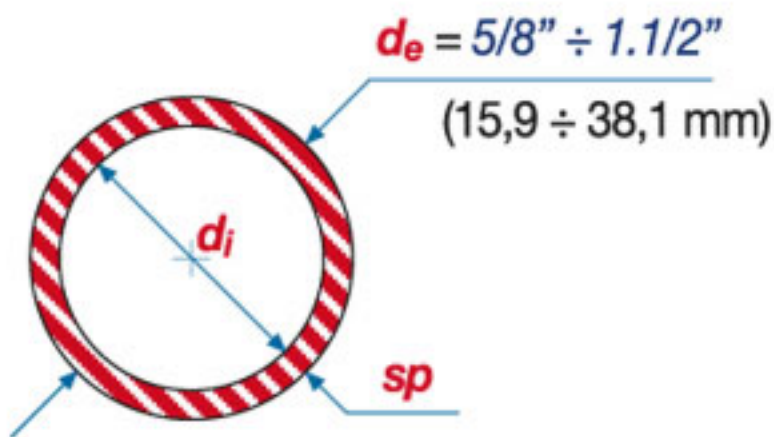


Per piastre tubiere di grosso spessore

For thick tube-sheets

Pour plaques tubulaires de grande épaisseur

Für Rohrböden mit großer Stärke



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

$RE_{max} = 6.3/4" (171,5 \text{ mm})$

Codice d'esempio per ordinazione mandrini

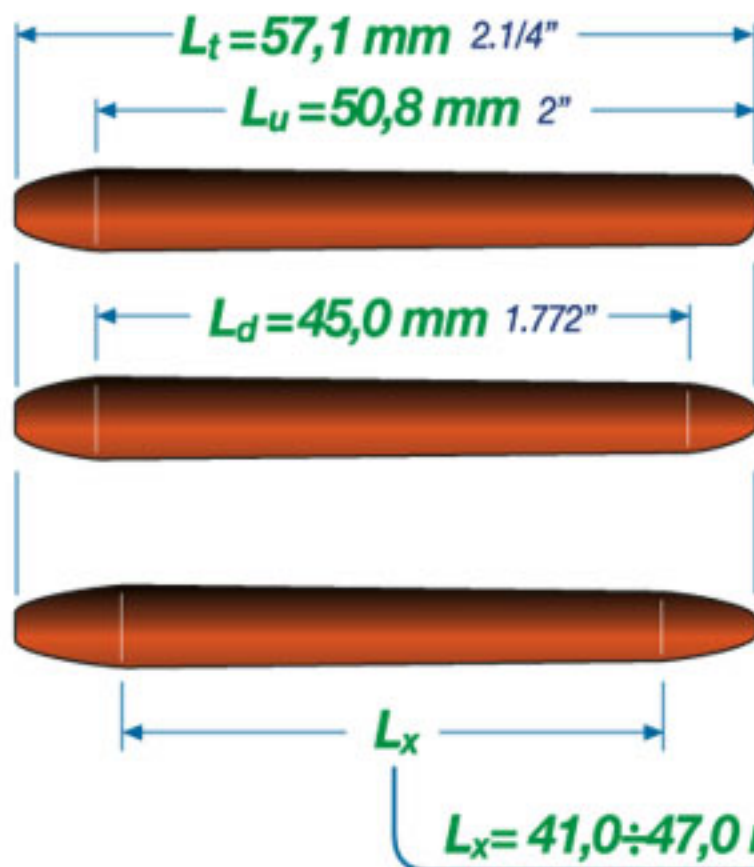
Sample code for ordering tube expanders
Code d'exemple pour commande dudgeons
Bestellnr. Bestellbeispiel Rohrwalze

