

PIPELINE COMPONENTS



Borosilicate 3.3 glass pipeline offer many advantages for its use in chemical, pharmaceutical industries together with precious metal refining, dye works & electroplating because of its following characteristics.

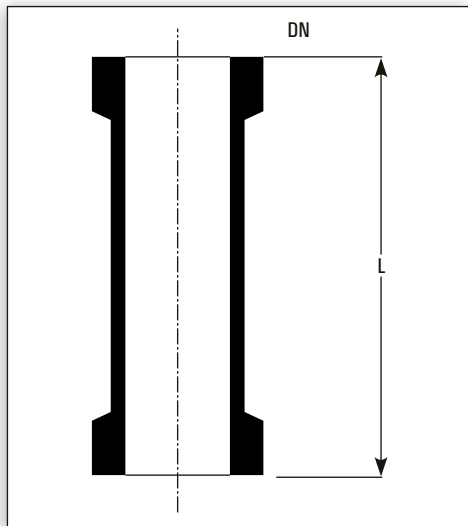
1. Inert to almost all chemicals, hence no risk of contamination and no unwanted flavours or colours are imparted into product.
 2. Transparency allows visual monitoring of the process, flow patterns, colour changes etc.
 3. Almost universal resistance to corrosion. Long service life is guaranteed.
 4. Smooth surface provides low pressure drop.
 5. Smooth surface permits easy cleaning and prevents fouling.
- All the components are suitable for operation under full vacuum conditions.

Pipeline Components are available from DN 15 to DN 800.
DN 1000 pipeline parts are available on request.

PIPELINE COMPONENTS

PIPE SECTIONS

DN	12	15	25	40	50
L	Cat.Ref.	Cat.Ref.	Cat.Ref.	Cat.Ref.	Cat.Ref.
100	PS0.5/100	PS0.7/100	PS1/100*	PS1.5/100*	PS2/100*
150	PS0.5/150	PS0.7/150	PS1/150*	PS1.5/150*	PS2/150*
200	PS0.5/200	PS0.7/200	PS1/200*	PS1.5/200*	PS2/200*
250	PS0.5/250	PS0.7/250	PS1/250	PS1.5/250	PS2/250
300	PS0.5/300	PS0.7/300	PS1/300*	PS1.5/300	PS2/300
400	PS0.5/400	PS0.7/400	PS1/400	PS1.5/400	PS2/400
500	PS0.5/500	PS0.7/500	PS1/500*	PS1.5/500	PS2/500
600	PS0.5/600	PS0.7/600	PS1/600	PS1.5/600	PS2/600
750	PS0.5/750	PS0.7/750	PS1/750	PS1.5/750	PS2/750
900	PS0.5/900	PS0.7/900	PS1/900	PS1.5/900	PS2/900
1000	PS0.5/1000	PS0.7/1000	PS1/1000*	PS1.5/1000*	PS2/1000*



DN	80	100	150
L	Cat.Ref.	Cat.Ref.	Cat.Ref.
150	PS3/150	PS4/150	PS6/150
200	PS3/200	PS4/200	PS6/200
250	PS3/250	PS4/250	PS6/250
300	PS3/300	PS4/300	PS6/300
400	PS3/400	PS4/400	PS6/400
500	PS3/500	PS4/500	PS6/500
600	PS3/600	PS4/600	PS6/600
750	PS3/750	PS4/750	PS6/750
900	PS3/900	PS4/900	PS6/900
1000	PS3/1000*	PS4/1000*	PS6/1000*

DN	225	300	400
L	Cat.Ref.	Cat.Ref.	Cat.Ref.
300	PS9/300	PS12/300	PS16/300
400	PS9/400	PS12/400	-
500	PS9/500	PS12/500	PS16/500
600	PS9/600	PS12/600	-
750	PS9/750	PS12/750	PS16/750
900	PS9/900	PS12/900	-
1000	PS9/1000*	PS12/1000*	PS16/1000
1200	PS9/1200	PS12/1200	PS16/1200
1500	PS9/1500	PS12/1500	PS16/1500

DN	450	600	800	1000
L	Cat.Ref.	Cat.Ref.	Cat.Ref.	Cat.Ref.
300	PS18/300	-	-	-
500	PS18/500	PS24/500	PS32/500	PS40/500
750	PS18/750	-	-	-
1000	PS18/1000	PS24/1000	PS32/1000	PS40/1000
1200	PS18/1200	-	-	-
1500	PS18/1500*	PS24/1500*	PS32/1500	-

* marked items are available fast.

