

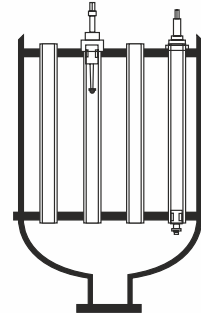
## Tube Expander 'TCSB' Series

TCSB Series Tube Expanders are used to expand tube at bottom plate of sugar evaporator. They are supplied with adjustable reach of 300mm from minimum to maximum of tube given below:



'TCSB' Tube Expander

Reach	Min (mm)	Max (mm)
Std Reach	700	1000
A	1000	1500
B	1500	2000
C	2000	2500
D	2500	3000



TUBE SIZE		Min I.D. Tool Enters		Max Expansion of Tool		TUBE EXPANDER MODEL			Spare Roller Model	Spare Mandrel Model
						Plate Thickness mm (inch)				
O.D inch	THK bwg	mm	inch	mm	inch	31.75 (1.25)	38.1 (1.5)	50.8 (2.0)	Model	Model
		Tube Sheet Thickness Codes>				A	B	C		
2.1/2	14 - 16	57.1	2.248	65.6	2.582	TSB-14A	TSB-14B	TSB-14C	TSBR-11A, 11B, 11C	TSBM-7
2.3/4	10 - 14	60.3	2.374	68.8	2.708	TSB-15A	TSB-15B	TSB-15C	TSBR-12A, 12B, 12C	
3	7 - 9	63.5	2.500	72.0	2.835	TSB-16A	TSB-16B	TSB-16C	TSBR-13A, 13B, 13C	TSBM-7
	10 - 14	66.5	2.618	75.0	2.953	TSB-17A	TSB-17B	TSB-17C	TSBR-14A, 14B, 14C	
3.1/4	7 - 8	69.8	2.748	78.5	3.090	TSB-18A	TSB-18B	TSB-18C	TSBR-14A, 14B, 14C	TSBM-8
3.1/2	4 - 5	73.0	2.874	81.7	3.216	TSB-19A	TSB-19B	TSB-19C	TSBR-15A, 15B, 15C	
	6 - 8	76.1	2.996	85.8	3.378	TSB-20A	TSB-20B	TSB-20C	TSBR-16A, 16B, 16C	TSBM-9
3.3/4	4 - 5	79.3	3.122	89.0	3.504	TSB-21A	TSB-21B	TSB-21C	TSBR-17A, 17B, 17C	
	6 - 8	82.5	3.248	92.2	3.629	TSB-22A	TSB-22B	TSB-22C	TSBR-18A, 18B, 18C	
4	3 - 4	85.7	3.374	96.2	3.787	TSB-23A	TSB-23B	TSB-23C	TSBR-18A, 18B, 18C	TSBM-10
	10 - 16	90.3	3.555	100.8	3.968	TSB-24A	TSB-24B	TSB-24C	TSBR-19A, 19B, 19C	
4.1/4	6 - 8	94.6	3.736	105.2	4.141	TSB-25A	TSB-25B	TSB-25C	TSBR-20A, 20B, 20C	TSBM-11
4.1/2	4 - 7	89.7	3.531	110.9	4.366	TSB-26A	TSB-26B	TSB-26C	TSBR-21A, 21B, 21C	
	8 - 10	104.3	4.106	113.1	4.452	TSB-27A	TSB-27B	TSB-27C	TSBR-21A, 21B, 21C	TSBM-12