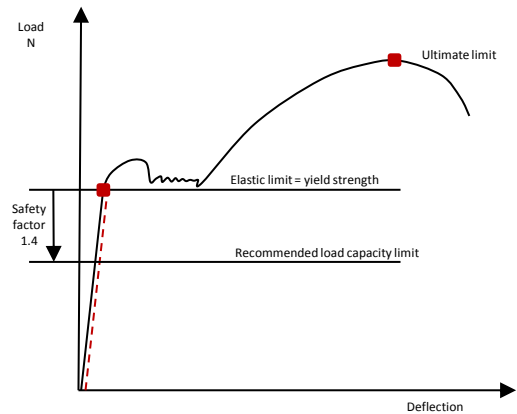
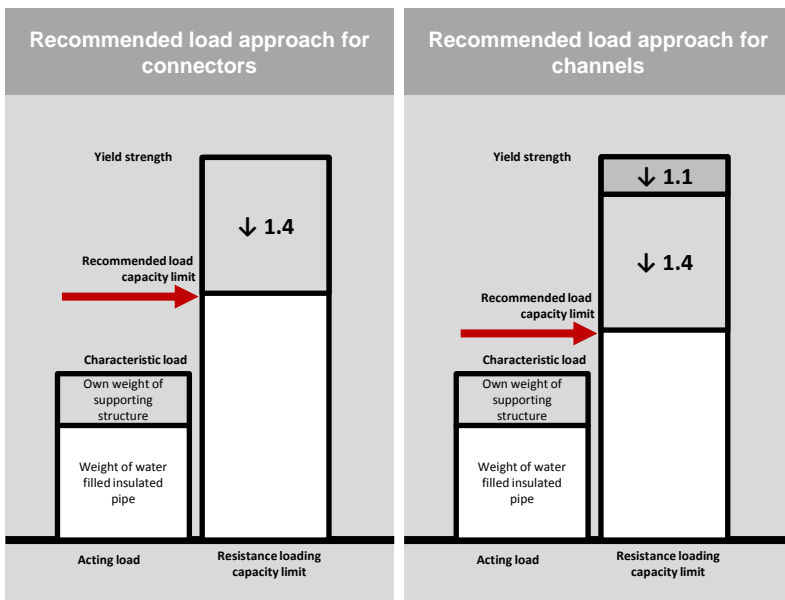


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Loading capacity limit

All loading capacity limits in this manual are to be considered as recommended values. Recommended values are calculated from the elastic limit equal to yield strength, with an applied material safety factor of 1.0 for connectors, 1.1 for channels and an applied additional safety factor of 1.4.



Contents and overview of this manual

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Naming convection **5**

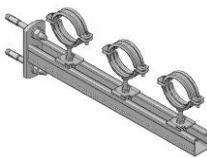
Ceiling applications

1		Trapeze Rods	
		- Light	7
		- Medium	11
		- Heavy	15

2		Trapeze Frame	
		- Medium	21
		- Heavy	25

3		Head Rail	
		- Light	31
		- Medium	35
		- Heavy	39

Floor applications

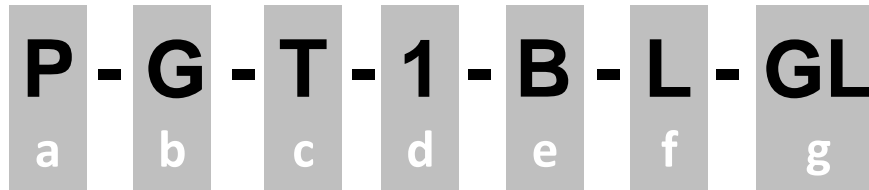
4		Cantilever Arm	
		- Light	43
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Ceiling applications

5		Goal Post	
		- Medium	53
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Naming convention used in the manuals of typical applications

