

JORDAHL® Systems for Mounting Technology

For people who are versatile and want to stay that way.

Technical Information

Quality since 1907.



The JORDAHL headquarters and service centre are based in the same building as our affiliated company PUK

The JORDAHL Company

JORDAHL connects: steel, heavy loads and a whole lot more. And of course numerous customers around the world who have already opted for high-quality and customised products for fastening, reinforcing, connecting and mounting technology as well as facade connection systems. Customers who choose JORDAHL want more, higher levels of quality, a broader range of choices, better advice and more experience. And this is exactly

what we have to offer. Since our company was founded in Berlin in 1907, we have been at the forefront in the field of fastening and reinforcement technology. JORDAHL products such as anchor channels have become milestones in the evolution of structural engineering and have brought lasting changes to construction, shaping the way buildings are designed and making them safer, not just in Germany.

The JORDAHL Seal

JORDAHL has over 100 years of unique experience in the market. This experience forms the basis of our competence and high standards. Whether high quality products, service or advice – we aim to do everything for our customers to the same demanding standard of excellence. This is what the JORDAHL seal stands for. It is a guarantee of quality for our customers and also the standard that we strive to adhere to each and every day.



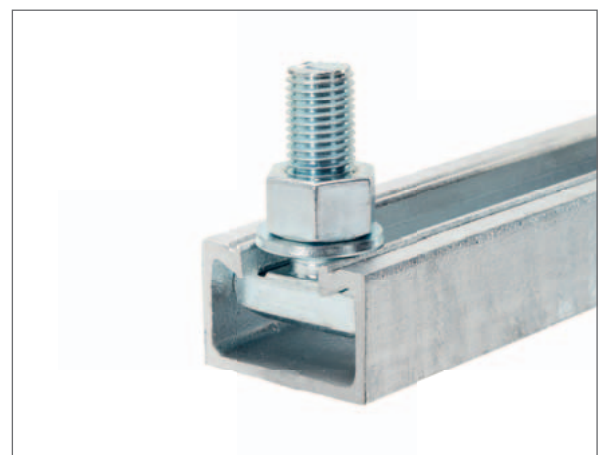
The JORDAHL seal of quality and excellence.

JORDAHL® Customised Solutions

Every customer and each project has exacting requirements. This is why we offer the option of customised solutions across our full range of products including our mounting technology range.

Our competent and experienced engineers in the JORDAHL advice department work in close collaboration with you to develop special product solutions in line with your requirements.

Of course all offered solutions are in line with the high standards of JORDAHL so there are no compromises when it comes to safety, reliability and cost effectiveness.



Versatile connection of channel and T-bolt

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Introduction to Mounting Channels

Regardless of whether it is in the transport, production or power generation sector: countless machines, products, goods, etc. have to be fastened securely and versatile on a daily basis all around the world. JORDAHL® mounting channels and T-bolts provide the perfect solution for anyone who requires variable, reliable and convertible support and fastening elements for medium

duty to heavy constructions. Anyone who needs high security and reliability from these connections can rely on our “Made in Germany” standards of safety and quality plus our decades of manufacturing experience. Our products are available in customised solutions to meet your exact requirements.

JORDAHL® Mounting Channels and T-bolts are the Perfect Solution

- If the positioning of the connections are not clear during the design phase, or if positioning tolerance is required.
- If components need to be easy and quick to assemble, disassemble, move or adjust.
- If safety and quality is important to you.
- For any application that requires versatile connections.

Areas of Application

- Mechanical engineering
- Plant construction
- Material handling equipment
- Oil and chemical industry
- Pipeline construction
- Building technology/ industrial construction
- Lift construction
- Container construction/loading
- Ships and yachts
- Rail vehicles
- Automotive engineering
- Marine/dockyard industry
- Power engineering
- Power station construction
- Transport network expansion
- Renewable energies
- And many more



Advantages

For Buyers

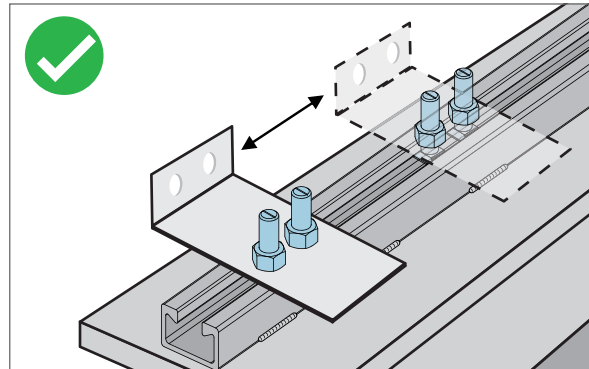
- Cost-effective system allowing exchangeable and variable modules without additional planning and installation costs
- Lower costs in the long-term as it is a sustainable connection solution allowing easy component upgrading, repair, and replacement
- No expensive mechanical work required on site

For Design Engineers

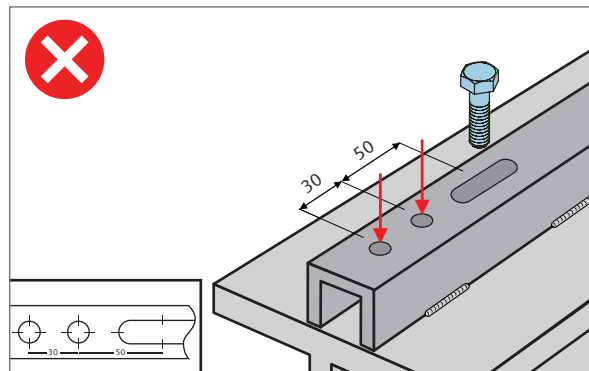
- Quick and reliable design of connections with the aid of tested load tables
- Large selection of standard mounting channels for variable bolted connections in light, medium, and heavy duty applications
- Toothed mounting channels for very heavy loads in a longitudinal direction
- Special customised solutions are available to the customer's requirements
- Free CAD library with 2D and 3D models available on the Internet
- Competent advice and special customised solutions provided by JORDAHL experts

For Users

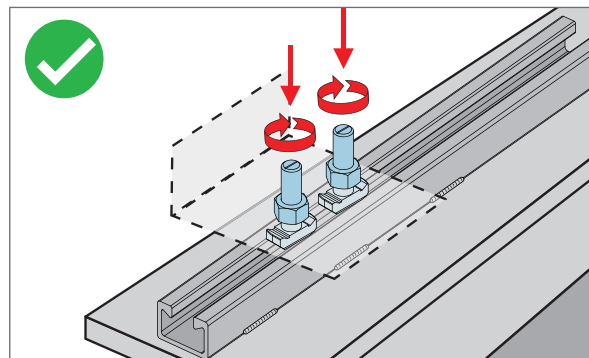
- Quick replacement, refitting and moving of components or building elements
- No specialist knowledge required
- On site welding of the mounting channels; painting/ galvanising available
- Easy compensation for building tolerances, and for changes in connection location modules
- No drilling templates, perforation patterns or welding work required
- Fast, simple and dust-free bolt-assembly on site
- Secure, versatile and quick to re-adjust
- Fast and direct customer service, which also ensures quick availability of the products



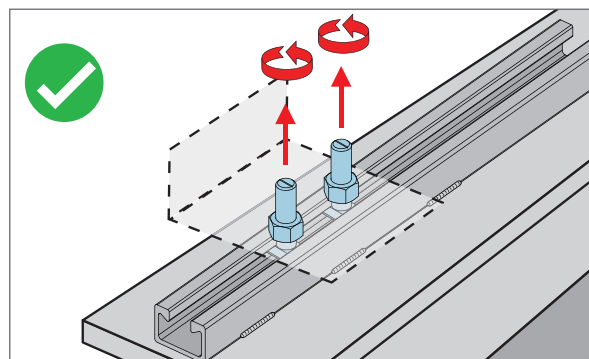
Quick replacement, refitting and moving of components or building elements



No drilling templates, perforation patterns or welding work on site



Secure, adjustable and fast bolted assembly of components on site



Quick and simple disassembly or replacement of components on site

Features

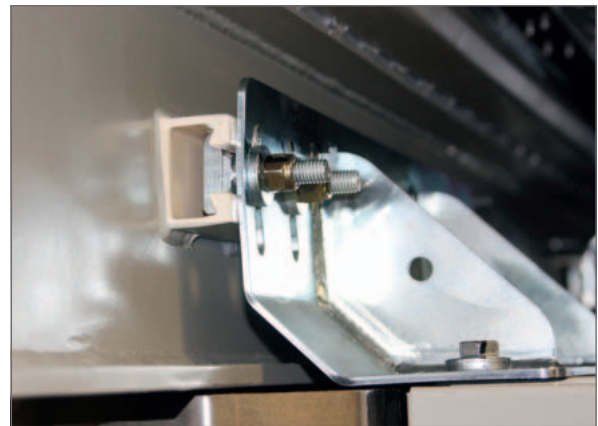


Mounting Technology

- Suitable for light to heavy duty connection applications
- Easily variable bolt spacings for location tolerance and multiple connection spacing modules
- Lengths up to 6 metres and shorter lengths available
- Curved mounting channels on request
- Material test report 2.2 readily available. Acceptance Test Report 3.1 available if requested at placement of order

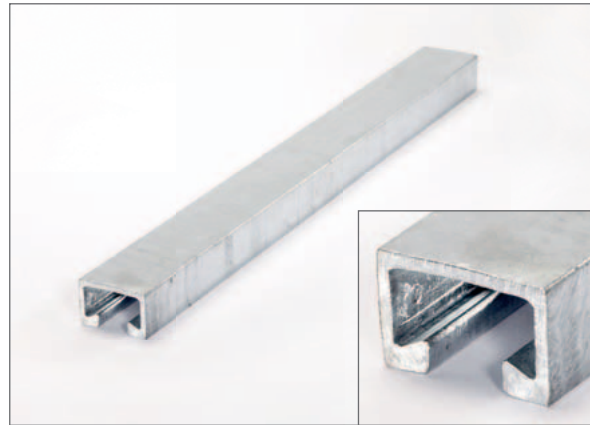
Material and Design

- Mill finish steel mounting channels for welding to substrates
- Hot-dip galvanised mounting channels for high corrosion protection and bolting to substrates
- Stainless steel A4 mounting channels for applications with the highest
- Corrosion protection and chemical resistance
- Other surface coatings available on request



Hot-rolled Mounting Channels

- Hot-rolled from a single billet
- Free from residual stresses
- High ductility, excellent weldability
- Optimised geometry with strengthened channel lips and large contact area for absorption of applied loads
- Right-angled profile edges
- Suitable for supporting high longitudinal loads when used with double-notch toothed T-bolts
- Highest load bearing capacity, statically permissible loads up to 31 kN, failure load up to 100 kN
- Five channel sizes for economic construction
- Suitable for dynamic loads

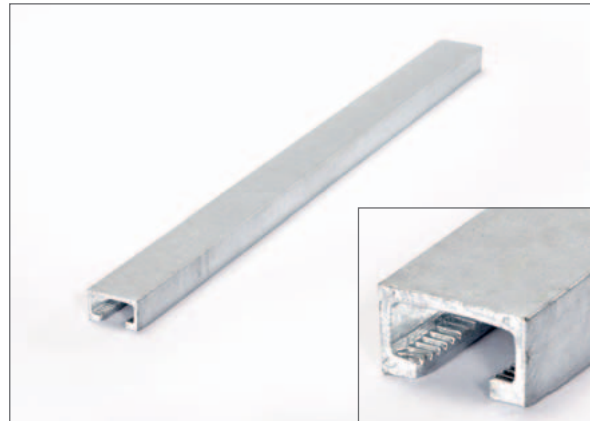


Hot-rolled Mounting Channels Type JM



Hot-rolled Toothed Mounting Channels

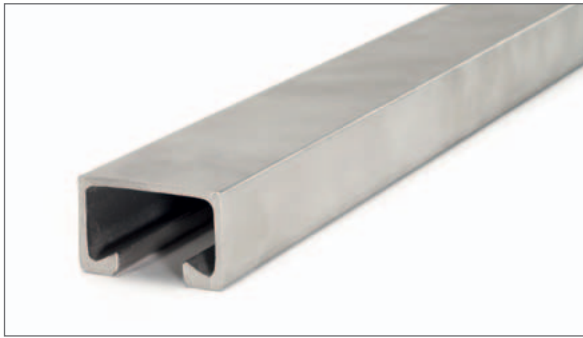
- Channel hot-rolled from a single billet with toothed channel lips
- High ductility, no residual stress and excellent weldability
- Suitable for dynamic loads
- Suitable for supporting high longitudinal loads
- High load bearing capacity for loads up to 27 kN, failure loads up to 85 kN
- Four toothed channel sizes for economic construction



Hot-rolled Toothed Mounting Channels Type JXM



Material



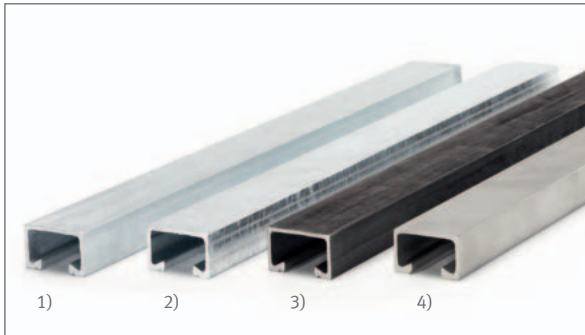
JORDAHL® Product	Steel		Stainless Steel ¹⁾	
Mounting Channels	S235JR = 1.0038 S275JR = 1.0044	DIN EN 10025	1.4401/1.4404/ } 1.4571 } 1.4529/1.4547 ³⁾ }	A4 ²⁾ DIN EN 10088
T-bolts	Strength grade 4.6/8.8	DIN EN ISO 898-1	A4-50; A4-70 ²⁾ FA-70 ³⁾	DIN EN ISO 3506-1
Hexagon Nuts ISO 4032	Strength grade 8	DIN EN 20898-2	A4-50; A4-70 ²⁾ 1.4529 ³⁾	DIN EN ISO 3506-2
Washers	Steel	DIN EN ISO 7089 (DIN 125) DIN EN ISO 7093-1 (DIN 9021) DIN EN ISO 9097 (DIN 440)	1.4401/1.4404/ } 1.4571 }	A4 ²⁾ DIN EN 10088

¹⁾ On request

²⁾ Corrosion class C4 (ISO 12944-2)

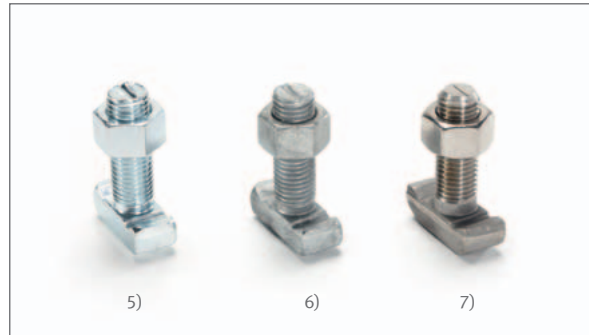
³⁾ Corrosion class C5 (ISO 12944-2)

Corrosion Protection



JORDAHL® Mounting Channels

- 1) Hot-dip galvanised steel (spun) = matt finish
- 2) Hot-dip galvanised steel (dipped) = bright finish
- 3) Mill finish steel = black finish
- 4) Stainless steel = bright or matt finish



