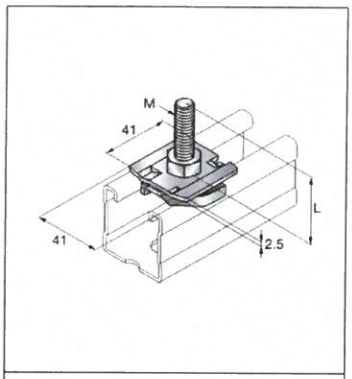
MQA-S-T M10 Pipe Ring Saddle

Designation	Item number
MQA-S-T M10x 40	**2184837**
MQA-S-T M10x 60	**2184838**
MQA-S-T M10x 80	**2184839**
MQA-S-T M10x100	**2184840**



Package content

Corrosion protection:
Electro galvanized

Weight:

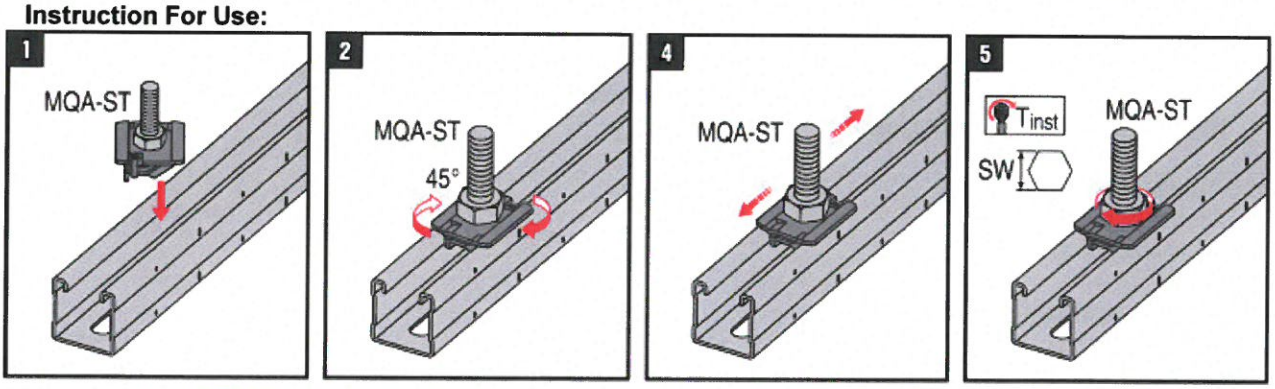
MQA-S-T M10x 40	90.93g
MQA-S-T M10x 60	100.73g
MQA-S-T M10x 80	110.53g
MQA-S-T M10x100	120.30g

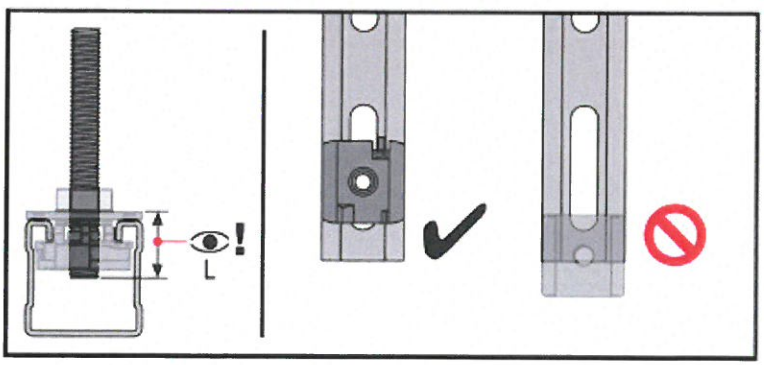
Submittal text:
Part, combining channel nut with metric internal thread M10 and channel plate incl. threaded rod . Installation by mounting to open side of channel and rotation to 45°. Fixation by screwing in threaded rod ant tightening a counter nut to pre-defined installation torque. Typically used for fixing pipe-rings and other threaded rod connections to installation channel. Can transfer tension, compression and shear loads.

Material properties

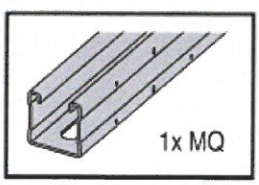
Material	Yield strength	Ultimate strength	E-modulus	Shear modulus
Plate: steel S355J2 DIN EN 10025-2	$F_y = 355 \frac{N}{mm^2}$	$F_u = 510 \frac{N}{mm^2}$	$E = 210000 \frac{N}{mm^2}$	$G = 80769 \frac{N}{mm^2}$
Threaded rod: Steel grade 4.8 DIN 976-1	$F_y = 320 \frac{N}{mm^2}$	$F_u = 400 \frac{N}{mm^2}$	$E = 210000 \frac{N}{mm^2}$	$G = 80769 \frac{N}{mm^2}$
Nut: grade 8.8 - DIN EN ISO 898	$F_y = 640 \frac{N}{mm^2}$	$F_u = 800 \frac{N}{mm^2}$	$E = 210000 \frac{N}{mm^2}$	$G = 80769 \frac{N}{mm^2}$

Instruction For Use:





	SW	Tinst	Lmin
M8	13mm	9 Nm (7ft-lb)	18mm
M10	17mm	18 Nm (14ft-lb)	18mm



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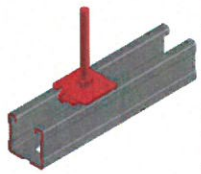
Possible loading cases		
Standard		
		

