



**FOR BOILERS, ECONOMISERS, SUPERHEATER, AIRHEATERS,  
JUICE HEATERS, PAN & EVAPORATORS**

# 400 SERIES TUBE EXPANDERS

SELF FEEDING PARALLEL ROLLING TUBE EXPANDER WITH FIXED ROLLER LENGTH

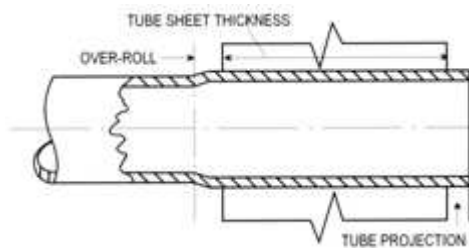
## PARALLEL TYPE EXPANDER



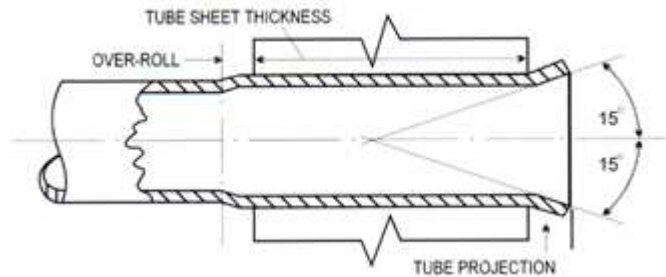
## BELLMOUTH TYPE EXPANDER



### USING PARALLEL TYPE EXPANDER



### USING FLARE (BELLMOUTH TYPE EXPANDER)

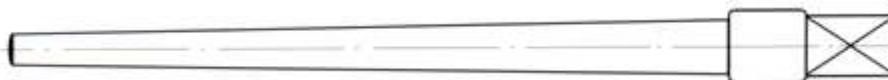


- ✓ Expanders also supplied with header, drum & short series mandrel.

### HEADER MANDREL



### DRUM MANDREL



### SHORT SERIES MANDREL



- ✓ Mandrel supplied with square drive for the ratchet/machine operation.
- ✓ Expanders available with four roller & five roller parallel & bellmouth
- ✓ Tube expanders available for the following standard drum thickness / tube plate thickness  
13.0 mm - (A) 19.0 mm - (B) 26.0 mm - (C) 32.0 mm - (D) 38.0 mm (E) 45.0 mm - (F) 50.0 mm - (G)  
57.0 mm - (H) 64.0 mm - (I) 70.0 mm - (J) 75.0 mm - (K) 83.0 mm - (L) 95.0 mm - (M)

Last alphabet indicates the tube plate thickness for expander at 428-c suitable for 2" OD x 9G and plate thickness 26.00 mm.

- ✓ 400 SERIES EXPANDER For parallel expansion fitted with 3 parallel rollers
- ✓ F-400 SERIES EXPANDER For bell-mouth expansion with 2 parallel + short plain + flare