Testa di battuta

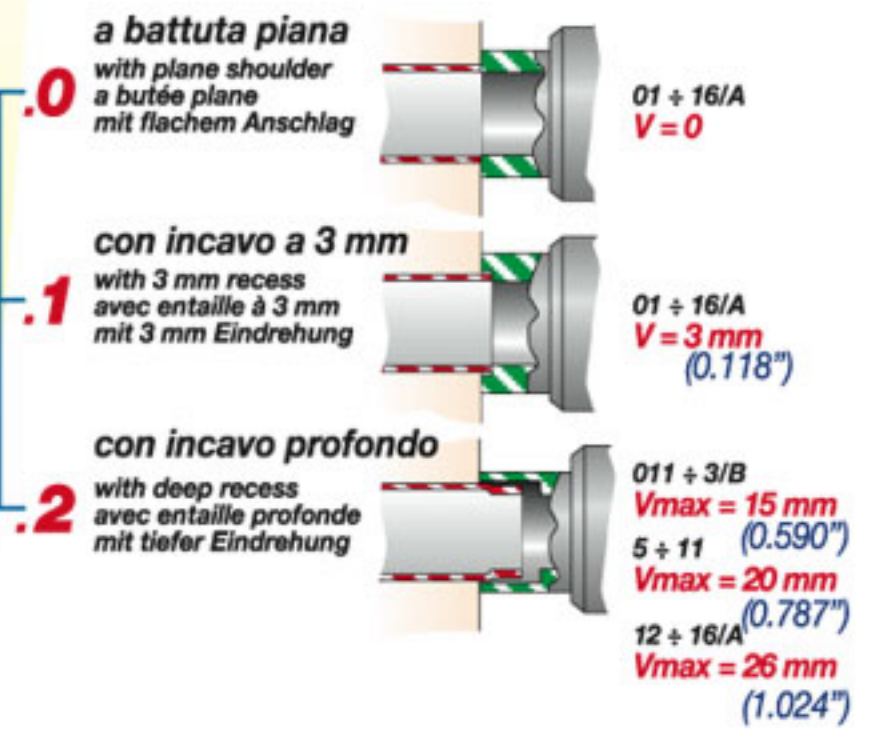
Thrust collar
Tête de butée
Anschlagkopf



$d_e 1" - 11 \text{ B.W.G.}$



STD → **R51.#-6**
DLS → **R51.#-6-DLS**
DLX → **R51.#-6-DLX-L_x**



Tubo
Tube
Tube
Rohr

Espansione
Expansion
Expansion
Walzbereich

Mandrino
Tube expander
Dudgeon
Rohrwalzen

Rulli
Rolls
Galets
Rollen

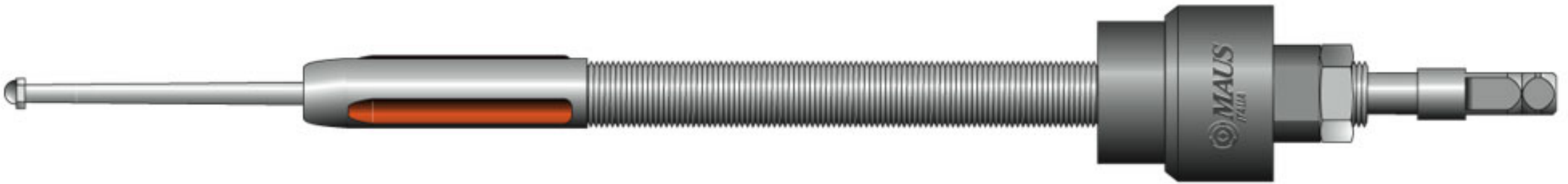
Spina
Mandrel
Broche
Dorn

Mandrinatrici consigliate
Suggested rolling machines
Dudgeonneuses conseillées
Empfohlene Rohreinwalzanlagen

