

PRODUCT DATA SHEET

PANELTWISTEC AG, FLANGE BUTTON HEAD

PRODUCT DESCRIPTION

Paneltwistec AG flange button head screw made of blue galvanised and hardened carbon steel is a **wood construction screw** with a special screw tip and **milling ribs** above the thread. The special geometry of the screw tip reduces the torque needed to drive it in and **minimises the risk of the timber splitting**.

The **larger head diameter** allows for considerably higher torque and head pull-through capacity. This makes for better use of the **screw's tensile load-bearing strength**.

APPLICATIONS

- Conditionally corrosion-resistant and suitable for use in service classes 1 and 2 according to DIN EN 1995 (Eurocode 5)
- Timber Construction Screws Paneltwistec Ø 8.0 for fixing insulation above rafters
- Not suitable for use with woods containing tanning agents

MATERIAL

- Hardened carbon steel + blue galvanised
- Free of chromium (VI) oxide
- Good resistance to mechanical stresses

CERTIFICATION

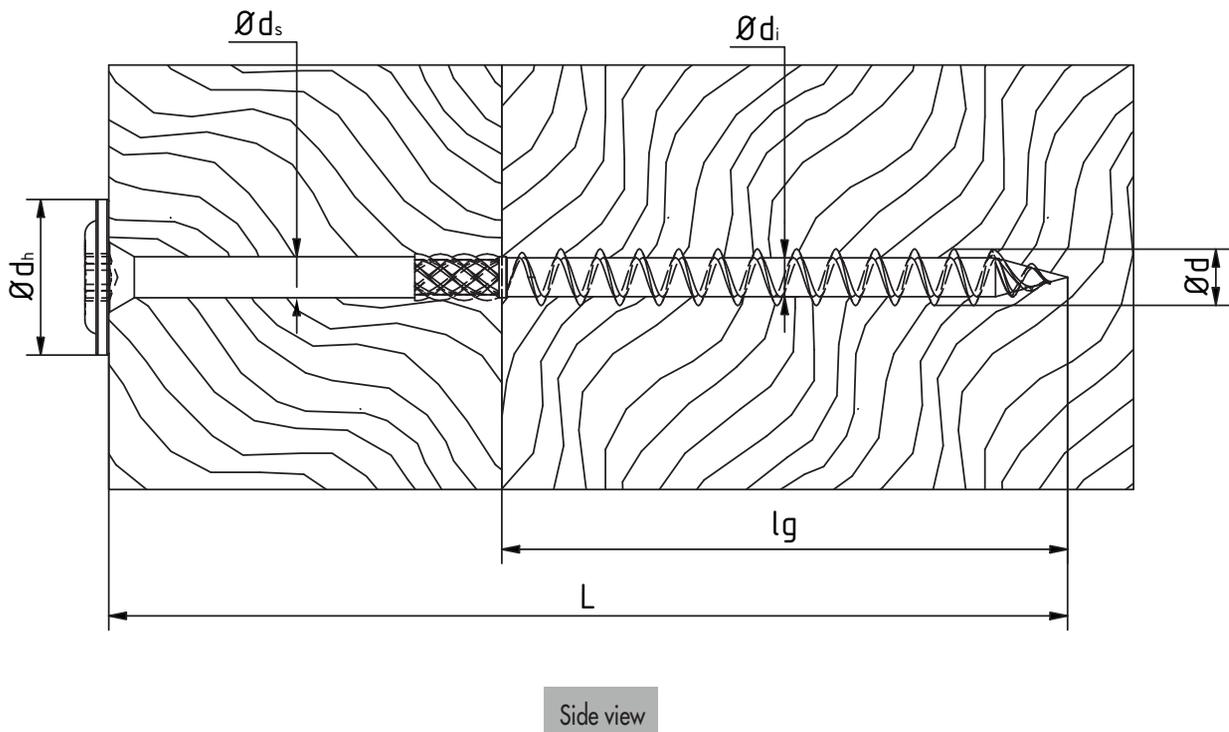
- European Technical Assessment ETA-11/0024 Self-tapping screws as wood connectors



