



## **Column Components**

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C o l u m n C o m p o n e n t s





## 7. COLUMN COMPONENTS

The column components are made of the universal borosilicate glass 3.3, with excellent physical and chemical features.

They are used in:

- Distilling
- Rectifying
- Extraction
- Adsorbing
- Reaction
- Crystallization
- And other processing requirements

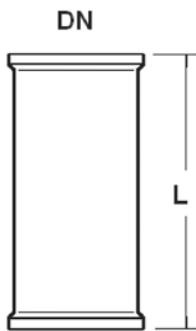
Features:

- BOMEX Column Components and their subordinated parts are made of materials with excellent corrosion-resistant features, and they meet nearly all the requirements of chemical industry. No other material can replace them.
- BOMEX Column Components have excellent standardization, flexibility, and re-assembling feature, making rapid assembling possible to form new systems to meet urgent need in production.
- BOMEX Column Components have the feature of standardized parts, which means flexible combinations of different units, enabling them to offer solutions to various problems in experiment and batch production safely. The column components have wide applications in chemical industry.
- BOMEX Column Components use BJTY borosilicate glass, without any catalyzing effect and, and without infiltration of heavy metals into the processed substance, a guarantee for producing extra-pure products.
- BOMEX Column Components have transparency against which no other material can match, meeting the requirement of photochemical reaction.



## 7.1 Column Sections

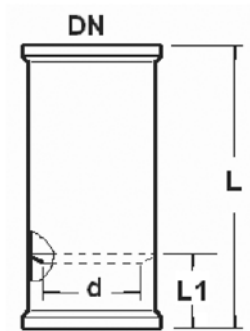
### 7.1.1 Column Sections Type A



DN	L mm	CAT. NO.
80	1000	QTA-TJ-80/1000A
100	1000	QTA-TJ-100/1000A
150	400	QTA-TJ-150/400A
	600	QTA-TJ-150/600A
	1000	QTA-TJ-150/1000A
Φ180	400	QTA-TJ-180/400A
	600	QTA-TJ-180/600A
	1000	QTA-TJ-180/1000A
Φ230	400	QTA-TJ-230/400A
	600	QTA-TJ-230/600A
	1000	QTA-TJ-230/1000A
300	400	QTA-TJ-300/400A
	600	QTA-TJ-300/600A
	1000	QTA-TJ-300/1000A
400	1000	QTA-TJ-400/1000A
	2000	QTA-TJ-400/2000A
600	500	QTA-TJ-600/500A
	1000	QTA-TJ-600/1000A
	1500	QTA-TJ-600/1500A

DN200 column is available according to customer's request.

### 7.1.2 Column Sections Type B



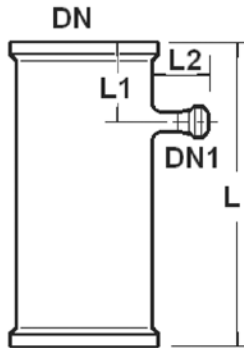
DN mm	L mm	d mm	L1 mm	CAT. NO.
80	1000	45	100	QTA-TJ-80/1000B
100	1000	65	125	QTA-TJ-100/1000B
150	1000	120	150	QTA-TJ-150/1000B
Φ180	1000	135	150	QTA-TJ-180/1000B
Φ230	1000	165	150	QTA-TJ-230/1000B
300	1000	240	175	QTA-TJ-300/1000B
*400	1000	275	175	QTA-TJ-400/1000B
*600	1000	420	175	QTA-TJ-600/1000B

\* DN400/DN600 column are under testing.

DN200 column is available according to customer's request.

# COLUMN COMPONENTS

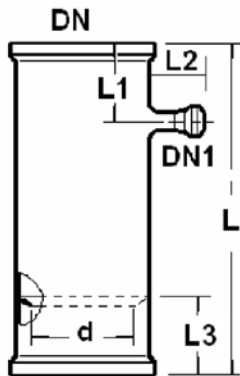
## 7.1.3 Column Sections Type A With Side Neck