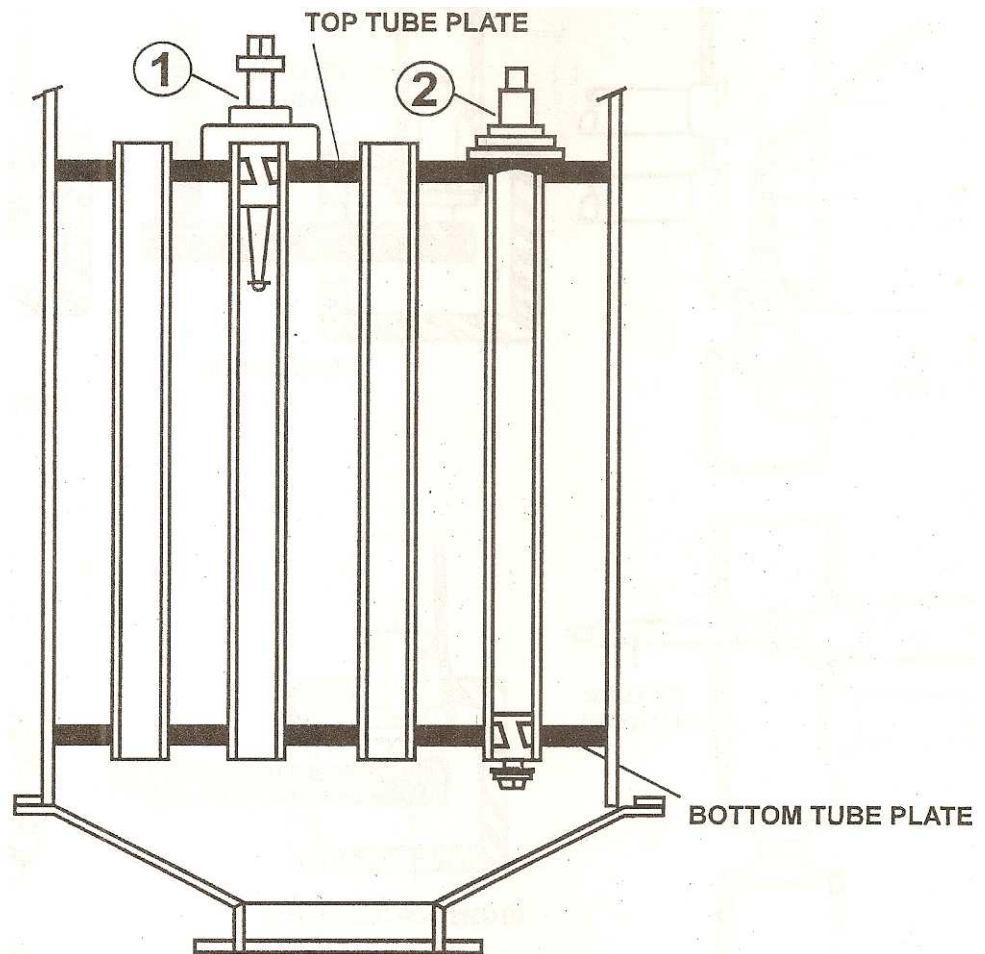
TUBE OD.	SWG.	TUBE OD.	SWG	MINIMUM DIA.	MAXIMUM EXPN.	EXPANDER NO.	DRUM MANDREL NO.	ROLLER NO.	MANDREL SQUARE	RATCHET HANDLE NO.
1"	12	--	--	19.4	21.6	400	M - 81	R - 31	3/8"	RH - 95
1"	13	--	--	20.1	22.4	401	M - 81	R - 32	3/8"	RH - 95
1"	14	1.1/8"	9	20.6	23.1	402	M - 82	R - 32	3/8"	RH - 95
1"	15-16	1.1/8"	10	21.3	23.8	403	M - 82	R - 33	3/8"	RH - 95
1"	17-18	1.1/8"	11	22.0	24.5	404	M - 82	R - 34	3/8"	RH - 95
1"	19-20	1.1/8"	12	22.4	25.0	405	M - 83	R - 34	3/8"	RH - 95
1.1/4"	8	1.1/8"	13	23.3	25.9	406	M - 83	R - 35	3/8"	RH - 95
1.1/4"	9	1.1/8"	14	23.8	26.5	407	M - 84	R - 36	1/2"	RH - 127
1.1/4"	10	1.1/8"	15-16	24.4	27.2	408	M - 84	R - 37	1/2"	RH - 127
1.1/4"	11	--	--	25.2	28.0	409	M - 85	R - 38	1/2"	RH - 127
1.1/4"	12	--	--	25.8	28.5	410	M - 85	R - 40	1/2"	RH - 127
1.1/4"	13	1.3/8"	8	26.1	28.8	411	M - 85	R - 41	1/2"	RH - 127
1.1/4"	14	--	-	26.4	29.2	412	M - 86	R - 41	1/2"	RH - 127
1.1/4"	15	1.3/8"	9	26.9	29.7	413	M - 86	R - 42	1/2"	RH - 127
1.1/4"	16	1.3/8"	10	27.6	30.4	414	M - 86	R - 43	1/2"	RH - 127
1.1/2"	7	1.3/8"	11	28.3	31.2	415	M - 87	R - 43	1/2"	RH - 127
1.1/2"	8	1.3/8"	12	28.8	31.7	416	M - 87	R - 44	1/2"	RH - 127
1.1/2"	9	1.3/8"	13-14	29.5	33.4	417	M - 88	R - 41	1/2"	RH - 127
1.1/2"	10	1.3/8"	15-16	30.0	34.1	418	M - 88	R - 42	1/2"	RH - 127
1.1/2"	11-12	--		30.6	34.8	419	M - 88	R - 43	1/2"	RH - 127
1.1/2"	13	1.3/4"	5	31.4	35.6	420	M - 88	R - 45	1/2"	RH - 127
1.1/2"	14-15	1.3/4"	6	32.6	36.8	421	M - 89	R - 44	1/2"	RH - 127
		1.3/4"	7	33.4	38.1	422	M - 89	R - 46	1/2"	RH - 127
		1.3/4"	8	34.2	38.7	423	M - 89	R - 47	1/2"	RH - 127
2"	3	1.3/4"	9-10	35.0	40.6	424	M - 90	R - 45	3/4"	RH - 190
2"	4	1.3/4"	11-12	36.6	42.2	425	M - 90	R - 47	3/4"	RH - 190
2"	5-6	1.3/4"	13-14	38.2	43.8	426	M - 90	R - 48	3/4"	RH - 190
2"	7-8	1.3/4"	15-16	39.8	45.4	427	M - 90	R - 49	3/4"	RH - 190
2"	9-10	2.1/4"	3	41.4	47.0	428	M - 90	R - 50	3/4"	RH - 190
2"	11-13	2.1/4"	4-5	42.9	49.5	429	M - 91	R - 50	3/4"	RH - 190
2"	14-15	2.1/4"	6-7	44.5	51.1	430	M - 91	R - 51	3/4"	RH - 190
2"	16-18	2.1/4"	8-9	46.1	52.7	431	M - 91	R - 52	3/4"	RH - 190
2.1/2"	3	2.1/4"	10-11	47.7	54.3	432	M - 91	R - 53	3/4"	RH - 190
2.1/2"	4-5	2.1/4"	12-13	49.3	55.9	433	M - 91	R - 54	3/4"	RH - 190
2.1/2"	6-7	2.1/4"	14-16	50.8	57.8	434	M - 92	R - 53	3/4"	RH - 190
2.1/2"	8-9	2.3/4"	3	52.4	59.4	435	M - 92	R - 54	3/4"	RH - 190
2.1/2"	10-11	2.3/4"	4	54.0	61.0	436	M - 92	R - 55	3/4"	RH - 190
2.1/2"	12-14	2.3/4"	5-6	55.6	64.0	437	M - 92	R - 57	3/4"	RH - 190
2.1/2"	15-16	2.3/4"	7-8	57.2	65.6	438	M - 93	R - 56	1"	RH - 254
3"	3	2.3/4"	9-10	58.6	67.0	439	M - 93	R - 57	1"	RH - 254
3"	4	2.3/4"	11-13	60.4	68.8	440	M - 93	R - 58	1"	RH - 254
3"	5-6	2.3/4"	14-16	62.2	70.4	441	M - 93	R - 59	1"	RH - 254
3"	7-8	2.3/4"	17-18	63.6	72.0	442	M - 93	R - 60	1"	RH - 254
3"	9-10	3.1/4"	3	65.0	73.4	443	M - 93	R - 61	1"	RH - 254
3"	11-13	3.1/4"	4	66.6	75.0	444	M - 93	R - 62	1"	RH - 254
3"	14-16	3.1/4"	5-6	68.3	76.9	445	M - 94	R - 61	1"	RH - 254
3.1/2"	2	3.1/4"	7-8	69.9	78.5	446	M - 94	R - 62	1"	RH - 254
3.1/2"	3	3.1/4"	9-10	71.5	80.1	447	M - 94	R - 63	1"	RH - 254