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TECHNICAL INFORMATION



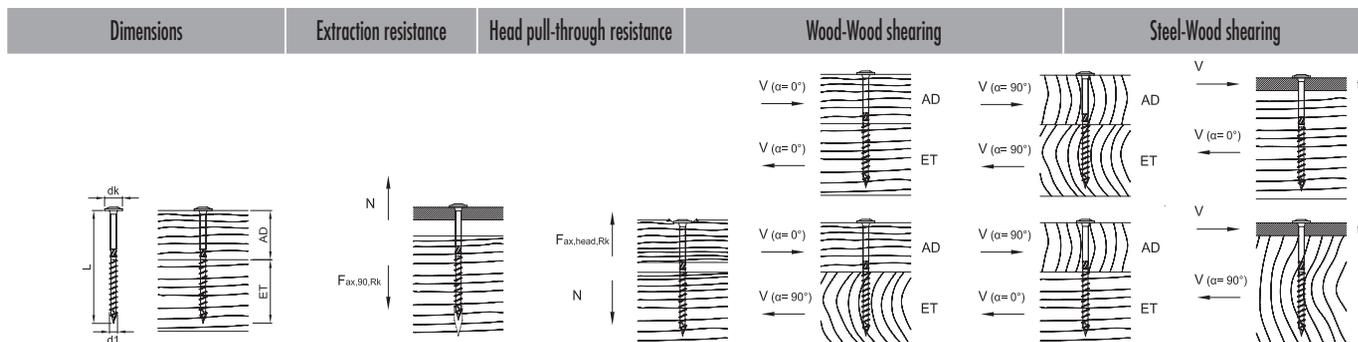
Paneltwistec AG, flange button head, steel blue galvanized

Nominal-Ø	Head-Ø	Root-Ø	Shank-Ø	Head shape	Head angle	char. tensile capacity	char. yield moment	char. withdrawal parameter	char. head pull-through parameter	char. torsional strength
d [mm]	d_h [mm]	d_r [mm]	d_s [mm]	—	[Degree °]	$f_{tens,k}$ [kN]	$M_{y,k}$ [Nm]	$f_{ax,k}$ [N/mm ²]	$f_{head,k}$ [N/mm ²]	$f_{tor,k}$ [Nm]
3,5	8,0	2,1	2,3	TK	60	3,8	2,3	13,3	12	2,0
4	10,0	2,5	2,8	TK	60	5,0	3,3	12,9	12	3,0
4,5	11,0	2,7	3,0	TK	60	6,4	4,5	12,5	12	4,2
5	12,0	3,3	3,6	TK	60	7,9	5,9	12,1	12	5,6
6	14,0	4,0	4,3	TK	60	11,0	9,5	11,4	12	9,5
8	22,0	5,3	5,7	TK	60	20,0	20,0	11,1	12	22,0
10	25,0	6,3	6,9	TK	60	28,0	35,8	10,8	12	40,0

¹⁾ The values have been taken from ETA 11/0024 and DoP-ETA110024-05-2017. We cannot guarantee that there are no typographical or printing errors and therefore recommend that you check the documents mentioned above.

