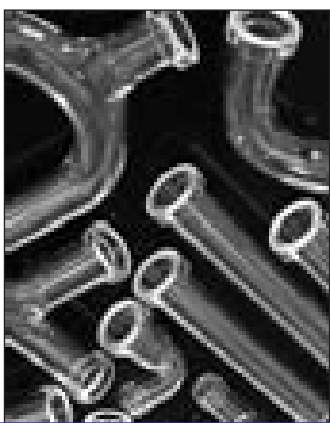




PIPELINE COMPONENTS

1. PIPELINE COMPONENTS



ablaze[®]

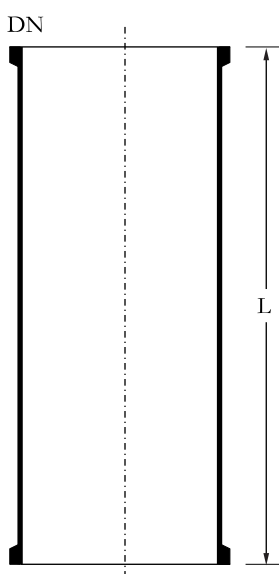
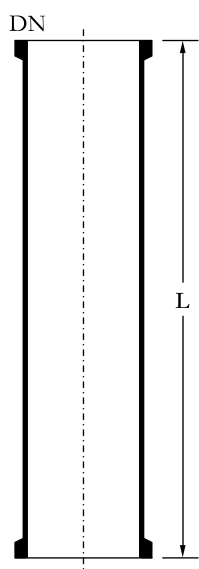
PIPELINE COMPONENTS

INTRODUCTION

Borosilicate glass 3.3 pipeline components are widely used in chemical, pharmaceutical and allied industries together with other applications such as food and drugs, dye production and electroplating industries. This is because of the special properties of borosilicate glass 3.3.

1. Smooth Surfaces allow easy cleaning and sterilization and prevent the build-up of solids on the inner walls.
2. With almost universal resistance to corrosion, a long service life is guaranteed and maintenance is kept to a minimum.
3. Their transparency permits visual monitoring of the process at all times.
4. Being inert, the risk of contamination is negligible.

All the components are suitable for operation under full vacuum conditions. Non-standard size components can also be supplied on special order.



PIPE SECTION

L	CAT. REF. DN 15	CAT. REF. DN 25	CAT. REF. DN 40	CAT. REF. DN 50
75	APS07/75	-	-	-
100	APS07/100	APS1/100	APS1.5/100	APS2/100
150	APS07/150	APS1/150	APS1.5/150	APS2/150
200	APS07/200	APS1/200	APS1.5/200	APS2/200
250	APS07/250	APS1/250	APS1.5/250	APS2/250
300	APS07/300	APS1/300	APS1.5/300	APS2/300
400	APS07/400	APS1/400	APS1.5/400	APS2/400
500	APS07/500	APS1/500	APS1.5/500	APS2/500
600	APS07/600	APS1/600	APS1.5/600	APS2/600
750	APS07/750	APS1/750	APS1.5/750	APS2/750
900	APS07/900	APS1/900	APS1.5/900	APS2/900
1000	APS07/1000	APS1/1000	APS1.5/1000	APS2/1000

L	CAT. REF. DN 80	CAT. REF. DN 100	CAT. REF. DN 150
100	APS3/100	APS4/100	APS6/100
150	APS3/150	APS4/150	APS6/150
200	APS3/200	APS4/200	APS6/200
250	APS3/250	APS4/250	APS6/250
300	APS3/300	APS4/300	APS6/300
400	APS3/400	APS4/400	APS6/400
500	APS3/500	APS4/500	APS6/500
600	APS3/600	APS4/600	APS6/600
750	APS3/750	APS4/750	APS6/750
900	APS3/900	APS4/900	APS6/900
1000	APS3/1000	APS4/1000	APS6/1000

L	CAT. REF. DN 225	CAT. REF. DN 300
300	APS9/300	APS12/300
400	APS9/400	APS12/400
500	APS9/500	APS12/500
600	APS9/600	APS12/600
750	APS9/750	APS12/750
900	APS9/900	APS12/900
1000	APS9/1000	APS12/1000
1200	APS9/1200	APS12/1200
1500	APS9/1500	APS12/1500

