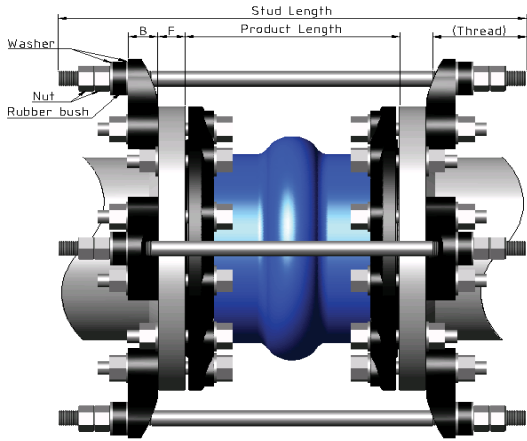
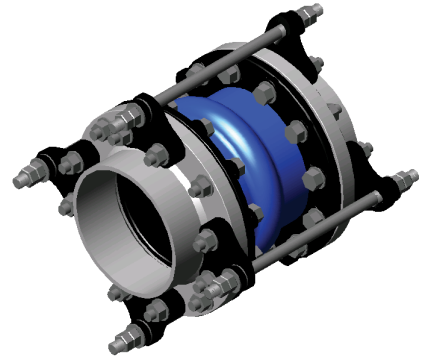


# FCD BACK PLATE TYPE CONTROL UNIT



No.	Parts	Quantities (Pcs /Set)	Material
1	Back Plate	2	FCD
2	Nut and Washer	4	Mild Steel
3	Control rod	1	Mild Steel
4	Rubber Bush	2	Synthetic Rubber

\*Rubber bush is not available for  
 -Product size 350 mm & above  
 -Working pressure more than 10 bars

Control unit is recommended to use for protection of connectors as following conditions;

- In case that it is hard to support reaction force (thrust) by pressure during the test operation or normal operation.
- In case that lateral movement is anticipated more than the designed movement.
- In case that the connectors are anticipated to compressed when installation.

When control units are required to assist with the installation of joint, refer to the below table.

Remark: \*\*\* Control Unit can't control the compression movement.

## Min.Rod & Bolt length Calculation

Min. Rod Length = OAL + 2\*Flange thickness + 2\* Back Plate thickness+ 4\*Nut thickness+ 4\*Washer thickness + 2\*Bush thickness Elongation

Min. Thread Length = Back Plate thickness+ 3\*Nut thickness + 2\*Washer thickness + Bush thickness

Min. Bolt Length = 2\*Flange thickness + Back Plate thickness + Rubber Packing thickness+2\*Nut high+Plain washer thickness + Spring lock washer thickness

## Back Plate Thickness Calculation

TZB	A1	A2	B1	B2	C	D1	D2	E1	E2	F1	F2	G1	G2	H	I	J
Thickness (mm)	77.5	67.5	67.5	56	61.5	51	45.5	47.5	40	32.5	27.5	37.5	30	17	62.5	18.5