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d1 x L [mm]	dk [mm]	AD [mm]	ET [mm]	F _{ax,90,Rk} [kN]	F _{ax,head,Rk} [kN]	F _{l0,Rk} [kN]		F _{l0,Rk} [kN]		t [mm]	F _{l0,Rk} [kN]	
						α = 0°	α = 90°	α _{AD} = 0°	α _{AD} = 90°		α = 0°	α = 90°
4,0 x 40	10,0	16	24	1,24	1,20		0,95			2		1,15
4,0 x 50	10,0	20	30	1,55	1,20		1,03			2		1,23
4,0 x 60	10,0	24	36	1,86	1,20		1,12			2		1,31
4,5 x 50	11,0	20	30	1,69	1,45		1,20			2		1,44
4,5 x 60	11,0	24	36	2,03	1,45		1,29			2		1,53
4,5 x 70	11,0	28	42	2,36	1,45		1,38			2		1,61
5,0 x 50	12,0	20	30	1,82	1,73		1,37			2		1,67
5,0 x 60	12,0	24	36	2,18	1,73		1,47			2		1,76
5,0 x 70	12,0	28	42	2,54	1,73		1,57			2		1,85
5,0 x 80	12,0	32	48	2,90	1,73		1,65			2		1,94
5,0 x 100	12,0	40	60	3,63	1,73		1,65			2		2,12
6,0 x 30	14,0	6	24	1,64	2,35		0,65			2		1,20
6,0 x 40	14,0	16	24	1,64	2,35		1,33			2		1,63
6,0 x 50	14,0	20	30	2,05	2,35		1,66			2		2,06
6,0 x 60	14,0	24	36	2,46	2,35		1,87			2		2,26
6,0 x 70	14,0	28	42	2,87	2,35		1,97			2		2,36
6,0 x 80	14,0	32	48	3,28	2,35		2,09			2		2,46
6,0 x 90	14,0	36	54	3,69	2,35		2,21			2		2,57
6,0 x 100	14,0	40	60	4,10	2,35		2,23			2		2,67
6,0 x 110	14,0	44	66	4,79	2,35		2,23			2		2,77
6,0 x 120	14,0	50	70	4,79	2,35		2,23			2		2,84
6,0 x 130	14,0	60	70	4,79	2,35		2,23			2		2,84
6,0 x 140	14,0	70	70	4,79	2,35		2,23			2		2,84
6,0 x 150	14,0	80	70	4,79	2,35		2,23			2		2,84
6,0 x 160	14,0	90	70	4,79	2,35		2,23			2		2,84
6,0 x 180	14,0	110	70	4,79	2,35		2,23			2		2,84
6,0 x 200	14,0	130	70	4,79	2,35		2,23			2		2,84
6,0 x 220	14,0	150	70	4,79	2,35		2,23			2		2,84
6,0 x 240	14,0	170	70	4,79	2,35		2,23			2		2,84
6,0 x 260	14,0	190	70	4,79	2,35		2,23			2		2,84
6,0 x 280	14,0	210	70	4,79	2,35		2,23			2		2,84
6,0 x 300	14,0	230	70	4,79	2,35		2,23			2		2,84
6,0 x 320	12,0	250	70	4,79	2,35		2,23			2		2,84
6,0 x 340	12,0	270	70	4,79	2,35		2,23			2		2,84
6,0 x 360	12,0	290	70	4,79	2,35		2,23			2		2,84
6,0 x 380	12,0	310	70	4,79	2,35		2,23			2		2,84
6,0 x 400	12,0	330	70	4,79	2,35		2,23			2		2,84

Calculation according to ETA-11/0024. Wood density ρ_k = 350 kg/m³. All mechanical values provided should be viewed as subject to the assumptions that have been made and represent example calculations.

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a) The characteristic values of the load-bearing capacity R_k cannot be treated as equivalent to the max. possible load (the max. force). Characteristic values of the load-bearing capacity R_k should be reduced to dimensioning values R_d with regard to the usage class and class of the load duration: R_d = R_k · k_{mod} / γ_M. The dimensioning values of the load-bearing capacity R_d should be contrasted with the dimensioning values of the loads (R_d ≥ E_d).

