply	9,5V < U < 30V
Temperature	-20°C < T < 65°C
Accuracy	0,1% full scale
Resolution	15mm
Protocol	HART
Data Acquisition	10/s
Burnout	3,8mA / 22mA
Linearization	XTPRO LIN version only
ATEX certified	Intrinsically safe EExia



Type 810
4-20mA Output / Level transmitter

Transmitter option coding

Code

Aluminium housing range

Vertical end top design

T1	XT42-NIV	Standard IP65	-
T2	XT42 "ia"	Standard IP65	ATEX "ia"
T4	XT42-NIV	B4	ATEX "d"
T5	XT pro - HART	Standard IP65	-
T6	XT pro - HART "ia"	Standard IP65	ATEX "ia"
T7	XT pro - HART	B4	ATEX "d"
T9	XT pro - HART LIN	Standard IP65	-
T10	XT pro - HART LIN "ia"	Standard IP65	ATEX "ia"
T11	XT pro - HART LIN	B4	ATEX "d"

90° end top design

T1/C	XT42-NIV	Standard IP65	-
T2/C	XT42 "ia"	Standard IP65	ATEX "ia"
T4/C	XT42-NIV	B4	ATEX "d"
T5/C	XT pro - HART	Standard IP65	-
T6/C	XT pro - HART "ia"	Standard IP65	ATEX "ia"
T7/C	XT pro - HART	B4	ATEX "d"
T9/C	XT pro - HART LIN	Standard IP65	-
T10/C	XT pro - HART LIN "ia"	Standard IP65	ATEX "ia"
T11/C	XT pro - HART LIN	B4	ATEX "d"

316L St. St. Housing range

Vertical end top design

T20	XT42-NIV	ISA 316L St.St.	-
T21	XT42 "ia"	ISA 316L St.St.	ATEX "ia"
T22	XT42-NIV	ISA 316L St.St.	ATEX "d"
T23	XT pro - HART	ISA 316L St.St.	-
T24	XT pro - HART "ia"	ISA 316L St.St.	ATEX "ia"
T25	XT pro - HART	ISA 316L St.St.	ATEX "d"
T26	XT pro - HART LIN	ISA 316L St.St.	-
T27	XT pro - HART LIN "ia"	ISA 316L St.St.	ATEX "ia"
T28	XT pro - HART LIN	ISA 316L St.St.	ATEX "d"

90° end top design

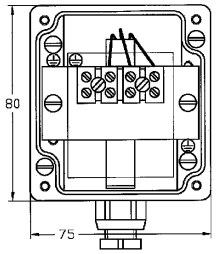
T20/C	XT42-NIV	ISA 316L St.St.	-
T21/C	XT42 "ia"	ISA 316L St.St.	ATEX "ia"
T22/C	XT42-NIV	ISA 316L St.St.	ATEX "d"
T23/C	XT pro - HART	ISA 316L St.St.	-
T24/C	XT pro - HART "ia"	ISA 316L St.St.	ATEX "ia"
T25/C	XT pro - HART	ISA 316L St.St.	ATEX "d"
T26/C	XT pro - HART LIN	ISA 316L St.St.	-
T27/C	XT pro - HART LIN "ia"	ISA 316L St.St.	ATEX "ia"
T28/C	XT pro - HART LIN	ISA 316L St.St.	ATEX "d"

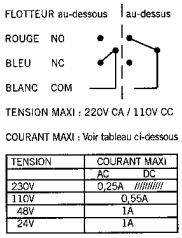
- Possibility to offer magnetostrictive transmitters. Will be shown on technical datasheet very shortly.

Type 810
Alarm contacts

Each level gauge could be equipped with alarm contacts. Fitted along the main tube, they are adjusted to switch on as the liquid rise or fell to the chosen level.
The contact housing is IP65 in standard, ATEX "ia" or Explosion-proof (EExd) on request.
The alarm contact option for level gauges type 810 could be fitted either for slider or flaps indicator type versions. It is simply collar-mounted against the main body tube of the instrument and could be connected and wired using its housing/cable gland.
NOTA : For each contact, a position (height) should be given to perform factory setting. Otherwise, contacts are simply fitted on tube to be adjusted by the customer himself.