## Flanges Standard And FCD Back Plate Type Selection

SIZE	FLANGE STANDARD	ANSI				JIS			PN		
		B16.5		B16.47		10K	16K	20K	10	16	25
		Class 150	Class 300	Class 150	Class 300						
65A	Back Plate	N/A	TZB-J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Q'Ty-Stud Size	N/A	2-M12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
80A	Back Plate	N/A	TZB-J	N/A	N/A	N/A	TZB-J	TZB-J	N/A	N/A	N/A
	Q'Ty-Stud Size	N/A	2-M12	N/A	N/A	N/A	2-M12	2-M12	N/A	N/A	N/A
100A	Back Plate	TZB-H	TZB-G2	N/A	N/A	TZB-H	TZB-G2	TZB-G2	TZB-H	TZB-H	TZB-G2
	Q'Ty-Stud Size	2-M16	2-M16	N/A	N/A	2-M16	2-M16	2-M16	2-M16	2-M16	2-M16
125A	Back Plate	TZB-G2	TZB-G2	N/A	N/A	TZB-G2	TZB-G2	TZB-G2	TZB-H	TZB-H	TZB-G2
	Q'Ty-Stud Size	2-M16	2-M16	N/A	N/A	2-M16	2-M16	2-M16	2-M16	2-M16	2-M16
150A	Back Plate	TZB-F2	TZB-G2	N/A	N/A	TZB-F2	TZB-G2	TZB-G2	TZB-F2	TZB-F2	TZB-F1
	Q'Ty-Stud Size	2-M16	2-M20	N/A	N/A	2-M16	2-M16	2-M20	2-M16	2-M16	2-M20
200A	Back Plate	TZB-F2	TZB-G1	N/A	N/A	TZB-G2	TZB-G2	TZB-G1	TZB-F2	TZB-G2	TZB-G1
	Q'Ty-Stud Size	2-M16	3-M20	N/A	N/A	2-M16	3-M20	3-M20	2-M16	3-M20	4-M20
250A	Back Plate	TZB-F1	TZB-E2	N/A	N/A	TZB-F1	TZB-E2	TZB-E2	TZB-G1	TZB-E2	TZB-E2
	Q'Ty-Stud Size	2-M20	4-M24	N/A	N/A	2-M20	3-M24	3-M24	2-M20	3-M24	4-M24
300A	Back Plate	TZB-F1	TZB-E2	N/A	N/A	TZB-G1	TZB-E2	TZB-E2	TZB-F1	TZB-D2	TZB-E1
	Q'Ty-Stud Size	3-M20	4-M24	N/A	N/A	4-M20	4-M24	4-M24	3-M20	4-M24	4-M27
350A	Back Plate	TZB-D2	TZB-E1	N/A	N/A	TZB-G1	TZB-C1	TZB-C1	TZB-G1	TZB-E2	N/A
	Q'Ty-Stud Size	3-M24	4-M27	N/A	N/A	4-M20	4-M24	4-M27	4-M20	4-M24	N/A
400A	Back Plate	TZB-D2	TZB-C1	N/A	N/A	TZB-E2	TZB-B2	TZB-B2	TZB-E2	TZB-D1	N/A
	Q'Ty-Stud Size	4-M24	5-M30	N/A	N/A	4-M24	4-M30	4-M33	4-M24	4-M30	N/A
450A	Back Plate	TZB-D2	TZB-C1	N/A	N/A	TZB-E1	TZB-C1	TZB-C1	TZB-E1	TZB-E1	N/A
	Q'Ty-Stud Size	4-M27	6-M30	N/A	N/A	4-M27	5-M27	6-M30	4-M27	5-M27	N/A
500A	Back Plate	TZB-E1	TZB-C1	N/A	N/A	TZB-E1	TZB-B2	TZB-B2	TZB-E1	TZB-C1	N/A
	Q'Ty-Stud Size	4-M27	6-M30	N/A	N/A	4-M27	5-M30	6-M33	4-M27	6-M30	N/A
550A	Back Plate	N/A	N/A	N/A	N/A	TZB-B2	TZB-A1	TZB-A2	N/A	N/A	N/A
	Q'Ty-Stud Size	N/A	N/A	N/A	N/A	5-M30	5-M30	6-M30	N/A	N/A	N/A
600A	Back Plate	TZB-B2	TZB-A2	N/A	N/A	TZB-C1	TZB-A1	TZB-A2	TZB-D1	TZB-B2	N/A
	Q'Ty-Stud Size	5-M30	8-M33	N/A	N/A	6-M30	8-M30	-M33	6-M30	8-M30	N/A
650A	Back Plate	N/A	N/A	TZB-B2	TZB-I	TZB-B2	N/A	N/A	N/A	N/A	N/A
	Q'Ty-Stud Size	N/A	N/A	6-M30	6-M30	6-M30	N/A	N/A	N/A	N/A	N/A
700A	Back Plate	N/A	N/A	TZB-C1	TZB-I	TZB-B2	N/A	N/A	TZB-D1	TZB-B2	N/A
	Q'Ty-Stud Size	N/A	N/A	8-M30	8-M30	8-M30	N/A	N/A	8-M30	10-M33	N/A
750A	Back Plate	N/A	N/A	TZB-B2	TZB-I	TZB-B2	N/A	N/A	N/A	N/A	N/A
	Q'Ty-Stud Size	N/A	N/A	8-M30	8-M30	8-M30	N/A	N/A	N/A	N/A	N/A
800A	Back Plate	N/A	N/A	TZB-A1	TZB-I	TZB-B2	N/A	N/A	TZB-B2	TZB-A2	N/A
	Q'Ty-Stud Size	N/A	N/A	8-M33	8-M33	8-M33	N/A	N/A	8-M33	12-M33	N/A
850A	Back Plate	N/A	N/A	TZB-A1	TZB-I	TZB-B1	N/A	N/A	N/A	N/A	N/A
	Q'Ty-Stud Size	N/A	N/A	8-M33	8-M33	8-M33	N/A	N/A	N/A	N/A	N/A
900A	Back Plate	N/A	N/A	TZB-A1	TZB-I	TZB-B1	N/A	N/A	TZB-B1	TZB-A2	N/A
	Q'Ty-Stud Size	N/A	N/A	8-M36	8-M36	8-M36	N/A	N/A	8-M36	12-M36	N/A
1000A	Back Plate	N/A	N/A	TZB-A1	TZB-I	TZB-B1	N/A	N/A	TZB-B1	TZB-A1	N/A
	Q'Ty-Stud Size	N/A	N/A	10-M36	10-M36	10-M36	N/A	N/A	10-M36	14-M36	N/A

\* Rubber bush is not available for size 350 mm & above application