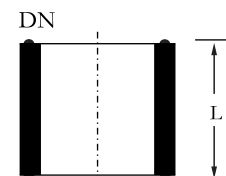
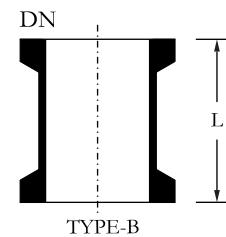
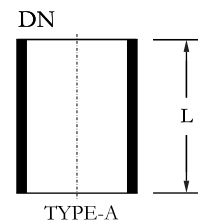
L	CAT. REF. DN 400	CAT. REF. DN 450	CAT. REF. DN 600
300	APS16/300	APS18/300	APS24/300
500	APS16/500	APS18/500	APS24/500
750	APS16/750	APS18/750	APS24/750
1000	APS16/1000	APS18/1000	APS24/1000
1500	APS16/1500	APS18/1500	APS24/1500

SPACER

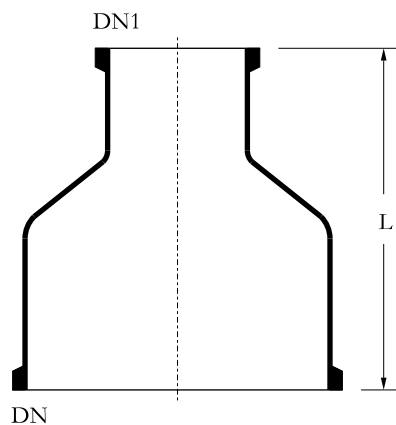
Spacer is used to make small increments in length and is fitted between standard pipe line components . When incorporating the spacer, longer coupling bolts are required with additional gasket.

Spacer are also available in PTFE.

DN	L	TYPE	CAT. REF.
15	5	A	ASS07/5
	15	A	ASS07/15
	20	A	ASS07/20
	25	B	ASS07/25
	50	B	ASS07/50
25	5	A	ASS1/5
	15	A	ASS1/15
	20	A	ASS1/20
	25	B	ASS1/25
	50	B	ASS1/50
40	5	A	ASS1.5/5
	15	A	ASS1.5/15
	20	A	ASS1.5/20
	25	B	ASS1.5/25
	50	B	ASS1.5/50
50	75	B	ASS1.5/75
	5	A	ASS2/5
	15	A	ASS2/15
	20	A	ASS2/20
	25	B	ASS2/25
80	50	B	ASS2/50
	75	B	ASS2/75
	5	A	ASS3/5
	15	A	ASS3/15
	20	A	ASS3/20
25	B	ASS3/25	
50	B	ASS3/50	
75	B	ASS3/75	
100	B	ASS3/100	



PIPELINE COMPONENTS



CONCENTRIC REDUCER

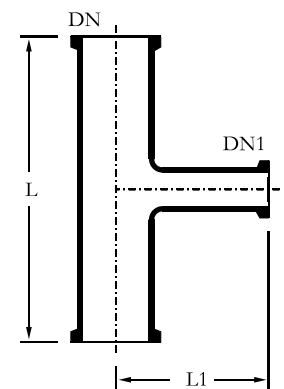
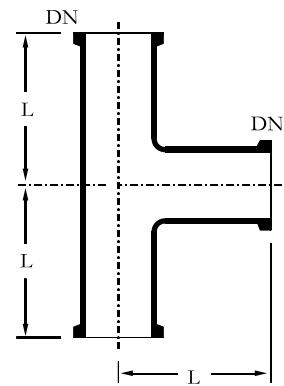
DN	DN1	L	CAT. REF.
25	15	75	APR1/07
40	15	100	APR1.5/07
40	25	100	APR1.5/1
50	15	100	APR2/07
50	25	100	APR2/1
50	40	100	APR2/1.5
80	15	100	APR3/07
80	25	125	APR3/1
80	40	125	APR3/1.5
80	50	125	APR3/2
100	15	125	APR4/07
100	25	150	APR4/1
100	40	150	APR4/1.5
100	50	150	APR4/2
100	80	150	APR4/3
150	25	200	APR6/1
150	40	200	APR6/1.5
150	50	200	APR6/2
150	80	200	APR6/3
150	100	200	APR6/4
225	25	250	APR9/1
225	40	250	APR9/1.5
225	50	250	APR9/2
225	80	250	APR9/3
225	100	250	APR9/4
225	150	250	APR9/6
300	25	300	APR12/1
300	40	300	APR12/1.5
300	50	300	APR12/2
300	80	300	APR12/3
300	100	300	APR12/4
300	150	300	APR12/6
300	225	300	APR12/9
400	25	350	APR16/1
400	40	350	APR16/1.5
400	50	350	APR16/2
400	80	350	APR16/3
400	100	350	APR16/4
400	150	350	APR16/6
400	225	350	APR16/9
400	300	350	APR16/12
450	25	350	APR18/1
450	40	350	APR18/1.5
450	50	375	APR18/2
450	80	375	APR18/3
450	100	375	APR18/4
450	150	375	APR18/6
450	225	375	APR18/9
450	300	375	APR18/12
600	100	400	APR24/4
600	150	400	APR24/6
600	225	425	APR24/9
600	300	425	APR24/12
600	450	475	APR24/18