After 07.2016



Sub-trade a	Corrosion Protection b	Specific number reference in library d	Application sub-type e	Application sub-type f	Country g	Type c
P - Plumbing H - Heating C - Cooling V - Ventilation S - Sprinkler D - Drainage	G - Galvanized HDG – Hot dipped galvanized StS – Stainless Steel	1 - 50 - MQ System 51 - 100 - MM system 101 - 150 - MI system 151 - 200 - MIQ System	B – Basic C – Comfort BS – Basic Strategic CS – Comfort Strategic	L – Light (<= 1 kN) M – Comfort (> 1 kN and <= 2kN) H – Heavy (> 2 kN)	GL - Global D - Germany ES - Spain F – France CZ – Czech Republic RU – Russia ... EX – Existing Profis typical	Ceiling: T - Trapeze Rods TF - Trapeze Frame HR - Head Rail SFP - Single Fastening Point FP - Fixed Point CTL - Ceiling Tree L CTT - Ceiling Tree T NCZT - Natural Compensation Zone Trapeze AG - Axial Guide Wall Ceiling: WCT - Wall Ceiling Trapeze WCF - Wall Ceiling Frame Wall: WR - Wall Rail CA - Cantilever Arm (Bracket) WSF - Wall Spot Fixture RG - Riser Guide WW - Wall to Wall RFP - Riser Fixed Point Wall Floor: WFF - Wall Floor Frame PRSF - Plant Room Splitter Frame Floor: GP - Goal Post (Floor Frame) PR3D - Plant Room 3D PRSB - Plant Room Switch Box FTL - Floor Tree L FTT - Floor Tree T Note: (B) - Braced

MQ System Light & Project Trapeze Rods On Concrete - Light - Options

MP-PI pipe rings	
MP-PI 11-15 1/4" M8	2073431
MP-PI 16-20 3/8" M8	2073432
MP-PI 20-24 1/2" M8	2073433
MP-PI 25-28 3/4" M8	2073434
MP-PI 25-28 3/4" M8/M10	2126903
MP-PI 32-36 1" M8	2073435
MP-PI 38-46 1 1/4" M8	2073436
MP-PI 38-46 1 1/4" M8/M10	2126905
MP-PI 48-53 1 1/2" M8	2073437
MP-PI 54-58 M8	2073438
MP-PI 59-66 2" M8	2073439