TUBE OD.	SWG.	TUBE OD.	SWG	MINIMUM DIA.	MAXIMUM EXPN.	EXPANDER NO.	DRUM MANDREL NO.	ROLLER NO.	MANDREL SQUARE	RATCHET HANDLE NO.
3.1/2"	4	3.1/4"	11-13	73.1	81.7	448	M - 94	R - 64	1"	RH - 254
3.1/2"	5-6	3.1/4"	14-16	74.6	84.2	449	M - 95	R - 64	1"	RH - 254
3.1/2"	7-8	3.3/4"	2	76.2	85.5	450	M - 95	R - 65	1"	RH - 254
3.1/2"	9-11	3.3/4"	3	77.8	87.4	451	M - 95	R - 66	1"	RH - 254
3.1/2"	12-16	3.3/4"	4	79.4	89.0	452	M - 95	R - 67	1"	RH - 254
	-	3.3/4"	5-6	81.0	90.6	453	M - 95	R - 68	1"	RH - 254
4"	2	3.3/4"	7-8	82.6	92.2	454	M - 95	R - 69	1"	RH - 254
4"	3	3.3/4"	9-10	84.2	93.8	455	M - 95	R - 70	1"	RH - 254
4"	4	3.3/4"	11-13	85.8	96.2	456	M - 96	R - 69	1"	RH - 254
4"	5-6	3.3/4"	14-16	87.4	97.8	457	M - 96	R - 70	1"	RH - 254
4"	7-8	4.1/4"	2	89.0	99.4	458	M - 96	R - 71	1"	RH - 254
4"	9-11	4.1/4"	3	90.4	100.8	459	M - 96	R - 72	1"	RH - 254
4"	12-16	4.1/4"	4	92.0	102.4	460	M - 96	R - 73	1"	RH - 254

For ordering expanders not listed above charts specify tube size, expansion length and type of mandrel.