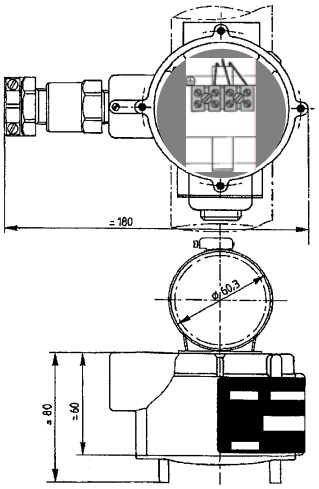
Single reed switch IP65		
Coding	**S1**	**S6**
Dimensions (Lxlxh)	80mm x 75mm x 57mm	
Material	Aluminium	
Switch	Single Reed switch (see below diagram)	
Connection	PG9 Polyamid cable gland (cables Ø 5 to 9mm)	
Protection	IP65 – 4 screws cover	
Coating	Polyester paint	
Max. Power supply	230V	
Max. Power	60W/ 60VA	
Temperature	200°C Max.	300°C Max.

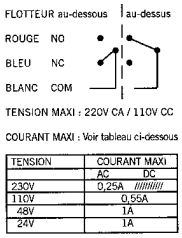




As option S20: "Tropicalization" for corrosive/ wet atmospheres

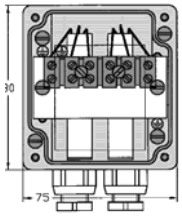
Single / dual reed switch "d" ATEX Explosion proof		
Coding	**S2**	**S4**
Dimensions (Lxlxh)	80mm x 75mm x 57mm	
Material	Aluminium	
Switch	Single Reed switch	Dual Reed switch
Connection	¾"NPT Aluminium cable gland (cables Ø 5 to 12mm) (supplied) ATEX explosion proof ("d") certified	
Protection	IP65/66 – Screwed cover	
Coating	No – Raw aluminium finish	
Max. Power supply	230V	
Max. Power	60W/ 60VA	
Certificate	ATEX N° LCIE01ATEX6060X	
Marking***	⟨Ex⟩ II 2G EExdIICT6	
Electrical data (EC certificate)	Max. supply : 230V Max. current: 15A Max. power : 20W	
Temperature	Ta = - 40°C to +75°C	
Name plate	Aluminium / St.St. rivets	

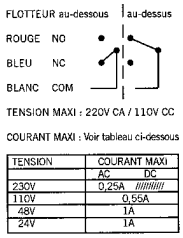




As option S20: "Tropicalization" for corrosive / wet atmospheres

Dual reed switch IP65		
Coding	**S3**	**S7**
Dimensions (Lxlxh)	80mm x 75mm x 57mm	
Material	Aluminium	
Switch	Dual Reed switch (see below diagram)	
Connection	PG9 Polyamid cable glands (cables Ø 5 to 9m)	
Protection	IP65 – 4 screws cover	
Coating	Polyester paint	
Max. Power supply	230V	
Max. Power	60W/ 60VA	
Temperature	200°C Max.	300°C Max.



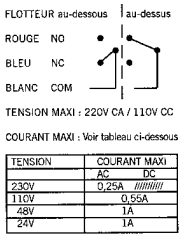


As option S20: "Tropicalization" for corrosive / wet atmospheres

** The ATEX marking complies with the 94/09/EC Directive and certify, the reed switch and the housing.
*** The ATEX marking complies with the 94/09/EC Directive and certify the housing.

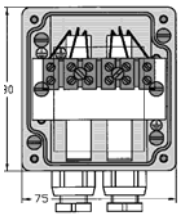
Type 810
Alarm contacts

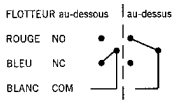
Basic Reed switch assembly	
Coding	**S5**
Dimensions (Lxlxh)	75mm x 15mm x 15mm
Material	Aluminium
Switch	Reed switch (see below diagram)
Connection	3m electrical cable
Protection	IP65
Coating	No – raw aluminium housing finish
Max. Power supply	230V
Max. Power	60W/ 60VA
Temperature	-20°C < T < 80°C Max.