JORDAHL® T-bolts

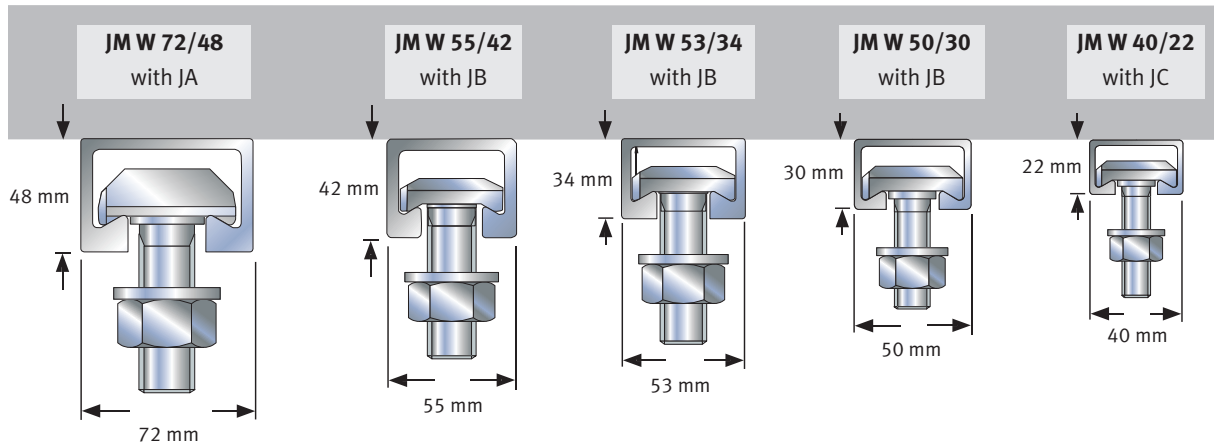
- 5) Electro zinc plated steel = bright finish
- 6) Hot-dip galvanised steel = matt finish
- 7) Stainless steel = head – matt finish, thread – bright finish

Corrosion Categories: ISO 12944-2	Mounting Channels	T-bolt, Nut, Washer	Intended Use
C1 little	Mill finish	Mill finish without corrosion protection	Mill finish channels can be welded directly to the steel structure. Corrosion protection is provided after the construction has been put together and painted or galvanised.
C2 low	Hot-dip galvanised (HDG), layer > 50 µm	Electro zinc plated (ZP), layer > 5 µm	For bolted assemblies in interior spaces, e. g. apartments, offices, schools, hospitals, sales rooms with the exception of wet rooms.
C3 medium	Hot-dip galvanised (HDG), layer > 50 µm	Hot-dip galvanised (HDG), layer > 50 µm	For bolted assemblies in interior spaces with a normal air humidity (including kitchens, bathrooms and wash-rooms in apartments) with the exception of spaces that are permanently exposed to moisture.
C4 high	Stainless steel ¹⁾ 1.4401 } A4 1.4404 } 1.4571 } 1.4362 } L4	Stainless steel ¹⁾ 1.4401 } A4-50 1.4404 } A4-70 1.4571 } 1.4362 } L4-70	Applications with medium corrosion protection, e. g. wet rooms, areas susceptible to weathering, industrial environments, close to the sea and in inaccessible areas.
C5 severe	Stainless steel ¹⁾ 1.4462 } FA 1.4529 } HC 1.4547 }	Stainless steel ¹⁾ 1.4462 } FA-70 1.4529 } HC-50 1.4547 } HC-70	Applications with high corrosion resistance and high corrosion stress due to chlorides and sulphur dioxide (including concentration of harmful substances, e. g. when construction components are exposed to salt water and road tunnels).

¹⁾ On request

Mounting Channels

Overview of Hot-rolled Mounting Channels



T-bolts → Page 12/13

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Type	JA	JB	JB	JB	JC
Thread	M 20	M 16	M 10	M 10	M 10
	M 24	M 20	M 12	M 12	M 12
	M 27	M 24 ¹⁾	M 16	M 16	M 16
	M 30		M 20	M 20	

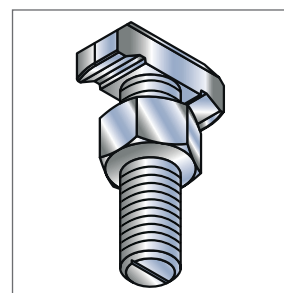
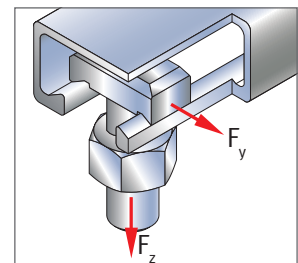
¹⁾ Also referred to as JE M24.

Hook-head T-bolts

- Suitable for non-toothed mounting channels
- Support tension and transverse shear loads to the channel
- Double-notch toothed T-bolts also support shear loads longitudinal to the channel. Please see page 30
- T-bolt shank marked with notch to ensure correct installation
- Available in two strength grades (4.6 offers high ductility, 8.8 offers high pretension for friction connections)
- Types: JA, JB, JC

Material and Design:

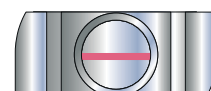
- Hot-dip galvanised steel (strength grade 4.6/8.8)
- Electro zinc plated steel (strength grade 4.6/8.8)
- stainless steel (A4) and FA-70



One notch on the T-bolt shank



View from above
Embossed with type and strength grade



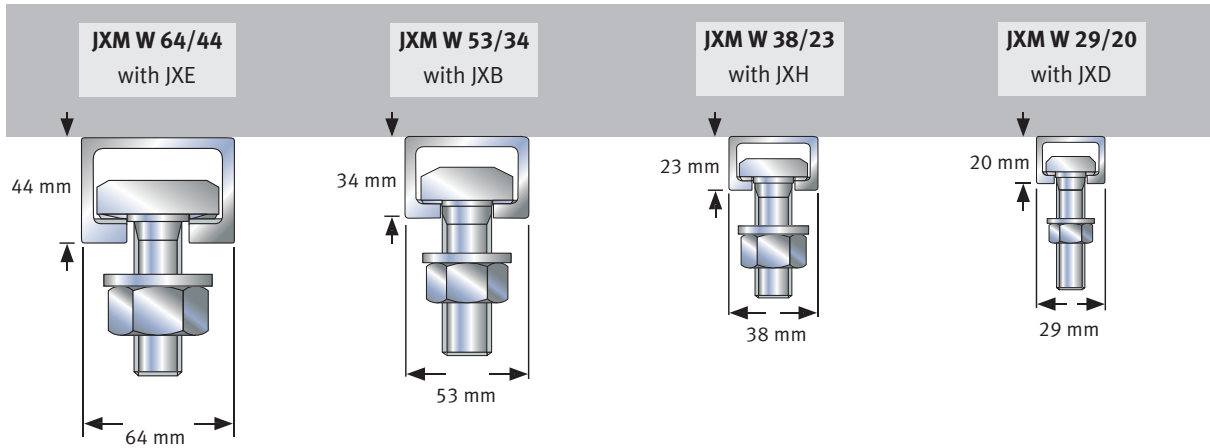
View from below
Notch indicates the installation position

Position Identification of Hook-head T-bolts

Note: After installation, the notch on the T-bolt shank must be perpendicular to the longitudinal direction of the channel.

The T-bolts are supplied with nuts.
Washers must be ordered separately (see page 34).

Overview of Hot-rolled Toothed Mounting Channels



T-bolts → Page 22/23

→ Page 24/25

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→ Page 28/29

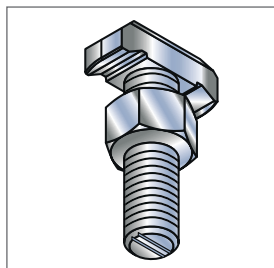
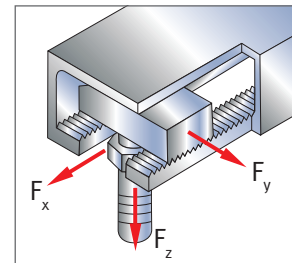
Type	JXE	JXB	JXH	JXD
Thread	M 20 M 24	M 16 M 20	M 12 M 16	M 10 M 12

Toothed T-bolts

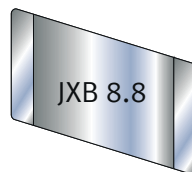
- Suitable for toothed mounting channels
- Support tension loads, transverse shear loads, and shear loads longitudinal to the channel.
- Identified by two notches on the shank of the T-bolt
- Types: JXE, JXB, JXH, JXD

Material and Design:

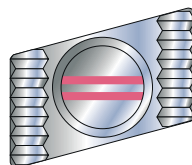
- Hot-dip galvanised steel (strength grade 8.8)
- Stainless steel (strength grade FA-70)



Two notches at the shaft end



View from above
Embossed with type and strength grade



View from below
Double notch indicates the installation position

Position Identification of Toothed T-bolts

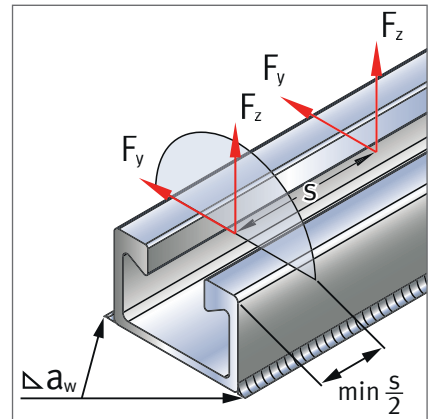
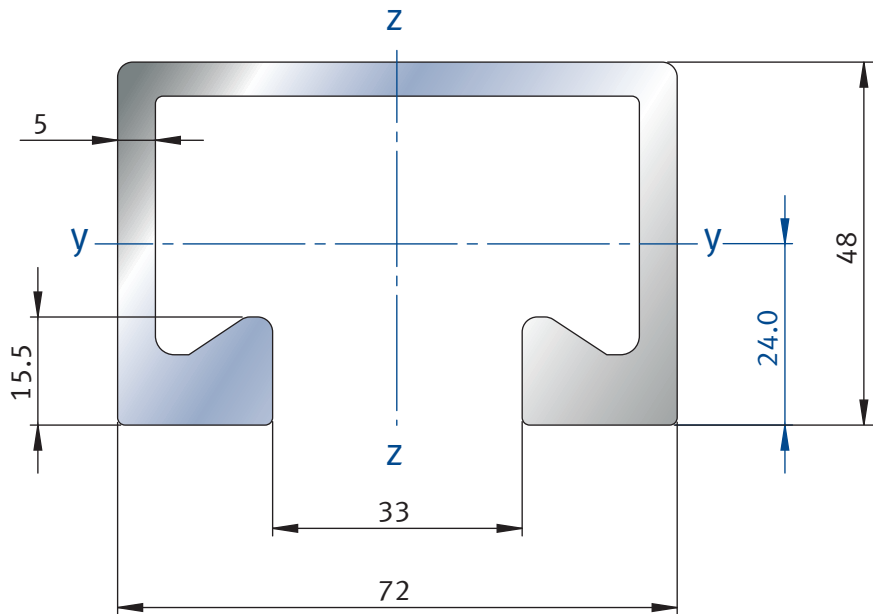
Note: After installation, the double notches on the T-bolt shank must be perpendicular to the longitudinal direction of the channel.



The T-bolts are supplied with nuts.
Washers must be ordered separately (see page 34).

Hot-rolled Mounting Channels

JM W 72 / 48



Technical Details

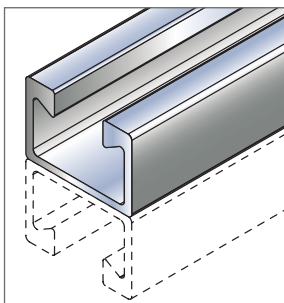
Permissible Single Static Load ¹⁾		Minimum Load Distance	Moments of Resistance			Moments of Inertia	
$F_{z \max}$ ²⁾ [kN]	$F_{y \max}$ [kN]	s [mm]	W_y [mm ³]	W_z [mm ³]	$W_{pl,y}$ [mm ³]	I_y [mm ⁴]	I_z [mm ⁴]
31.0	9.3	129	14.565	23.131	18.282	349.720	832.710

¹⁾ When used with T-bolt JA M24 8.8: Safety factor to failure $j_m = 2$ and safety factor to yield $j_p = 1.5$.

²⁾ Capacity to withstand stresses in the delivery condition. Reduction due to soft annealing should be taken into consideration separately, if necessary.

Failure Load		Cross Section	Weight ³⁾	Weld
$F_{z u}$ [kN]	$F_{y u}$ [kN]	A [mm ²]	G [kg/m]	a_w [mm]
100.0	52.1	1.127	8.84	4

³⁾ All weights per metre for mill finish steel. For galvanised channels: weights per metre $\times 1.10$



Double profile JM W 72/48 D
on request

Material and Design

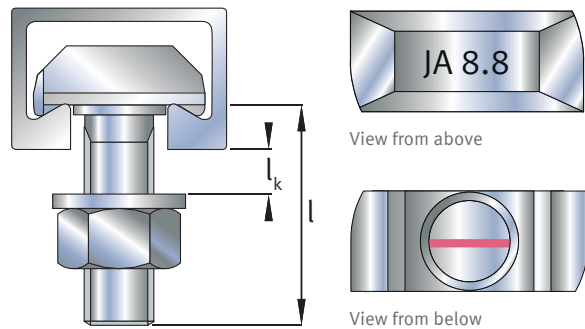
- Hot-dip galvanised (HDG) steel 1.0038
- Mill finish steel 1.0038
- Stainless steel 1.4571 (technical data provided on request)

Ordering Example JM W 72/48

Type	Channel Size	Length [mm]	Design
JM	W 72/48	– 6,000	– HDG

Hook-head T-bolt JA M 20 – M 30

T-bolt Length	Material and Design					Clamping Length ⁴⁾
	Strength Grade	M 20	M 24	M 27	M 30	
50	4.6	HDG	HDG	–	–	2
	8.8	ZP	–	–	–	
75	4.6	HDG	HDG	HDG	HDG	21
	8.8	HDG, ZP	ZP	–	–	
100	4.6	HDG	HDG	HDG	HDG	46
	8.8	HDG	HDG, ZP	–	–	
125	4.6	–	–	–	–	83
	8.8	HDG, ZP	–	–	–	
150	4.6	HDG	HDG	–	HDG	96
	8.8	–	HDG, ZP	–	–	
200	4.6	HDG	HDG	–	HDG	146
	8.8	–	–	–	–	



Other lengths and materials can be provided on request.
To determine the required T-bolt lengths please refer to the fold out page at the end of the catalogue.
Alternatively, hook-head locking plates may be used with threaded rods, see page 31.

⁴⁾ Clamping length for largest thread diameter

Technical Details

Single Static Load Possible When Using Channel JM W 72/48 ⁵⁾				
Strength Grade	M 24		M 27	
	F _{z max} [kN]	F _{y max} [kN]	F _{z max} [kN]	F _{y max} [kN]
8.8	31.0	9.3	31.0	9.3
M _A [Nm]	HDG	530	770	
	ZP	800	1,200	

Failure Load of the T-bolt				
Strength Grade	M 24		M 27	
	F _{z u} [kN]	F _{y u} [kN]	F _{z u} [kN]	F _{y u} [kN]
8.8	282.4	141.2	367.2	183.6

⁵⁾ When used with T-bolt JA M24 8.8: Safety factor to failure $j_m = 2$ and safety factor to yield $j_p = 1.5$.

