

# R/50

## Per piastre tubiere di grosso spessore

For thick tube-sheets

Pour plaques tubulaires de grande épaisseur

Für Rohrböden mit großer Stärke



$RE_{min} = 3/8'' (9,5 \text{ mm})$

$RE_{max} = 6'' (152,4 \text{ mm})$

### Testa di battuta

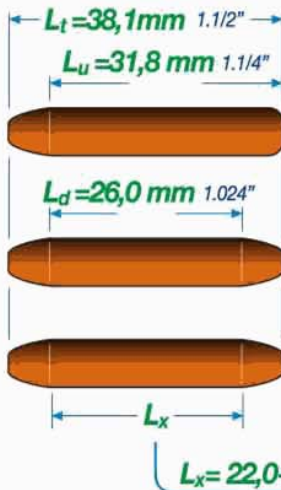
Thrust collar  
Tête de butée  
Anschlagkopf



### Codice d'esempio per ordinazione mandrini

Sample code for ordering tube expanders  
Code d'exemple pour commande dudgeons  
Bestellnr. Bestellbeispiel Rohrwalze

$de 1.1/4'' - 11 \text{ B.W.G.}$



**STD** →  $R50.\#-12$

**DLS** →  $R50.\#-12-DLS$

**DLX** →  $R50.\#-12-DLX-L_x$

$L_x = 22,0 \div 28,0 \text{ mm } 0,866'' \div 1,102''$

### a battuta piana

with plane shoulder  
a butée plane  
mit flachem Anschlag

017 ÷ 16/A  
 $V = 0$

### con incavo a 3 mm

with 3 mm recess  
avec entaille à 3 mm  
mit 3 mm Eindrehung

011 ÷ 16/A  
 $V = 3 \text{ mm } (0,118'')$

### con incavo profondo

with deep recess  
avec entaille profonde  
mit tiefer Eindrehung

011 ÷ 3/B  
 $V_{max} = 15 \text{ mm } 5 \div 11 (0,590'')$   
 $V_{max} = 20 \text{ mm } 12 \div 16/A (0,787'')$   
 $V_{max} = 26 \text{ mm } (1,024'')$

### Mandrinatrici consigliate

Suggested rolling machines  
Dudgeonneuses conseillées  
Empfohlene Rohrwalzanlagen