d_e inches mm	B.W.G.	sp		d_i		Espansione		Mandrino Cod.	Rulli Cod.	Spina Cod.	Elettriche Electrical Electriques elektrisch	Pneumatiche Pneumatic Pneumatiques pneumatisch
		inches	mm	inches	mm	inches	mm					
5/8" (15,9)	14	0.083	2,11	0.459	11,7	0.437 ÷ 0.500	11,1 ÷ 12,7	R51.#-01/A-M	01/A-L	5-01/A	F90 MS/40 M4/V Matex	Macrol 750
	15	0.072	1,83	0.481	12,2	0.452 ÷ 0.523	11,5 ÷ 13,3	R51.#-02-M	02-L	5-02÷02/A		
	16	0.065	1,65	0.495	12,6	0.472 ÷ 0.543	12,0 ÷ 13,8	R51.#-02/A-M	02/A-L			
	17	0.058	1,47	0.509	12,9	0.492 ÷ 0.571	12,5 ÷ 14,5	R51.#-03-M	03-L			
	18	0.049	1,24	0.527	13,4	0.512 ÷ 0.590	13,0 ÷ 15,0	R51.#-04-M	04-L	5-03÷1	F90 MP/1 M4/V MS/60 Matex	Minirol 500 Macrol 1350
	19	0.042	1,07	0.541	13,7			R51.#-1-M	1-1/A-L			
	20	0.035	0,89	0.555	14,1	0.531 ÷ 0.610	13,5 ÷ 15,5					
	22	0.028	0,71	0.569	14,5							