EQUAL TEE

DN	L	CAT. REF.
15	50	APT07
25	100	APT1
40	150	APT1.5
50	150	APT2
80	200	APT3
100	250	APT4
150	250	APT6
225	375	APT9
300	450	APT12

UNEQUAL TEE

DN	DN1	L	L1	CAT. REF.
25	15	150	75	APTU1/07
40	15	200	75	APTU1.5/07
40	25	200	75	APTU1.5/1
50	15	200	80	APTU2/07
50	25	200	80	APTU2/1
50	40	200	100	APTU2/1.5
80	15	250	100	APTU3/07
80	25	250	100	APTU3/1
80	40	250	100	APTU3/1.5
80	50	250	115	APTU3/2
100	15	250	100	APTU4/07
100	25	250	110	APTU4/1
100	40	250	125	APTU4/1.5
100	50	250	125	APTU4/2
100	80	300	150	APTU4/3
150	25	250	150	APTU6/1
150	40	250	150	APTU6/1.5
150	50	250	150	APTU6/2
150	80	300	200	APTU6/3
150	100	300	200	APTU6/4
225	25	300	185	APTU9/1
225	40	300	185	APTU9/1.5
225	50	300	185	APTU9/2
225	80	300	210	APTU9/3
225	100	450	250	APTU9/4
225	150	450	275	APTU9/6
300	25	400	230	APTU12/1
300	40	400	230	APTU12/1.5
300	50	400	230	APTU12/2
300	80	400	275	APTU12/3
300	100	400	275	APTU12/4
300	150	450	300	APTU12/6
300	225	600	300	APTU12/9
400	40	400	275	APTU16/1.5
400	50	400	275	APTU16/2
400	80	400	300	APTU16/3
400	100	400	300	APTU16/4
400	150	500	350	APTU16/6
400	225	800	450	APTU16/9
400	300	800	450	APTU16/12



PIPELINE COMPONENTS

Unequal Tee (Contd...)

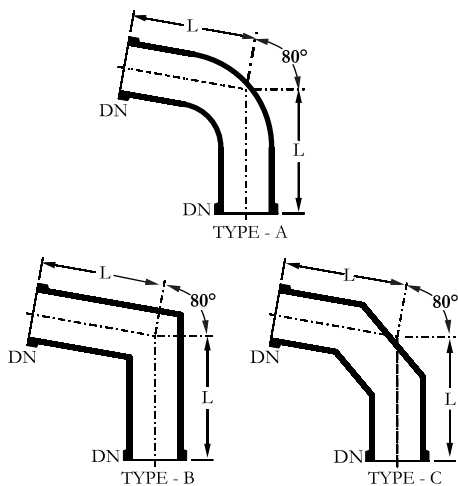
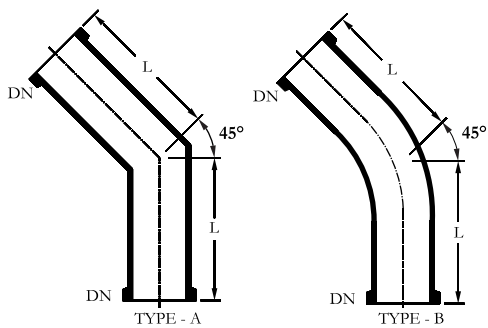
DN	DN1	L	L1	CAT. REF.
450	40	400	300	APTU18/1.5
450	50	400	300	APTU18/2
450	80	400	320	APTU18/3
450	100	400	320	APTU18/4
450	150	600	380	APTU18/6
450	225	800	400	APTU18/9
450	300	800	400	APTU18/12
600	100	600	450	APTU24/4
600	150	600	450	APTU24/6
600	225	800	525	APTU24/9
600	300	800	525	APTU24/12