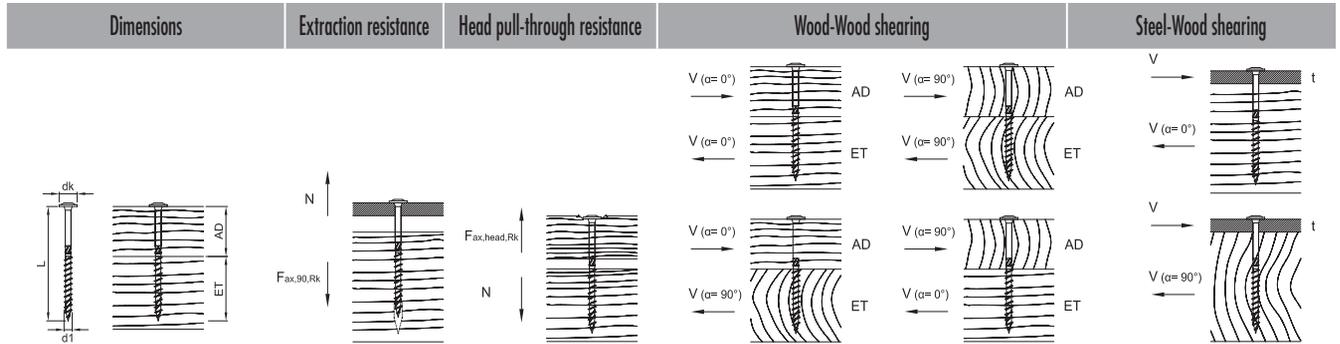
Example:

Characteristic value for constant load (dead weight) G_k = 2,00 kN and variable load (e. g. snow load) Q_k = 3,00 kN. k_{mod} = 0,9. γ_M = 1,3. → Dimensioning value of the load E_d = 2,00 · 1,35 + 3,00 · 1,5 = 7,20 kN. The load-bearing capacity of the joint is therefore considered to have been demonstrated if R_d ≥ E_d. → min R_d = R_k · γ_M / k_{mod} i.e. the characteristic minimum value is calculated based on: min R_d = R_k · γ_M / k_{mod} → R_k = 7,20 kN · 1,3 / 0,9 = 10,40 kN → comparison with table values.

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d1 x L [mm]	dk [mm]	AD [mm]	ET [mm]	F _{ax,90,Rk} [kN]	F _{ax,head,Rk} [kN]	Wood-Wood shearing				Steel-Wood shearing					
						F _{lo,Rk} [kN]	F _{lo,Rk} [kN]	F _{lo,Rk} [kN]	F _{lo,Rk} [kN]	t [mm]	F _{lo,Rk} [kN]	F _{lo,Rk} [kN]			
						α _{AD} = 0°		α _{AD} = 90°							
						α = 0°		α = 90°		α _{EI} = 90°		α _{EI} = 0°			
												α = 0°		α = 90°	
8,0 x 80	22,0	30	50	4,26	5,81	4,14	3,34	4,14	3,34	3	4,56	3,94			
8,0 x 100	22,0	40	60	5,33	5,81	4,83	4,01	4,83	4,01	3	4,83	4,20			
8,0 x 120	22,0	50	70	5,86	5,81	4,95	4,32	4,95	4,32	3	4,96	4,34			
8,0 x 140	22,0	40	100	8,44	5,81	4,95	4,13	4,95	4,13	3	5,60	4,98			
8,0 x 160	22,0	60	100	8,44	5,81	4,95	4,32	4,95	4,32	3	5,60	4,98			
8,0 x 180	22,0	80	100	8,44	5,81	4,95	4,32	4,95	4,32	3	5,60	4,98			
8,0 x 200	22,0	100	100	8,44	5,81	4,95	4,32	4,32	4,95	3	5,60	4,98			
8,0 x 220	22,0	120	100	8,44	5,81	4,95	4,32	4,32	4,95	3	5,60	4,98			
8,0 x 240	22,0	140	100	8,44	5,81	4,95	4,32	4,32	4,95	3	5,60	4,98			
8,0 x 260	22,0	160	100	8,44	5,81	4,95	4,32	4,32	4,95	3	5,60	4,98			
8,0 x 280	22,0	180	100	8,44	5,81	4,95	4,32	4,32	4,95	3	5,60	4,98			
8,0 x 300	22,0	200	100	8,44	5,81	4,95	4,32	4,32	4,95	3	5,60	4,98			
8,0 x 320	22,0	220	100	8,44	5,81	4,95	4,32	4,32	4,95	3	5,60	4,98			
8,0 x 340	22,0	240	100	8,44	5,81	4,95	4,32	4,32	4,95	3	5,60	4,98			
8,0 x 360	22,0	260	100	8,44	5,81	4,95	4,32	4,32	4,95	3	5,60	4,98			
8,0 x 380	22,0	280	100	8,44	5,81	4,95	4,32	4,32	4,95	3	5,60	4,98			
8,0 x 400	22,0	300	100	8,44	5,81	4,95	4,32	4,32	4,95	3	5,60	4,98			
8,0 x 420	22,0	300	100	8,44	5,81	4,95	4,32	4,32	4,95	3	5,60	4,98			
8,0 x 440	22,0	300	100	8,44	5,81	4,95	4,32	4,32	4,95	3	5,60	4,98			
8,0 x 460	22,0	300	100	8,44	5,81	4,95	4,32	4,32	4,95	3	5,60	4,98			
8,0 x 480	22,0	300	100	8,44	5,81	4,95	4,32	4,32	4,95	3	5,60	4,98			
8,0 x 500	22,0	300	100	8,44	5,81	4,95	4,32	4,32	4,95	3	5,60	4,98			
8,0 x 550	22,0	300	100	8,44	5,81	4,95	4,32	4,32	4,95	3	5,60	4,98			
8,0 x 600	22,0	300	100	8,44	5,81	4,95	4,32	4,32	4,95	3	5,60	4,98			

