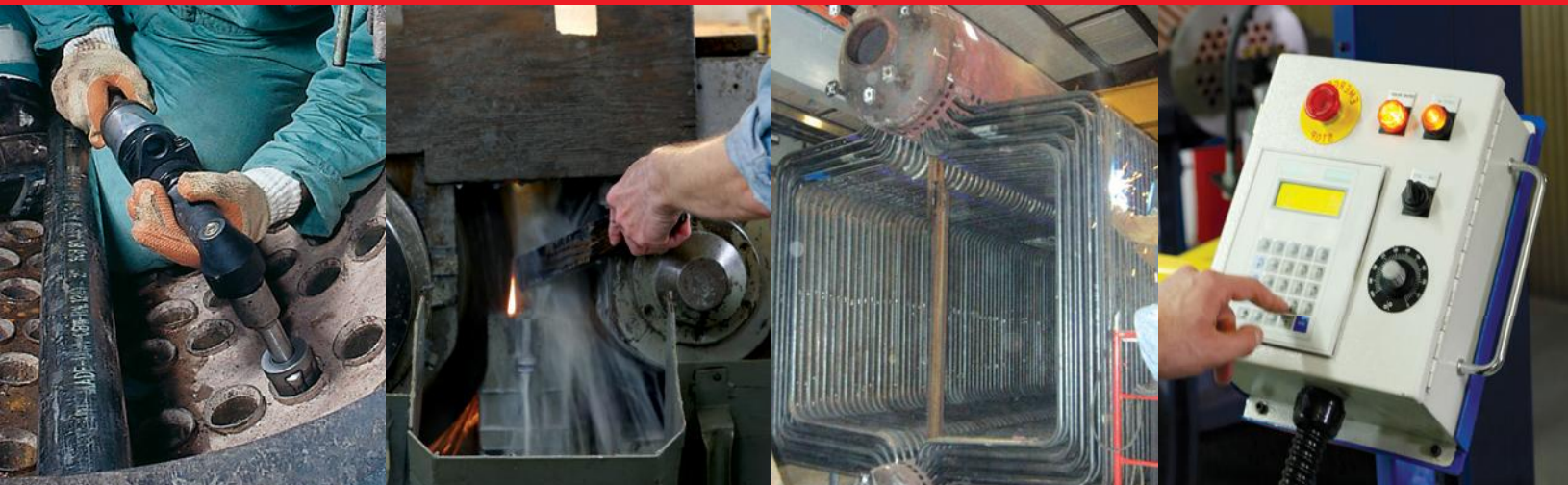




TRUSTED TO PERFORM

## Boiler Tube Expanders and Accessories



Tools for the maintenance and repair of...

**FIRE TUBE BOILERS**

**WATER TUBE BOILERS**

**SUPER HEATERS**

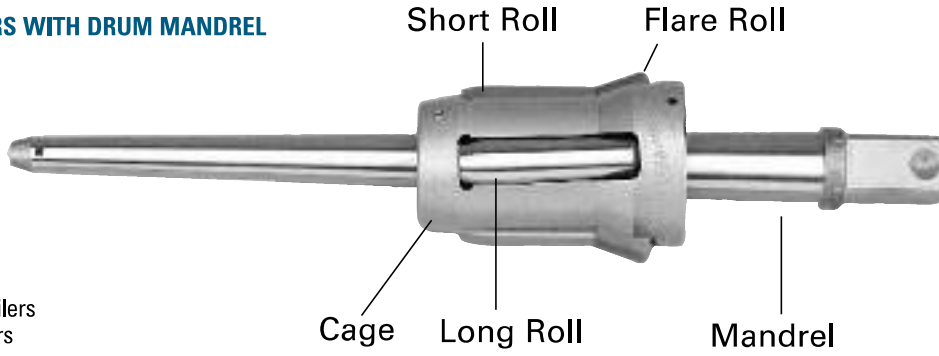
**PRESSURE VESSELS**

*and other tubular structures  
and pressure vessels*

# Series 114 Expanders

## Four Roll - Parallel Expanding - Double Flare Roll Type

### 114 EXPANDERS WITH DRUM MANDREL



#### Applications

- Water Tube Boilers
- Fire Tube Boilers
- Economizers
- Air Heaters

#### Features

- Self-Feeding
- Four-Roll
- Double Flare Roll Type
- Self-Contained Rolls
- Various Mandrels  
Available: Drum, Short, Header, Reverse