Material and Design

- Hot-dip galvanised (HDG) steel
- Strength grades 4.6 / 8.8
- Stainless steel (technical details provided on request)

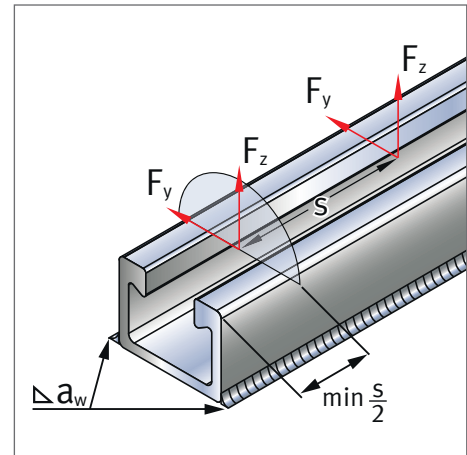
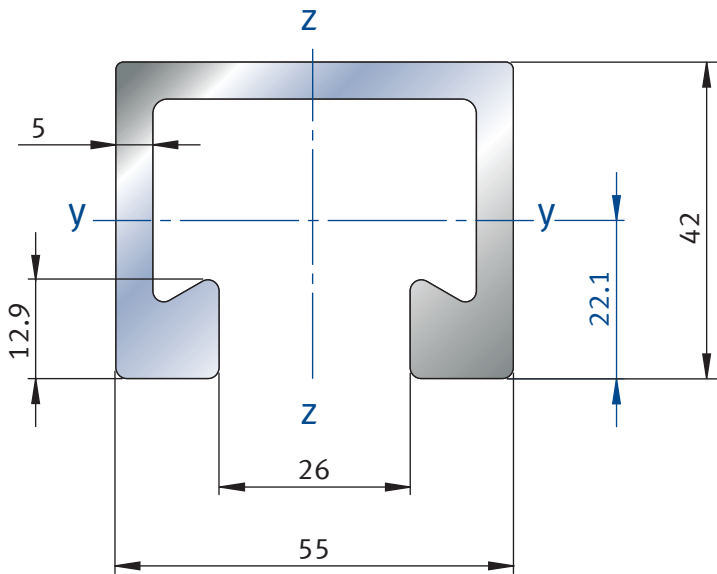
Ordering Example JA M 30

Type	Thread Ø	Length [mm]	Strength Grade	Design
JA	M 30 x	100	4.6	HDG

The T-bolts are supplied with nuts.
Washers must be ordered separately (see page 34).

Hot-rolled Mounting Channels

JM W 55 / 42



Technical Details

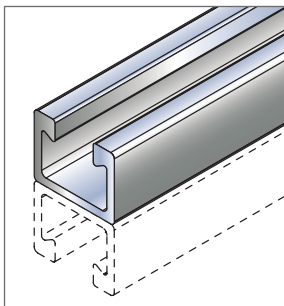
Permissible Single Static Load ¹⁾		Minimum Load Distance	Moments of Resistance			Moments of Inertia	
$F_{z \max}$ ²⁾ [kN]	$F_{y \max}$ [kN]	s [mm]	W_y [mm ³]	W_z [mm ³]	$W_{pl,y}$ [mm ³]	I_y [mm ⁴]	I_z [mm ⁴]
20.0	7.5	109	8.490	13.311	11.721	187.460	362.730

¹⁾ When used with T-bolt JA M20 8.8: Safety factor to failure $j_m = 2$ and safety factor to yield $j_p = 1.5$.

²⁾ Capacity to withstand stresses in the delivery condition. Reduction due to soft annealing should be taken into consideration separately, if necessary.

Failure Load		Cross Section	Weight ³⁾	Weld
$F_{z u}$ [kN]	$F_{y u}$ [kN]	A [mm ²]	G [kg/m]	a_w [mm]
80.0	38.7	861	6.76	3

³⁾ All weights per metre for mill finish steel. For galvanised channels: weights per metre $\times 1.10$



Double profile JM W 55 / 42 D
on request.

Material and Design

- Hot-dip galvanised (HDG) steel 1.0044
- Mill finish steel 1.0044

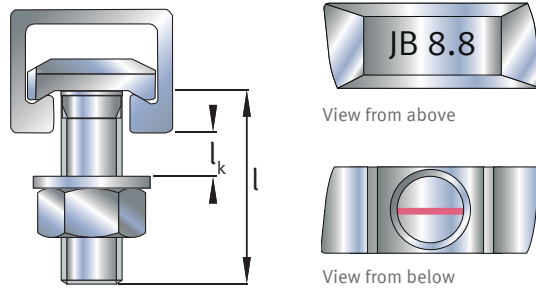
Ordering Example JM W 55 / 42

Type	Channel Size	Length [mm]	Design
JM	W 55 / 42	– 6,000	– HDG

Hook-head T-bolt JB M 10 – M 24

T-bolt Length l [mm]	Material and Design						Clamping Length ⁴⁾ l _k [mm]
	Strength Grade	M 10	M 12	M 16	M 20	M 24	
40	4.6	ZP	ZP	ZP	–	–	5
	8.8	–	HDG	ZP	–	–	
45	4.6	–	–	–	ZP	–	5
	8.8	–	–	–	ZP	–	
50	4.6	ZP	HDG, ZP	HDG, ZP	–	–	15
	8.8	–	HDG	HDG, ZP	–	–	
55	4.6	–	–	–	HDG, ZP	–	15
	8.8	–	–	–	HDG, ZP	–	
60	4.6	–	HDG, ZP	HDG, ZP	–	ZP	15
	8.8	–	HDG	HDG, ZP	–	–	
65	4.6	–	–	–	HDG, ZP	–	25
	8.8	–	–	–	HDG, ZP	–	
75	4.6	–	–	–	HDG, ZP	ZP	30
	8.8	–	–	–	HDG	HDG, ZP	
80	4.6	ZP	HDG, ZP	HDG, ZP	–	–	45
	8.8	–	HDG	HDG, ZP	ZP	–	

Other lengths and materials can be provided on request.
To determine the required T-bolt lengths refer to the fold-out page.
⁴⁾ Clamping length for largest thread diameter



l [mm]	Strength Grade	M 10	M 12	M 16	M 20	M 24	l _k [mm]
100	4.6	–	HDG, ZP	HDG, ZP	HDG, ZP	–	60
	8.8	–	–	HDG, ZP	HDG, ZP	HDG, ZP	
125	4.6	–	HDG, ZP	ZP	ZP	–	85
	8.8	–	–	HDG, ZP	HDG, ZP	–	
150	4.6	–	ZP	ZP	ZP	–	110
	8.8	–	–	ZP	ZP	–	
200	4.6	–	ZP	ZP	ZP	–	160
	8.8	–	–	–	–	–	
300	4.6	–	–	ZP	ZP	–	260
	8.8	–	–	–	–	–	

Double-notch toothed T-bolts are also available to provide enhanced shear capacity in the longitudinal direction of the channel. Please see page 30. Hook-head locking plates may also be used with threaded rods. Please see page 31.

Technical Details

Single Static Load Possible When Using Channel JM W 55/42 ⁵⁾				
Strength Grade	M 20		M 24	
	F _{z max} [kN]	F _{y max} [kN]	F _{z max} [kN]	F _{y max} [kN]
8.8	20.0	7.5	20.0	7.5
M _A [Nm]	HDG	310	530	
	ZP	464	800	

Material and Design

- Hot-dip galvanised (HDG) steel
- Electro zinc plated (ZP) steel
- Strength grades 4.6 / 8.8
- Stainless steel (technical details provided on request)

The T-bolts are supplied with nuts.
Washers must be ordered separately (see page 34).

Failure Load of the T-bolt				
Strength Grade	M 20		M 24	
	F _{z u} [kN]	F _{y u} [kN]	F _{z u} [kN]	F _{y u} [kN]
8.8	196.0	98.0	282.4	141.2

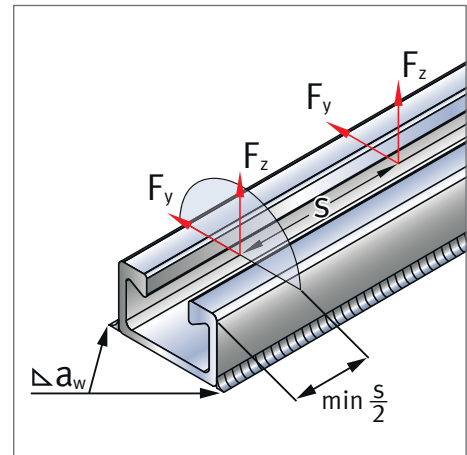
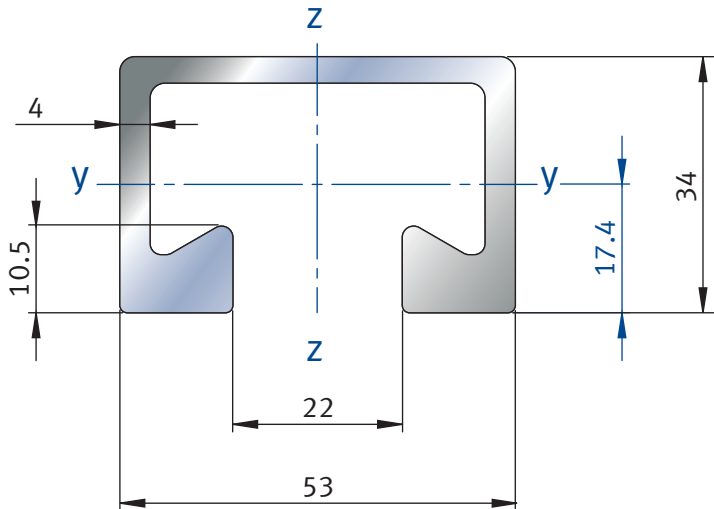
⁵⁾When used with T-bolt JA M24 8.8: Safety factor to failure j_m = 2 and safety factor to yield j_p = 1.5.

Ordering Example JB M 20

Type	Thread Ø	Length [mm]	Strength Grade	Design
JB	M 20	x 100	– 8.8	HDG

Hot-rolled Mounting Channels

JM W 53/34



Technical Details

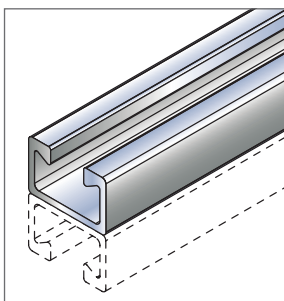
Permissible Single Static Load ¹⁾		Minimum Load Distance	Moments of Resistance			Moments of Inertia	
$F_{z \max}$ ²⁾ [kN]	$F_{y \max}$ [kN]	s [mm]	W_y [mm ³]	W_z [mm ³]	$W_{pl,y}$ [mm ³]	I_y [mm ⁴]	I_z [mm ⁴]
17.0	5.9	88	5.348	9.028	7.177	93.260	236.990

¹⁾ When used with T-bolt JB M20 8.8: Safety factor to failure $j_m = 2$ and safety factor to yield $j_p = 1.5$.

²⁾ Capacity to withstand stresses in the delivery condition. Reduction due to soft annealing should be taken into consideration separately, if necessary.

Failure Load		Cross Section	Weight ³⁾	Weld
$F_{z,u}$ [kN]	$F_{y,u}$ [kN]	A [mm ²]	G [kg/m]	a_w [mm]
55.0	36.3	634	4.98	3

³⁾ All weights per metre for mill finish steel. For galvanised channels: weights per metre $\times 1.10$



Double profile JM W 53/34 D
on request.

Material and Design

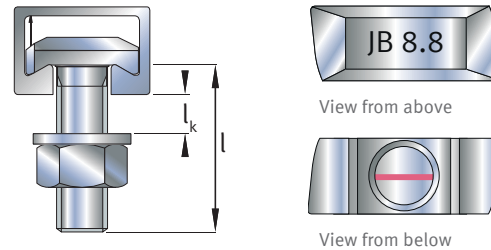
- Hot-dip galvanised (HDG) steel 1.0038
- Mill finish steel 1.0038
- Stainless steel 1.4571 (technical data provided on request)

Ordering Example JM W 53/34

Type	Channel Size	Length [mm]	Design
JM	W 53/34	– 6,000	– HDG

Hook-head T-bolt JB M 10 – M 20

T-bolt Length	Material and Design					Clamping Length ⁴⁾ l _k [mm]
	Strength Grade	M 10	M 12	M 16	M 20	
40	4.6	ZP	ZP	ZP	-	8
	8.8	-	HDG	ZP	-	
45	4.6	-	-	-	ZP	8
	8.8	-	-	-	ZP	
50	4.6	ZP	HDG, ZP	HDG, ZP	-	18
	8.8	-	HDG	HDG, ZP	-	
55	4.6	-	-	-	HDG, ZP	18
	8.8	-	-	-	HDG, ZP	
60	4.6	-	HDG, ZP	HDG, ZP	-	17
	8.8	-	HDG	HDG, ZP	-	
65	4.6	-	-	-	HDG, ZP	28
	8.8	-	-	-	HDG, ZP	
75	4.6	-	-	-	HDG, ZP	32
	8.8	-	-	-	HDG	
80	4.6	ZP	HDG, ZP	HDG, ZP	-	48
	8.8	-	HDG	HDG, ZP	ZP	



l [mm]	Strength Grade	M 10	M 12	M 16	M 20	l _k [mm]
100	4,428 mm	-	HDG, ZP	HDG, ZP	HDG, ZP	63
	8.8	-	-	HDG, ZP	HDG, ZP	
125	4.6	-	HDG, ZP	ZP	HDG, ZP	88
	8.8	-	-	HDG, ZP	HDG, ZP	
150	4.6	-	ZP	ZP	ZP	113
	8.8	-	-	ZP	ZP	
200	4.6	-	ZP	ZP	ZP	163
	8.8	-	-	-	-	
300	4.6	-	-	ZP	ZP	263
	8.8	-	-	-	-	

Other lengths and materials can be provided on request.
To determine the required T-bolt lengths refer to the fold-out page.
⁴⁾ Clamping length for largest thread diameter

Double-notch toothed T-bolts are also available to provide enhanced shear capacity in the longitudinal direction of the channel. Please see page 30. Hook-head locking plates may also be used with threaded rods. Please see page 31.

Technical Details

Single Static Load Possible When Using Channel JM W 53/34 ⁵⁾				
Strength Grade	M 16		M 20	
	F _{z max} [kN]	F _{y max} [kN]	F _{z max} [kN]	F _{y max} [kN]
8.8	17.0	5.9	17.0	5.9
M _A [Nm]	HDG	153	310	
	ZP	230	464	

Failure Load of the T-bolt				
Strength Grade	M 16		M 20	
	F _{z u} [kN]	F _{y u} [kN]	F _{z u} [kN]	F _{y u} [kN]
8.8	125.6	62.8	196.0	98.0

⁵⁾ When used with T-bolt JB M20 8.8: Safety factor to failure j_m = 2 and safety factor to yield j_p = 1.5.