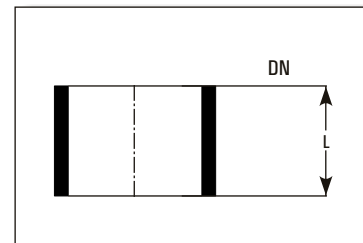
PIPELINE COMPONENTS

SPACERS

Spacers are used to make-up small increments in length.

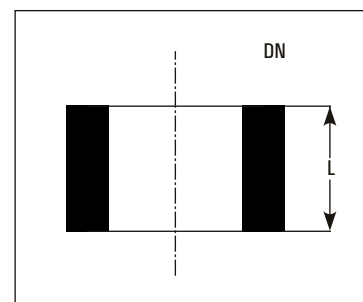
DN	12	15	25	40	50
L	Cat.Ref.	Cat.Ref.	Cat.Ref.	Cat.Ref.	Cat.Ref.
5	SS0.5/5	SS0.7/5	SS1/5	SS1.5/5	SS2/5
15	SS0.5/15	SS0.7/15	SS1/15	SS1.5/15	SS2/15
25	SS0.5/25	SS0.7/25	SS1/25	SS1.5/25	SS2/25

* L= 50 DN or other size available on request.



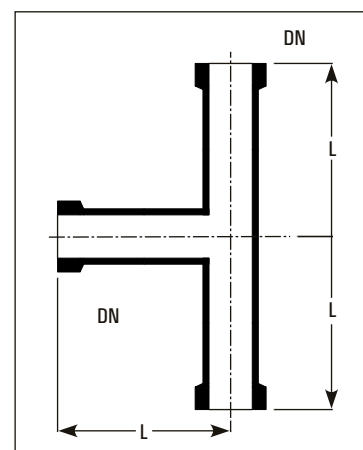
PTFE SPACERS

DN	12	15	25	40	50
L	Cat.Ref.	Cat.Ref.	Cat.Ref.	Cat.Ref.	Cat.Ref.
5	SST0.5/5	SST0.7/5	SST1/5	SST1.5/5	SST2/5
10	SST0.5/10	SST0.7/10	SST1/10	SST1.5/10	SST2/10
15	SST0.5/15	SST0.7/15	SST1/15	SST1.5/15	SST2/15
20	SST0.5/20	SST0.7/20	SST1/20	SST1.5/20	SST2/20



EQUAL TEES

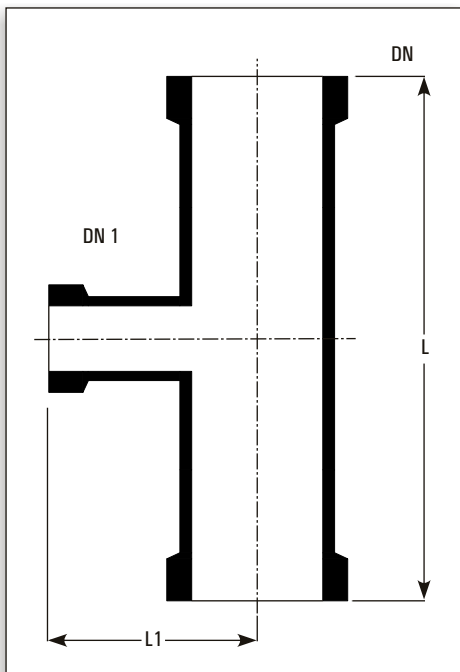
Cat.Ref.	DN	L
PT0.5	12	50
PT0.7	15	50
PT1*	25	100
PT1.5*	40	150
PT2*	50	150
PT3	80	200
PT4	100	250
PT6	150	250
PT9	225	375
PT12	300	450



