

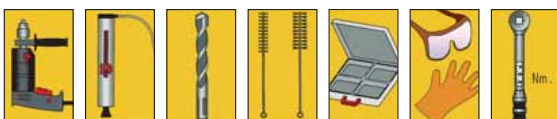
# INJECTION SYSTEM W-VIZ/S M8 TO M12

23.1

Characteristic values		M8	M8	M10	M10	M12	M12	M12	M12	M12	M12	M12							
Anchor diameter [mm]		h <sub>ef</sub> 40	h <sub>ef</sub> 50	h <sub>ef</sub> 60	h <sub>ef</sub> 75	h <sub>ef</sub> 70	h <sub>ef</sub> 80	h <sub>ef</sub> 95	h <sub>ef</sub> 100	h <sub>ef</sub> 110	h <sub>ef</sub> 125								
Minimum component thickness	h <sub>min</sub> ≥ [mm]	80	80	100	110/100 <sup>5)</sup>	110	110	130/125 <sup>5)</sup>	130	140	160								
Minimal axis distance	cracked concrete	40	40	40	50	40	50	55	55	40	55	40	55	50	80 <sup>6)</sup>	50	80 <sup>6)</sup>	50	80 <sup>6)</sup>
	non-cracked concrete	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Minimal edge clearance	cracked concrete	40	40	40	50	40	50	55	55	50	55	50	55	50	55	50	55	50	55
	non-cracked concrete	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Axial spacing	s <sub>cr,N</sub> [mm]	120	150	180	225	210	240	285	300	330	375								
Edge spacing	c <sub>cr,N</sub> [mm]	60	75	90	112.5	105	120	142.5	150	165	187.5								
Effective anchoring depth	h <sub>ef</sub> ≥ [mm]	40	50	60	75	70	80	95	100	110	125								
Nom. drill dia.	d <sub>0</sub> [mm]	10	10	12	12	14	14	14	14	14	14								
Drill hole depth	h <sub>0</sub> ≥ [mm]	42	55	65	80	75	85	100	105	115	130								
Through-hole in the component being connected – cotter-pint mounting	d <sub>f</sub> ≤ [mm]	9	9	12	12	14	14	14	14	14	14								
Through-hole in the component being connected – pass-through mounting <sup>7)</sup>	d <sub>f</sub> ≤ [mm]	-	-	14	14	16	16	16	16	16	16								
torque while installing anchor	T <sub>inst</sub> = [Nm]	10	10	15	15	25	25	25	30	30	30								
Cleaning brush dia.	D ≥ [mm]	10.8	10.8	13.0	13.0	15.0	15.0	15.0	15.0	15.0	15.0								

Performance data		M8	M8	M10	M10	M12	M12	M12	M12	M12	M12	
Anchor diameter [mm]		h <sub>ef</sub> 40	h <sub>ef</sub> 50	h <sub>ef</sub> 60	h <sub>ef</sub> 75	h <sub>ef</sub> 70	h <sub>ef</sub> 80	h <sub>ef</sub> 95	h <sub>ef</sub> 100	h <sub>ef</sub> 110	h <sub>ef</sub> 125	
Permissible central tensile load <sup>1)</sup> of a single anchor without edge influence	Tensile zone (cracked concrete C20/25 <sup>2)</sup> , s ≥ 3 h <sub>ef</sub> , c ≥ 1.5 h <sub>ef</sub> )	4.3	6.1	8.0	11.1	10.0	12.3	15.9	17.1	19.8	24.0	
	Pressure zone (non-cracked concrete C20/25 <sup>2)</sup> ) Minimum axial and edge spacing (s <sub>cr,sp</sub> ≥ 3 h <sub>ef</sub> , c <sub>cr,sp</sub> ≥ 1.5 h <sub>ef</sub> )	50 °C <sup>3)</sup> / 80 °C <sup>4)</sup>	2.4	3.6	5.7	5.7	7.6	9.5	9.5	14.3	14.3	14.3
		72 °C <sup>3)</sup> / 120 °C <sup>4)</sup>	3.6	4.3	7.6	9.5	9.5	17.2	14.3	19.1	16.7	19.1
	Pressure zone (non-cracked concrete C20/25 <sup>2)</sup> ) maximum carrying capacity (s <sub>cr,sp</sub> and c <sub>cr,sp</sub> see permit)	50 °C <sup>3)</sup> / 80 °C <sup>4)</sup>	2.9	4.3	7.6	7.6	7.6	11.9	11.9	14.3	14.3	14.3
Perm. transverse load <sup>1)</sup> of a single anchor without edge influence	Tensile zone (cracked concrete C20/25 <sup>2)</sup> , c ≥ 10 h <sub>ef</sub> )	8.0	8.0	12.0	12.0	19.4	19.4	19.4	19.4	19.4	19.4	
	Pressure zone (non-cracked concrete C20/25 <sup>2)</sup> , c ≥ 10 h <sub>ef</sub> )	8.0	8.0	12.0	12.0	19.4	19.4	19.4	19.4	19.4	19.4	
Permissible bending torque	T <sub>perm.</sub> [Nm]	17.1	17.1	34.3	34.3	60	60	60	60	60	60	
Fire resistance duration	F30 [kN]	-	3.0	7.0	-	-	10.0	-	10.0	-	-	
	F60 [kN]	-	0.3	0.95	-	-	2.8	-	2.8	-	-	
	F90 [in kN]	-	-	0.3	-	-	1.35	-	1.35	-	-	
	F120 [kN]	-	-	-	-	-	0.8	-	0.8	-	-	

## Würth system components



- The partial safety factors of the resistances regulated in the approval and a partial safety factor of the effects of  $\gamma_F = 1.4$  have been taken into account. Please refer to the European Technical Approval Guidelines (ETAG), Appendix C, for information on combining tensile and transverse loads, edge influence and groups of anchors.
- The concrete has normal reinforcement. Higher values are possible for higher concrete strengths.

- Maximum long-term temperature.
- Maximum short-term temperature.
- The back of the concrete component must be checked to ensure that no chipping has occurred during drilling (see ETA-04/0095).
- Min. axis distance  $s_{min} = 55$  mm for edge clearance  $c \geq 80$  mm.
- The ring gap in the attached part must be completely filled with excess mortar after the setting.