Material and Design	
■	Hot-dip galvanised (HDG) steel
■	Electro zinc plated (ZP) steel
■	Strength grades 4.6 / 8.8
■	Stainless steel (technical details provided on request)

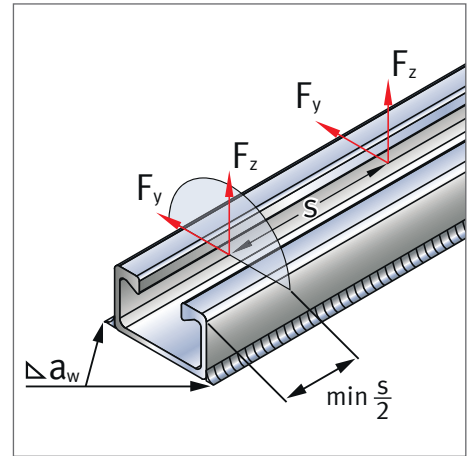
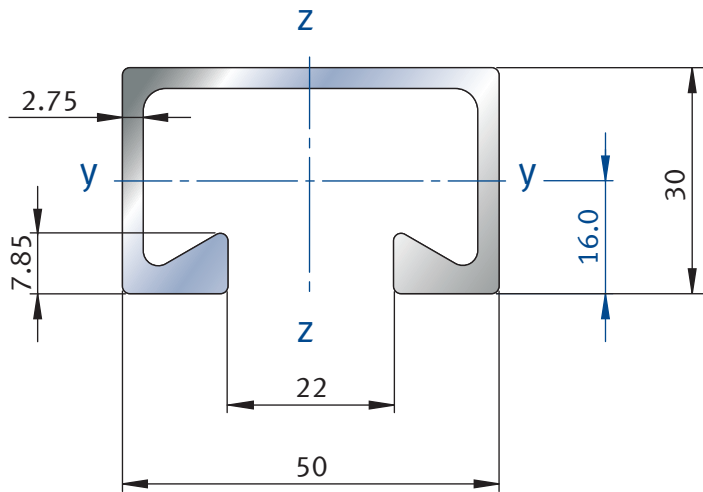
Ordering Example JB M 20

Type	Thread Ø	Length [mm]	Strength Grade	Design
JB	M 20	x 100	8.8	HDG

The T-bolts are supplied with nuts.
Washers must be ordered separately (see page 34).

Hot-rolled Mounting Channels

JM W 50/30



Technical Details

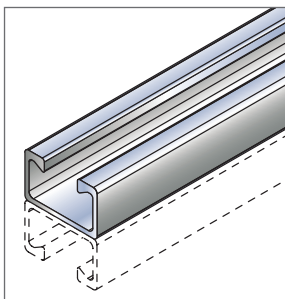
Permissible Single Static Load ¹⁾		Minimum Load Distance	Moments of Resistance			Moments of Inertia	
$F_{z \max}$ ²⁾ [kN]	$F_{y \max}$ [kN]	s [mm]	W_y [mm ³]	W_z [mm ³]	$W_{pl,y}$ [mm ³]	I_y [mm ⁴]	I_z [mm ⁴]
11.0	3.0	81	3.239	5.669	4.336	51.900	138.880

¹⁾ When used with T-bolt JB M20 8.8: Safety factor to failure $j_m = 2$ and safety factor to yield $j_p = 1.5$.

²⁾ Capacity to withstand stresses in the delivery condition. Reduction due to soft annealing should be taken into consideration separately, if necessary.

Failure Load		Cross Section	Weight ³⁾	Weld
$F_{z u}$ [kN]	$F_{y u}$ [kN]	A [mm ²]	G [kg/m]	a_w [mm]
31.0	23.8	412	3.23	3

³⁾ All weights per metre for mill finish steel. For galvanised channels: weights per metre $\times 1.10$



Double profile JM W 50/30 D
on request.

Material and Design

- Hot-dip galvanised (HDG) steel 1.0038
- Mill finish steel 1.0038
- Stainless steel 1.4571 (technical data provided on request)

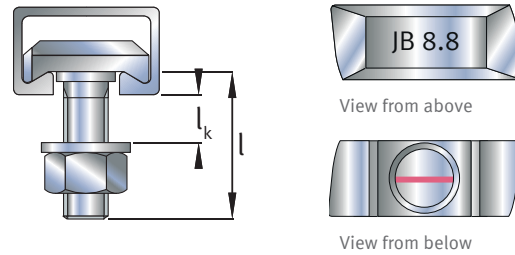
Ordering Example JM W 50/30

Type	Channel Size	Length [mm]	Design
JM	W 50/30	– 6,000	– HDG

Hook-head T-bolt JB M 10 – M 20

T-bolt Length	Material and Design					Clamping Length ⁴⁾ l _k [mm]
	Strength Grade	M 10	M 12	M 16	M 20	
40	4.6	ZP	ZP	ZP	-	10
	8.8	-	HDG	ZP	-	
45	4.6	-	-	-	ZP	10
	8.8	-	-	-	ZP	
50	4.6	ZP	HDG, ZP	HDG, ZP	-	20
	8.8	-	HDG	HDG, ZP	-	
55	4.6	-	-	-	HDG, ZP	20
	8.8	-	-	-	HDG, ZP	
60	4.6	-	HDG, ZP	HDG, ZP	-	20
	8.8	-	HDG	HDG, ZP	-	
65	4.6	-	-	-	HDG, ZP	30
	8.8	-	-	-	HDG, ZP	
75	4.6	-	-	-	HDG, ZP	35
	8.8	-	-	-	HDG	
80	4.6	ZP	HDG, ZP	HDG, ZP	-	50
	8.8	-	HDG	HDG, ZP	ZP	

Other lengths and materials can be provided on request.
To determine the required T-bolt lengths refer to the fold-out page
⁴⁾ Clamping length for largest thread diameter



l [mm]	Strength Grade	M 10	M 12	M 16	M 20	l _k [mm]
100	4.6	-	HDG, ZP	HDG, ZP	HDG, ZP	65
	8.8	-	-	HDG, ZP	HDG, ZP	
125	4.6	-	HDG, ZP	ZP	HDG, ZP	90
	8.8	-	-	HDG, ZP	HDG, ZP	
150	4.6	-	ZP	ZP	ZP	115
	8.8	-	-	ZP	ZP	
200	4.6	-	ZP	ZP	ZP	165
	8.8	-	-	-	-	
300	4.6	-	-	ZP	ZP	265
	8.8	-	-	-	-	

Double-notch toothed T-bolts are also available to provide enhanced shear capacity in the longitudinal direction of the channel. Please see page 30. Hook-head locking plates may also be used with threaded rods. Please see page 31.

Technical Details

Single Static Load Possible When Using Channel JM W 50/30 ⁵⁾				
Strength Grade	M 16		M 20	
	F _{z max} [kN]	F _{y max} [kN]	F _{z max} [kN]	F _{y max} [kN]
8.8	11.0	3.0	11.0	3.0
M _A [Nm]	HDG	153	310	
	ZP	230	464	

Material and Design

- Hot-dip galvanised (HDG) steel
- Electro zinc plated (ZP) steel
- Strength grades 4.6 / 8.8
- Stainless steel (technical details provided on request)

Failure Load of the T-bolt				
Strength Grade	M 16		M 20	
	F _{z u} [kN]	F _{y u} [kN]	F _{z u} [kN]	F _{y u} [kN]
8.8	125.6	62.8	196.0	98.0

⁵⁾ When used with T-bolt JB M20 8.8: Safety factor to failure j_m = 2 and safety factor to yield j_p = 1.5.

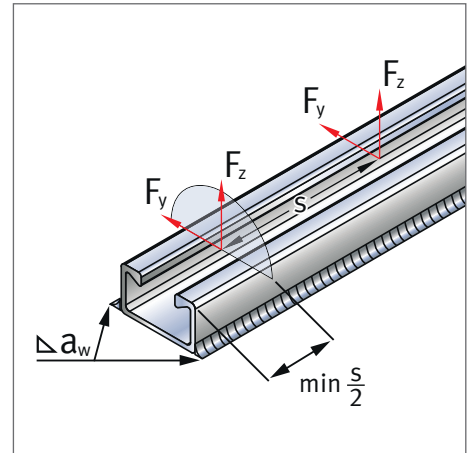
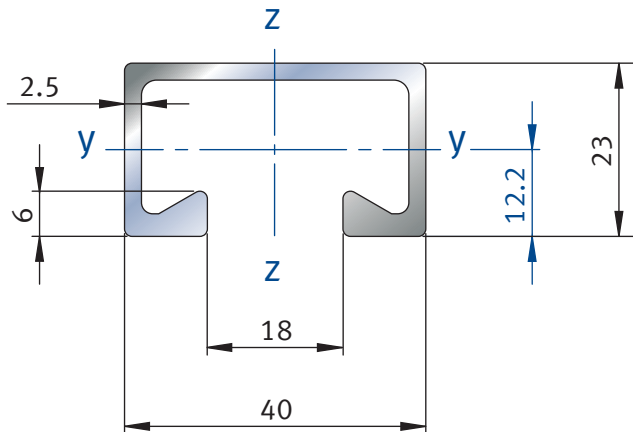
Ordering Example JB M 20

Type	Thread Ø	Length [mm]	Strength Grade	Design
JB	M 20	x 100	8.8	HDG

The T-bolts are supplied with nuts.
Washers must be ordered separately (see page 34).

Hot-rolled Mounting Channels

JM W 40/22



Technical Details

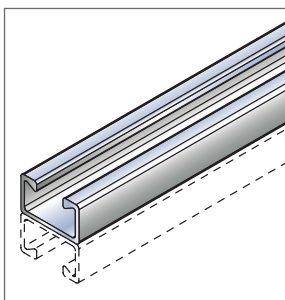
Permissible Single Static Load ¹⁾		Minimum Load Distance	Moments of Resistance			Moments of Inertia	
$F_{z \max}$ ²⁾ [kN]	$F_{y \max}$ [kN]	s [mm]	W_y [mm ³]	W_z [mm ³]	$W_{pl,y}$ [mm ³]	I_y [mm ⁴]	I_z [mm ⁴]
5.7	2.5	65	1.616	2.970	2.152	19.700	58.660

¹⁾ When used with T-bolt JC M12 8.8: Safety factor to failure $j_m = 2$ and safety factor to yield $j_p = 1.5$.

²⁾ Capacity to withstand stresses in the delivery condition. Reduction due to soft annealing should be taken into consideration separately, if necessary.

Failure Load		Cross Section	Weight ³⁾	Weld
$F_{z u}$ [kN]	$F_{y u}$ [kN]	A [mm ²]	G [kg/m]	a_w [mm]
20.0	21.5	268	3.23	3

³⁾ All weights per metre for mill finish steel. For galvanised channels: weights per metre $\times 1.10$



Double profile JM W 40/22 D
on request.

Material and Design

- Hot-dip galvanised (HDG) steel 1.0038
- Mill finish steel 1.0038
- Stainless steel 1.4571 (technical data provided on request)

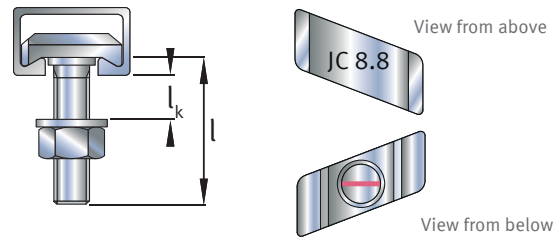
Ordering Example JM W 40/22

Type	Channel Size	Length [mm]	Design
JM	W 40/22	– 6,000	– HDG

Hook-head T-bolt JC M 10 – M 16

T-bolt Length	Material and Design				Clamping Length ⁴⁾ l _k [mm]
	Strength Grade	M 10	M 12	M 16	
30	4.6	HDG, ZP	ZP	ZP	2
	8.8	–	ZP	–	
40	4.6	HDG, ZP	HDG, ZP	HDG, ZP	12
	8.8	–	HDG	HDG, ZP	
50	4.6	ZP	HDG, ZP	HDG, ZP	22
	8.8	–	HDG, ZP	ZP	
60	4.6	HDG, ZP	HDG, ZP	HDG, ZP	32
	8.8	–	HDG	HDG, ZP	
80	4.6	HDG, ZP	HDG, ZP	HDG, ZP	52
	8.8	–	HDG	HDG, ZP	
100	4.6	ZP	HDG, ZP	ZP	72
	8.8	–	ZP	HDG, ZP	
125	4.6	–	ZP	ZP	97
	8.8	–	–	HDG, ZP	

Other lengths and materials can be provided on request.
To determine the required T-bolt lengths refer to the fold-out page.
⁴⁾ Clamping length for largest thread diameter



l [mm]	Strength Grade	M 10	M 12	M 16	l _k [mm]
150	4.6	–	ZP	ZP	122
	8.8	–	–	ZP	
200	4.6	–	ZP	ZP	172
	8.8	–	–	–	
250	4.6	–	–	ZP	222
	8.8	–	–	–	
300	4.6	–	–	ZP	272
	8.8	–	–	–	

Double-notch toothed T-bolts are also available to provide enhanced shear capacity in the longitudinal direction of the channel. Please see page 30. Hook-head locking plates may also be used with threaded rods. Please see page 31.

Technical Details

Single Static Load Possible When Using Channel JM W 40/22 ⁵⁾				
Strength Grade	M 12		M 16	
	F _{z max} [kN]	F _{y max} [kN]	F _{z max} [kN]	F _{y max} [kN]
8.8	5.7	2.5	5.7	2.5
M _A [Nm]	HDG	63	153	
	ZP	93	230	

Material and Design	
■	Hot-dip galvanised (HDG) steel
■	Electro zinc plated (ZP) steel
■	Strength grades 4.6 / 8.8
■	Stainless steel (technical details provided on request)

Failure Load of the T-bolt				
Strength Grade	M 12		M 16	
	F _{z u} [kN]	F _{y u} [kN]	F _{z u} [kN]	F _{y u} [kN]
8.8	67.4	33.7	125.6	62.8

⁵⁾ When used with T-bolt JC M12 8.8: Safety factor to failure j_m = 2 and safety factor to yield j_p = 1.5.

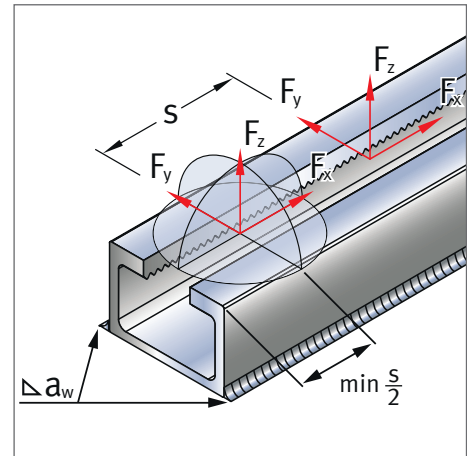
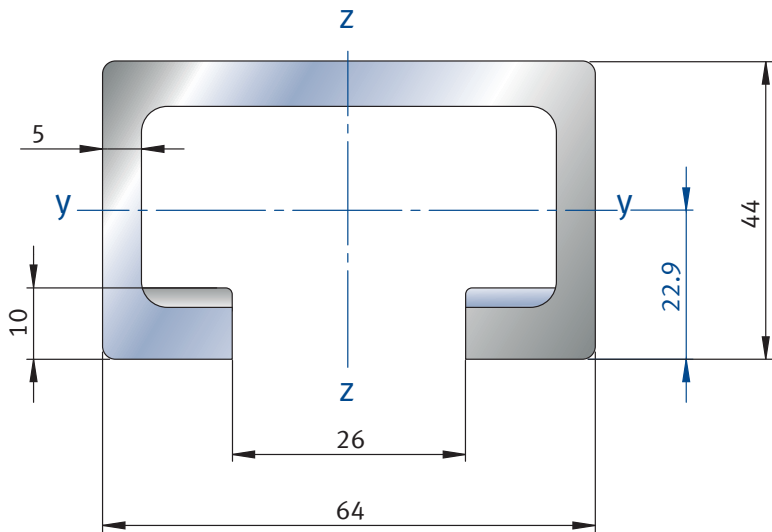
Ordering Example JC M 16

Type	Thread Ø	Length [mm]	Strength Grade	Design
JC	M 16	x 100	– 8.8	HDG

The T-bolts are supplied with nuts.
Washers must be ordered separately (see page 34).