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PIPELINE COMPONENTS

UNEQUAL TEES



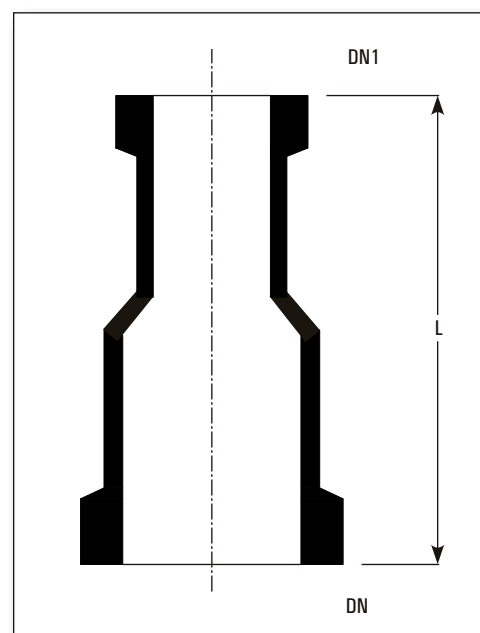
Cat.Ref.	DN	DN1	L	L1
PTU1/0.5	25	12	150	75
PTU1/0.7	25	15	150	75
PTU1.5/1	40	25	200	75
PTU2/1	50	25	200	80
PTU2/1.5	50	40	200	100
PTU3/1	80	25	250	100
PTU3/1.5	80	40	250	100
PTU3/2	80	50	250	115
PTU4/1	100	25	250	110
PTU4/1.5	100	40	250	125
PTU4/2	100	50	250	125
PTU4/3	100	80	300	150
PTU6/1	150	25	250	150
PTU6/1.5	150	40	250	150
PTU6/2	150	50	250	150
PTU6/3	150	80	300	175
PTU6/4	150	100	300	200
PTU9/1	225	25	300	185
PTU9/1.5	225	40	300	185
PTU9/2	225	50	300	185
PTU9/3	225	80	300	210
PTU9/4	225	100	450	250
PTU9/6	225	150	450	275
PTU12/1	300	25	400	230
PTU12/1.5	300	40	400	230
PTU12/2	300	50	400	230
PTU12/3	300	80	400	275
PTU12/4	300	100	400	275
PTU12/6	300	150	450	300
PTU12/9	300	225	600	300
PTU16/1.5	400	40	400	275
PTU16/2	400	50	400	275
PTU16/3	400	80	400	300
PTU16/4	400	100	400	300
PTU16/6	400	150	500	350
PTU16/9	400	225	800	450
PTU16/12	400	300	800	450
PTU18/1.5	450	40	400	300
PTU18/2	450	50	400	300
PTU18/3	450	80	400	320
PTU18/4	450	100	400	320
PTU18/6	450	150	600	380
PTU18/9	450	225	800	400
PTU18/12	450	300	800	400
PTU24/4	600	100	600	450
PTU24/6	600	150	600	450
PTU24/9	600	225	800	525
PTU24/12	600	300	800	525