DN	DN1	L mm	L2 mm	L1 mm	CAT. NO.
Φ180	25	400	65	100	QTA-TJ-180/400/25
	40	400	80		QTA-TJ-180/400/40
	50	400	85		QTA-TJ-180/400/50
	25	600	65		QTA-TJ-180/600/25
	40	600	80		QTA-TJ-180/600/40
	50	600	85		QTA-TJ-180/600/50
	25	1000	65		QTA-TJ-180/1000/25
	40	1000	80		QTA-TJ-180/1000/40
	50	1000	85		QTA-TJ-180/1000/50
Φ230	25	400	65	125	QTA-TJ-230/400/25
	40	400	80		QTA-TJ-230/400/40
	50	400	85		QTA-TJ-230/400/50
	25	600	65		QTA-TJ-230/600/25
	40	600	80		QTA-TJ-230/600/40
	50	600	85		QTA-TJ-230/600/50
	25	1000	65		QTA-TJ-230/1000/25
	40	1000	80		QTA-TJ-230/1000/40
	50	1000	85		QTA-TJ-230/1000/50
300	25	400	65	125	QTA-TJ-300/400/25
	40	400	80		QTA-TJ-300/400/40
	50	400	85		QTA-TJ-300/400/50
	80	400	100		QTA-TJ-300/400/80
	25	600	65		QTA-TJ-300/600/25
	40	600	80		QTA-TJ-300/600/40
	50	600	85		QTA-TJ-300/600/50
	80	600	100		QTA-TJ-300/600/80
	25	1000	65		QTA-TJ-300/1000/25
	40	1000	80		QTA-TJ-300/1000/40
	50	1000	85		QTA-TJ-300/1000/50
	80	1000	100		QTA-TJ-300/1000/80
400	50	1000	85	175	QTA-TJ-400/1000/50
	50	2000	85		QTA-TJ-400/2000/50
600	50	1000	85	200	QTA-TJ-600/1000/50
	50	1500	85		QTA-TJ-600/1500/50

DN200 column is available according to customer's request.

## 7.1.4 Column Sections Type B With Side Neck



DN	DN1	L mm	d mm	L1 mm	L2 mm	L3 mm	CAT. NO.
100	50	1000	65	75	85	125	QTA-TJ-100/1000B/50
150	50	1000	120	75	85	150	QTA-TJ-150/1000B/50
Φ180	50	1000	135	100	85	150	QTA-TJ-180/1000/B/50
Φ230	50	1000	165	125	85	150	QTA-TJ-230/1000/B/50
300	50	1000	240	125	85	150	QTA-TJ-300/1000/B/50

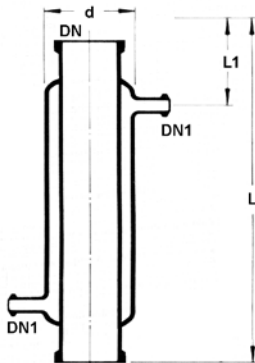
DN200 column is available according to customer's request.

DN400/DN600 column are under testing.

## 7.1.5 Jacketed Tees



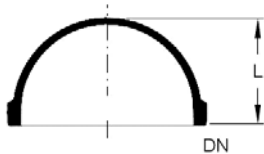
- The operating pressure of the system is  $\leq 0.1$  Mpa.
- The operating pressure in the jacketed tube is  $\leq 0.05$  Mpa
- The operating temperature is  $\leq 150^\circ\text{C}$



DN	d mm	L mm	L1 mm	CAT. NO.
Φ180	Φ230	1000	150	QTA-JTTJ-180/1000
Φ230	Φ270	1000	150	QTA-JTTJ-230/1000
300	Φ368	1000	150	QTA-JTTJ-300/1000
400	Φ468	1000	150	QTA-JTTJ-400/1000

## 7.2 Column Adaptors

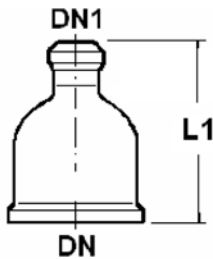
### 7.2.1 Column Adaptors



DN	L	CAT. NO.
150	120	QTA-TM-150
Φ180	120	QTA-TM-180
200	125	QTA-TM-200
Φ230	125	QTA-TM-230
300	175	QTA-TM-300
400	185	QTA-TM-400
600	240	QTA-TM-600

DN400/DN600 column adaptors are available upon request.