Hot-rolled Toothed Mounting Channels

JXM W 64/44



Technical Details

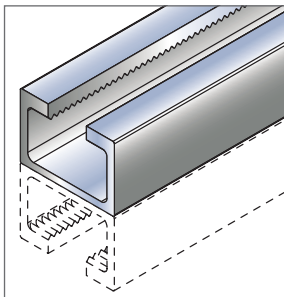
Permissible Single Static Load ¹⁾			Minimum Load Distance	Moments of Resistance			Moments of Inertia	
$F_{z \max}^{2)}$ [kN]	$F_{y \max}$ [kN]	$F_{x \max}$ [kN]	s [mm]	W_y [mm ³]	W_z [mm ³]	$W_{pl,y}$ [mm ³]	I_y [mm ⁴]	I_z [mm ⁴]
25.9	9.3	34.0 ¹⁾	130	10.523	16.937	13.796	241.150	541.980

¹⁾ When used with T-bolt JXE M24 8.8: Safety factor to failure $j_m = 2$ and safety factor to yield $j_p = 1.5$.

²⁾ Capacity to withstand stresses in the delivery condition. Reduction due to soft annealing should be taken into consideration separately, if necessary.

Failure Load			Cross Section	Weight ³⁾	Weld
$F_{z u}$ [kN]	$F_{y u}$ [kN]	$F_{x u}$ [kN]	A [mm ²]	G [kg/m]	a_w [mm]
85.0	51.5	85.0	916	7.19	4

³⁾ All weights per metre for mill finish steel. For galvanised channels: weights per metre $\times 1.10$



Double profile JXM W 64/44 D
on request.

Material and Design

- Hot-dip galvanised (HDG) steel 1.0044
- Mill finish steel 1.0044

Ordering Example JXM W 64/44

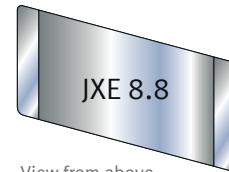
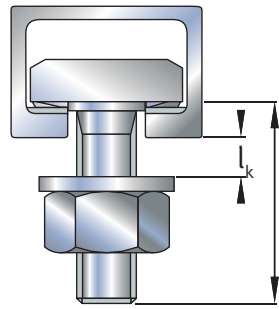
Type	Channel Size	Length [mm]	Design
JXM	W 64/44	– 6,000	– HDG

Toothed T-bolt JXE M 20 – M 24

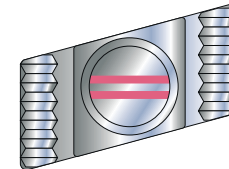
T-bolt Length	Material and Design			Clamping Length ⁴⁾
	Strength Grade	M 20	M 24	
l [mm]				l _k [mm]
50	8.8	ZP	–	13
75	8.8	–	HDG, ZP	33
100	8.8	HDG, ZP	HDG, ZP	58
150	8.8	HDG, ZP	HDG, ZP	108

Other lengths and materials can be provided on request.
To determine the required T-bolt lengths refer to the fold-out page.

⁴⁾ Clamping length for largest thread diameter



View from above



View from below

Technical Details

Single Static Load Possible When Using Channel JXM W 64/44 ⁵⁾			
Strength Grade	M 24		
	F _{z max} [kN]	F _{y max} [kN]	F _{x max} [kN]
8.8	25.9	9.3	34.0
M _A [Nm]	HDG	530	
	ZP	800	

Failure Load of the T-bolt			
Strength Grade	M 24		
	F _{z u} [kN]	F _{y u} [kN]	F _{x u} [kN]
8.8	282.4	141.0	141.0

⁵⁾ When used with T-bolt JXE M24 8.8: Safety factor to failure j_m = 2 and safety factor to yield j_p = 1.5.

Material and Design

- Hot-dip galvanised (HDG) steel
- Strength grade 8.8
- Stainless steel (technical details provided on request)

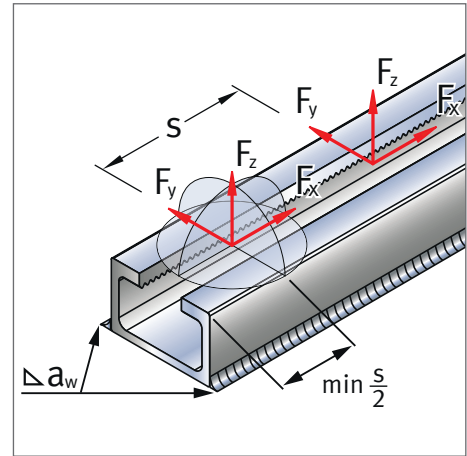
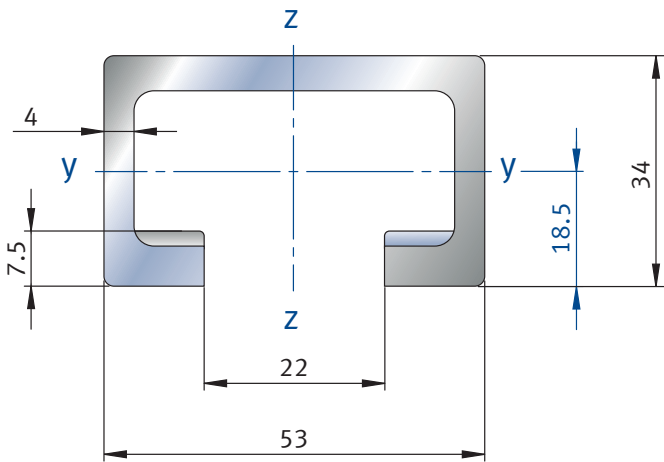
Ordering Example JXE M 24

Type	Thread Ø	Length [mm]	Strength Grade	Design
JXE	M 24	x 100	– 8.8	HDG

The T-bolts are supplied with nuts.
Washers must be ordered separately (see page 34).

Hot-rolled Toothed Mounting Channels

JXM W 53/34



Technical Details

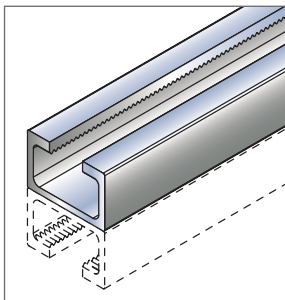
Permissible Single Static Load ¹⁾			Minimum Load Distance	Moments of Resistance			Moments of Inertia	
$F_{z \max}^{2)}$ [kN]	$F_{y \max}$ [kN]	$F_{x \max}$ [kN]	s [mm]	W_y [mm ³]	W_z [mm ³]	$W_{pl,y}$ [mm ³]	I_y [mm ⁴]	I_z [mm ⁴]
22.0	6.2	22.0/19.0 ³⁾	90	5.008	8.834	6.855	92.520	231.890

¹⁾ When used with T-bolt JXB M20 8.8: Safety factor to failure $j_m = 2$ and safety factor to yield $j_p = 1.5$.

²⁾ Capacity to withstand stresses in the delivery condition. Reduction due to soft annealing should be taken into consideration separately, if necessary.

Failure Load			Cross Section	Weight ³⁾	Weld
$F_{z u}$ [kN]	$F_{y u}$ [kN]	$F_{x u}$ [kN]	A [mm ²]	G [kg/m]	a_w [mm]
55.0	31.7	55.0	591	4.64	3

³⁾ All weights per metre for mill finish steel. For galvanised channels: weights per metre $\times 1.10$



Double profile JXM W 53/34 D
on request.

Material and Design

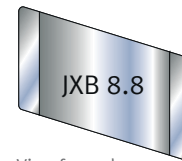
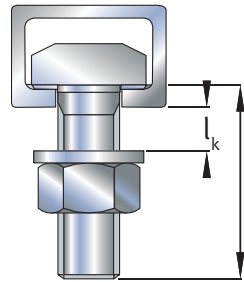
- Hot-dip galvanised (HDG) steel 1.0044
- Mill finish steel 1.0044
- Stainless steel 1.4571 (technical data provided on request)

Ordering Example JXM W 53/34

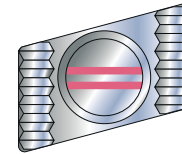
Type	Channel Size	Length [mm]	Design
JXM	W 53/34	– 6,000	– HDG

Toothed T-bolt JXB M 16 – M 20

T-bolt Length	Material and Design			Clamping Length ⁴⁾ l_k [mm]
	Strength Grade	M 16	M 20	
40	8.8	ZP	–	11
60	8.8	HDG, ZP	–	31
65	8.8	–	HDG	31
80	8.8	HDG	HDG	46
100	8.8	HDG	HDG	66
125	8.8	ZP	ZP	91
150	8.8	–	HDG	116



View from above



View from below

Other lengths and materials can be provided on request.
To determine the required T-bolt lengths refer to the fold-out page.

⁴⁾ Clamping length for largest thread diameter

Technical Details

Single Static Load Possible When Using Channel JXM W 53/34 ⁵⁾			
Strength Grade	M 20		
	$F_{z \max}$ [kN]	$F_{y \max}$ [kN]	$F_{x \max}$ [kN]
8.8	22.0	6.2	22.0
M_A [Nm]	HDG	310	
	ZP	464	

Failure Load of the T-bolt			
Strength Grade	M 20		
	$F_{z u}$ [kN]	$F_{y u}$ [kN]	$F_{x u}$ [kN]
8.8	196.0	98.0	98.0

⁵⁾ When used with T-bolt JXB M20 8.8: Safety factor to failure $j_m = 2$ and safety factor to yield $j_p = 1.5$.

Material and Design

- Hot-dip galvanised (HDG) steel
- Strength grade 8.8
- Stainless steel (technical details provided on request)

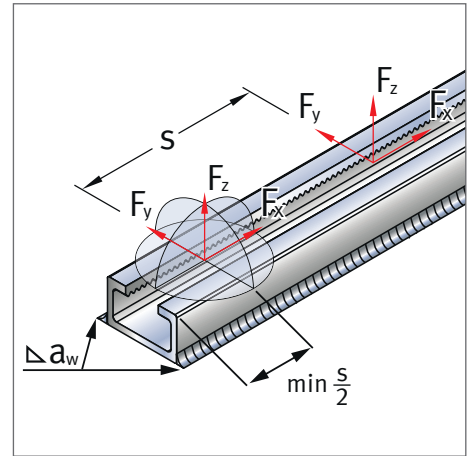
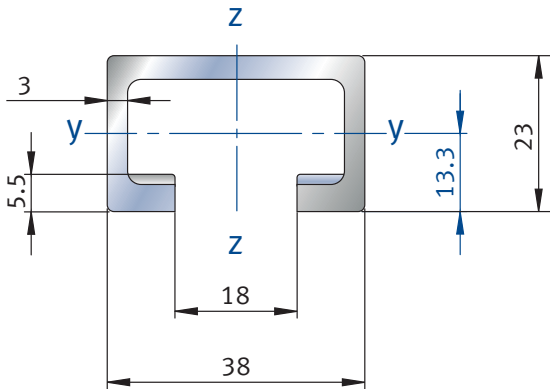
Ordering Example JXB M 20

Type	Thread \emptyset	Length [mm]	Strength Grade	Design
JXB	M 20	x 100	– 8.8	HDG

The T-bolts are supplied with nuts.
Washers must be ordered separately (see page 34).

Hot-rolled Toothed Mounting Channels

JXM W 38/23



Technical Details

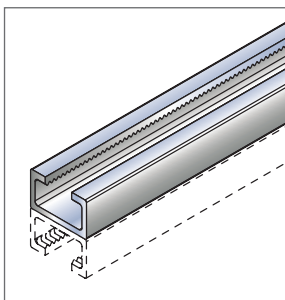
Permissible Single Static Load ¹⁾			Minimum Load Distance	Moments of Resistance			Moments of Inertia	
$F_{z \max}^{2)}$ [kN]	$F_{y \max}$ [kN]	$F_{x \max}$ [kN]	s [mm]	W_y [mm ³]	W_z [mm ³]	$W_{p,y}$ [mm ³]	I_y [mm ⁴]	I_z [mm ⁴]
12.0	3.3	12.0	80	1.571	3.226	2.295	20.950	61.290

¹⁾ When used with T-bolt JXH M16 8.8: Safety factor to failure $j_m = 2$ and safety factor to yield $j_p = 1.5$.

²⁾ Capacity to withstand stresses in the delivery condition. Reduction due to soft annealing should be taken into consideration separately, if necessary.

Failure Load			Cross Section	Weight ³⁾	Weld
$F_{z u}$ [kN]	$F_{y u}$ [kN]	$F_{x u}$ [kN]	A [mm ²]	G [kg/m]	a_w [mm]
30.0	16.1	30.0	308	2.42	3

³⁾ All weights per metre for mill finish steel. For galvanised channels: weights per metre $\times 1.10$



Double profile JXM W 38/23 D
on request.

Material and Design

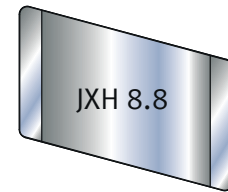
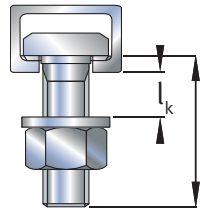
- Hot-dip galvanised (HDG) steel 1.0044
- Mill finish steel 1.0044
- Stainless steel 1.4571 (technical data provided on request)

Ordering Example JXM W 38/23

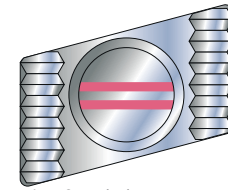
Type	Channel Size	Length [mm]	Design
JXM	W 38/23	– 6,000	– HDG

Toothed T-bolt JXH M 12 – M 16

T-bolt Length	Material and Design			Clamping Length ⁴⁾ l_k [mm]
	Strength Grade	M 12	M 16	
30	8.8	HDG, ZP	HDG	3
40	8.8	HDG	HDG, ZP	13
50	8.8	HDG, ZP	HDG, ZP	23
60	8.8	HDG	HDG, ZP	33
80	8.8	HDG	HDG	53
100	8.8	HDG, ZP	HDG	73
125	8.8	–	HDG, ZP	98
150	8.8	–	HDG	123



View from above



View from below

Other lengths and materials can be provided on request.
To determine the required T-bolt lengths refer to the fold-out page.
⁴⁾ Clamping length for largest thread diameter

Technical Details

Single Static Load Possible When Using Channel JXM W 38/23 ⁵⁾			
Strength Grade	M 16		
	$F_{z \max}$ [kN]	$F_{y \max}$ [kN]	$F_{x \max}$ [kN]
8.8	12.0	3.3	12.0
M_A [Nm]	HDG	153	
	ZP	230	

Failure Load of the T-bolt			
Strength Grade	M 16		
	$F_{z u}$ [kN]	$F_{y u}$ [kN]	$F_{x u}$ [kN]
8.8	125.6	62.8	62.8

⁵⁾ When used with T-bolt JXH M16 8.8: Safety factor to failure $j_m = 2$ and safety factor to yield $j_p = 1.5$.