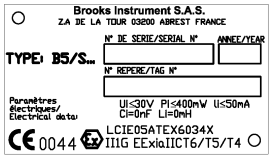


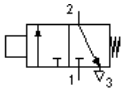
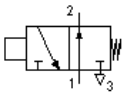
Single / dual reed switch "ia" ATEX instrinsically safe		
Coding	**S8**	**S9**
Dimensions (Lxlxh)	80mm x 75mm x 57mm	
Material	Aluminium	
Switch	Single Reed switch	Dual Reed switch
Connection	PG9 Polyamid Blue cable gland (cables Ø 5 to 8mm) EExe certified	
Protection	IP65 – 4 screws cover	
Coating	Polyester paint	
Certificate	ATEX N° LCIE05ATEX6034X	
Marking**	Ex II 1 G EExiaIICT6/T5/T4	
Electrical data	Ui≤30V; Ii≤101mA; Pi≤400mW	
	Ci=0nF ; Li=0mH	
Temperatures	T6: Ta=50°Cmax./ T5:Ta=65°Cmax./ T4: Ta=80°Cmax.	
Name plate	Aluminium / St.St. rivets	

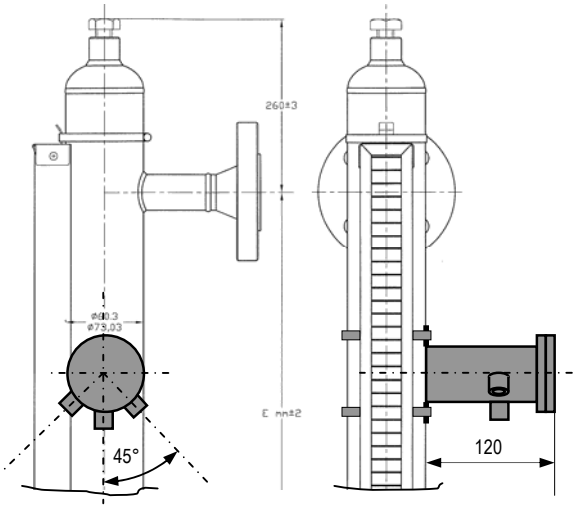
As option S20: "Tropicalization" for heavy/ wet atmospheres







Pneumatic switch N/O – N/F		
Coding	**S21**	**S22**
Dimensions H x d	120mm x Ø 80mm	
Material	316L St.St.	
Switch	"Normally open"	" Normally closed"
		
	1: Input 2: Output 3: Exhaust	1: Input 2: Output 3: Exhaust
Connection	3 input/output 0°/ 45°/ 90°	
size	¼" NPT	
Coating	NO – Raw stainless steel finish	
Pressure range	2 to 6 bars	
Mounting	2 jubilee clips against the chamber	
Temperature	-15°C < T < 60°C	



** The ATEX marking complies with the 94/09/EC Directive and certify, the reed switch and the housing.

Type 810
Documentations

Description Code		Standard	High Durty
D12	General Drawing (included in D4A)	X	X
D13	Certificate package (included in D4A) - certificate of conformity to the orde - Pressure test certificate - Material 2.2 certificate	X	X
D0	Material certificate 3.1.B (regarding the chamber)	X	X
D1	NACE MR-01-75 compliance certificate		X
D2	Welding book according to CODAP standard		X
D3	Calculation note		X
D4A	Complete PED certificates and documentation package - General Drawing - Conformity + Pressure test certificate - Description - Calculation note - Material certificates 3.1.		X
D6	Dy Penetrant test certificate "Brooks Instrument" (performed by Brooks Instrument)	X	X
D7	10% Dye penetrant test for welds "CertifiedOrganism" (performed by an accredited Notified body)	X	X
D7	20% Dye penetrant test for welds "CertifiedOrganism" (performed by an accredited Notified body)		X
D8	10% Welds X-ray examination certificate	X	X
D8	20% Welds X-ray examination certificate		X
D9	100% Welds X-ray examination certificate		X
D10	Thickness control certificate ("0" point)		X
D11	documentation Cd-rom	X	X
	PMI testing on request		X
	DIRECTIVE DESP 97.23-CE * Gaz groupe 1 * Gaz groupe 2	 According the model X	 X X
	Code de construction CODAP 2005 div1 CODAP 2005 div2	 X	 X

These instruments going designed under classification: vessel under pressure component as gas located over the liquid to measure

Magnetic level gauge

Data Sheet
DS-MLG-810-eng
June, 2008

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