### 7.2.2 Column Adaptors Type A



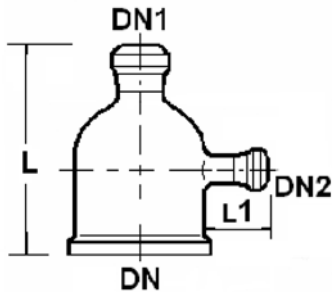
DN	DN1	L mm	CAT. NO.
Φ180	25	255	QTA-TM-180/25/A
	40	260	QTA-TM -180/40/A
	50	275	QTA-TM -180/50/A
	80	290	QTA-TM -180/80/A
	100*	310	QTA-TM -180/100/A
Φ230	25	340	QTA-TM -230/25/A
	40	345	QTA-TM -230/40/A
	50	360	QTA-TM -230/50/A
	80	375	QTA-TM -230/80/A
	100*	390	QTA-TM -230/100/A
300	25	250	QTA-TM -300/25A
	40	250	QTA-TM -300/40/A
	50	250	QTA-TM -300/50/A
	80	260	QTA-TM -300/80/A
	100*	275	QTA-TM -300/100/A

\* DN100 is plane joint.

DN400/DN600 column adaptors are available upon request.



## 7.2.3 Column Adaptors Type B



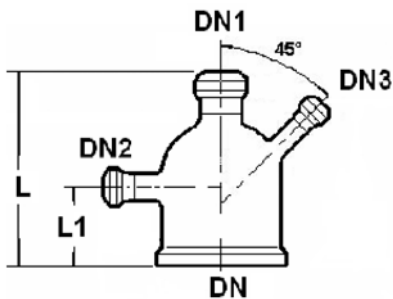
DN	DN1	L mm	L1 mm	CAT. NO.
Φ180	25	255	110	QTA-TM-180/25/DN2/B
	40	260	110	QTA-TM-180/40/DN2/B
	50	270	110	QTA-TM -180/50/DN2/B
	80	290	110	QTA-TM -180/80/DN2/B
	100*	310	110	QTA-TM -180/100/DN2/B
Φ230	25	340	155	QTA-TM -230/25/DN2/B
	40	345	155	QTA-TM -230/40/DN2/B
	50	360	155	QTA-TM -230/50/DN2/B
	80	375	155	QTA-TM -230/80/DN2/B
	100*	390	155	QTA-TM -230/100/DN2/B
300	25	400	175	QTA-TM -300/25/DN2/B
	40	400	175	QTA-TM -300/40/DN2/B
	50	420	175	QTA-TM -300/50/DN2/B
	80	430	175	QTA-TM -300/80/DN2/B
	100*	450	175	QTA-TM -300/100/DN2/B

\* DN100 is plane joint.

Please specify the size of DN2 when ordering.

DN400/DN600 column adaptors are available upon request.

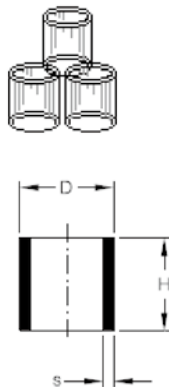
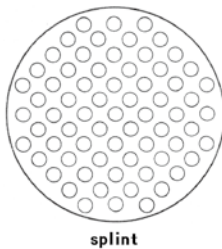
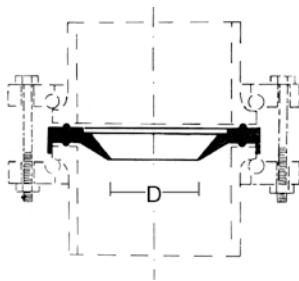
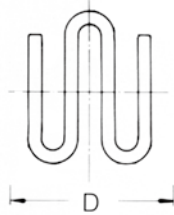
## 7.2.4 Column Adaptors Type C



DN	DN1	L1 mm	L mm	CAT. NO.
Φ180	50	110	275	QTA-TM -180/50/50C
	80	110	290	QTA-TM -180/80/50C
	100*	110	310	QTA-TM -180/100/50C
Φ230	40	155	345	QTA-TM -230/40/40C
	40	155	345	QTA-TM -230/40/50C
	50	155	360	QTA-TM -230/50/25C
	50	155	360	QTA-TM -230/50/50C
	50	155	360	QTA-TM -230/50/80C
	80	155	375	QTA-TM -230/80/50C
	100*	155	390	QTA-TM -230/100/50C
300	50	175	420	QTA-TM -300/50/50C
	50	175	420	QTA-TM -300/50/80C
	50	175	420	QTA-TM -300/50/100C

\* DN100 is plane joint.

DN400/DN600 column adaptors are available upon request.



## 7.3 Column Comments

### 7.3.1 Packing Supports

It is used for packing support.