Material and Design

- Hot-dip galvanised (HDG) steel
- Strength grade 8.8
- Stainless steel (technical details provided on request)

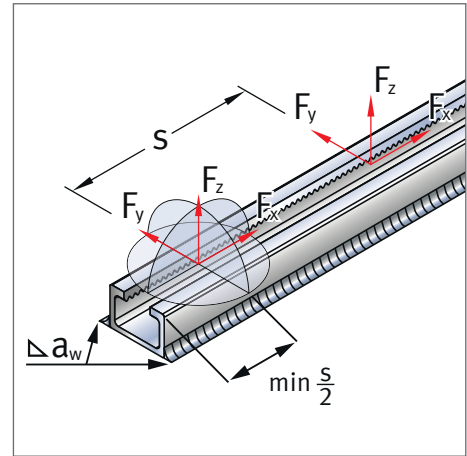
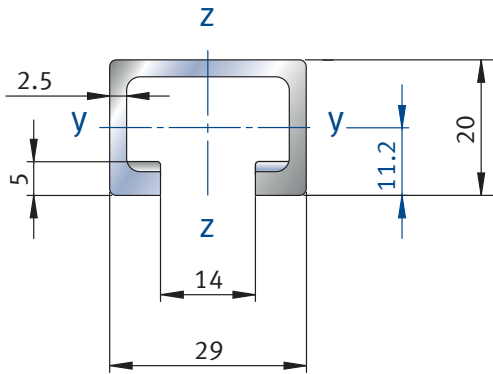
Ordering Example JXH M 16

Type	Thread \emptyset	Length [mm]	Strength Grade	Design
JXH	M 16	x 100	8.8	HDG

The T-bolts are supplied with nuts.
Washers must be ordered separately (see page 34).

Hot-rolled Toothed Mounting Channels

JXM W 29/20



Technical Details

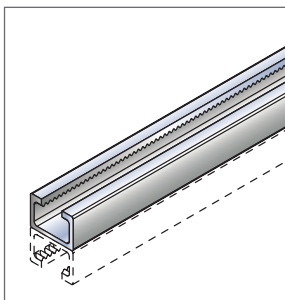
Permissible Single Static Load ¹⁾			Minimum Load Distance	Moments of Resistance			Moments of Inertia	
$F_{z \max}^{2)}$ [kN]	$F_{y \max}$ [kN]	$F_{x \max}$ [kN]	s [mm]	W_y [mm ³]	W_z [mm ³]	$W_{pl,y}$ [mm ³]	I_y [mm ⁴]	I_z [mm ⁴]
8.0	2.2	8.0	65	900	1.649	1.291	10.100	23.910

¹⁾ When used with T-bolt JXH M12 8.8: Safety factor to failure $j_m = 2$ and safety factor to yield $j_p = 1.5$.

²⁾ Capacity to withstand stresses in the delivery condition. Reduction due to soft annealing should be taken into consideration separately, if necessary.

Failure Load			Cross Section	Weight ³⁾	Weld
$F_{z u}$ [kN]	$F_{y u}$ [kN]	$F_{x u}$ [kN]	A [mm ²]	G [kg/m]	a_w [mm]
20.0	7.6	20.0	197	1.55	3

³⁾ All weights per metre for mill finish steel. For galvanised channels: weights per metre $\times 1.10$



Double profile JXM W 29/20 D
on request.

Material and Design

- Hot-dip galvanised (HDG) steel 1.0044
- Mill finish steel 1.0044

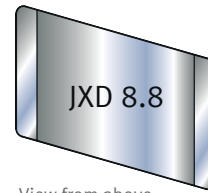
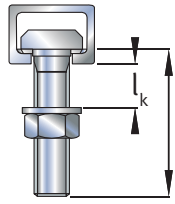
Ordering Example JXM W 29/20

Type	Channel Size	Length [mm]	Design
JXM	W 29/20	– 6,000	– HDG

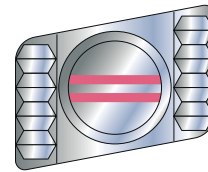
Toothed T-bolt JXD M 10 – M 12

T-bolt Length	Material and Design			Clamping Length ⁴⁾ l_k [mm]
	Strength Grade	M 10	M 12	
30	8.8	–	HDG, ZP	8
40	8.8	HDG	HDG	18
50	8.8	–	HDG, ZP	28
60	8.8	–	HDG	38
80	8.8	–	HDG	58
100	8.8	–	HDG, ZP	78
125	8.8	–	HDG	103
150	8.8	–	HDG	128

Other lengths and materials can be provided on request.
To determine the required T-bolt lengths refer to the fold-out page.
⁴⁾ Clamping length for largest thread diameter



View from above



View from below

Technical Details

Single Static Load Possible When Using Channel JXM W 29/20 ⁵⁾			
Strength Grade	M 12		
	$F_{z \max}$ [kN]	$F_{y \max}$ [kN]	$F_{x \max}$ [kN]
8.8	8.0	2.2	8.0
M_A [Nm]	HDG	63	
	ZP	93	

Failure Load of the T-bolt			
Strength Grade	M 12		
	$F_{z u}$ [kN]	$F_{y u}$ [kN]	$F_{x u}$ [kN]
8.8	67.4	33.7	33.7

⁵⁾ When used with T-bolt JXH M12 8.8: Safety factor to failure $j_m = 2$ and safety factor to yield $j_p = 1.5$.

Material and Design

- Hot-dip galvanised (HDG) steel
- Strength grade 8.8
- Stainless steel (technical details provided on request)

Ordering Example JXD M 12

Type	Thread \emptyset	Length [mm]	Strength Grade	Design
JXD	M 12 x	100	– 8.8	HDG

The T-bolts are supplied with nuts.
Washers must be ordered separately (see page 34).

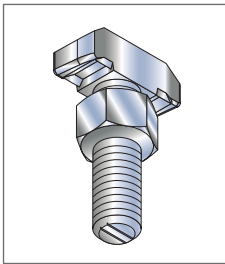
Double-notch Toothed T-bolts

Double-notch Toothed T-bolts

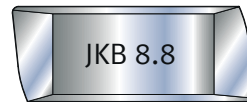
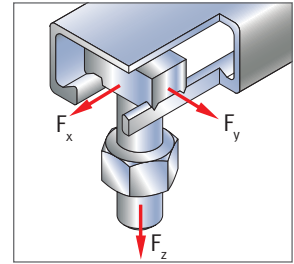
- Suitable for all hot-rolled non-toothed mounting channels
- Double-teeth press into the channel lip and produce a positive, non-slip connection, to support shear loads in the longitudinal direction of the channel
- Identified on the T-bolt shank with two notches
- Types: JKB, JKC

Material and Design

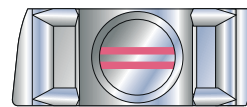
- Hot dip galvanised steel



Two notches on the T-bolt shank



View from above
Embossed with type and strength grade



View from below
Double notches indicate the installation position

Position Identification of Double-notch Toothed T-bolts

Note: After installation, the double notches must be perpendicular to the longitudinal direction of the channel.

The T-bolts are supplied with nuts.

Washers must be ordered separately (see page 34).

T-bolt Length	Material and Design				Clamping Length ¹⁾
	Strength grade	JKC M 16	JKB M 16	JKB M 20	
l [mm]					l _k [mm]
40	8.8	HDG	–	–	12
60	8.8	HDG	HDG	HDG	20
80	8.8	–	–	HDG	40

¹⁾ Clamping length for largest thread diameter

Other lengths and materials can be provided on request.

To determine the required T-bolt lengths please refer to the fold out page at the end of the catalogue.

Alternatively, Hook-head Locking Plates may be used with threaded rods, see page 31.



Double teeth of the T-bolt press into the channel lip

Technical Details

Type	Channel	Permissible Static Load Per T-bolt					
		M 16			M 20		
		F _z max [kN]	F _y max [kN]	F _x max ²⁾ [kN]	F _z max [kN]	F _y max [kN]	F _x max ²⁾ [kN]
JKB	JM W 55/42	–	–	–	78.4	39.2	7.5
JKB	JM W 53/34 JM W 50/30	50.3	25.1	5.0	78.4	39.2	7.5
JKC	JM W 40/22	50.3	25.1	5.0	–	–	–
Tightening Torque		180			360		

²⁾ T-bolt loads must not exceed the permissible loads of the channel.

F_z = Tension load: Applied safety factor 2.5:1

F_y = Transverse shear load: Applied safety factor 2.5:1

F_x = Longitudinal shear load: Applied safety factor jm total 5.0:1

Material and Design

- Hot-dip galvanised (HDG) steel
- Strength grade 8.8

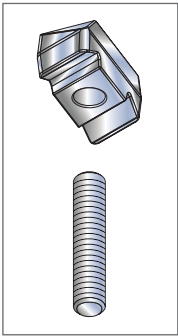
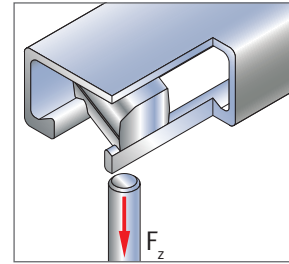
Ordering Example Double-notch Toothed T-bolts

Type	Thread Ø	Length [mm]	Strength Grade	Design
JKB	M 20	x 80	– 8.8	HDG

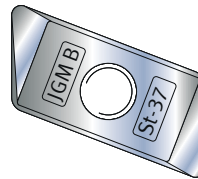
Locking Plates

Hook-head Locking Plates

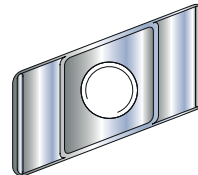
- Threaded plates suitable for connections to non-toothed mounting channels
- Suitable for all T-bolts and threaded rods
Types: JGM A, JGM B, JGM C
- Suitable for retro-fitting, no lateral insertion required
- Face enters the channel to twist and lock into position



Locking plate and threaded rod






View from above
Type and strength grade



View from below
The 90° rotation following installation places the threaded hole in a central position. The hooked shape of the head prevents the locking plate from turning backwards.

Technical Details

Type	For Mounting Channel	Permissible Load ³⁾ (ZP)						Failure Load (ZP)					
		M 6	M 8	M 10	M 12	M 16	M 20	M 6	M 8	M 10	M 12	M 16	M 20
		F _{z max} [kN]	F _{z max} [kN]	F _{z max} [kN]	F _{z max} [kN]	F _{z max} [kN]	F _{z max} [kN]	F _{z u} [kN]	F _{z u} [kN]	F _{z u} [kN]	F _{z u} [kN]	F _{z u} [kN]	F _{z u} [kN]
JGM A 	JM W 72/48	-	-	-	-	-	22.0	-	-	-	-	-	55.0
JGM B 	JM W 55/42 JM W 53/34 JM W 50/30	-	4.0	6.4	9.3	9.3	-	-	10.0	16.0	23.3	23.3	-
JGM C 	JM W 40/22	2.2	4.0	6.4	9.3	9.3	-	5.5	10.0	16.0	23.3	23.3	-

³⁾ Permissible single load using a total safety factor $j_{total} = 2.5:1$.
Only tensile loads may be applied to locking plates (F_z).
Loads per connection must not exceed the permissible single load of the channel.

Material and Design

- Electro zinc plated (ZP) steel
- Stainless steel (technical details provided on request)

Cold-formed Mounting Channels

Cold-formed mounting channels are a perfect solution for cost effective types of secondary fastening. However, unlike our range of hot-rolled channels they are not suitable for dynamic loads and care must be taken in welding these profiles.

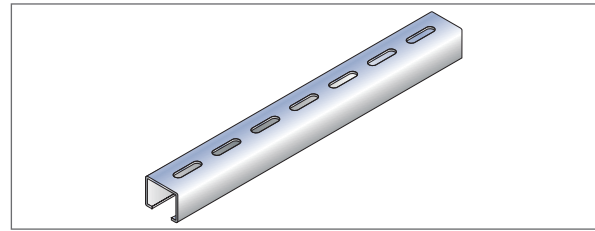
Advantages

- Consistent material strength
- Plain-back, toothed, and slotted-back profiles available
- Suitable for T-bolt and locking plate connections
- Available in 23 sizes

Material and Design

- Mill finish steel (wb)
- Hot-dip galvanised (HDG) steel
- Stainless steel (A4)
- pre-galvanised (sv)

	Cross Section Values			
	Cross Section	Centre of Gravity	Moments of Inertia	
	A [cm ²]	e [cm]	I _y [cm ⁴]	I _z [cm ⁴]
Cold-formed Plain-back Mounting Channels				
JM K 72/48	10.31	2.83	28.12	75.36
JM K 53/34	5.69	2.01	8.08	22.25
JM K 50/40	4.34	2.23	9.37	16.46
JM K 50/30	3.87	1.82	4.68	13.71
JM K 48/26	2.87	1.50	2.65	9.23
JM K 41/41	3.32	2.30	7.03	9.02
JZM K 41/22	2.39	1.34	1.50	5.72
JM K 40/25	2.56	1.45	1.90	5.75
JM K 40/22	1.95	1.26	1.29	4.34
JM K 38/17	2.25	1.05	0.82	4.11
JM K 36/36	2.83	2.07	4.61	6.09
JM K 36/20	1.83	1.20	0.96	3.38
JM K 28/28	1.77	1.58	1.77	2.20
JM K 28/15	1.38	0.89	0.39	1.39
JM K 28/12	1.13	0.71	0.21	1.12
JM K 21/12	0.74	0.72	0.13	0.46
Cold-formed Slotted-back Mounting Channels				
JML K 50/40	4.01	2.10	8.44	16.41
JML K 41/41	3.04	2.15	6.19	8.99
JZML K 41/22	2.11	1.24	1.31	5.71
JML K 40/25	2.26	1.36	1.70	5.62
JML K 36/36	2.55	1.91	4.01	6.06
JML K 28/28	1.55	1.42	1.45	2.18
JML K 28/15	1.17	0.81	0.32	1.38



Slotted-back Mounting Channel

Plain-back Mounting Channels	Channel	T-bolts Locking Plates
	JM K 72/48 wb, HDG, A4 8.10 kg/m ¹)	JAM20–M30, JGM A M20
	JM K 53/34 wb, HDG, A4 4.50 kg/m ¹)	JB M10–M20, JGM B M6–M16
	JM K 50/40 wb, HDG 3.40 kg/m ¹)	JB M10–M20, JGMBM6–M16
	JM K 50/30 wb, HDG, A4 3.00 kg/m ¹)	JB M10–M20, JGMBM6–M16
	JM K 48/26 wb, HDG 2.25 kg/m ¹)	JB M10–M16, JGMBM6–M16
	JM K 41/41 wb, HDG 2.60 kg/m ¹)	JAM 22 M6– M12 JAM 22 F M6–12
	JM K 40/25 wb, HDG, A4, A2 2.10 kg/m ¹)	JC M10–M16, JGMC M6–M16

¹) All weights per metre for mill finish steel
(for galvanised profiles: weights per metre × 1.10)
(for stainless steel profiles: weights per metre × 1.02)

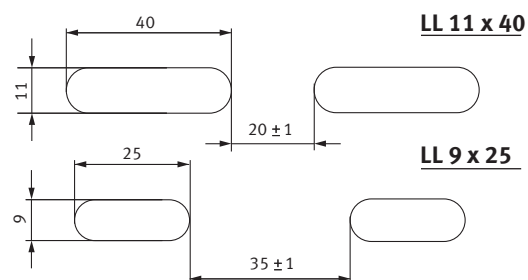
Plain-back Channels	Channel	T-bolts Locking Plates
	JM K 40/22 wb, HDG 1.55 kg/m ¹⁾	JC M10–M16, JGM C M6–M16
	JM K 38/17 wb, HDG, A4, A2 1.80 kg/m ¹⁾	JH M10–M16, JGM H M5–M12
	JM K 36/36 wb, HDG, A4 2.20 kg/m ¹⁾	JH M10–M16, JGM H M5–M12
	JM K 36/20 wb, HDG 1.45 kg/m ¹⁾	JH M10–M16, JGM H M5–M12
	JM K 28/28 wb, HDG, A4 1.40 kg/m ¹⁾	JD M6–M12, JGM D M4–M10
	JM K 28/15 wb, HDG, A4, A2 1.10 kg/m ¹⁾	JD M6–M12, JGM D M4–M10
	JM K 28/12 wb, HDG, A4, A2 0.90 kg/m ¹⁾	JD M6–M10, JGMDM4–M10
	JM K 21/12 sv 0.60 kg/m ¹⁾	JG M6–M8, JGM G M4–M8
Toothed Channels		
	JZM K41/22 wb, HDG, A4 1.88 kg/m ¹⁾	Toothed T-bolt JZS M12–M16