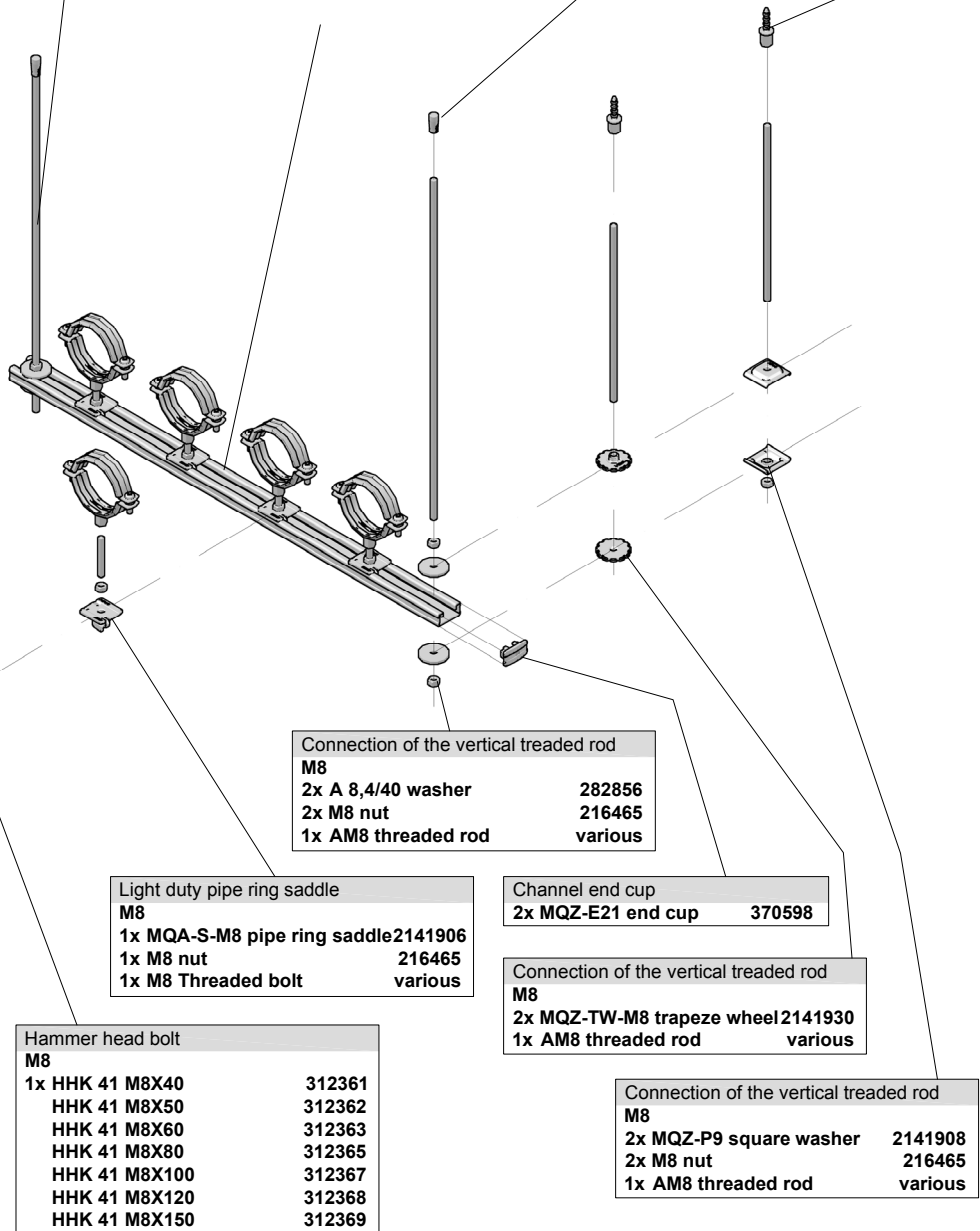
Threaded rods M8	
AM8x1000 4.8 zincd	339793
AM8x2000 4.8 zincd	339794
AM8x3000 4.8 zincd	216415

Internally threaded screw anchor 1x screw anchor	
HUS-I 6x35 M8/M10 anchor	416740
HUS-I 6x55 M8/M10 anchor	423180

Channel 1x MQ-21 channel	
MQ-21 2m channel	2141966
MQ-21 3m channel	2141965
MQ-21 6m channel	2141964

Drop in anchor 1x drop in anchor M8	
HKD M8x25 anchor	376957
HKD M8x30 anchor	376959
HKD M8x40 anchor	376961

MPN-RC pipe rings	
MPN-RC 8/11 A	335672
MPN-RC 1/4" A	335673
MPN-RC 3/8" A	335674
MPN-RC 1/2" A	335675
MPN-RC 3/4" A	335676
MPN-RC 29/32 A	335677
MPN-RC 1" A	335678
MPN-RC 37/41 A	335679
MPN-RC 1 1/4" A	335680
MPN-RC 1 1/2" A	335681
MPN-RC 52/56 A	335682
MPN-RC 2" A	335683
MPN-RC 60/66 A	335684



Standard pipe ring saddle M8	
1x MQA-M8 saddle nut	369629
1x M8 nut	216465
1x M8 Threaded bolt	various
M10	
1x MQA-M10 saddle nut	369630
1x M10 nut	216466
1x M10 threaded bolt	various

Light duty pipe ring saddle M8	
1x MQA-S-M8 pipe ring saddle	2141906
1x M8 nut	216465
1x M8 Threaded bolt	various

Hammer head bolt M8	
1x HHK 41 M8X40	312361
HHK 41 M8X50	312362
HHK 41 M8X60	312363
HHK 41 M8X80	312365
HHK 41 M8X100	312367
HHK 41 M8X120	312368
HHK 41 M8X150	312369

Channel end cup	
2x MQZ-E21 end cup	370598

Connection of the vertical threaded rod M8	
2x MQZ-TW-M8 trapeze wheel	2141930
1x AM8 threaded rod	various