DN	D mm	CAT.NO.
80	65	QTA-WTP-80
100	90	QTA-WTP-100
150	140	QTA-WTP-150
Φ180	155	QTA-WTP-180
Φ230	190	QTA-WTP-230
300	260	QTA-WTP-300

### 7.3.2 PTFE Redistributors

BOMEX redistributor successfully functions both as a seal and as a redistributor, used in tall columns to remove surface tension of the liquid, reducing flow on the side wall due to column side wall effect to raise efficiency of the column.

BOMEX has designed special plates to be used together with the redistributors to hold various column packings.

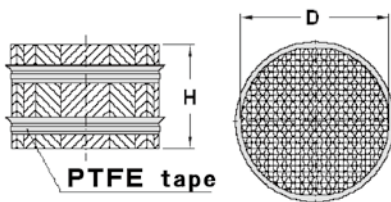
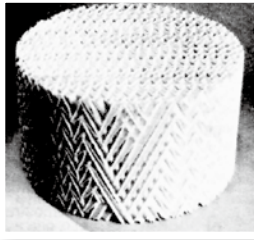
DN	D mm	CAT.NO.
100	90	QTA-DLB-100
150	140	QTA-DLB-150
Φ180	155	QTA-DLB-180
Φ230	200	QTA-DLB-230
300	250	QTA-DLB-300

### 7.3.3 Column Packing

Roaching

SIZE D×H mm	S mm	kg/m <sup>3</sup>	m <sup>2</sup> /dm <sup>3</sup>	CAT. NO.
10*10	1	541	0.58	QTA-TLLX-10
15*15	1.8	521	0.40	QTA-TLLX-15
20*20	1.8	282	0.27	QTA-TLLX-20
25*25	2	279	0.18	QTA-TLLX-25
30*30	2	204	0.14	QTA-TLLX-30
40*40	2.5	164	0.10	QTA-TLLX-40
50*50	2.5	144	0.08	QTA-TLLX-50
60*60	3.2	116	0.06	QTA-TLLX-60



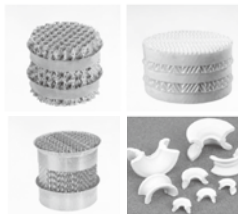


Structured Ceramic Packing + PTFE Unsintering Tape

TYPE	F	NUMBER OF PLATE/M
250Y	≤1.6	3.0
400Y	≤1.2	4.0
450Y	≤0.9	4.5

SUIT FOR COLUMN DN	H mm	D mm	CAT. NO.
100	100	92	QTA-TLGZ-100
150	100	142	QTA-TLGZ-150
Φ180	100	156	QTA-TLGZ-180
Φ230	100	210	QTA-TLGZ-230
300	100	292	QTA-TLGZ-300

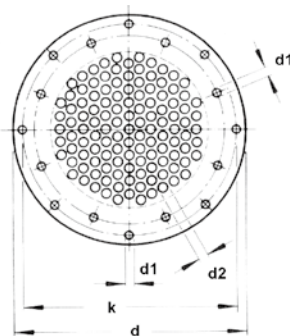
BOMEX can supply the sealing material (PTFE unsintering tape), which can prevent any leakage between the column and packing causing low efficiency.



BOMEX can also supply packings of Titanic, Aluminum, Stainless steel, and PTFE.

### 7.3.4 Perforated Retention Plates

The use of PTFE perforated retention plates can stabilize the packings when the pressure is not stable and prevent collision with the column.



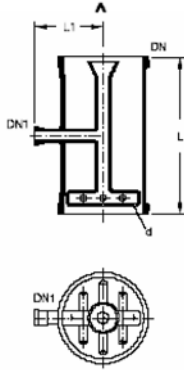
DN	d mm	d2 mm	d1 mm	k mm	CAT. NO.
80	170	6	9.5	150	QTA-BCB-80
100	190	6	9.5	170	QTA-BCB-100
150	245	10	9.5	225	QTA-BCB-150
Φ180	276	15	9.5	256	QTA-BCB-180
Φ230	330	15	9.5	310	QTA-BCB-230
300	415	20	9.5	395	QTA-BCB-300



### Supporting Systems of The Columns

The safe operation of BOMEX Column Components and other equipment totally depend on the correct choice of the supporting systems. BOMEX provides complete standard framework systems including the support of the column, and the over-load warning system. For details, please read Chapter 11 of this manual book.