Tube OD Inches (mm)	GA	Range Inches (mm)	Tube Seat Thickness - Inches (mm)										Drum Mandrel 3/4-Inch sq. (19.1)
			1/2 to 7/8 (12.7-22.2)		3/4 to 1" (19.1-25.4)		1" to 1 1/8" (25.4-31.8)		1 1/8" to 2" (31.8-50.8)		2" to 2 1/2" (50.8-63.5)		
			Expander Assembly*	Spare Rolls	Expander Assembly*	Spare Rolls	Expander Assembly*	Spare Rolls	Expander Assembly*	Spare Rolls	Expander Assembly*	Spare Rolls	
2 (50.8)	4-6	1.465-1.692 (37.2-43.0)	-	-	14172	34872	14174	34874	14176	34876	14178	34948	Inches (mm) 32269
	7-8	1.585-1.826 (40.3-46.4)	14191	34878	14192	34879	14194	34881	14196	34883	14198	34949	1 1/2 Lg (294) 32270
	9-10	1.645-1.888 (41.8-48.0)	14201		14202		14204		14206		14208		1 1/4 Lg (286) 32271
	11-13	1.690-1.950 (43.0-49.5)	14211	34885	14212	34886	14214	34888	14216	34890	14218	34950	12% Lg (321) 32270
2 1/2 (63.5)	4-6	1.906-2.259 (48.4-57.4)	-	-	14242	34893	14244	34895	14246	34897	14248	34951	11 1/2 Lg (286)
	7-10	2.031-2.385 (51.6-60.6)	-	-	14252	34900	14254	34902	14256	34904	14258	34952	32272 14 1/2 Lg (359)
	11-13	2.156-2.510 (54.8-63.8)	14261	34899	14262		14264		14266		14268		
3 (76.2)	1-3	2.250-2.625 (57.2-66.7)	-	-	14272	34907	14274	34909	14276	34911	14278	34953	32273 14 1/4 Lg (360)
	4-6	2.375-2.756 (60.3-70.0)	-	-	14282		14284		14286		14288		
	7-11	2.500-2.912 (63.5-74.0)	-	-	14292	34914	14294	34916	14296	34918	14298	34954	32274** 14 1/2 Lg (360)
	10-12	2.625-3.047 (66.7-77.4)	14301	34913	14302		14304		14306		14308		32275**
3 1/2 (88.9)	1-4	2.750-3.156 (69.9-80.2)	-	-	14312	34921	14314	34923	14316	34925	14318	34955	14 1/2 Lg (367) 32274**
	4-7	2.875-3.287 (73.0-83.5)	-	-	14322		14324		14326		14328		14 1/4 Lg (360) 32275**
	7-11	3.000-3.421 (76.2-86.9)	-	-	14332		14334		14336		14338		14 1/2 Lg (367) 32276**
	10-12	3.125-3.537 (79.4-90.0)	-	-	14342		14344		14346		14348		16% Lg (421)
4 (101.6)	4-7	3.375-3.781 (85.7-96.0)	-	-	14362	34928	14364	34930	14366	34932	14368	34956	32277** 16 1/2 Lg (420)
	7-11	3.500-3.884 (88.9-98.7)	-	-	14372		14374		14376		14378		32278** 16 Lg (405)
	8-12	3.563-4.031 (90.5-102.4)	-	-	14382		34935		14384		34937		14386
4 1/2 (114.3)	6-12	4.000-4.469 (101.6-113.5)	-	-	14412	34942	14414	34944	14416	34946	14418	34958	32278** 16 Lg (405)

\* No mandrels included in assembly

\*\* 1-Inch sq. (25.4)

#### TUBE WALL THICKNESS OF WALL IN BIRMINGHAM WIRE GAUGE

GA	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Inch	.028	.032	.035	.042	.049	.058	.065	.072	.083	.095	.109	.120	.134	.148	.165	.180	.203	.220	.238	.259	.284	.300	.340
mm	.7	.8	.9	1.1	1.2	1.5	1.7	1.8	2.1	2.4	2.8	3.0	3.4	3.8	4.2	4.6	5.2	5.6	6.0	6.6	7.2	7.6	8.6



