



Structures & Supports



S t r u c t u r e s & S u p p o r t s



11. STRUCTURES & SUPPORTS

The operating safety and installation of the glass pipe and apparatus depends on the right choice of the structures and supports and their reasonable positioning and assembling.

The design of BOMEX structures and supports adopts the universal standardized series of couplings and clamps by assembling methods to meet stable supporting requirement without the trouble of field processing and welding. They are easily adaptable to the installation condition with flexibility and efficiency.

BOMEX structures and supports use standard 1" and 1.5" stainless steel framework tubes and necessary couplings to stabilize glass component systems with framework structures. Threaded rods are used for the positioning of the glass components in the pipe structures.

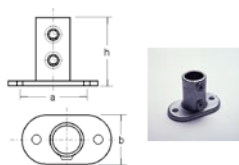
11.1 Structure Couplings and Clamps

11.1.1 Framework Tubes

TUBE SIZE	OD mm	THICKNESS mm	CAT. NO.
1"	33.7	3	BKJ-J000-32
1.5"	48.3	3	BKJ-J000-48

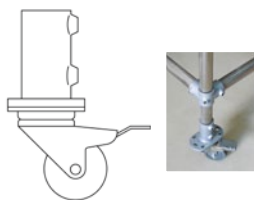
According to customer's request, BOMEX can provide coating to the structure to prevent corrosion.

11.1.2 Tube Bases



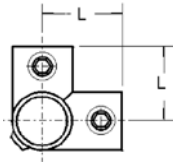
TUBE SIZE	a mm	b mm	h mm	CAT. NO.
1"	127	76	89	BKJ-J001-32A
1.5"	152	89	114	BKJ-J001-48A

11.1.3 Mobile Tube Bases



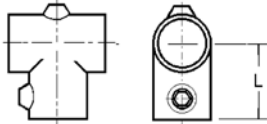
TUBE SIZE	a mm	b mm	CAT. NO.
1"	127	76	BKJ-J001-32B
1.5"	152	89	BKJ-J001-48B

11.1.4 Corner Coupling



TUBE SIZE	L mm	CAT. NO.
1"	46	BKJ-J002-32
1.5"	68	BKJ-J002-48

11.1.5 T Coupling Type 10



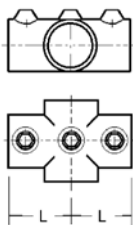
TUBE SIZE	L mm	CAT. NO.
1"	46	BKJ-J003-32
1.5"	68	BKJ-J003-48

11.1.6 Frame Clamp



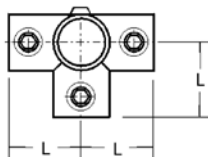
TUBE SIZE	L mm	CAT. NO.
1"	53	BKJ-J004-32
1.5"	76	BKJ-J004-48

11.1.7 Cross Coupling Type 26



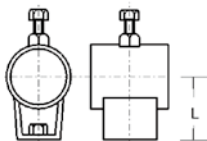
TUBE SIZE	L mm	CAT. NO.
1"	46	BKJ-J005-32
1.5"	68	BKJ-J005-48

11.1.8 T Coupling Type 35



TUBE SIZE	L mm	CAT. NO.
1"	46	BKJ-J006-32
1.5"	68	BKJ-J006-48

11.1.9 Closed Sleeve Type A



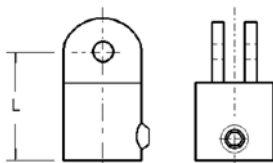
TUBE SIZE	L mm	CAT. NO.
1"	40	BKJ-J007-32A
1.5"	60	BKJ-J007-48A

Closed Sleeve Type B



TUBE SIZE	CAT. NO.
1"	BKJ-J007-32B
1.5"	BKJ-J007-48B

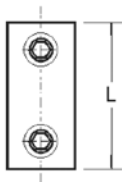
11.1.10 Hinged Connector + Diagonal Clamp



TUBE SIZE	L mm	CAT. NO.
1"	60	BKJ-J008-32
1.5"	60	BKJ-J008-48

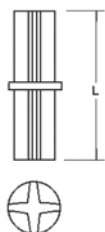
* Diagonal clamps are optional.

11.1.12 Coupling Sleeve



TUBE SIZE	L mm	CAT. NO.
1"	89	BKJ-J009-32
1.5"	102	BKJ-J009-48

Core (used together with coupling sleeve)



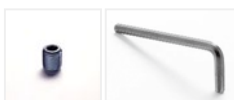
TUBE SIZE	L mm	CAT. NO.
1"	89	BKJ-J009A-32
1.5"	102	BKJ-J009A-48



11.1.13 End Plug

To prevent uncontrollable inside corrosion, plastic end plugs are used in the opening end of the framework.