## 7.4 Liquid Distributors

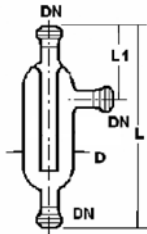


DN	DN1	L mm	L1 mm	N×d	CAT. NO.
150	25	400	140	9×Φ2.5	QTA-FBQ-150/25
Φ180	25	400	155	11×Φ2.5	QTA-FBQ-180/25
Φ230	25	400	180	13×Φ2.5	QTA-FBQ-230/25
300	50	400	260	17×Φ2.5	QTA-FBQ-300/25

Other type of distributors are also available upon request.

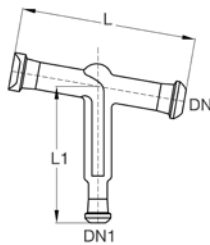
## 7.5 Liquid Seals

It is used for piping system to prevent reflux of atmospheric liquid phase .



Liquid Seals Type A

D mm	DN	L mm	L1 mm	CAT. NO.
85	25	380	230	QTA-YFP-25A



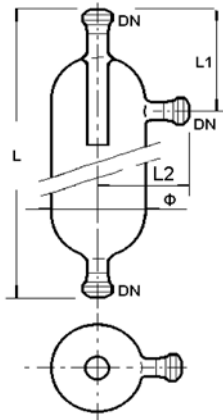
Liquid Seals Type B

DN	DN1	L mm	L1 mm	CAT. NO.
25	15	200	150	QTA-YFP-25B

## 7.6 Cyclones

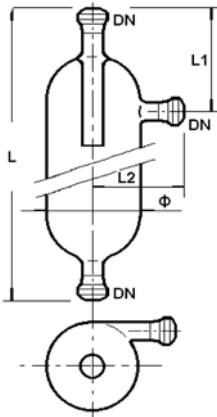
### 7.6.1 Cyclones

#### Cyclones Type A

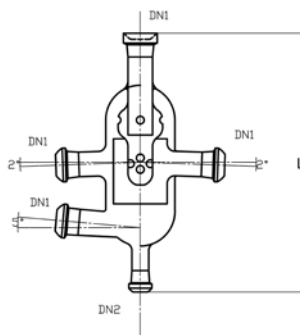


$\phi$ mm	DN	L mm	L1 mm	L2 mm	CAT. NO.
180	50	750	250	210	QTA-FLQ-180/750A
	50	1050	250	210	QTA-FLQ-180/1050A
230	50	1050	300	240	QTA-FLQ-230/1050A
315	80	1050	300	285	QTA-FLQ-300/1050A

#### Cyclones Type B



$\phi$ mm	DN	L mm	L1 mm	L2 mm	CAT. NO.
180	50	750	250	210	QTA-FLQ-180/750B
	50	1050	250	210	QTA-FLQ-180/1050B
230	50	1050	300	240	QTA-FLQ-230/1050B
315	50	1050	300	285	QTA-FLQ-300/1050B

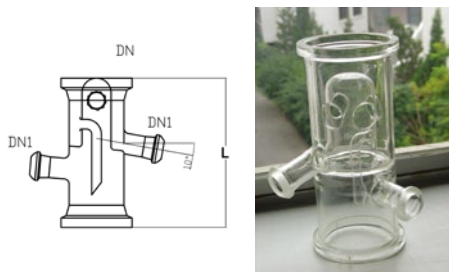


### 7.6.2 Phase Separator

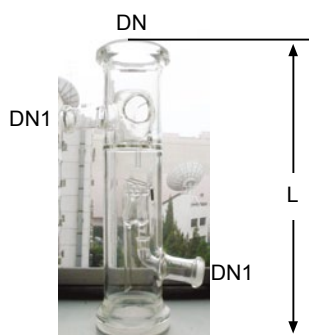
DN1	DN2	L mm	CAT. NO.
25	15	350	QTA-YYFLQ-25

## 7.6.3 Reflux Separators

### Type A Manual Control

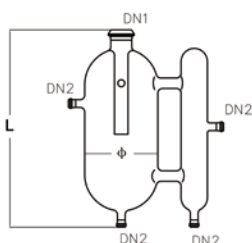


DN	DN1	L mm	CAT. NO.
100	25	275	QTA-HLFL-100/25/25A
150	25	300	QTA-HLFL-150/25/25A
Φ180	25	350	QTA-HLFL-180/25/25A
Φ230	25	400	QTA-HLFL-230/25/25A
300	25	450	QTA-HLFL-300/25/25A