BEND 45°

DN	L	TYPE	CAT. REF.
15	50	A	APB07/45°
25	75	A	APB1/45°
40	100	A	APB1.5/45°
50	100	A	APB2/45°
80	125	B	APB3/45°
100	175	B	APB4/45°
150	200	B	APB6/45°
225	225	B	APB9/45°
300	275	B	APB12/45°

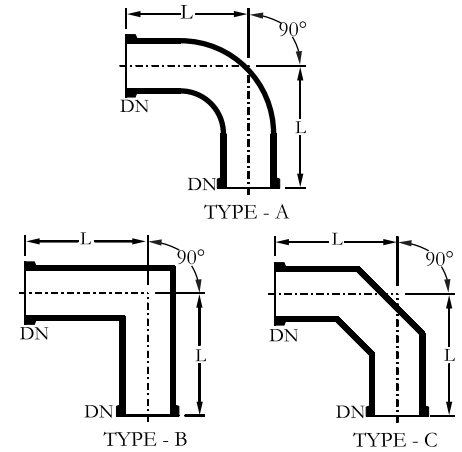
BEND 80°

DN	L	TYPE	CAT. REF.
15	100	A	APB07/80°
25	100	A	APB1/80°
40	150	A	APB1.5/80°
50	150	A	APB2/80°
80	200	B/C	APB3/80°
100	250	B/C	APB4/80°
150	250	B/C	APB6/80°
225	375	B/C	APB9/80°
300	450	B/C	APB12/80°



BEND 90°

DN	L	TYPE	CAT. REF.
15	100	A	APB07/90°
25	100	A	APB1/90°
40	150	A	APB1.5/90°
50	150	A	APB2/90°
80	200	B/C	APB3/90°
100	250	B/C	APB4/90°
150	250	B/C	APB6/90°
225	375	B/C	APB9/90°
300	450	B/C	APB12/90°



BEND REDUCER 90°

DN	DN1	L	L1	CAT. REF.
40	25	150	125	APBR1.5/1
50	25	150	150	APBR2/1
50	40	150	150	APBR2/1.5
80	40	150	150	APBR3/1.5
80	50	150	150	APBR3/2
100	25	200	150	APBR4/1
100	50	200	150	APBR4/2
100	80	200	175	APBR4/3
150	50	200	150	APBR6/2
150	80	250	175	APBR6/3
225	50	250	200	APBR9/2
225	80	250	250	APBR9/3
300	80	300	250	APBR12/3
300	150	350	250	APBR12/6

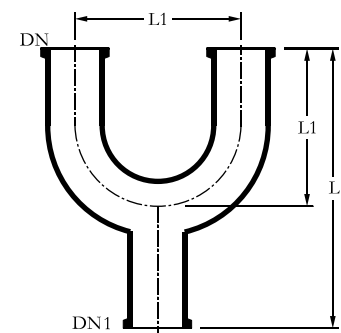
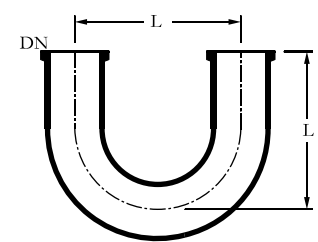
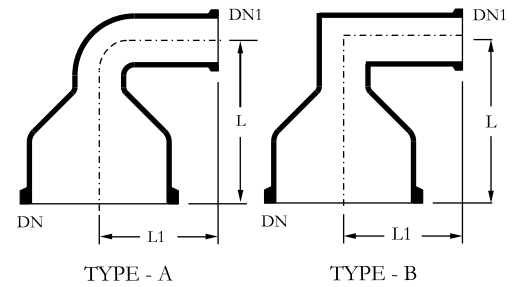
* "APBR" are also available in 45° & 80°

U BEND

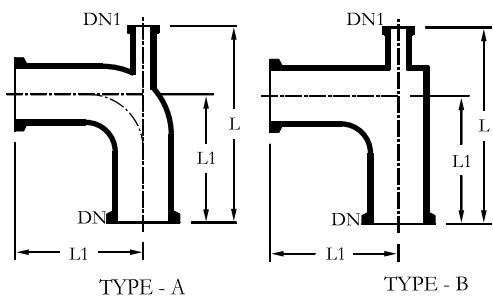
DN	L	CAT. REF.
15	75	APU07
25	150	APU1
40	175	APU1.5
50	175	APU2
80	225	APU3