Slotted-back Channels JML

	Channel	T-bolts Locking Plates
	JML K 50/40 wb, HDG LL 11 × 40 3.25 kg/m ¹⁾	JB M10–M20, JGM B M6–M16
	JML K 41/41 wb, HDG LL 11 × 40 2.47 kg/m ¹⁾	JAM 22 M6–12 JAM 22 F M6–12
	JML K 40/25 wb, HDG, A4 LL 11 × 40 1.86 kg/m ¹⁾	JC M10–M16, JGM C M6–M16
	JML K 36/36 wb, HDG, A4 LL 11 × 40 2.09 kg/m ¹⁾	JH M10–M16, JGM H M5–M12
	JML K 28/28 wb, HDG, A4 LL 11 × 40 1.28 kg/m ¹⁾	JD M6–M12, JGM D M4–M10
	JML K 28/15 wb, HDG, A4 LL 9 × 25 1.02 kg/m ¹⁾	JD M6–M12, JGM D M4–M10
Toothed Slotted-back Channels		
	JZML K41/22 wb, HDG, A4 LL 11 × 40 1.74 kg/m ¹⁾	Toothed bolt JZS M12–M16

¹⁾ All weights per metre for mill finish steel. For galvanised profiles: weights per metre × 1.10, (for stainless steel profiles: weights per metre × 1.02)

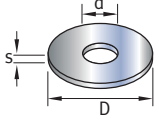
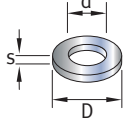
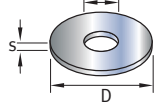
Available Slotted-back Formats



Standard slot pattern 11 × 40 and 9 × 25

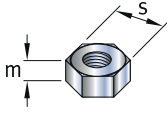
Accessories

Washers

Design	Dimension	d [mm]	D [mm]	s [mm]
ISO 7093-1 (DIN 9021) ZP, A4¹⁾ 	M 6	6.4	18.0	1.6
	M 8	8.4	24.0	2.0
	M 10	10.5	30.0	2.5
	M 12	13.0	37.0	3.0
	M 16	17.0	50.0	3.0
ISO 7089-200 HV (DIN 125-140 HV) ZP, HDG, A4 	M 6	6.4	12.0	1.6
	M 8	8.4	16.0	1.6
	M 10	10.5	20.0	2.0
	M 12	13.0	24.0	2.5
	M 16	17.0	30.0	3.0
	M 20	21.0	37.0	3.0
	M 24	25.0	44.0	4.0
	M 27	28.0	50.0	4.0
	M 30	31.0	56.0	4.0
ISO 7094 (DIN 440) ZP, A4¹⁾ 	M 6	6.6	22.0	2.0
	M 10	11.0	34.0	3.0
	M 12	13.5	44.0	4.0
	M 16	17.5	56.0	5.0
M 20	22.0	72.0	6.0	

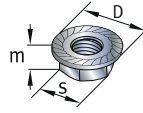
¹⁾ Hot dip galvanised finish and additional sizes on request.

Hexagon Nuts²⁾

Hexagon Nuts according to ISO 4032			
Strength Grade 8 – HDG, ZP Stainless steel - A4	Thread	s [mm]	m [mm]
	M 6	10.0	5.2
	M 8	13.0	6.8
	M 10	16.0	8.4
	M 12	18.0	10.8
	M 16	24.0	14.8
	M 20	30.0	18.0
	M 24	36.0	21.5
	M 27	41.0	23.8
M 30	46.0	25.6	

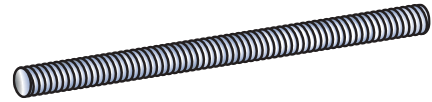
²⁾ We recommend self-locking nuts for dynamic loads.

Toothed Flange Nut


Strength Grade 8 – ZP	Thread	D [mm]	m [mm]	s [mm]
	M 12	26.0	12	18
	M 16	34.5	16	24

Threaded Rod

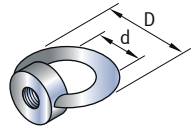
Threaded Rod DIN 976-1	
Strength Grade 4.6 – ZP Stainless steel – A4-50 Length 1000 mm	Thread
	M 6
	M 8
	M 10
	M 12
	M 16
M 20	



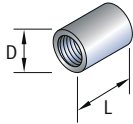
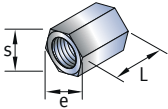
Spring Washer

Spring Washer DIN 127			
Only for Strength Grade 4.6 – ZP and Stainless steel – A4-50	Nominal Size	D [mm]	s [mm]
	M 6	11.8	1.6
	M 8	14.8	2.0
	M 10	18.1	2.2
	M 12	21.1	2.5
	M 16	27.4	3.5
	M 20	33.6	4.0
	M 24	40.0	5.0
	M 30	48.2	6.0

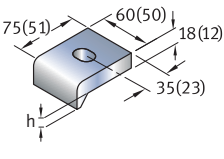
Ring Nuts

Ring Nuts DIN 582			
Un-finished and ZP	Thread	d [mm]	D [mm]
	M 8	20.0	36.0
	M 10	25.0	45.0
	M 12	30.0	54.0
	M 16	35.0	63.0
	M 20	40.0	72.0
	M 24	50.0	90.0

Coupling Sleeves

Round	Thread	D [mm]	L [mm]	Design		
	M 6	10.0	20.0	Strength Grade 4, ZP (A4 on request)		
	M 8	11.0	20.0			
	M 10	13.0	25.0			
	M 12	15.0	30.0			
	M 16	22.0	40.0			
<td>M 20</td> <td>28.0</td> <td>50.0</td> <td rowspan="5">Strength Grade 4, ZP (A4 on request)</td>	M 20	28.0	50.0	Strength Grade 4, ZP (A4 on request)		
	Hexagon	Thread	s [mm]		L [mm]	Design
		M 6	10.0		15.0	Strength Grade 4, ZP (A4 on request)
		M 8	13.0		20.0	
		M 10	17.0		25.0	
M 12		19.0	30.0			
M 16		24.0	40.0			
M 20	30.0	50.0				

Clamping Plates

Clamping Plate (previously DIN 3568)	Type (Width/Clamping Height)	Clamping Height h [mm]	T-bolt Ø [mm]
 LL 18 × 24 (14 × 20)	50/7 ³⁾	7	M 12
	60/10	10	M 16
	60/11	11	
	60/12 ⁴⁾	12	
	60/14 ⁵⁾	14	
	60/16	16	
	60/18	18	
	60/20	20	



³⁾ Please note dimensions in brackets

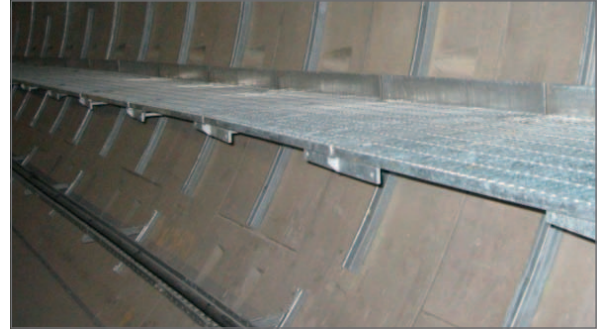
⁴⁾ Also available for crane channels A100 (KS75)

⁵⁾ Also available for crane channels A120 (KS101)

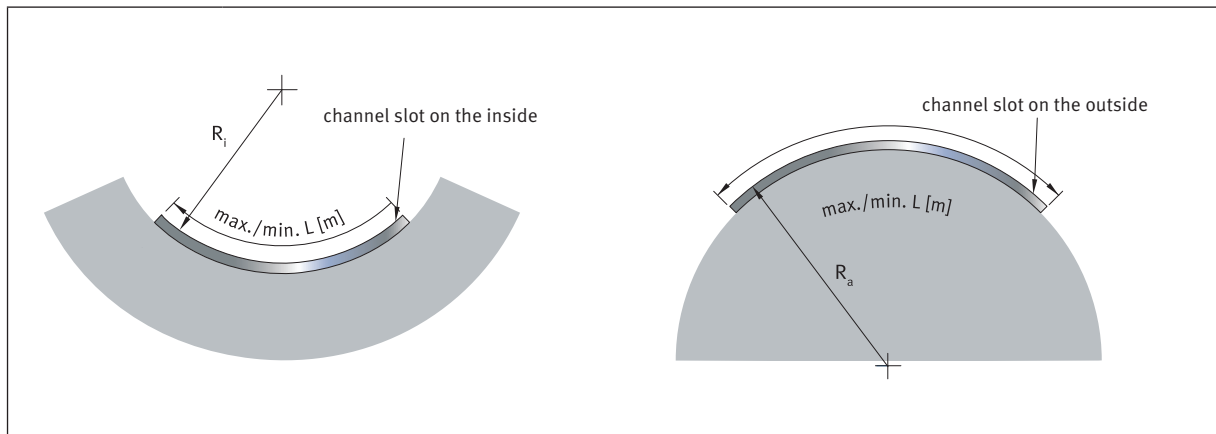
Customised Solutions

Curved Mounting Channels

Straight or curved JORDAHL® mounting channels can be attached to tunnel walls using drilled bolts. In this example curved JORDAHL® mounting channels are used to fasten equipment for water, gas, and telecommunication services.



Minimum Bending Radii / Channel Lengths (all Materials)



Mounting Channels	JM					JXM	
	W 72/48	W 55/42	W 53/34	W 50/30	W 40/22	W 38/23	W29/20
min R _i [m]	1.0	0.5	0.5	0.5	0.5	0.5	0.5
min R _a [m]	3.0	3.0	2.5	2.0	2.0	2.0	2.0
min L [m] Minimum Channel Length	1.5	1.5	1.5	1.5	1.0	0.5	0.5
max L [m] Maximum Channel Length	5.5	5.5	5.8	5.8	5.8	5.8	5.8

Profile Brackets

JORDAHL® profile brackets JK 28/28-1, 36/36-1 and 36/36-2 offer a standard range of adjustable cantilever supports for ductwork, pipes, cable trays, and other services. They can be attached to the structure using cast-in or surface mounted JORDAHL® channels, or drilled bolts.

Special designs can also be supplied on request.



	JK 28/28-1	JK 36/36-1	JK 36/36-2				
Cantilever Profile	JM K 28/28	JM K 36/36	JM K 36/36				
Profile T-bolt	Type JD, M 6-12	Type JH, M 10-16	Type JH, M 10-16				
Vertical Back Leg Back Leg Connections	U 36/24 M 12	U 45/27 M 12	U 45/27 M 12				
Cantilever Projection L [mm]	100, 200, 300, 400	300, 400, 500, 600	300	400	500	600	700
Total Height h [mm]	120	180	208	238	269	300	330
Material/Design	Hot-dip galvanised steel $\geq 50 \mu\text{m}$, stainless steel on request						

Non-slip Connections

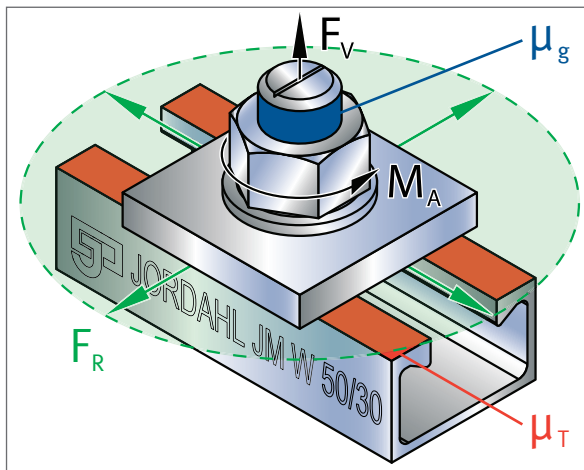
with JORDAHL® Mounting Channels JM W

Non-slip connections can be designed for many applications using JORDAHL® mounting channels JM W and the matching JORDAHL® hook-head T-bolts.

By applying the tightening torque M_A , a pretension force F_V is generated in the connection. The size of the pretension force is greatly dependent on the friction between the T-bolt thread and the nut that is used.

JORDAHL® T-bolts are available with different galvanised surfaces and in stainless steel designs (A4) and are supplied as standard with matching nuts.

Following specification of the pretension force and reduction due to torque relaxation the permissible sliding force F_R can be determined using the friction coefficient of the joint (μ_T in diagram below).



Determining the Sliding Load F_R

Range of thread friction coefficient for electro zinc plated T-bolts assuming no changes to factory applied finish: $\mu_{gmin} = 0.14$ $\mu_{gmax} = 0.24$

Range of thread friction coefficient for hot dip galvanised T-bolts assuming no changes to factory applied finish: $\mu_{gmin} = 0.08$ $\mu_{gmax} = 0.16$

Friction coefficient of the joint (steel/steel): $\mu_T = 0.25$

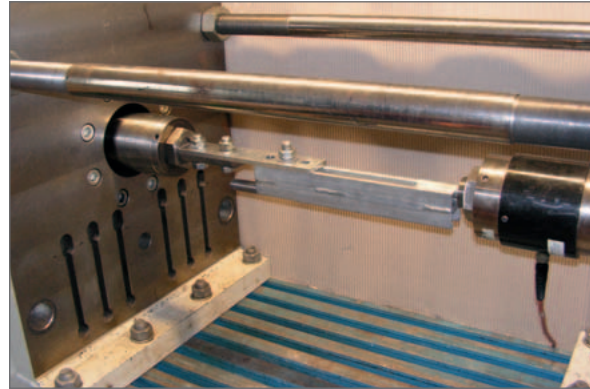
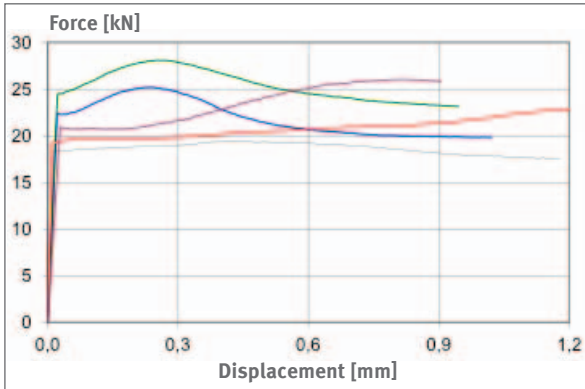
Our recommendations for non-slip connections are based on the following design concept and were verified by test:

- Tightening torque M_A depends on the T-bolt finish. The adjacent table shows values for hot dip galvanised (HDG) and electro zinc plated (ZP) JORDAHL® T-bolts assuming no changes to factory applied finish. When using lubricants, tightening torques have to be individually determined.
- The maximum thread friction coefficient μ_{gmax} at the relevant tightening torque will determine the minimum pretension force F_{min} .
 - $\mu_{gmax} = 0.24$ for electro zinc plated T-bolts (ZP)
 - $\mu_{gmax} = 0.16$ for hot dip galvanised T-bolts (HDG)
- A 20% pretension force loss caused by torque relaxation is taken into consideration. The remaining residual clamping force is 80% of the minimum assembly pretension force.
- The sliding load F_R is calculated from the remaining residual clamping force and the friction coefficient μ_T of the joint between the JORDAHL® mounting channel and the attached component.
- The permissible load F_{Rmax} is determined by applying a 2.0:1 safety factor.

