

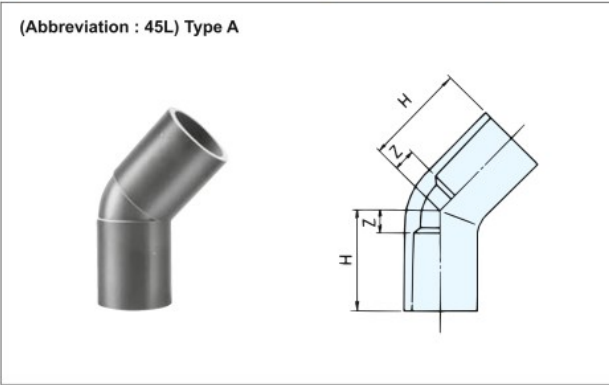
**HI-TS 45° Elbows**

Code No. 6012

**TS 45° Elbows**

Code No. 5012

Unit : mm



Nominal Dia.	Z	H	Standards
13	7	33	JIS K 6743
16	8	38	JIS K 6743
20	9	44	
25	11	51	
30	12	56	
40	14	69	
50	17	80	JIS K 6743
Ⓢ 75*	33	97	
Ⓢ 100	38	122	

Notes 1. The HI-VP products with nominal diameter of 75 mm are now under planning.  
2. The Ⓢ mark indicates that the product is manufactured by Maezawa Kasei Industries Co., Ltd.

For Water Supply and Pressure Pipeline

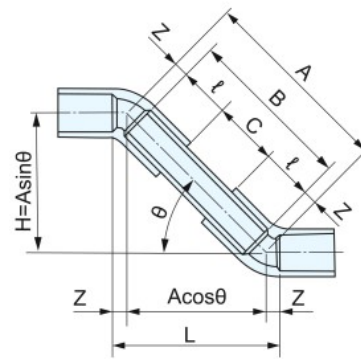
**<Reference> Guideline dimensions for S Bends formed with TS 45° Elbows**

Calculation of guideline dimensions of S Bends formed with TS 45° Elbows

Item	Formula
Length of Diagonal Section	$A=2Z+B$
Cut Pipe Length	$B=2l+C$
Distance between Fittings	$C=B-2l$
Distance between Staggered Pipes	$H=Asin\theta$
Effective Length of S-shape Section	$L=2Z+Acos\theta$

Trigonometric Function	
sin45°	0.707
cos45°	0.707



**Results of calculations of guideline dimensions for S Bends formed with TS 45° Elbows**

Unit : mm

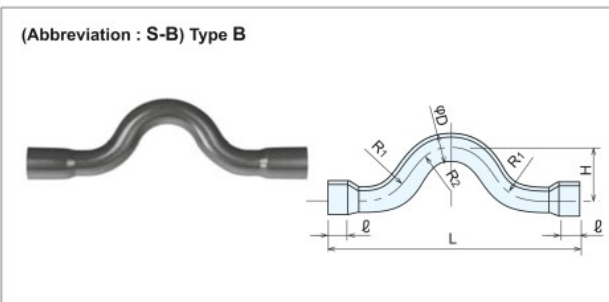
Nominal Dia.	Item	TS 45° Elbow Dimension		Calculation Results by Joint Type									
		Effective Length	Length of Socket	When C = 0					When H = 200 mm				
				Z	ℓ	A	B	C	L	H	A	B	C
13		7	26	66	52	0	61	47	283	269	217	214	200
16		8	30	76	60	0	70	54	283	267	207	216	200
20		9	35	88	70	0	80	62	283	265	195	218	200
25		11	40	102	80	0	94	72	283	261	181	222	200
30		12	44	112	88	0	103	79	283	259	171	224	200
40		14	55	138	110	0	126	98	283	255	145	228	200
50		17	63	160	126	0	147	113	283	249	123	234	200
75		33	64	194	128	0	203	137	283	217	89	266	200
100		38	84	244	168	0	249	173	283	207	39	276	200

Note The above table shows the results of calculations when Z+ℓ is equal to the tolerance center dimension. However, Z+ℓ does not always equal to the tolerance center dimension in actual products. It is sometimes not possible to insert the pipe all the way to the stopper in the socket of the TS joint. Consequently, the dimension of S Bends formed with a combination of pipes and fittings may differ from the dimension in the above table. Therefore, consider the above dimensions as guideline figures.

**HI-TS (Crossover) 180° Bends**

Code No. 9662

Unit : mm



Nominal Dia.	H	L	D	∅	R <sub>1</sub>	R <sub>2</sub>	Standards
★ 13	50	250	18	26	40	40	JIS K 6743
20	50	270	26	35	60	43	

Note The "★" mark indicates a made-to-order product.