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PIPELINE COMPONENTS

REDUCERS

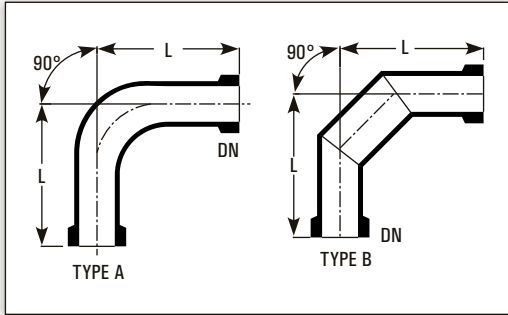
Cat.Ref.	DN	DN1	L
PR1/0.5	25	12	100
PR1/0.7	25	15	100
PR1.5/1*	40	25	100
PR2/1*	50	25	100
PR2/1.5*	50	40	100
PR3/1*	80	25	125
PR3/1.5*	80	40	125
PR3/2*	80	50	125
PR4/1*	100	25	150
PR4/1.5*	100	40	150
PR4/2*	100	50	150
PR4/3*	100	80	150
PR6/1*	150	25	200
PR6/1.5*	150	40	200
PR6/2*	150	50	200
PR6/3*	150	80	200
PR6/4*	150	100	200
PR9/1*	225	25	250
PR9/1.5*	225	40	250
PR9/2*	225	50	250
PR9/3*	225	80	250
PR9/4*	225	100	250
PR9/6*	225	150	250
PR12/1*	300	25	300
PR12/1.5*	300	40	300
PR12/2*	300	50	300
PR12/3*	300	80	300
PR12/4*	300	100	300
PR12/6*	300	150	300
PR12/9*	300	225	300
PR16/1.5	400	40	350
PR16/2	400	50	350
PR16/3	400	80	350
PR16/4	400	100	350
PR16/6	400	150	350
PR16/9	400	225	350
PR16/12	400	300	350
PR18/1.5	450	40	375
PR18/2	450	50	375
PR18/3	450	80	375
PR18/4	450	100	375
PR18/6	450	150	375
PR18/9	450	225	375
PR18/12	450	300	375
PR24/4	600	100	400
PR24/6	600	150	400
PR24/9	600	225	425
PR24/12	600	300	425



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PIPELINE COMPONENTS

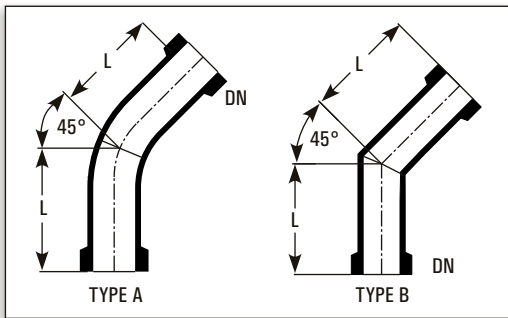
BENDS 90°



Cat.Ref.	DN	L	TYPE
PB0.5/90	12	50	A
PB0.7/90	15	50	A
PB1/90*	25	100	A
PB1.5/90*	40	150	A
PB2/90*	50	150	A
PB3/90*	80	200	B
PB4/90*	100	250	B
PB6/90*	150	250	B
PB9/90*	225	375	B
PB12/90*	300	450	B

Bends in 80 and 100 degree are also available with same dimensions.
Bends DN 400/DN 450/DN 600 are available on request.

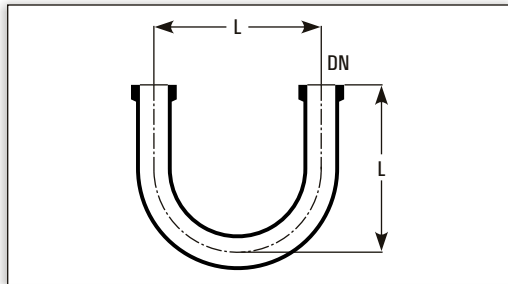
BENDS 45°



Cat.Ref.	DN	L	TYPE
PB0.5/45	12	50	A
PB0.7/45	15	50	A
PB1/45*	25	75	A
PB1.5/45	40	100	A
PB2/45	50	100	A
PB3/45	80	125	B
PB4/45*	100	175	B
PB6/45	150	250	B
PB9/45	225	375	B

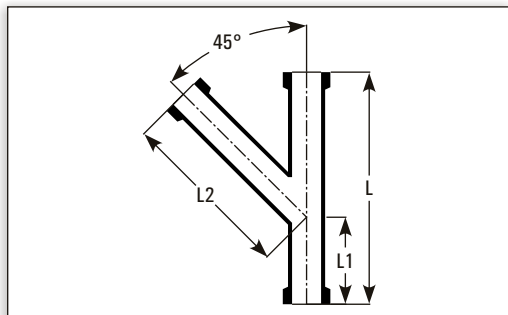
Bends in 10 and 30 degree are also available with same dimensions.