Tube		Expander Assembly*	Short Mandrels - 5/8-Inch (130mm) lg. - 3/4-Inch Square (19.1mm)			Mandrels 7/8-Inch Long (181 mm)	Rev Taper Mandrels			
OD Inches (mm)	GA		1/2 to 7/8 (12.7-22.2)	3/4 to 1% (19.1-28.6)	1% to 1% (28.6-41.3)			1% to 2% (41.3-54.0)		
2 (50.8)	4	1417X		32309 & 32310		32308, 32309 & 32310	-			
	5			32310 & 32311	32309, 32310 & 32311		20766			
	6			32310 & 32311		32309, 32310 & 32311				
	7	1419X		32310 & 32311			-			
	8			32311 & 32312	32310, 32311 & 32312		40040			
	9	1420X		32312 & 32313		32311, 32312 & 32313		20768		
	10					32312 & 32313	32346			
	11					32310 & 32311				
	12	1421X		32312	32311	32310 & 32311	32345	40040		
	13						32311 & 32312	32346		
	2 1/2 (63.5)	4	1424X		32313 & 32314		32312, 32313 & 32314	-		
		5			32314 & 32315		32313, 32314 & 32315			
		6			32315 & 32316		32314, 32315 & 32316			
7		1425X		32313 & 32314		32312, 32313 & 32314		20770		
8						32313, 32314 & 32315	32348			
9						32314 & 32315				
10		1426X			32315 & 32316		32314, 32315 & 32316	32349		
11					32316	32315 & 32316				
12					32316 & 32317		32315, 32316 & 32317	33630	40041	
13					32317	32316 & 32317	33631			
3 (76.2)		1	1427X		32315, 32317 & 32518		32315, 32316, 32317 & 32318	32314, 32315, 32316, 32317 & 32318	-	
		2			32316, 32318 & 32519		32316, 32317, 32318 & 32319	32315, 32316, 32317, 32318 & 32319		20771
		3			32317, 32319 & 32320		32317, 32318, 32319 & 32320	32316, 32317, 32318, 32319 & 32320		
	4	1428X		32318 & 32320		32317, 32318, 32319 & 32320				
	5			32319 & 32321		32319, 32320 & 32321	32318, 32319, 32320 & 32321			
	6			32320 & 32322		32319, 32320, 32321 & 32322				
	7	1429X			32317 & 32319		32317, 32318 & 32319	33632	20773	
	8				32318 & 32320		32318, 32319 & 32320	32317, 32318, 32319 & 32320	33633	
	9				32319 & 32321		32319, 32320, 32321	32318, 32319, 32320 & 32321	33634	
	10				32320 & 32321		32319, 32320, 32321	32319, 32320 & 32321		
	11	1430X			32320 & 32322		32320, 32321 & 32322	33635		
	12				32321 & 32322					
	3 1/2 (88.9)	1	1431X		32317, 32318, 32319 & 32320		32316, 32317, 32318, 32319 & 32320	-		
2		32318, 32319, 32320 & 32321			32317, 32318, 32319 & 32321					
3		32319, 32320, 32321 & 32322			32318, 32319, 32320, 32321 & 32322					
4		1432X			32320, 32321, 32322 & 32323		32319, 32320, 32321, 32322 & 32323	-		
5					32321, 32322 & 32323		32320, 32321, 32322 & 32323			
6					32322, 32323 & 32324		32321, 32322, 32323 & 32324			
7		1433X			32323, 32324 & 32325		32322, 32323, 32324 & 32325	-		
8							32323, 32324 & 32325			
9							32324, 32325 & 32326			
10					32325, 32326 & 32327		32324, 32325, 32326 & 32327			
11		1434X			32326 & 32327		32325, 32326 & 32327	-		
12					32326, 32327 & 32328		32325, 32326, 32327 & 32328			
1					32325, 32326, 32327 & 32328					
4 (101.6)	4	1436X			32326, 32327, 32328 & 32329		32326, 32327, 32328 & 32329	-		
	5				32327, 32328 & 32329		32327, 32328, 32329 & 32330			
	6				32328, 32329 & 32330		32327, 32328, 32329 & 32330			
	7	1437X			32329, 32330 & 32331		32328, 32329, 32330 & 32331	-		
	8				32330, 32331 & 32332		32329, 32330, 32331 & 32332			
	9						32330, 32331 & 32332			
	10	1438X			32326 & 32327		32325, 32326 & 32327	-		
	11				32326, 32327 & 32328		32325, 32326, 32327 & 32328			
	12				32325, 32326, 32327 & 32328		32324, 32325, 32326, 32327 & 32328			
	4 1/2 (114.3)	6	1441X			32326, 32327, 32328 & 32329		32325, 32326, 32327 & 32328	-	
		7				32326, 32327 & 32328		32325, 32326, 32327 & 32328		
		8				32327, 32328 & 32329		32326, 32327, 32328 & 32329		
		9	32328, 32329 & 32330		32327, 32328, 32329 & 32330					
10				32328, 32329 & 32330						
11		32329, 32330 & 32331		32328, 32329, 32330 & 32331						
12			32329, 32330 & 32331							