$de$ inches mm	B.W.G.	Tubo Tube Rohr		Espansione Expansion Expansion Walzbereich		Mandrino Tube expander Dudgeon Rohrwalzen		Rulli Rolls Galets Rollen		Spina Mandrel Broche Dorn		Mandrinatrici consigliate	
		$sp$ inches mm	$d_i$ inches mm	inches mm	inches mm	Cod.	Cod.	Cod.	inches mm	Electriche Electrical Electriques elektrisch	Pneumatiche Pneumatic Pneumatiques pneumatish		
1/2'' (12,7)	14	0.083	2,11	0.315	8,0	0.307 ÷ 0.354	7,8 ÷ 9,0	R50.0-017	017-C	5-017÷012	F90 MS/40 M4/V MS/60	Macrol 750	
				0.323	8,2	0.315 ÷ 0.362	8,0 ÷ 9,2	R50.0-016	016-C				
				0.334	8,5	0.323 ÷ 0.370	8,2 ÷ 9,4	R50.0-015	015-C				
				0.342	8,7	0.331 ÷ 0.378	8,4 ÷ 9,6	R50.0-014	014-C				
	15	0.072	1,83	0.356	9,0	0.338 ÷ 0.386	8,6 ÷ 9,8	R50.0-013	013-011-C	5-011÷09	F90 MP/2 M4/V MS/60	Minirol 500 Macrol 1350	
				0.362	9,2	0.346 ÷ 0.393	8,8 ÷ 10,0	R50.0-012	012-010-C				
				0.378	9,6	0.362 ÷ 0.417	9,2 ÷ 10,6	R50.#-011	013-011-C				
	16	0.065	1,65	0.370	9,4	0.354 ÷ 0.409	9,0 ÷ 10,4	R50.#-010	012-010-C	5-00	Matex		
				0.378	9,6	0.362 ÷ 0.417	9,2 ÷ 10,6	R50.#-09	09-C				
				0.384	9,7	0.370 ÷ 0.425	9,4 ÷ 10,8	R50.#-00	00-C				
17	0.058	1,47	0.402	10,2	0.378 ÷ 0.441	9,6 ÷ 11,2	R50.#-00/A	00/A-C	5-00/A				
			0.430	10,9	0.397 ÷ 0.460	10,1 ÷ 11,7	R50.#-01	01-C					
			0.444	11,3	0.417 ÷ 0.480	10,6 ÷ 12,2							
			0.456	11,6									
5/8'' (15,9)	12	0.109	2,77	0.407	10,3	0.378 ÷ 0.441	9,6 ÷ 11,2	R50.#-00-M	00-C	5-00	F90 MS/40 M4/V MS/60	Macrol 750	
				0.421	10,7	0.397 ÷ 0.460	10,1 ÷ 11,7	R50.#-00/A-M	00/A-C				
	13	0.095	2,41	0.435	11,1	0.417 ÷ 0.480	10,6 ÷ 12,2	R50.#-01-M	01-C	5-01	Matex		
				0.459	11,7	0.437 ÷ 0.500	11,1 ÷ 12,7	R50.#-01/A-M	01/A-C				
	14	0.083	2,11	0.481	12,2	0.452 ÷ 0.523	11,5 ÷ 13,3	R50.#-02-M	02-C	5-02÷02/A	F90 MP/2 M4/V MS/60	Minirol 500 Macrol 1350	
				0.495	12,6	0.472 ÷ 0.543	12,0 ÷ 13,8	R50.#-02/A-M	02/A-C				
	15	0.072	1,83	0.509	12,9	0.492 ÷ 0.571	12,5 ÷ 14,5	R50.#-03-M	03-C	5-03÷1	Matex		
				0.512	13,0	0.512 ÷ 0.590	13,0 ÷ 15,0	R50.#-04-M	04-C				
	16	0.065	1,65	0.555	14,1	0.531 ÷ 0.610	13,5 ÷ 15,5	R50.#-1-M	1-1/A-C				
				0.569	14,5								

Rif. 5R/80  
Ref. 5R/80  
Ref. 5R/80  
Siehe 5R/80



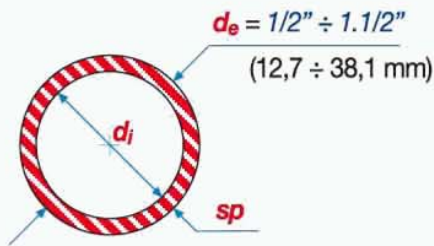
Consigliate  
Suggested  
Conseillées  
Empfehlung