U BENDS



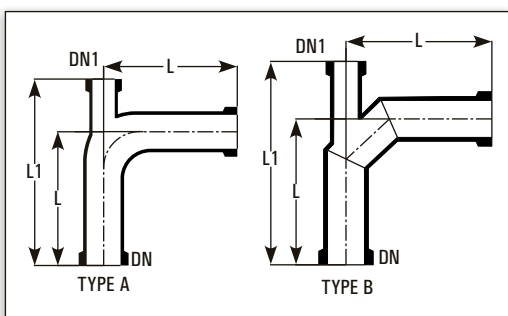
Cat.Ref.	DN	L
PU0.5	12	75
PU0.7	15	75
PU1*	25	150
PU1.5*	40	175
PU2	50	175
PU3	80	225

Y BENDS



Cat.Ref.	DN	L	L1	L2
PY0.5	12	125	50	80
PY0.7	15	125	50	80
PY1	25	200	75	150
PY1.5	40	250	100	175
PY2	50	300	125	200
PY3	80	350	150	250
PY4	100	450	150	350

BENDS 90° WITH THERMOMETER BRANCH



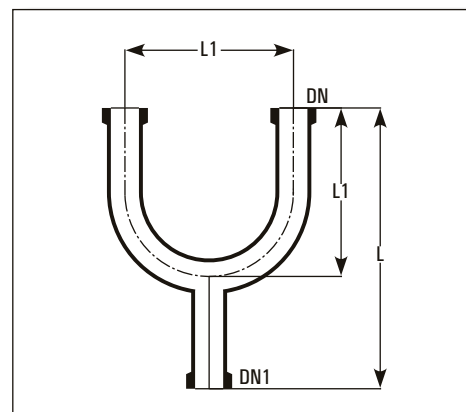
Cat.Ref.	DN	DN1	L	L1	TYPE
PBT1.5	40	25	150	225	A
PBT2	50	25	150	225	A
PBT3*	80	25	200	275	B
PBT4*	100	25	250	325	B
PBT6*	150	25	250	325	B
PBT9*	225	25	375	490	B
PBT12*	300	25	450	560	B

* marked items are available fast.

PIPELINE COMPONENTS

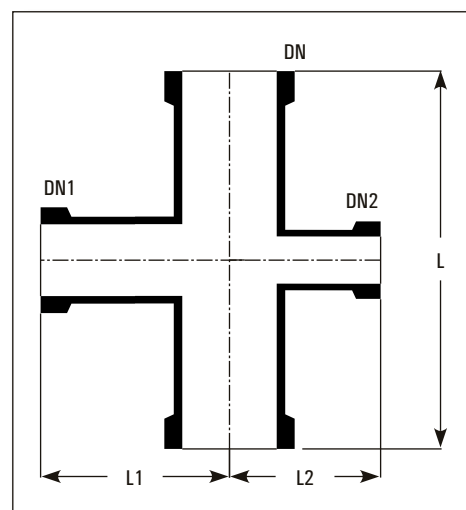
U BENDS WITH BOTTOM OUTLET

Cat.Ref.	DN	DN1	L	L1
PUO0.5	12	12	150	100
PUO1/0.5	25	12	250	150
PUO0.7	15	15	150	100
PUO1/0.7	25	15	250	150
PUO1*	25	25	250	150
PUO1.5*	40	40	275	175
PUO1.5/1*	40	25	275	175
PUO2	50	50	275	175
PUO2/1*	50	25	275	175
PUO3/1	80	25	350	225