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The load-bearing capacity of the joint is therefore considered to have been demonstrated if R_d ≥ E_d. → min R_k = R_d · γ_M / k_{mod}. I.e. the characteristic minimum value is calculated based on: min R_k = R_d · γ_M / k_{mod} → R_k = 7,20 kN · 1,3 / 0,9 = 10,40 kN → comparison with table values.

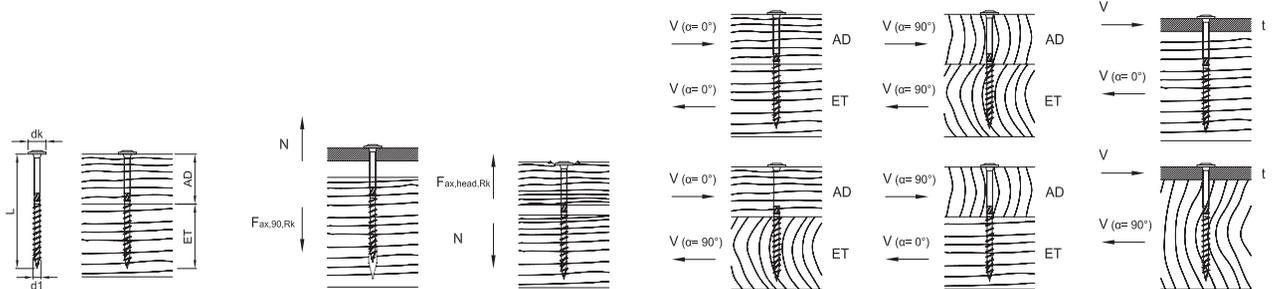
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PANELTWISTEC AG, FLANGE BUTTON HEAD