TUBE SIZE	CAT. NO.
1"	BKJ-J0010-32
1.5"	BKJ-J0010-48



11.1.14 Required Spare Parts and Tools

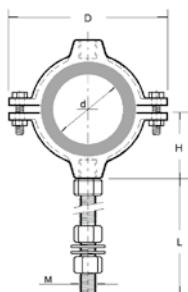


11.1.15 BOMEX Special Sealing Unsintering Tapes

It is used for big diameter of glass joint surface to ensure sealing.

BOMEX can provide plastic coated framework parts upon request.





11.2 Clamps

11.2.1 Pipe Clamps

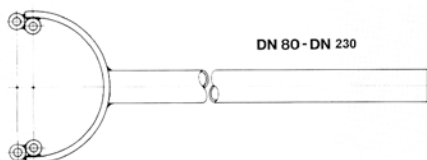
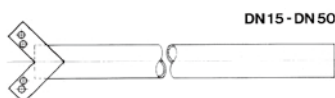
Used for the support of horizontal pipelines, with features of easy installation, maintenance and flexible application.

TUBE SIZE	H	D	d	L	MATERIAL	CAT. NO.
1/2"	34	62	18	135	Aluminum	BKJ-ZC-0.5
3/4"	36	80	25	136		BKJ-ZC-0.75
1"	45	89	32	140		BKJ-ZC-25
1.5"	54	102	44	187		BKJ-ZC-40
2"	57	123	58	195		BKJ-ZC-50
3"	82	165	85	210		BKJ-ZC-80
4"	101	200	113	225		BKJ-ZC-100
Φ120					A3	BKJ-ZC-120

According to customer's request, BOMEX can provide plastic coated pipe clamps.

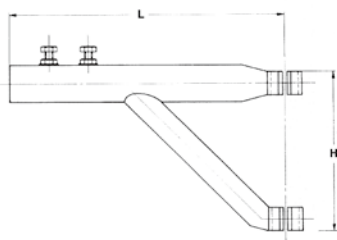
11.2.2 Forked Brackets

Used in combination with cantilever bracket for the support of vertical pipelines.

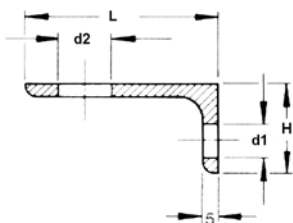


DN	CAT. NO.
15	BKJ-CZZC-15A
25	BKJ-CZZC-25A
40	BKJ-CZZC-40A
50	BKJ-CZZC-50A
80	BKJ-CZZC-80B
100	BKJ-CZZC-100B
150	BKJ-CZZC-150B

11.2.3 Cantilever Bracket



TUBE SIZE	H mm	L mm	CAT. NO.
1"	205	350	BKJ-XZ-32/350
1.5"	205	350	BKJ-XZ-48/350

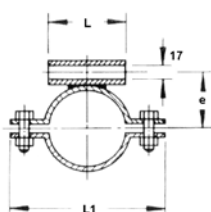


11.2.4 Angle Brackets

L mm	H mm	d1 mm	d2 mm	CAT. NO.
45	30	Φ13	Φ12	BKJ-SJ

11.2.5 Clamping Collars

Used for connection between pipe clams, horizontal support of the column and structure.



TUBE SIZE	e l mm	e mm	L mm	L1 mm	CAT. NO.
1"	Φ13	32	40	94	BKJ-TKZ-1/13
	Φ17				BKJ-TKZ-1/17
1.5"	Φ13	40	40	106	BKJ-TKZ-1.5/13
	Φ17				BKJ-TKZ-1.5/17

11.2.6 Threaded Rod

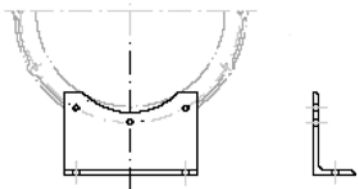
SIZE	L	CAT. NO.
M12	1000	BKJ-LG-M12*1000
M16	1000	BKJ-LG-M16*1000

It can be cut according to real need.

BOMEX can also provide stainless steel threaded rod upon request.

11.2.7 Saddle Support

It is used for the horizontal support for Φ180/Φ230/DN300 column series.



