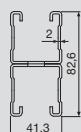
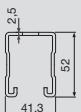
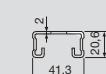
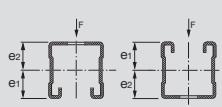


Technical data for channel profile MQ (stainless steel)

Definition of axes



		MQ-21-RA2	MQ-21-R	MQ-41-RA2	MQ-41-R	MQ-52-R	MQ-21D-RA2	MQ-21D-R	MQ-41D-R
Channel wall thickness	t [mm]	2,0	2,0	2,0	2,0	2,5	2,0	2,0	2,0
Cross-sectional area	A [mm²]	184.95	184.95	267.75	267.75	378.74	372.33	372.33	545.97
Channel weight	[kg/m]	1,45	1,47	2,09	2,12	3,00	2,92	2,96	4,27
Delivered length	[m]	3/6	3/6	3/6	3/6	3/6	3/6	3/6	3/6
Material									
Permissible stress	δ_{perm} [N/mm²]	149.4	155.8	149.4	155.8	155.8	149.4	155.8	155.8
E-module	[N/mm²]	200000	200000	200000	200000	200000	200000	200000	200000
Surface									
Stainless steel A2 (1.4301)		•		•			•		
Stainless steel A4 (1.4571/1.4404)			•		•	•		•	•
Cross-section values y-axis									
Axis of gravity A ¹⁾	e ₁ [mm]	11.22	11.22	21.69	21.69	27.27	20.60	20.60	41.30
Axis of gravity B	e ₂ [mm]	9.38	9.38	19.61	19.61	24.73	20.60	20.60	41.30
Moment of inertia	I _y [cm⁴]	1.01	1.01	5.88	5.88	12.42	5.26	5.26	32.36
Permition modulus A	W _{y1} [cm³]	0.90	0.90	2.71	2.71	4.55	2.55	2.55	7.83
Permition modulus B	W _{y2} [cm³]	1.09	1.09	3.00	3.00	5.02	2.55	2.55	7.83
Radius of gyration	i _y [cm]	0.74	0.74	1.48	1.48	1.81	1.19	1.19	2.44
Permissible moment ²⁾	M _y [Nm]	134	140	405	422	710	381	397	1'220
Z-axis									
Moment of inertia	I _z [cm⁴]	4.63	4.63	7.69	7.69	11.17	9.25	9.25	15.41
Permition modulus	W _z [cm³]	2.24	2.24	3.72	3.72	5.41	4.48	4.48	7.46
Radius of gyration	i _z [cm]	1.58	1.58	1.69	1.69	1.72	1.58	1.58	1.68

• The permissible stress $\sigma_D = \sigma_0 / \gamma_M$ where $\gamma = 1,4$, $\sigma_0 = f_y K / \gamma_M$ where $\gamma_M = 1,1$.

1) For the arithmetical bending dimensioning is the smaller value (W_{y1} , W_{y2}) decisive to ($W_{y1} = I_y/e_1$ bzw. $W_{y2} = I_y/e_2$).

2) $M_y = \delta_{\text{perm}} \times \min.(W_{y1}, W_{y2})$

Channel selection:

- The given data is based on a single span (simply-supported beam) bearing a single load, F(N), at mid span, L/2.
- If several loads are acting on a single span (simply-supported beam), these may be summated and regarded as a single load acting at mid span. By taking this approach, the design calculation is on the safe side. (→ Channel selection table).
- The permissible stress in the steel and the max. deflection, L/200, are not exceeded with the given max. span widths, L (mm).
- The channel's own weight has been considered.