Dimensions				Extraction resistance	Head pull-through resistance	Wood-Wood shearing				Steel-Wood shearing	
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d1 x L [mm]	dk [mm]	AD [mm]	ET [mm]	F _{ax,90,Rk} [kN]	F _{ax,head,Rk} [kN]	F _{la,Rk} [kN]		F _{la,Rk} [kN]		t [mm]	F _{la,Rk} [kN]	
						α=0°	α=90°	α _{AD} =0°	α _{AD} =90°		α=0°	α=90°
10,0 x 100	25,0	40	60	6,48	7,50	6,44	5,08	6,44	5,08	3	6,78	5,81
10,0 x 120	25,0	50	70	7,13	7,50	6,94	5,74	6,94	5,74	3	6,94	5,97
10,0 x 140	25,0	40	100	10,26	7,50	6,70	5,34	6,70	5,34	3	7,72	6,76
10,0 x 160	25,0	60	100	10,26	7,50	7,03	6,07	7,03	6,07	3	7,72	6,76
10,0 x 180	25,0	80	100	10,26	7,50	7,03	6,07	7,03	6,07	3	7,72	6,76
10,0 x 200	25,0	100	100	10,26	7,50	7,03	6,07	6,07	7,03	3	7,72	6,76
10,0 x 220	25,0	120	100	10,26	7,50	7,03	6,07	6,07	7,03	3	7,72	6,76
10,0 x 240	25,0	140	100	10,26	7,50	7,03	6,07	6,07	7,03	3	7,72	6,76
10,0 x 260	25,0	160	100	10,26	7,50	7,03	6,07	6,07	7,03	3	7,72	6,76
10,0 x 280	25,0	180	100	10,26	7,50	7,03	6,07	6,07	7,03	3	7,72	6,76
10,0 x 300	25,0	200	100	10,26	7,50	7,03	6,07	6,07	7,03	3	7,72	6,76
10,0 x 320	25,0	220	100	10,26	7,50	7,03	6,07	6,07	7,03	3	7,72	6,76
10,0 x 340	25,0	240	100	10,26	7,50	7,03	6,07	6,07	7,03	3	7,72	6,76
10,0 x 360	25,0	260	100	10,26	7,50	7,03	6,07	6,07	7,03	3	7,72	6,76
10,0 x 380	25,0	280	100	10,26	7,50	7,03	6,07	6,07	7,03	3	7,72	6,76
10,0 x 400	25,0	300	100	10,26	7,50	7,03	6,07	6,07	7,03	3	7,72	6,76
10,0 x 420	17,8	320	100	10,26	7,50	7,03	6,07	6,07	7,03	3	7,72	6,76
10,0 x 440	17,8	340	100	10,26	7,50	7,03	6,07	6,07	7,03	3	7,72	6,76
10,0 x 460	17,8	360	100	10,26	7,50	7,03	6,07	6,07	7,03	3	7,72	6,76
10,0 x 480	17,8	380	100	10,26	7,50	7,03	6,07	6,07	7,03	3	7,72	6,76
10,0 x 500	17,8	400	100	10,26	7,50	7,03	6,07	6,07	7,03	3	7,72	6,76
10,0 x 550	17,8	450	100	10,26	7,50	7,03	6,07	6,07	7,03	3	7,72	6,76
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PRODUCT TABLE