Connection of the vertical threaded rod M8	
2x MQZ-P9 square washer	2141908
2x M8 nut	216465
1x AM8 threaded rod	various

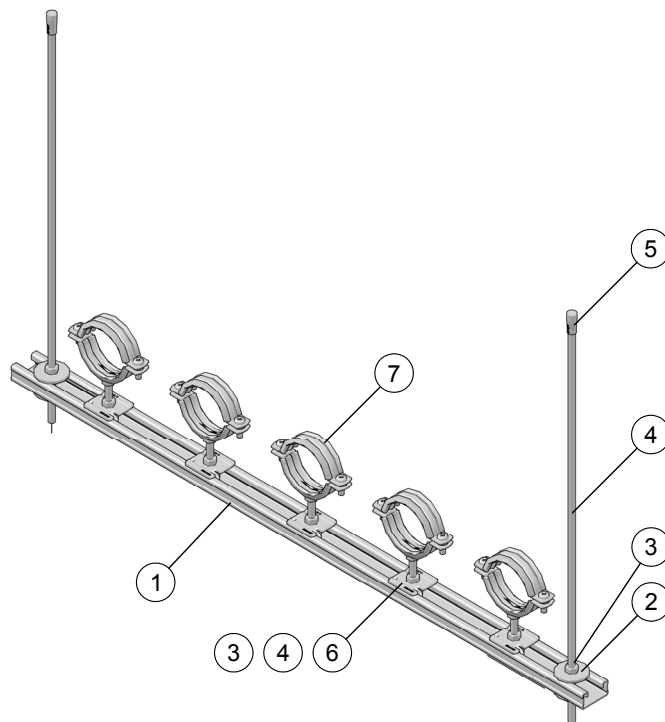
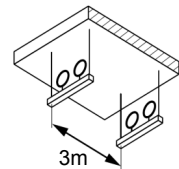
Application description	Application	Product lines	Base material
MQ System Light & Project applications - Trapeze Rods - Light		1 MQ System L&P	Concrete
General comments		Anchors	
These pictures do not show any loading capacity limits or exposure or limitation to any load combinations.		Accessories	

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MQ System Light & Project - Trapeze Rods - Basic - Light

Type P-G-T-1-B-L-GL

- Limited to 5x DN 50 (O.D. 60.3 mm) steel pipe
- Spacing - support distance 3 m
- Insulation 20 mm rubber

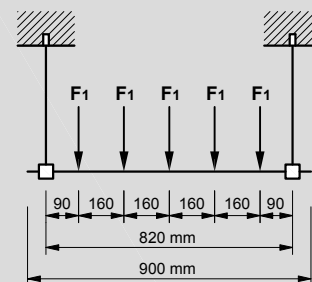


Additional loading capacity limits

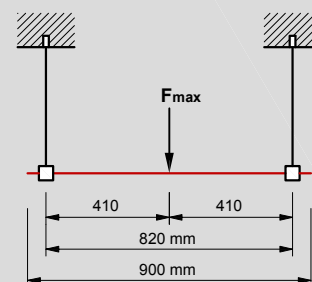
This particular case

$F_1 = 0.2 \text{ kN}$ rec. loads, $\sum F_1 = 1.0 \text{ kN}$

$F_S = 0.5 \text{ kN}$ rec. loads



$F_{max} = 0.6 \text{ kN}$



Bill of material

Ref.	Item no.	Description	Piece	Length [m]
1	2148544	MQ-21 3m channel	-	0.9
2	282856	A 8.4/40 flat washer	4	
3	216465	M8 hexagon nut	9	
4	339793	AM8x1000 4.8 threaded rod	-	1.3m = 2x0.5m + 5x0.06m
5	376961	HKD 8x40 drop in anchor bulk	2	
6	2141906	MQA-S M8 saddle nut	5	
7	2073439	MP-PI 2" pipe ring	5	