de inches mm	Tubo Tube Rohr				Espansione Expansion Expansion Walzbereich		Mandrino Tube expander Dudgeon Rohrwalzen	Rulli Rolls Galets Rollen	Spina Mandrel Broche Dorn	Mandrinatrici consigliate Suggested rolling machines Dudgeonneuses conseillées Empfohlene Rohreinwalzanlagen		
	B.W.G.	sp		di		Cod.	Cod.	Cod.	inches mm	Electriche Electrical Electriques elektrisch	Pneumatiche Pneumatic Pneumatiques pneumatisch	
		inches	mm	inches	mm					inches	mm	
3/4" (19,0)	10	0.134	3,40	0.482	12,2	0.452 ÷ 0.523	11,5 ÷ 13,3	R51.#-02	02-L	5-02÷02/A	F90 + M4/V M4/L MS/30	Macrol 450
				0.492	12,5	0.472 ÷ 0.543	12,0 ÷ 13,8	R51.#-02/A	02/A-L			
	11	0.120	3,05	0.510	12,9	0.492 ÷ 0.571	12,5 ÷ 14,5	R51.#-03	03-L	5-03÷1	Matex	
	12	0.109	2,77	0.532	13,4	0.512 ÷ 0.590	13,0 ÷ 15,0	R51.#-04	04-L			
	13	0.095	2,41	0.560	14,2	0.531 ÷ 0.610	13,5 ÷ 15,5	R51.#-1	1-1/A-L			
	14	0.083	2,11	0.584	14,8	0.551 ÷ 0.639	14,0 ÷ 16,2	R51.#-1/A	1-1/A-L	5-1/A	Matex	
	15	0.072	1,83	0.606	15,3	0.570 ÷ 0.669	14,5 ÷ 17,0	R51.#-2	2-L			
	16	0.065	1,65	0.620	15,7	0.590 ÷ 0.689	15,0 ÷ 17,5	R51.#-2/A	2/A-L	5-2÷3/B	F90 + M4/L MS/60 M4/V	Macrol 750
	17	0.058	1,47	0.634	16,0			R51.#-3	3-L			
	18	0.049	1,24	0.652	16,5	0.610 ÷ 0.709	15,5 ÷ 18,0	R51.#-3/A	3/A-L			
19	0.042	1,07	0.666	16,8	0.630 ÷ 0.728	16,0 ÷ 18,5	R51.#-3/B	3/B-L				
20	0.035	0,89	0.680	17,2	0.650 ÷ 0.748	16,5 ÷ 19,0	R51.#-3/B	3/B-L	5-7÷8/A	Matex		
21	0.032	0,81	0.686	17,4								
22	0.028	0,71	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	R51.#-2-M	2-L	5-2÷3/B	F90 + M4/V M4/L MS/30	Macrol 450
	11	0.120	3,05	0.635	16,1	0.610 ÷ 0.709	15,5 ÷ 18,0	R51.#-3-M	3-L			
	12	0.109	2,77	0.657	16,6	0.630 ÷ 0.728	16,0 ÷ 18,5	R51.#-3/A-M	3/A-L	5-5÷6	Matex	
				0.669	17,0	0.650 ÷ 0.748	16,5 ÷ 19,0	R51.#-3/B-M	3/B-L			
	13	0.095	2,41	0.685	17,4	0.681 ÷ 0.799	17,3 ÷ 20,3	R51.#-5-M	5-L			
	14	0.083	2,11	0.709	18,0	0.700 ÷ 0.812	17,8 ÷ 20,8	R51.#-5/A-M	5/A-L	5-5÷6	F90 + M4/L MS/60 M4/V	Macrol 750
	15	0.072	1,83	0.731	18,5	0.720 ÷ 0.838	18,3 ÷ 21,3	R51.#-6-M	6-7-L			
	16	0.065	1,65	0.745	18,9					0.748 ÷ 0.866	19,0 ÷ 22,0	R51.#-7-M
	17	0.058	1,47	0.759	19,2							
	18	0.049	1,24	0.777	19,7							
19	0.042	1,07	0.791	20,0	0.748 ÷ 0.866	19,0 ÷ 22,0	R51.#-7-M	6-7-L	5-7÷8/A	Matex		
20	0.035	0,89	0.805	20,4								
21	0.032	0,81	0.811	20,6								
22	0.028	0,71	0.819	20,8								
1" (25,4)	8	0.165	4,19	0.670	17,0	0.650 ÷ 0.748	16,5 ÷ 19,0	R51.#-3/B-S	3/B-L	5-2÷3/B	F90 + M4/L M4/V	Macrol 200
				0.685	17,4							
	9	0.148	3,76	0.704	17,9	0.681 ÷ 0.799	17,3 ÷ 20,3	R51.#-5	5-L	5-5÷6	Matex	
	10	0.134	3,40	0.732	18,6	0.700 ÷ 0.812	17,8 ÷ 20,8	R51.#-5/A	5/A-L			
	11	0.120	3,05	0.760	19,3	0.720 ÷ 0.838	18,3 ÷ 21,3	R51.#-6	6-7-L			
	12	0.109	2,77	0.782	19,8	0.748 ÷ 0.866	19,0 ÷ 22,0	R51.#-7	6-7-L	5-7÷8/A	F90 + M4/L M4/V	Macrol 450
				0.791	20,1							
	13	0.095	2,41	0.810	20,6	0.787 ÷ 0.905	20,0 ÷ 23,0	R51.#-8	8-L			
	14	0.083	2,11	0.834	21,2	0.807 ÷ 0.925	20,5 ÷ 23,5	R51.#-8/A	8/A-L			
	15	0.072	1,83	0.856	21,7	0.827 ÷ 0.964	21,0 ÷ 24,5	R51.#-9	9-L	5-9÷11	F90 + M4/V M4/L MS/40	Macrol 450
	16	0.065	1,65	0.870	22,1							
	17	0.058	1,47	0.884	22,4	0.846 ÷ 0.984	21,5 ÷ 25,0	R51.#-9/A	9/A-L			
	18	0.049	1,24	0.902	22,9							
	19	0.042	1,07	0.916	23,2	0.866 ÷ 1.004	22,0 ÷ 25,5	R51.#-10	10-L	5-9÷11	Matex	
20	0.035	0,89	0.930	23,6								
21	0.032	0,81	0.936	23,8								
22	0.028	0,71	0.944	24,0								