Possibili  
Possible  
Possibles  
Variationsmöglichkeiten



# R/50

de inches mm	Tubo Tube Tubo Rohr		Espanzione Expansion Expansion Walzbereich		Mandrino Tube expander Dudgeon Rohrwalzen Cod.	Rulli Rolls Galets Rollen Cod.	Spina Mandrel Broche Dorn Cod.	Mandrinatrici consigliate Suggested rolling machines Dudgeonneuses conseillées Empfohlene Rohreinwalzanlagen			
	sp inches	mm	di inches	mm				Elettriche Electrical Electriques elektrisch	Pneumatiche Pneumatic Pneumatiques pneumatisch		
	B.W.G.							inches	mm		
3/4" (19,0)	10	0.134	3,40	0.482	12,2	0.452 ÷ 0.523	11,5 ÷ 13,3	R50.#-02	02-C	3/8" (9,5)	F90 M4/V M4/L MS/40 Matex Macrol 450
				0.492	12,5	0.472 ÷ 0.543	12,0 ÷ 13,8	R50.#-02/A	02/A-C		
	11	0.120	3,05	0.510	12,9	0.492 ÷ 0.571	12,5 ÷ 14,5	R50.#-03	03-C		
				0.532	13,4	0.512 ÷ 0.590	13,0 ÷ 15,0	R50.#-04	04-C		
	12	0.109	2,77	0.560	14,2	0.531 ÷ 0.610	13,5 ÷ 15,5	R50.#-1	1-1/A-C		
				0.584	14,8	0.551 ÷ 0.639	14,0 ÷ 16,2	R50.#-1/A	1-1/A-C		
	13	0.095	2,41	0.606	15,3	0.570 ÷ 0.669	14,5 ÷ 17,0	R50.#-2	2-C		
				0.620	15,7	0.590 ÷ 0.689	15,0 ÷ 17,5	R50.#-2/A	2/A-C		
	14	0.083	2,11	0.634	16,0	0.610 ÷ 0.709	15,5 ÷ 18,0	R50.#-3	3-C		
				0.652	16,5	0.630 ÷ 0.728	16,0 ÷ 18,5	R50.#-3/A	3/A-C		
	15	0.072	1,83	0.680	17,2	0.650 ÷ 0.748	16,5 ÷ 19,0	R50.#-3/B	3/B-C		
				0.694	17,6						
7/8" (22,2)	10	0.134	3,40	0.607	15,4	0.570 ÷ 0.669	14,5 ÷ 17,0	R50.#-2-M	2-C	3/8" (9,5)	F90 M4/V M4/L MS/40 Matex Macrol 450
				0.635	16,1	0.610 ÷ 0.709	15,5 ÷ 18,0	R50.#-3-M	3-C		
	11	0.120	3,05	0.657	16,6	0.630 ÷ 0.728	16,0 ÷ 18,5	R50.#-3/A-M	3/A-C		
				0.669	17,0	0.650 ÷ 0.748	16,5 ÷ 19,0	R50.#-3/B-M	3/B-C		
	12	0.109	2,77	0.685	17,4	0.681 ÷ 0.799	17,3 ÷ 20,3	R50.#-5-M	5-C		
				0.709	18,0	0.700 ÷ 0.812	17,8 ÷ 20,8	R50.#-5/A-M	5/A-C		
	13	0.095	2,41	0.745	18,9	0.720 ÷ 0.838	18,3 ÷ 21,3	R50.#-6-M	6-7-C		
				0.759	19,2						
	14	0.083	2,11	0.777	19,7						
				0.791	20,0						
15	0.072	1,83	0.805	20,4	0.748 ÷ 0.866	19,0 ÷ 22,0	R50.#-7-M	6-7-C			
			0.811	20,6							
16	0.065	1,65	0.819	20,8							
			0.827	21,0							
1" (25,4)	8	0.165	4,19	0.670	17,0	0.650 ÷ 0.748	16,5 ÷ 19,0	R50.#-3/B-S	3/B-C	3/8" (9,5)	F90 M4/L MS/30 M4/V Matex Macrol 450
				0.685	17,4	0.681 ÷ 0.799	17,3 ÷ 20,3	R50.#-5	5-C		
	9	0.148	3,76	0.704	17,9	0.700 ÷ 0.812	17,8 ÷ 20,8	R50.#-5/A	5/A-C		
				0.732	18,6	0.720 ÷ 0.838	18,3 ÷ 21,3	R50.#-6	6-7-C		
	10	0.134	3,40	0.760	19,3	0.748 ÷ 0.866	19,0 ÷ 22,0	R50.#-7	6-7-C		
				0.782	19,8	0.767 ÷ 0.886	19,5 ÷ 22,5	R50.#-7/A	7/A-C		
	11	0.120	3,05	0.791	20,1	0.787 ÷ 0.905	20,0 ÷ 23,0	R50.#-8	8-C		
				0.819	20,8	0.807 ÷ 0.925	20,5 ÷ 23,5	R50.#-8/A	8/A-C		
	12	0.109	2,77	0.856	21,7	0.827 ÷ 0.964	21,0 ÷ 24,5	R50.#-9	9-C		
				0.870	22,1	0.846 ÷ 0.984	21,5 ÷ 25,0	R50.#-9/A	9/A-C		
	13	0.095	2,41	0.884	22,4	0.866 ÷ 1.004	22,0 ÷ 25,5	R50.#-10	10-C		
				0.902	22,9						
14	0.083	2,11	0.930	23,6							
			0.944	24,0							
15	0.072	1,83	0.936	23,8							
			0.964	24,5							
16	0.065	1,65	0.994	25,4							
			1.004	25,5							
17	0.058	1,47	1.004	25,5							
			1.014	25,9							
18	0.049	1,24	1.014	25,9							
			1.024	26,3							
19	0.042	1,07	1.024	26,3							
			1.034	26,7							
20	0.035	0,89	1.034	26,7							
			1.044	27,1							
21	0.032	0,81	1.044	27,1							
			1.054	27,5							
22	0.028	0,71	1.054	27,5							
			1.064	27,9							