Static Tests

The transfer of frictionally supported loads was investigated thoroughly in tests using different material surface pairings and thread friction coefficients.

The test results confirmed the values of the permissible loads F_{Rmax} , that are provided in the tables below.



Determining the load capacity of a non-slip T-bolt connection, values are valid without any additional applied tension loads.

JORDAHL® T-bolts 8.8 Strength Grade Electro Zinc Plated ($\mu_{gmax}=0.24$)	M 10	M 12	M 16	M 20	M 24	M 27	M 30
Tightening torque M_A [Nm]	54.0	93.0	230	464	798	1176	1597
Min. assembly pretension force F_{Mmin} [kN]	18.0	26.1	48.6	74.0	102	148	160
Residual pretension force [kN] (20 % reduction assumed after torque relaxation)	14.4	20.9	38.8	59.2	81.6	119	128
Friction coefficient of the joint μ_T (steel-steel)	0.25						
Safety factor ¹⁾	2.0						
Permissible load [kN] F_{Rmax}	1.8	2.6	4.9	7.4	10.2	14.8	16.0

JORDAHL® T-bolts 8.8 Strength Grade Hot Dip Galvanised ($\mu_{gmax}=0.16$)	M 10	M 12	M 16	M 20	M 24	M 27	M 30
Tightening torque M_A [Nm]	36.0	63.0	153	308	529	772	1053
Min. assembly pretension force F_{Mmin} [kN]	17.3	25.5	46.9	72.0	109	142	155
Residual pretension force [kN] (20% reduction assumed after torque relaxation)	13.8	20.4	37.5	57.6	87.1	113	124
Friction coefficient of the joint μ_T (steel-steel)	0.25						
Safety factor ¹⁾	2.0						
Permissible load [kN] F_{Rmax}	1.7	2.5	4.7	7.2	10.9	14.2	15.5

¹⁾ The specified safety factor may need to be adjusted for dynamic load conditions

The values specified here are provided as a guide for standard applications. In addition to checking the sliding load F_R , other information provided in this catalogue regarding channel and T-bolt load capacities should also

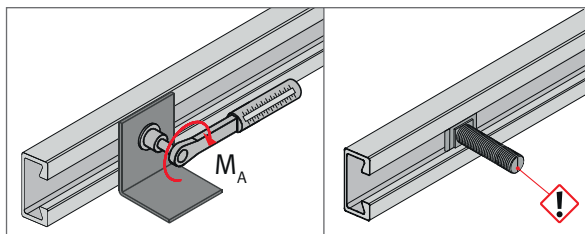
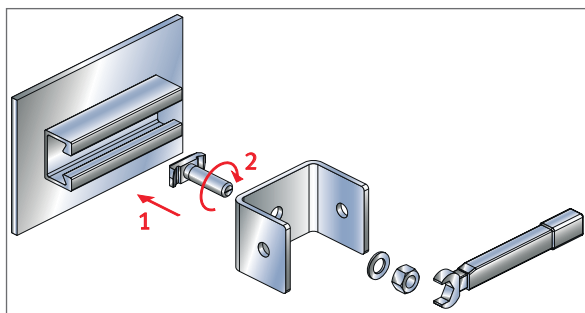
be considered. For special cases or frictional factors, such as the use of lubricants in the thread area, please contact Technical Support by e-mail experten@jordahl.de or your local JORDAHL office.

Installation Instructions

Mill finished JORDAHL® mounting channels can be welded directly to the steel support structure. Corrosion protection should be applied after the welding process has been completed. If welding galvanised mounting channels, the zinc layer has to be completely

removed from the heat effected area before welding. Corrosion protection should be re-applied to the un-protected areas after the welding process has been completed

Attachments to JORDAHL® Mounting Channels



The JORDAHL® T-bolt can be inserted horizontally at any point in the channel slot and is then locked into position by a 90° turn when tightening the nut. When tightening the nut, the recommended tightening torque in the table below must be observed. Any losses caused by torque relaxation must be corrected after one week or 10,000 load changes.

Note

The correct positioning of the T-bolt in the mounting channel must be checked following installation. The marking slot must be **perpendicular** to the longitudinal direction of the channel.

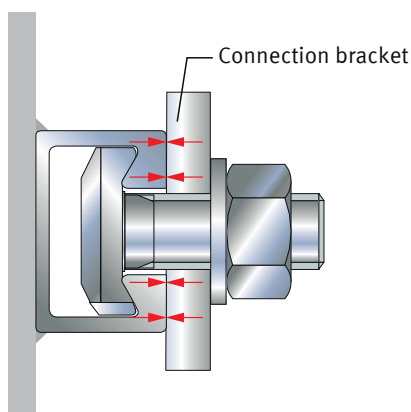


Recommended Tightening Torques M_A

When delivered, our T-bolts have the following range of thread friction coefficients in the thread:

- electro zinc plated (ZP) $\mu = 0.14 - 0.24$
- hot dip galvanised (HDG) $\mu = 0.08 - 0.16$

This results in the following tightening torques [Nm] for the minimum thread friction coefficients (μ) of electro zinc plated and hot dip galvanised T-bolts of strength grade 8.8.



T-bolts \varnothing	Tightening Torque M_A [Nm]			
	T-bolts 4.6 Locking Plates ¹⁾	T-bolts 8.8 ZP	T-bolts 8.8 HDG	Double-notch Toothed T-bolts 8.8
M 10	15	54	36	–
M 12	25	93	63	–
M 16	65	230	153	180
M 20	130	464	310	360
M 24	230	800	530	–
M 27	340	1200	770	–
M 30	460	1600	1050	–

¹⁾ Values from general building approval / ETA.

Welds

The welds are dimensioned in accordance with FKM directive 2003. Evidence has to be provided for changes to the welds depending on the application.

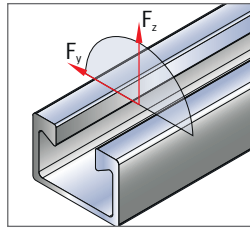
Design Concept

Selecting suitable Mounting Channel/T-bolt

Generally there are two different types of mounting channels available: hot-rolled, non-toothed mounting channels or hot-rolled, toothed mounting channels.

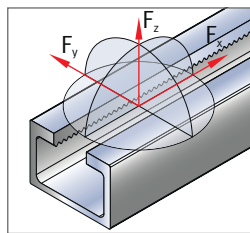
The following procedure should be followed when selecting a mounting channel:

1. Select a mounting channel that can absorb the existing load.
2. Check the channel's resistance to bending stress.
3. Select suitable T-bolts based on the technical details.
4. If frictional shear forces F_y and/or F_x are going to be transferred, the additional checks on page 38/39



The selection is correct, if the result from the permitted loads for the channel and T-bolt is less than 1. The T-bolt connection transfers the shear force positively. The following applies:

$$(F_y/F_{y \max})^2 + (F_z/F_{z \max})^2 \leq 1$$



The following applies to toothed channels and double-notch toothed T-bolts, which also guarantee form-fitting in a longitudinal direction:

$$(F_x/F_{x \max})^2 + (F_y/F_{y \max})^2 + (F_z/F_{z \max})^2 \leq 1$$

Strength Verification

The permitted loads $F_{x \max}$, $F_{y \max}$ and $F_{z \max}$ are specified for mounting channels and T-bolts. These loads have been determined using test data. A safety factor of $j_m = 2$ is applied to the average failure load, and a safety factor of $j_p = 1.5$ is applied to the average yield value. Attached components should be stiff enough to prevent plastic deformation.

These safety factors corresponds to a total safety factor $j_{\text{total}} = 2.5$ which is determined from the probability of occurrence and severity of consequences (see table below).

$$j_{\text{total}} = \max (j_m ; j_p \times R_m / (R_p \times K_A))$$

Safety Factors

Probability		Consequence of Failure	
		high	low
high	j_m	2.0	1.75
	j_p	1.5	1.3
low	j_m	1.8	1.6
	j_p	1.35	1.2

Using material combinations for the worst-case scenario produces the applied total safety factor = 2.5.

$$\begin{aligned}
 j_{\text{total}} &= j_p \times R_m / (R_p \times K_A) \\
 &= 1.5 \times 360 \text{ N/mm}^2 / (240 \text{ N/mm}^2 \times 0.9) \\
 &= 2.5
 \end{aligned}$$

Note:

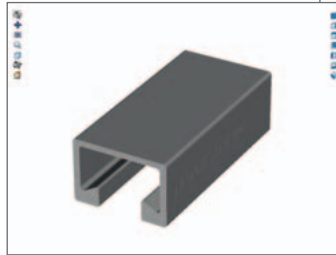
Different load probabilities and consequences of failure may result in a lower total safety factor. The permitted loads can be increased accordingly in these circumstances.

Service

JORDAHL® 3D CAD Models on the Internet

To integrate our mounting channels into your drawings we provide complete 2D and 3D models for download.

- 2D-models for typical CAD programs are available at www.jordahl-group.com → Downloads → CAD Library
- 2D and 3D models in various CAD formats are available for free download at www.tracepartsonline.net → Catalogues → JORDAHL



TraceParts Internet portal

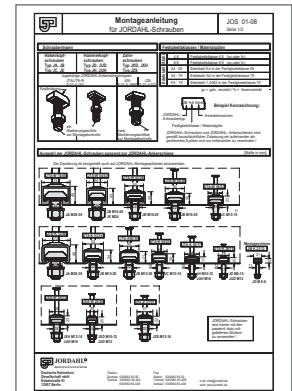


Product Information

Our products are designed to make your work easier. That is why we have put together an extensive portfolio of product-specific information for you.

- Catalogues and approvals
 - Installation instructions
 - Software
 - Tender texts
 - Installation videos
- etc.

Further information is available at www.jordahl.de



Certified Quality

Our products are characterised by their high quality and reliability. Quality is monitored by internal quality control and third-party audits.

- Certified by the German Institute for Construction Engineering (DIBt)
- Certified quality management (QM) / quality assurance (QS) program in accordance with ISO 9001
- Materials certification classes 2.1, 2.2 and 3.1
- Certifications for welding of concrete structures (welding proof)



Advice

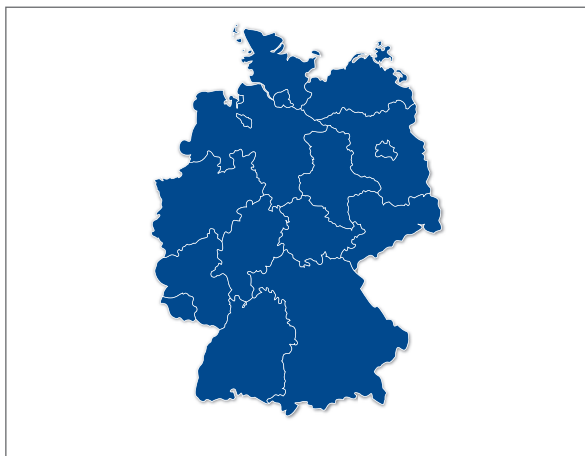


JORDAHL experts: Rolf Ratsch and Elisabeth Smith

The JORDAHL Experts

You are always in good hands if you opt for JORDAHL products. When it comes to static calculations, general technical advice/service and the development of customised solutions, our product specialists in our Berlin development and service centre set high standards. Our competent and experienced employees are always aware of the latest developments and offer you modern, versatile and customised solutions to cater to all your needs.

How do you make contact with the JORDAHL experts? Simply send an e-mail to experten@jordahl.de or give them a call on +49 (0) 30 68283-433.

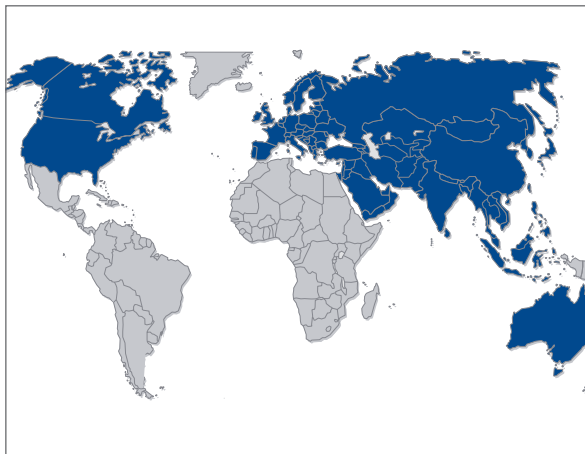


In Germany

We have locations throughout Germany. If you are interested in our products, simply contact our sales company:

J&P-Bautechnik Vertriebs GmbH

To find a contact person in your area, go to www.jp-bautechnik.de



Europe and around the World

The German quality standards of JORDAHL products are valued all over the world. Customers are supported by an excellent internal export department, high quality local distributors, and international subsidiary companies. Reliable global delivery logistics are supported by high quality international logistic partners, and an internal (DIN EN ISO 9001) logistics process. We focus on providing an individual, high-quality and customer-oriented service to ensure that we can guarantee the efficient delivery of your products.

Legend

A	Cross section of the channel
a_w	Thickness of the weld
e_w	Distance between weld centres
r	Profile nose (thickest point of channel lip)
$F_{x\ max}$	Max. permissible single load in x-direction
F_{xu}	Failure load (u = ultimate) in x-direction
$F_{y\ max}$	Max. permissible single load in y-direction
F_{yu}	Failure load (u = ultimate) in y-direction
$F_{z\ max}$	Max. permissible single load in z-direction
F_{zu}	Failure load (u = ultimate) in z-direction
G	Weight per metre of channel
I_y	Moments of inertia about the y-axis
I_z	Moments of inertia about the z-axis
j_{total}	Total safety factor according to FKM directive
j_m	Safety factor applied to tensile strength according to FKM directive
j_p	Safety factor applied to the yield strength according to the FKM directive
K_A	Anisotropy factor according to the FKM directive
l_w	Length of the weld
M_A	Tightening torque during installation
R_m	Tensile strength of the material
R_p	Yield strength of the material
s	Min. load distance/max. distance from side support
$W_{pl,y}$	Plastic moment of resistance about the y-axis
W_y	Moment of resistance about the y-axis
W_z	Moment of resistance about the z-axis
x	Longitudinal direction of channel
y	Transverse direction of channel
z	Tension direction of channel

Abbreviations

4.6/8.8	Strength grades
A4-50, A4-70	Stainless steel classes
HDG	Hot dip galvanised
ZP	Electro zinc plated
St	Steel
wb	Mill finish



Dynamic load-bearing capacity



Toothed channel



Hot-rolled channel



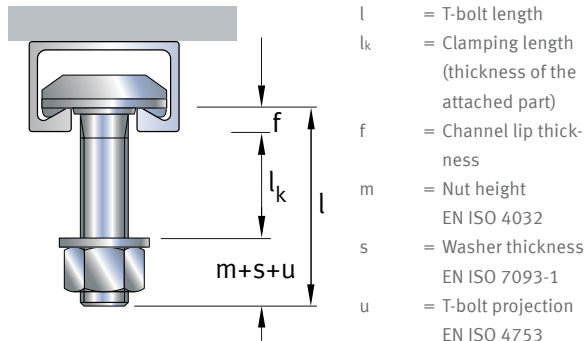
T-bolt



Channel

Note

Determining Required T-bolt Length



$$\text{req. } l [\text{mm}] = l_k + f + (m + s + u)$$

T-bolt	Total $m + s + u$ [mm]
M 6	8.8
M 8	11.3
M 10	13.9
M 12	17.3
M 16	21.8
M 20	27.0
M 24	32.5
M 27	35.8
M 30	38.6

Notes

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