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Art. no.	Dimensions Ød x L [mm]	Drive	Thread length [mm]	PU
946158	4,0 x 40	TX20 ●	24	500
946159	4,0 x 50	TX20 ●	30	500
946160	4,0 x 60	TX20 ●	36	500
946161	4,5 x 50	TX20 ●	30	200
946162	4,5 x 60	TX20 ●	36	200
946163	4,5 x 70	TX20 ●	42	200
946037	5,0 x 50	TX25 ●	30	200
946038	5,0 x 60	TX25 ●	36	200
946039	5,0 x 70	TX25 ●	42	200
946040	5,0 x 80	TX25 ●	48	200
946042	5,0 x 100	TX25 ●	60	200
945947	6,0 x 30	TX30 ●	24	100
945948	6,0 x 40	TX30 ●	24	100
945712	6,0 x 50	TX30 ●	30	100
945713	6,0 x 60	TX30 ●	36	100
945716	6,0 x 70	TX30 ●	42	100
945717	6,0 x 80	TX30 ●	48	100
945718	6,0 x 90	TX30 ●	54	100
945719	6,0 x 100	TX30 ●	60	100
945720	6,0 x 110	TX30 ●	66	100
945721	6,0 x 120	TX30 ●	70	100
945722	6,0 x 130	TX30 ●	70	100
945723	6,0 x 140	TX30 ●	70	100
945724	6,0 x 150	TX30 ●	70	100
945725	6,0 x 160	TX30 ●	70	100
945726	6,0 x 180	TX30 ●	70	100
945727	6,0 x 200	TX30 ●	70	100
945728	6,0 x 220	TX30 ●	70	100
945729	6,0 x 240	TX30 ●	70	100
945730	6,0 x 260	TX30 ●	70	100
945731	6,0 x 280	TX30 ●	70	100
945732	6,0 x 300	TX30 ●	70	100
945733	6,0 x 320	TX30 ●	70	100
945734	6,0 x 340	TX30 ●	70	100
945735	6,0 x 360	TX30 ●	70	100
945736	6,0 x 380	TX30 ●	70	100
945737	6,0 x 400	TX30 ●	70	100
945806	8,0 x 60	TX40 ●	36	50
944588	8,0 x 80	TX40 ●	50	50
944589	8,0 x 100	TX40 ●	60	50
944590	8,0 x 120	TX40 ●	70	50
944591	8,0 x 140	TX40 ●	100	50
944592	8,0 x 160	TX40 ●	100	50
944593	8,0 x 180	TX40 ●	100	50
944594	8,0 x 200	TX40 ●	100	50
944595	8,0 x 220	TX40 ●	100	50
944596	8,0 x 240	TX40 ●	100	50

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PANELTWISTEC AG, FLANGE BUTTON HEAD

Paneltwistec AG, flange button head, steel blue galvanized				
Art. no.	Dimensions Ød x L [mm]	Drive	Thread length [mm]	PU
944597	8,0 x 260	TX40 ●	100	50
944598	8,0 x 280	TX40 ●	100	50
944599	8,0 x 300	TX40 ●	100	50
944600	8,0 x 320	TX40 ●	100	50
944601	8,0 x 340	TX40 ●	100	50
944602	8,0 x 360	TX40 ●	100	50
944603	8,0 x 380	TX40 ●	100	50
944604	8,0 x 400	TX40 ●	100	50
944605	8,0 x 420	TX40 ●	100	25
944606	8,0 x 440	TX40 ●	100	25
944607	8,0 x 460	TX40 ●	100	25
944608	8,0 x 480	TX40 ●	100	25
944609	8,0 x 500	TX40 ●	100	25
944610	8,0 x 550	TX40 ●	100	25
944611	8,0 x 600	TX40 ●	100	25
945750	10,0 x 80	TX50 ●	48	50
945751	10,0 x 100	TX50 ●	60	50
945752	10,0 x 120	TX50 ●	70	50
945753	10,0 x 140	TX50 ●	100	50
945754	10,0 x 160	TX50 ●	100	50
945755	10,0 x 180	TX50 ●	100	50
945756	10,0 x 200	TX50 ●	100	50
945757	10,0 x 220	TX50 ●	100	50
945758	10,0 x 240	TX50 ●	100	50
945759	10,0 x 260	TX50 ●	100	50
945760	10,0 x 280	TX50 ●	100	50
945761	10,0 x 300	TX50 ●	100	50
945762	10,0 x 320	TX50 ●	100	50
945763	10,0 x 340	TX50 ●	100	50
945764	10,0 x 360	TX50 ●	100	25
945765	10,0 x 380	TX50 ●	100	25
945766	10,0 x 400	TX50 ●	100	25
100019	10,0 x 420	TX50 ●	100	25
100020	10,0 x 440	TX50 ●	100	25
100021	10,0 x 460	TX50 ●	100	25
100022	10,0 x 480	TX50 ●	100	25
100023	10,0 x 500	TX50 ●	100	25
100024	10,0 x 550	TX50 ●	100	25
100025	10,0 x 600	TX50 ●	100	25

If you are not familiar with this product's application, and particularly with the product's intended use, please contact our Application Technology department (technik@eurotec.team).