$d_e$ inches mm	Tubo Tube Rohr		$d_i$		Espansione Expansion Expansion Walzbereich		Mandrino Tube expander Dudgeon Rohrwalzen	Rulli Rolls Galets Rollen	Spina Mandrel Broche Dorn	inches mm	Mandrinatrici consigliate Suggested rolling machines Dudgeonneuses conseillées Empfohlene Rohreinwalzanlagen		
	B.W.G.	sp		inches	mm	inches	mm	Cod.	Cod.		Cod.	Electriche Electrical Electriques elektrisch	Pneumatiche Pneumatic Pneumatiques pneumatisch
		inches	mm										
1.1/8" (28,5)	11	0.120	3,05	0.885	22,4	0.846 ÷ 0.984	21,5 ÷ 25,0	R50.#-9/A-M	9/A-C	5-9÷11	3/8" (9,5)	F90 M4/L MS/60 M4/V Matex	Macrol 450
	12	0.109	2,77	0.907	22,9	0.866 ÷ 1.004	22,0 ÷ 25,5	R50.#-10-M	10-C				
	13	0.095	2,41	0.935	23,7	0.905 ÷ 1.043	23,0 ÷ 26,5	R50.#-11-M	11-C				
	14	0.083	2,11	0.959	24,3	0.945 ÷ 1.102	24,0 ÷ 28,0	R50.#-12-M	12-C	5-12÷14/A	1/2" (12,7)	F90 M4/L MS/60 M4/V Matex	Macrol 750
	16	0.065	1,65	0.995	25,2	0.984 ÷ 1.142	25,0 ÷ 29,0	R50.#-12/A-M	12/A-C				
	18	0.049	1,24	1.027	26,0								
	20	0.035	0,89	1.055	26,7								
22	0.028	0,71	1.069	27,1									
1.1/4" (31,8)	9	0.148	3,76	0.954	24,3	0.905 ÷ 1.043	23,0 ÷ 26,5	R50.#-11	11-C	5-9÷11	3/8" (9,5)	F90 M4/L MS/60 M4/V Matex	Macrol 200
	10	0.134	3,40	0.982	25,0	0.945 ÷ 1.102	24,0 ÷ 28,0	R50.#-12	12-C				
	11	0.120	3,05	1.010	25,7	0.984 ÷ 1.142	25,0 ÷ 29,0	R50.#-12/A	12/A-C				
	12	0.109	2,77	1.032	26,2	1.027 ÷ 1.181	26,0 ÷ 30,0	R50.#-13	13-C	5-12÷14/A	1/2" (12,7)	F90 M4/L MS/60 M4/V Matex	Macrol 450
	13	0.095	2,41	1.060	27,0	1.063 ÷ 1.220	27,0 ÷ 31,0	R50.#-13/A	13/A-C				
	14	0.083	2,11	1.084	27,6								
	16	0.065	1,65	1.120	28,5								
	17	0.058	1,47	1.134	28,8								
18	0.049	1,24	1.152	29,3	1.102 ÷ 1.260	28,0 ÷ 32,0	R50.#-14	14-15-C					
20	0.035	0,89	1.180	30,0									
22	0.028	0,71	1.194	30,4									
1.3/8" (34,9)	12	0.109	2,77	1.157	29,3	1.102 ÷ 1.260	28,0 ÷ 32,0	R50.#-14-M	14-15-C	5-12÷14/A	1/2" (12,7)	F90 M4/L MS/60 M4/V Matex	Macrol 200
	14	0.083	2,11	1.209	30,7	1.142 ÷ 1.299	29,0 ÷ 33,0	R50.#-14/A-M	14/A-15/A-C				
	16	0.065	1,65	1.245	31,6	1.181 ÷ 1.338	30,0 ÷ 34,0	R50.#-15-M	14-15-C				
	18	0.049	1,24	1.277	32,4	1.220 ÷ 1.378	31,0 ÷ 35,0	R50.#-15/A-M	14/A-15/A-C	5-15÷16/A			
	20	0.035	0,89	1.305	33,1	1.260 ÷ 1.417	32,0 ÷ 36,0	R50.#-16-M	16-C				
	22	0.028	0,71	1.319	33,5								
1.1/2" (38,1)	8	0.165	4,19	1.170	29,7	1.142 ÷ 1.299	29,0 ÷ 33,0	R50.#-14/A	14/A-15/A-C	5-12÷14/A	1/2" (12,7)	F90 M4/L MS/60 M4/V Matex	Macrol 200
	9	0.148	3,76	1.204	30,6	1.181 ÷ 1.338	30,0 ÷ 34,0	R50.#-15	14-15-C				
	10	0.134	3,40	1.232	31,3	1.220 ÷ 1.378	31,0 ÷ 35,0	R50.#-15/A	14/A-15/A-C				
	11	0.120	3,05	1.260	32,0	1.260 ÷ 1.417	32,0 ÷ 36,0	R50.#-16	16-C	5-15÷16/A			
	12	0.109	2,77	1.282	32,5								
	13	0.095	2,41	1.310	33,3								
	14	0.083	2,11	1.334	33,9								
	15	0.072	1,83	1.356	34,4								
	16	0.065	1,65	1.370	34,8								
	17	0.058	1,47	1.384	35,1	1.319 ÷ 1.476	33,5 ÷ 37,5	R50.#-16/A	16/A-C				
	18	0.049	1,24	1.402	35,6								
	20	0.035	0,89	1.430	36,3								
22	0.028	0,71	1.444	36,7									