de inches mm	Tubo Tube Rohr				Espansione 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		dj		Cod.	Cod.	Cod.	Electriche Electrical Electriques elektrisch		Pneumatiche Pneumatic Pneumatiques pneumatisch		
		inches	mm	inches	mm							inches	mm
1.1/8" (28,5)	11	0.120	3,05	0.885	22,4	0.846 ÷ 0.984	21,5 ÷ 25,0	R51.#-9/A-M	9/A-L	5-9÷11	3/8" (9,5)	F90 + M4/L M4/V	Macrol 200
	12	0.109	2,77	0.907	22,9	0.866 ÷ 1.004	22,0 ÷ 25,5	R51.#-10-M	10-L				
	13	0.095	2,41	0.935	23,7	0.905 ÷ 1.043	23,0 ÷ 26,5	R51.#-11-M	11-L				
	14	0.083	2,11	0.959	24,3	0.945 ÷ 1.102	24,0 ÷ 28,0	R51.#-12-M	12-L	5-12÷14/A	1/2" (12,7)	F90 + M4/V MS/40	Macrol 450
	16	0.065	1,65	0.995	25,2	0.984 ÷ 1.142	25,0 ÷ 29,0	R51.#-12/A-M	12/A-L				
	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	R51.#-11	11-L	5-9÷11	3/8" (9,5)	F90 + M4/L M4/V	Macrol 130
	10	0.134	3,40	0.982	25,0	0.945 ÷ 1.102	24,0 ÷ 28,0	R51.#-12	12-L				
	11	0.120	3,05	1.010	25,7	0.984 ÷ 1.142	25,0 ÷ 29,0	R51.#-12/A	12/A-L				
	12	0.109	2,77	1.032	26,2	1.027 ÷ 1.181	26,0 ÷ 30,0	R51.#-13	13-L	5-12÷14/A	1/2" (12,7)	F90 + M4/L M4/V	Macrol 200
	13	0.095	2,41	1.060	27,0	1.063 ÷ 1.220	27,0 ÷ 31,0	R51.#-13/A	13/A-L				
	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	R51.#-14	14-15-L				
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	R51.#-14-M	14-15-L	5-12÷14/A	1/2" (12,7)	F90 + M4/L M4/V	Macrol 130
	14	0.083	2,11	1.209	30,7	1.142 ÷ 1.299	29,0 ÷ 33,0	R51.#-14/A-M	14/A-15/A-L				
	16	0.065	1,65	1.245	31,6	1.181 ÷ 1.338	30,0 ÷ 34,0	R51.#-15-M	14-15-L	5-15÷16/A	1/2" (12,7)	F90 + M4/L M4/V	Macrol 200
	18	0.049	1,24	1.277	32,4	1.220 ÷ 1.378	31,0 ÷ 35,0	R51.#-15/A-M	14/A-15/A-L				
	20	0.035	0,89	1.305	33,1	1.260 ÷ 1.417	32,0 ÷ 36,0	R51.#-16-M	16-L				
	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	R51.#-14/A	14/A-15/A-L	5-12÷14/A	1/2" (12,7)	F90 + M4/L MG/49	Macrol 130 Masterrol 180
	9	0.148	3,76	1.204	30,6	1.181 ÷ 1.338	30,0 ÷ 34,0	R51.#-15	14-15-L				
	10	0.134	3,40	1.232	31,3	1.220 ÷ 1.378	31,0 ÷ 35,0	R51.#-15/A	14/A-15/A-L				
	11	0.120	3,05	1.260	32,0	1.260 ÷ 1.417	32,0 ÷ 36,0	R51.#-16	16-L	5-15÷16/A	1/2" (12,7)	F90 + M4/L M4/V	Macrol 200
	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	1.319 ÷ 1.476	33,5 ÷ 37,5	R51.#-16/A	16/A-L				
	16	0.065	1,65	1.370	34,8								
	17	0.058	1,47	1.384	35,1								
	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								