UNEQUAL CROSSES

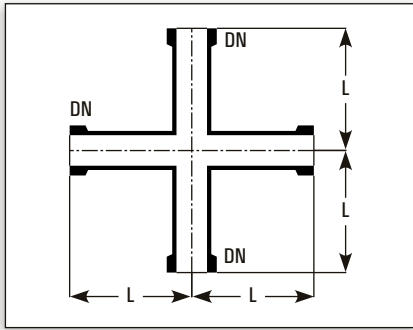
Cat.Ref.	DN	DN1	DN2	L	L1	L2
PXU2/1/1	50	25	25	200	80	80
PXU2/1.5/1	50	40	25	200	100	80
PXU3/1/1	80	25	25	250	100	100
PXU3/1.5/1	80	40	25	250	100	100
PXU3/2/1	80	50	25	250	115	100
PXU4/1/1	100	25	25	250	110	110
PXU4/1.5/1	100	40	25	250	125	110
PXU4/2/1	100	50	25	250	125	110
PTU4/3/1	100	80	25	300	150	150
PXU6/1.5/1	150	40	25	250	150	150
PXU6/2/1	150	50	25	250	150	150
PXU6/3/2	150	80	50	300	175	150
PXU6/4/2	150	100	50	300	200	150
PXU9/1.5/1.5	225	40	40	300	185	185
PXU9/2/1.5	225	50	40	300	185	185
PXU9/3/1.5	225	80	40	300	210	185
PXU9/4/2	225	100	50	450	250	185
PXU9/6/3	225	150	80	450	275	210
PXU12/2/1.5	300	50	40	400	230	230
PXU12/3/1.5	300	80	40	400	275	230
PXU12/4/1.5	300	100	40	400	275	230
PXU12/6/2	300	150	50	450	300	230
PXU12/9/3	300	225	80	600	300	275
PXU16/1.5/1.5	400	40	40	400	275	275
PXU16/3/1.5	400	80	40	400	300	275
PXU16/4/1.5	400	100	40	400	300	275
PXU16/6/3	400	150	80	500	350	300
PXU16/9/4	400	225	100	800	450	300
PXU18/1.5/1.5	450	40	40	400	300	300
PXU18/3/1.5	450	80	40	400	320	300
PXU18/4/1.5	450	100	40	400	320	300
PXU18/6/3	450	150	80	600	380	320
PXU18/9/4	450	225	100	800	400	320



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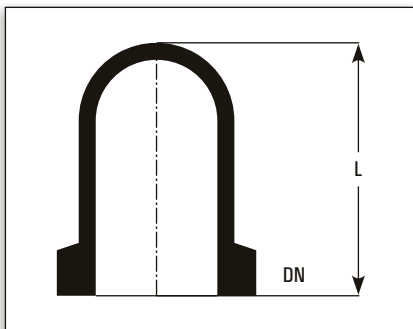
PIPELINE COMPONENTS

CROSSES



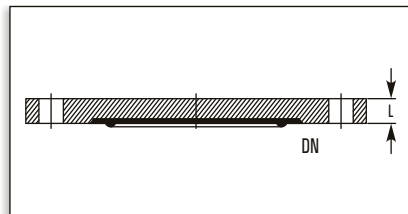
Cat.Ref.	DN	L
PX0.5	12	50
PX0.7	15	50
PX1	25	100
PX1.5	40	150
PX2	50	150
PX3	80	200
PX4	100	250

CLOSURES



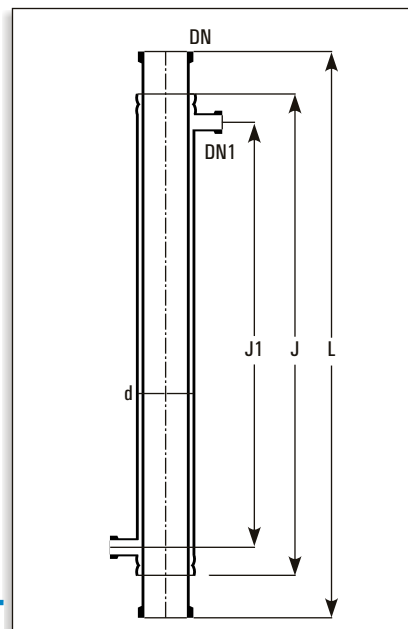
Cat.Ref.	DN	L
PBE0.5	12	40
PBE0.7	15	40
PBE1*	25	50
PBE1.5*	40	75
PBE2*	50	75
PBE3*	80	100
PBE4*	100	125
PBE6*	150	125
PBE9	225	150
PBE12	300	150