# R/50/260 R/50/360

TE-31 R/50

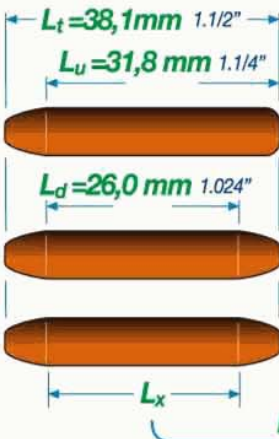
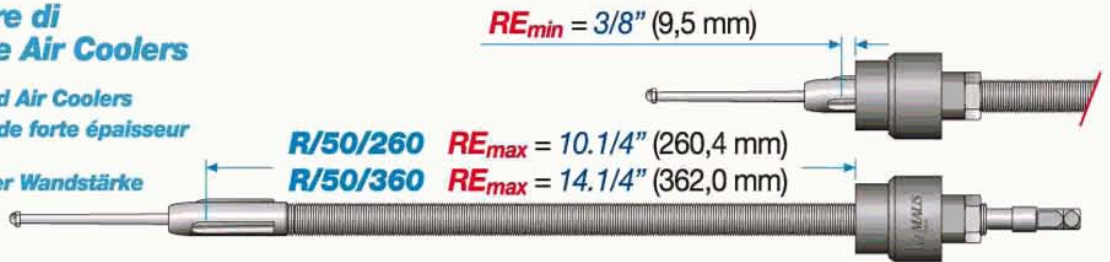
## Per piastre tubiere di grosso spessore e Air Coolers