Design criteria used for loading capacity

Methodology:
- Finite element analysis
- Hardware tests

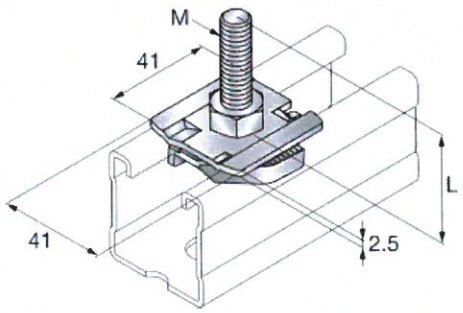
Standards and codes:

• EN 1990	Basics of structural design	03.2003
• EN 1991-1-1	Eurocode 1: Actions on structures – Part 1-1: General actions – densities, self-weight, imposed loads for buildings	09.2011
• EN 1993-1-1	Eurocode 3: Design of steel structures – Part 1-1: General rules and rules for buildings	03.2012
• EN 1993-1-3	Eurocode 3: Design of steel structures – Part 1-3: General rules- Supplementary rules for cold-formed members and sheeting	03.2012
• EN 1993-1-5	Eurocode 3: Design of steel structures – Part 1-5: Plated structural elements	03.2012
• EN 1993-1-8	Eurocode 3: Design of steel structures – Part 1-8: Design of joints	03.2012
EN 10025-2	Hot rolled products of structural steels- Part 2: technical delivery conditions for non-alloy structural steels	02.2005
• RAL-GZ 655	Pipe Supports	04.2008

Software:
- Ansys 16.0
- Microsoft Excel

Environmental conditions:
- static loads
- no fatigue loads

Simplified drawing:



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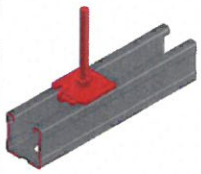
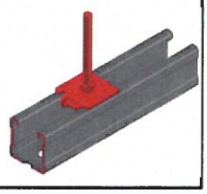
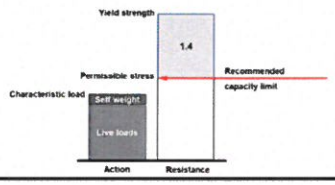
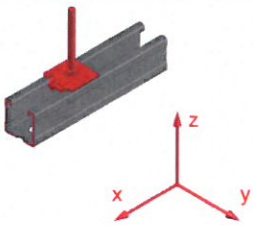
Standard		
		

Loading case: In MQ-41-L (1.5mm wall thickness)	Combinations covered by loading case
BOM: **1x MQA-S-T M10x 40 2184837** **MQA-S-T M10x 60 2184838** **MQA-S-T M10x 80 2184839** **MQA-S-T M10x100 2184840** Nut and respective length of threaded rod included and pre-assembled 	Pre-assembled M10 pipe ring saddle for perpendicular connection of pipe rings to channel 

Recommended loading capacity - simplified for most common applications

Method



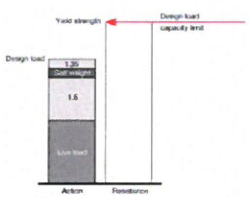


	±Fx,rec. [kN]	±Fy,rec. [kN]	±Fz,rec. [kN]
M10			3.00

These values are individual one directional maximal capacity limits. For any combinations of multiple directions, use design values and their corresponding interaction formulas.

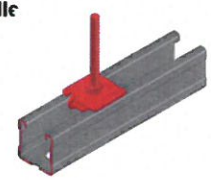
Design loading capacity - 3D 1/2

Method



Limiting components of capacity evaluated in following tables:

1. **MQA-S-T M10 pipe ring saddle**



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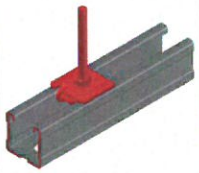
Conditions of the loading capacity tables:

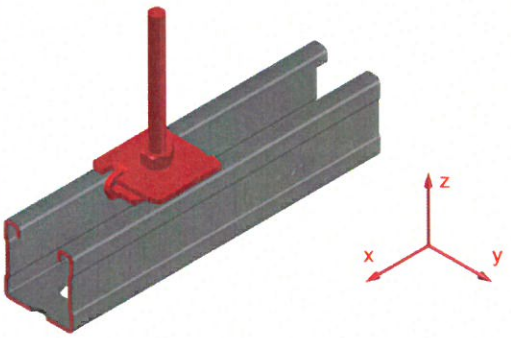
- Just for static loads
- No fatigue loads
- No low (< -10° C), no high (> +100° C) temperatures

Standard		
		

Design loading capacity - 3D 2/2

Summary of design loads*
NOTE: all values in interaction formulas should be used in absolute values! The values below are referred to the coordinate system shown in the drawing.

1. MQA-S-T M10 pipe ring saddle



+Fx,Rd [kN]	-Fx,Rd [kN]	+Fy,Rd [kN]	-Fy,Rd [kN]	+Fz,Rd [kN]	-Fz,Rd [kN]
				4.20	
+Mx,Rd [kNcm]	**-Mx,Rd [kNcm]**	**+My,Rd [kNcm]**	**-My,Rd [kNcm]**	**+Mz,Rd [kNcm]**	**-Mz,Rd [kNcm]**

valid for edge distance ≥ 100mm