## 500 & 1000 SERIES TUBE EXPANDERS

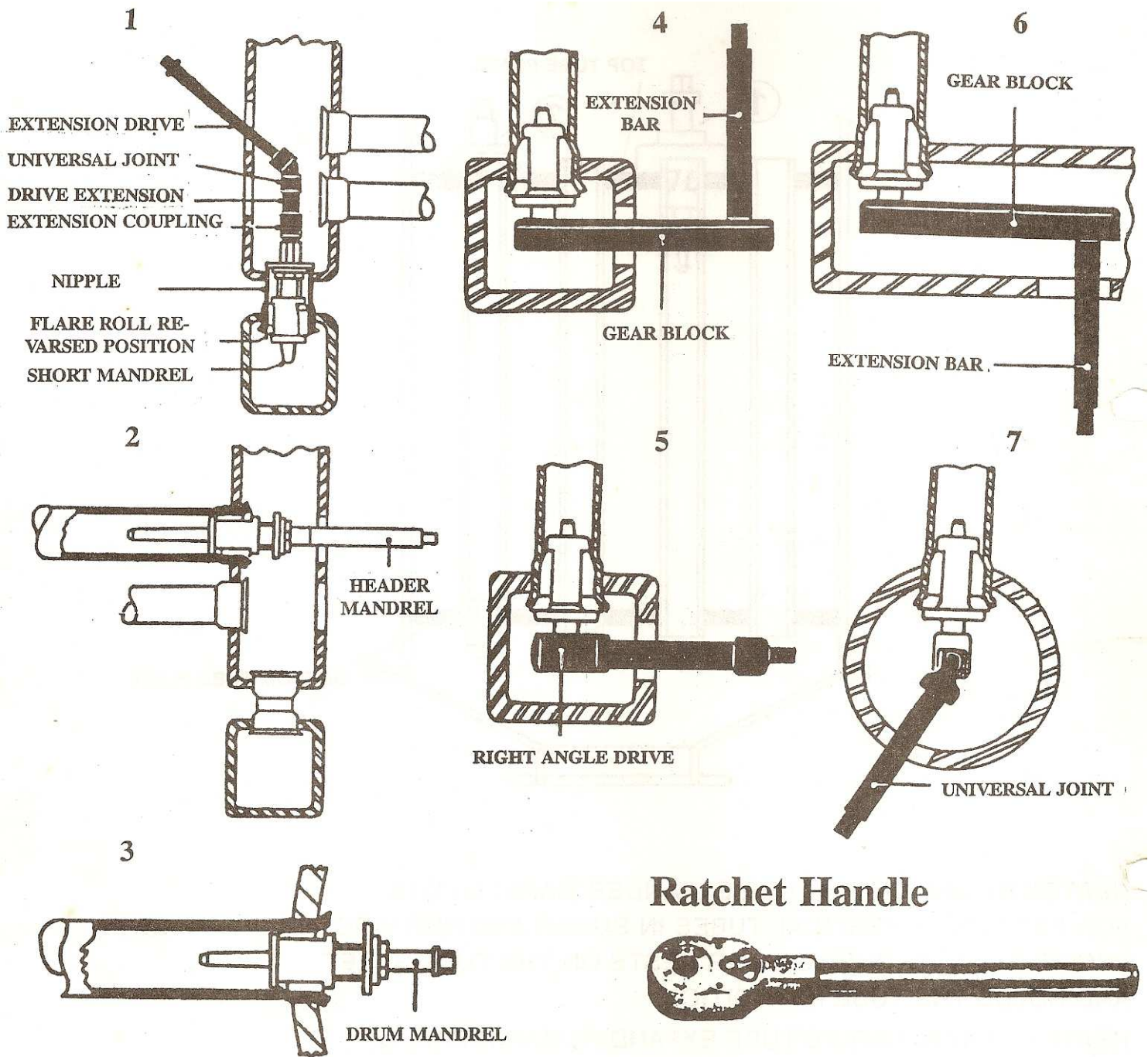
FOR JUICE HEATERS, EVAPORATORS, VACUUM PANS IN SUGAR FACTORIES  
RANGE 1.1/4" TO 4.1/2" OD Tubes



- ✓ Dynaflex 500 series tube expander marked (1) is for expanding vertical tubes in sugar and refining vessels. The thrust collar rests on the tube sheet and holds the tube in position.
- ✓ Dynaflex 1000 series tube expander marked (2) is for expanding lower ends of vertical tubes in sugar and refining vessels. The expander operation is from the upper tube sheet

# TUBE EXPANDERS AND ACCESSORIES

FOR EXPANDING CIRCULATING TUBES AND NIPPLES OF SECTIONAL HEADER TYPE BOILERS



1. Tube Expander Collar & Rolls positioned for reverse expansion bellmouthing of Nipples in lower Header.
2. Expander Positioned for forward expansion and bellmouthing using Header Mandrel.
3. Expander Positioned for forward expansion and bellmouthing using drum mandrel in Steam drum.
4. 5, 6 & 7 close header applications where Short Mandrels are used.

Gear Trains, Right Angle Drives, or Universal Joints and Ratchet handles are also used.

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corporation

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