U BEND WITH BOTTOM OUTLET

DN	DN1	L	L1	CAT. REF.
15	15	125	75	APU007
25	25	250	150	APU01
40	25	275	175	APU01.5/1
40	40	275	175	APU01.5
50	25	275	175	APU02/1
50	50	275	175	APU02
80	25	350	225	APU03/1

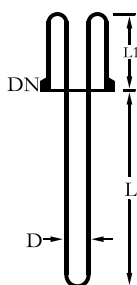


PIPELINE COMPONENTS



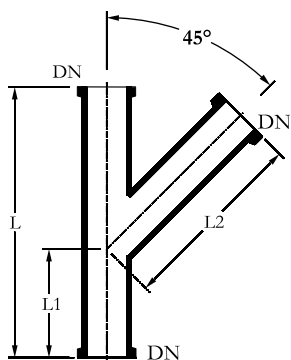
BEND 90° WITH THERMOMETER BRANCH

DN	DN1	L	L1	TYPE	CAT. REF.
40	25	225	150	A	APBT1.5
50	25	225	150	A	APBT2
80	25	275	200	A	APBT3
100	25	350	250	B	APBT4
150	25	350	250	B	APBT6
225	25	475	375	B	APBT9
300	25	550	450	B	APBT12



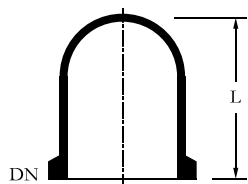
THERMOMETER POCKET FOR 90° BEND

DN	D	L	L1	CAT. REF.
25	12	100	50	ATPBT1
25	12	100	50	ATPBT1.5
25	12	100	50	ATPBT2
25	12	100	50	ATPBT3
25	12	110	50	ATPBT4
25	12	135	50	ATPBT6
25	12	160	50	ATPBT9
25	12	200	50	ATPBT12



Y PIECE

DN	L	L1	L2	CAT. REF.
15	125	50	100	APY07
25	200	75	150	APY1
40	250	100	175	APY1.5
50	300	125	200	APY2
80	350	150	250	APY3
100	450	150	350	APY4



CLOSURE

DN	L	CAT. REF.
15	40	APBE07
25	50	APBE1
40	75	APBE1.5
50	75	APBE2
80	100	APBE3
100	125	APBE4
150	125	APBE6
225	150	APBE9
300	150	APBE12

BLIND

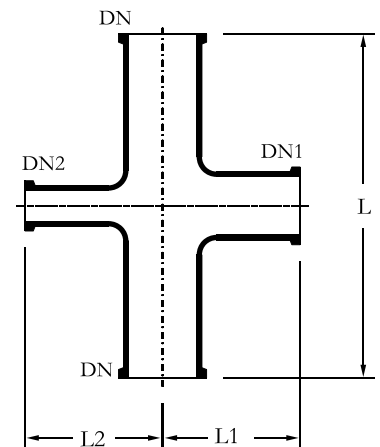
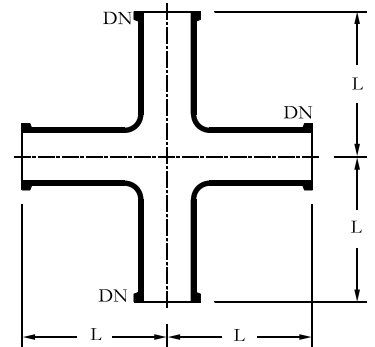
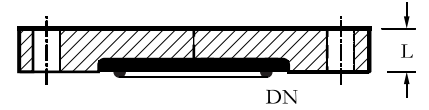
DN	L	CAT. REF.
15	8	APBF07
25	8	APBF1
40	8	APBF1.5
50	8	APBF2
80	8	APBF3
100	8	APBF4
150	9	APBF6
225	9	APBF9
300	9	APBF12