### Type B Magnetic Control

DN	DN1	L mm	CAT. NO.
100	25	400	QTA-HLFL-100/25/25 B

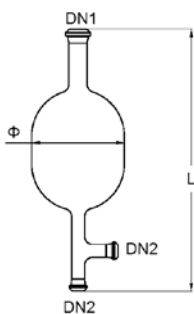


## 7.6.4 Bromine Water Separators

Φ mm	DN1	DN2	L mm	CAT. NO.
230	50	25	710	QTA-BRFL-230
315	80	25	850	QTA-BRFL-300

## 7.6.5 Bromine Measuring Vessel

It is designed to measure the volume through a float. The glass float automatically positions the point with a fully automatic controlled measuring rod, which is very accurate and flexible. A1738

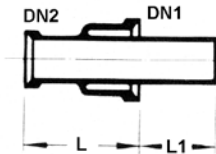


KG	Φ mm	DN1	DN2	L mm	CAT. NO.
30	230	40	25	680	QTA-XJL-30

It is worked together with measuring rod.

## 7.7 Dip Pipes

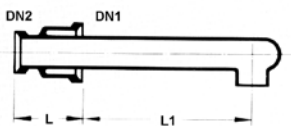
### 7.7.1 Dip Pipes Type A



DN1	DN2	L mm	L1 mm	CAT. NO.
25	15	100	100	QTA-JLG-25/15A
50	25	100	100	QTA-JLG-50/25A
80	50	150	100	QTA-JLG-80/50A
100*	80	150	100	QTA-JLG-100/80A

\* DN100 is plane joint.

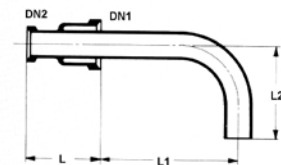
### 7.7.2 Dip Pipes ,Angled Type B



DN1	DN2	L mm	CAT. NO.
25	15	100	QTA-JLG-25/15B/L1
50	25	100	QTA-JLG-50/25B/L1
	40	100	QTA-JLG-50/40B/L1
80	25	150	QTA-JLG-80/25B/L1
	40	150	QTA-JLG-80/40B/L1
	50	150	QTA-JLG-80/50B/L1

Please specify the DN of the column or the length of L1.

### 7.7.3 Dip Pipes Type C

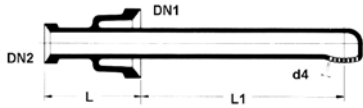


DN1	DN2	L mm	L2 mm	CAT. NO.
50	25	100	200	QTA-JLG-50/25C/L1
80	50	150	200	QTA-JLG-80/50C/L1

Please specify the DN of the column or the length of L1.

# COLUMN COMPONENTS

## 7.7.4 Dip Pipes Type D



DN1	DN2	L mm	d4 mm	CAT. NO.
50	25	100	2	QTA-JLG-50/25D/L1
80	50	150	3.5	QTA-JLG-80/50D/L1

Please specify the DN of the column or the length of L1.



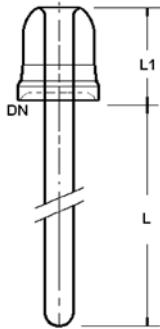
## 7.7.5 Dip Pipes Type E

DN1	DN2	L mm	L1 mm	d4 mm	CAT. NO.
50	25	100	350	2.5	QTA-JLG-50/25E/L1

Please specify the length of L1.

## 7.8 Thermometer Pockets

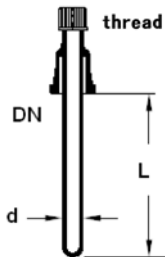
### 7.8.1 Thermometer Pockets Type A



DN	L1 mm	CAT. NO.
25	80	QTA-WTG-25A
40	80	QTA-WTG-40A
50	90	QTA-WTG-50A
80	100	QTA-WTG-80A
100*	125	QTA-WTG-100A

Please specify the length of L1 when ordering. DN100 is plane joint.

### 7.8.2 Thermometer Pockets Type B



DN	GL	d mm	CAT. NO.
25	28	18	QTA-WTG-25B
40			QTA-WTG-40B
50			QTA-WTG-50B
80			QTA-WTG-80B
100*			QTA-WTG-100B

\* DN100 is plane joint.

Please specify the length of L1 when ordering.