For thick tube-sheets and Air Coolers  
 Pour plaques tubulaires de forte épaisseur et Air Coolers  
 Für Rohrböden mit großer Wandstärke und Luftkühler

$RE_{min} = 3/8'' (9,5 \text{ mm})$

R/50/260  $RE_{max} = 10.1/4'' (260,4 \text{ mm})$

R/50/360  $RE_{max} = 14.1/4'' (362,0 \text{ mm})$



### Codice d'esempio per ordinazione mandrini

Sample code for ordering tube expanders  
 Code d'exemple pour commande dudgeons  
 Bestellnr. Bestellbeispiel Rohrwalze

$d_e 1'' - 18 \text{ B.W.G. SP } 13.3/4'' 349,25 \text{ mm}$

**STD** → R50.1 / 360 -9/A  
 $RE_{max}$   
**DLS** → R50.1 / 360 -9/A-DLS  
**DLX** → R50.1 / 360 -9/A-DLX-L<sub>x</sub>

### Esempio codice per ordinazione spina

Sample code for ordering mandrels  
 Exemple code pour commande broche  
 Bestellnr. Bestellbeispiel Dorn

R/50/260 → 5B-9÷11

R/50/360 → 5C-9÷11

# R/51/100 R/51/280 R/51/380

TE-37 R/51

## Per piastre tubiere di grosso spessore e Air Coolers

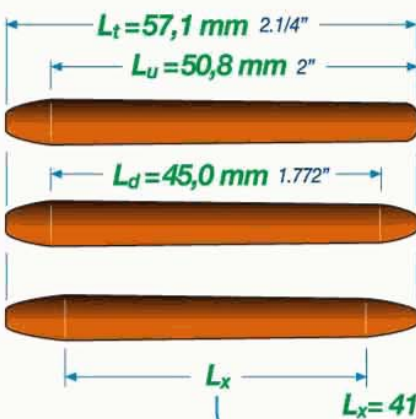
For thick tube-sheets and Air Coolers  
 Pour plaques tubulaires de forte épaisseur et Air Coolers  
 Für Rohrböden mit großer Wandstärke und Luftkühler

$RE_{min} = 1.1/8'' (28,6 \text{ mm})$

R/51/100  $RE_{max} = 100 \text{ mm (4'')}$

R/51/280  $RE_{max} = 280 \text{ mm (11'')}$

R/51/380  $RE_{max} = 380 \text{ mm (15'')}$



### Codice d'esempio per ordinazione mandrini

Sample code for ordering tube expanders  
 Code d'exemple pour commande dudgeons  
 Bestellnr. Bestellbeispiel Rohrwalze

$d_e 1.3/8'' - 12 \text{ B.W.G. SP } 10'' 254 \text{ mm}$

**STD** → R51.1 / 280 -14  
 $RE_{max}$   
**DLS** → R51.1 / 280 -14-DLS  
**DLX** → R51.1 / 280 -14-DLX-43

### Esempio codice per ordinazione spina

Sample code for ordering mandrels  
 Exemple code pour commande broche  
 Bestellnr. Bestellbeispiel Dorn

R/51/100 → 5A-12÷14/A

R/51/280 → 5B-12÷14/A

R/51/380 → 5C-12÷14/A

TE-59

Per applicazioni in Air Coolers si consiglia l'utilizzo della testa .6

For applications in Air Coolers the .6 thrust collar is advised  
 Pour applications dans les unités Air Coolers on conseille l'utilisation de la tête .6  
 Für Anwendungen an Luftkühlern wird die Verwendung des Kopfes .6 empfohlen

TE-40

MAUS