EQUAL CROSS

DN	L	CAT. REF.
15	50	APX07
25	100	APX1
40	150	APX1.5
50	150	APX2
80	200	APX3
100	250	APX4
150	250	APX6

UNEQUAL CROSS

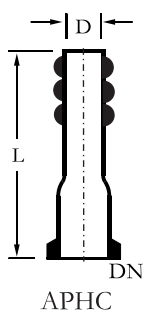
DN	DN1	DN2	L	L1	L2	CAT. REF.
50	25	25	200	80	80	APXU2/1/1
50	40	25	200	100	80	APXU2/1.5/1
80	25	25	250	100	100	APXU3/1/1
80	40	25	250	100	100	APXU3/1.5/1
80	50	25	250	115	100	APXU3/2/1
100	25	25	250	110	110	APXU4/1/1
100	40	25	250	125	110	APXU4/1.5/1
100	50	25	250	125	110	APXU4/2/1
100	80	25	300	150	150	APXU4/3/1
150	40	25	250	150	150	APXU6/1.5/1
150	50	25	250	150	150	APXU6/2/1
150	80	50	300	175	150	APXU6/3/2
150	100	50	300	200	150	APXU6/4/2
225	40	40	300	185	185	APXU9/1.5/1.5
225	50	40	300	185	185	APXU9/2/1.5
225	80	40	300	210	185	APXU9/3/1.5
225	100	50	450	250	185	APXU9/4/2
225	150	80	450	275	210	APXU9/6/3



PIPELINE COMPONENTS

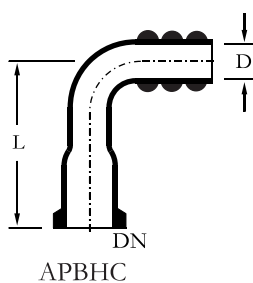
Unequal Cross (Contd...)

DN	DN1	DN2	L	L1	L2	CAT. REF.
300	50	40	400	230	230	APXU12/2/1.5
300	80	40	400	275	230	APXU12/3/1.5
300	100	40	400	275	230	APXU12/4/1.5
300	150	50	450	300	230	APXU12/6/2
300	225	80	600	300	275	APXU12/9/3
400	40	40	400	275	275	APXU16/1.5/1.5
400	80	40	400	300	275	APXU16/3/1.5
400	100	40	400	300	275	APXU16/4/1.5
400	150	80	500	350	300	APXU16/6/3
400	225	100	800	450	300	APXU16/9/4
450	40	40	400	300	300	APXU18/1.5/1.5
450	80	40	400	320	300	APXU18/3/1.5
450	100	40	400	320	300	APXU18/4/1.5
450	150	80	600	380	320	APXU18/6/3
450	225	100	800	400	320	APXU18/9/4



HOSE CONNECTOR

DN	D	L	CAT. REF.
15	19	70	APHC07/.75
25	25	90	APHC1/1
25	19	90	APHC1/.75
25	13	90	APHC1/.5
25	07	90	APHC1/.25
40	25	100	APHC1.5/1
40	19	100	APHC1.5/.75



BEND HOSE CONNECTOR

DN	D	L	CAT. REF.
15	19	40	APBHC7/.75
25	25	60	APBHC1/1
25	19	60	APBHC1/.75
40	19	75	APBHC1.5/.75
50	19	100	APBHC2/.75

*D is the bore of the matching hose.

JACKETED PIPE SECTION

For heating of piping and for controlling the temperature throughout the column, the jacketed pipe section is provided. Glass jacket is sealed to the pipe section using silicon 'O' ring and other sealing compositions.

*Permissible pressure in glass jacket

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

DN	D	DN1	L	L1	L2	CAT. REF.
80	100	25	1000	850	750	APSD3/1000
100	150	25	1000	850	750	APSD4/1000
150	225	25	1000	850	700	APSD6/1000
225	300	25	1000	850	700	APSD9/1000
300	400	25	1000	850	650	APSD12/1000

METAL JACKET

Pipe section can also be provided with metal jacket. In metal jacket, maximum operating pressure permitted is 2.0 bar g in all the sizes. They are used not only to avoid heat loss for the purpose of saving energy but also where product temperature has to be maintained to prevent crystallising or undesirable reactions.

DN	D	DN1	L	L1	L2	CAT. REF.
80	100	25	1000	850	750	APSJ3/1000
100	135	25	1000	850	750	APSJ4/1000
150	188	25	1000	850	700	APSJ6/1000
225	262	25	1000	850	700	APSJ9/1000
300	345	25	1000	850	650	APSJ12/1000