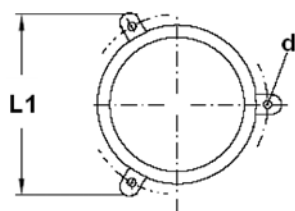
DN	CAT. NO.
Φ180/Φ230	BKJ-WB-1
300	BKJ-WB-2

11.2.8 Lower Supporting Rings

They are used for the vertical support of the column.



DN	b mm	e mm	d1 mm	CAT. NO.
100	214	228	14	BKJ-TTP-100
150	296	312	18	BKJ-TTP-150
180	316	346	18	BKJ-TTP-180
230	380	398	18	BKJ-TTP-230
300	475	493	18	BKJ-TTP-300



11.2.9 Vessel Supports

L 1 mm	d mm	CAT. NO.
~330	Φ14	BKJ-ZWZCQ

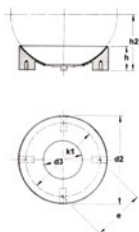
For 10L, 20L and top vessel support, bushings are used.

11.2.10 Vessel Supports

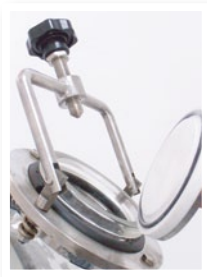


OD	CAT. NO.
300	BKJ-GWTP-300

11.2.11 Vessel Holders



VESSEL	d2 mm	d3 mm	h mm	h2 mm	k1 mm	e mm	CAT. NO.
50L	440	280	126	270	360	255	BKJ-QTP-50
100L	500	340	122	330	422	299	BKJ-QTP-100
200L	620	460	118	360	544	385	BKJ-QTP-200



11.3 Rapid Closures

Rapid closures are special connecting devices, used as a mechanism for rapid opening and closure of the connected glass reactors to replace the old ordinary closures.

They feature:

- rapid and simplified changes of system components
- easy maintenance and repair
- with comfortable handle-turning design
- easy installation and economical use



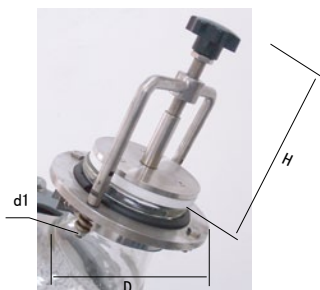
Seals:

Rapid closures use PTFE and PTFE "O" rings, suitable for all kinds of solvents and high temperature environment.



Support:

Rapid Closures Type A use stainless steel support to meet the requirement of GMP workshop.



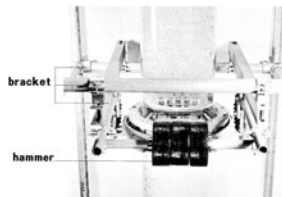
Rapid Closures Type A

DN	D	d1	H	CAT. NO.
50	132	M8	138	QPJ-KKFL-50A
80	155		148	QPJ-KKFL-80A
100	200		178	QPJ-KKFL-100A
150	280		180	QPJ-KKFL-150A

Rapid Closures Type B

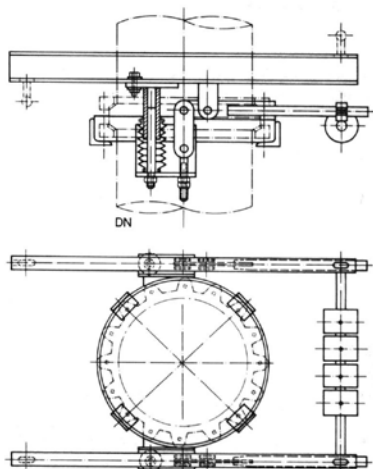
DN	CAT. NO.
50	QPJ-KKFL-50B
80	QPJ-KKFL-80B
100	QPJ-KKFL-100B
150	QPJ-KKFL-150B





11.4 Weight Equalizers

In large glass columns, due to the over-weight of the equipment itself and the material to be processed, safe operation of the apparatus is a crucial problem. BOMEX framework systems are designed with the weight distributed to several supporting points, effectively reducing the load of the glass columns to prevent overload, avoiding possible damage to the glass columns due to uneven weight. This mechanism consists of a supporting frame, directing rods, lifting rods and balancer. It ensures the weight loading status under any circumstance.



The weight equalizers have the following functions in glass column installation:

- the reduction of load on the fixing points of the columns
- the reduction of load on the column components, and even distribution of load on the framework and column axial