BLINDS



Cat.Ref.	DN	L
PBF1	25	8
PBF1.5	40	8
PBF2	50	8
PBF3*	80	8
PBF4*	100	8
PBF6	150	9
PBF9	225	9
PBF12	300	9

JACKETED PIPE SECTIONS



Glass Jackets

For heating of pipe and for controlling the temperature throughout the column, the jacketed pipe sections are provided. Glass jacket is sealed to the pipe section using Viton 'O' ring and other sealing compositions. The seal prevents impermissibly high stresses between two tubes and allows the movement which comes due to thermal expansion. Maximum operating pressure in the jacket :

DN 80 - DN 150 1.0 bar
 DN 225 - DN 300 0.5 bar

Cat.Ref.	DN	L	d	DN1	J	J1
PSD3/1000	80	1000	100	25	850	750
PSD4/1000	100	1000	150	25	850	750
PSD6/1000	150	1000	225	25	850	700
PSD9/1000	225	1000	300	25	850	700
PSD12/1000	300	1000	400	25	850	650

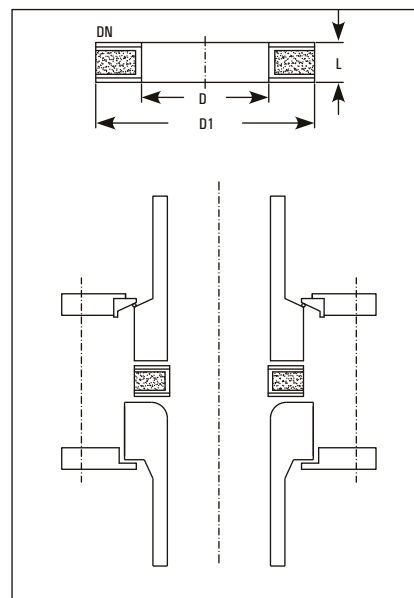
PIPELINE COMPONENTS

ADAPTOR PLATE FOR REACTORS

When reactors have a curved end nozzle, these adaptors are used as interface spacer to connect the glass/bellow with reactor.

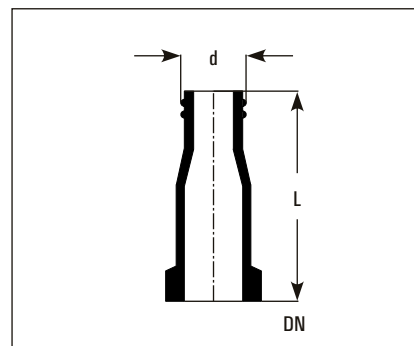
A flat metal ring with rubber cushions is enveloped with PTFE, to provide ideal sealing. Only PTFE comes in the contact of process fluid.

Cat.Ref.	DN	D	D1	L
EMP1	25	25	60	10
EMP1.5	40	37	80	10
EMP2	50	50	100	10
EMP3	80	75	120	12
EMP4*	100	100	155	12
EMP6*	150	150	210	12
EMP9*	225	200	260	15
EMP12*	300	300	360	15



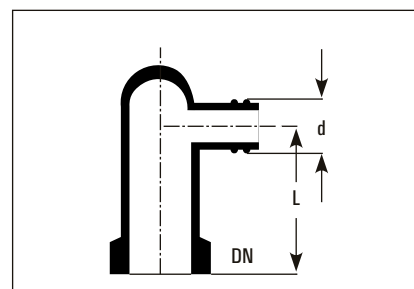
HOSE CONNECTORS

Cat.Ref.	DN	Thread	d	L
PHC0.5/0.25	12	GL14	13.75	70
PHC0.7/0.25	15	GL14	13.75	70
PHC1/1*	25	GL25	24.5	90
PHC1/0.75	25	GL18	17.5	90
PHC1/0.5	25	GL18	17.5	90
PHC1/0.25	25	GL14	13.75	90
PHC1.5/1	40	GL25	24.5	100
PHC1.5/0.75	40	GL18	17.5	100



BEND HOSE CONNECTORS

Cat.Ref.	DN	Thread	d	L
PBHC0.5/0.25	12	GL14	13.75	50
PBHC0.7/0.25	15	GL14	13.75	50
PBHC1/1*	25	GL25	24.5	60
PBHC1/0.75	25	GL18	17.5	60
PBHC1.5/0.75	40	GL18	17.5	75
PBHC2/0.75	50	GL18	17.5	100



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