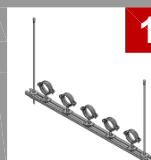
Application description

Plumbing - Trapeze Rods - Basic - Light

General comments

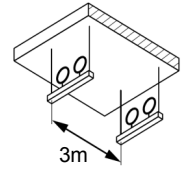
- Application subject to vertical loads caused by weight of the pipes
- Application not subjects to any thermal expansion or any other 3D loads

Application



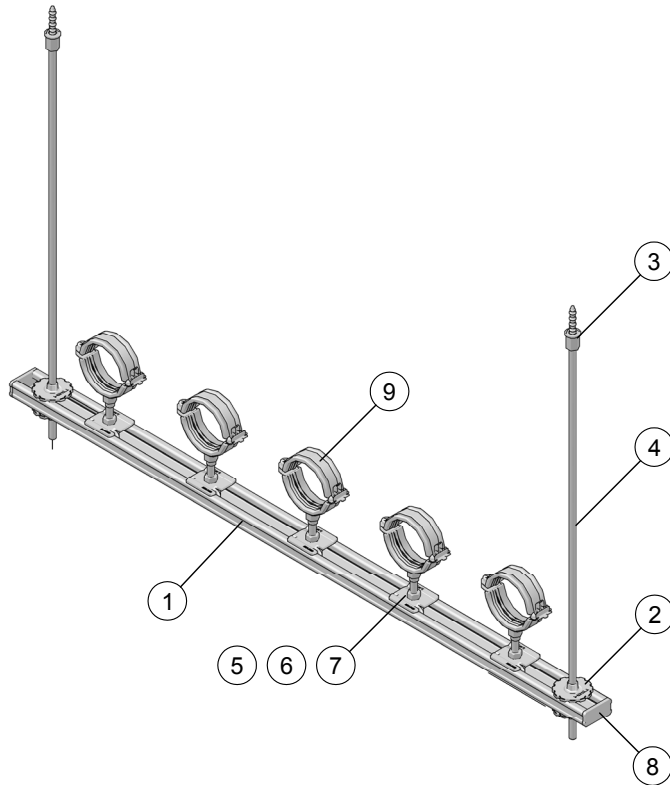
1	Base material	Concrete
	Product line	MQ System L&P
	Capacity limit	5x DN50 steel

MQ System Light & Project - Trapeze Rods- Comfort - Light



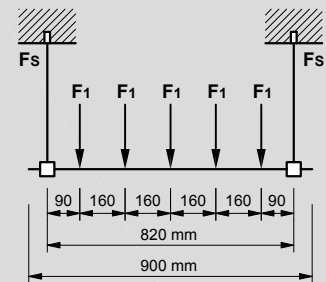
Type P-G-T-1-C-L-GL

- Limited to 5x DN 50 (O.D. 60.3 mm) steel pipe
- Spacing - support distance 3 m
- Insulation 20 mm rubber

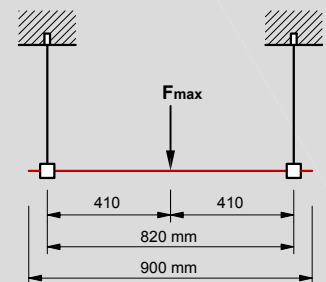


Additional loading capacity limits

This particular case
 $F_1 = 0.2 \text{ kN rec. loads, } \Sigma F_1 = 1.0 \text{ kN}$
 $F_s = 0.5 \text{ kN rec. loads}$



$F_{max} = 0.6 \text{ kN rec. loads}$



Bill of material

Ref.	Item no.	Description	Piece	Length [m]
1	2148544	MQ-21 3m channel	-	0.9
2	2141930	MQZ-TW-M8 trapeze wheel	4	
3	416740	HUS-I 6x35 M8/M10 screw anchor	9	
4	339793	AM8x1000 4.8 threaded rod	-	1.0m = 2x 0.5m
5	2141906	MQA-S M8 saddle nut	2	
6	216382	AM8x60 4.6 threaded bolt	5	
7	216465	M8 hexagon nut	5	
8	370598	MQZ-E21 plastic end cap	2	
9	335683	MPN-RC 2" pipe ring	5	

Application description

Plumbing - Trapeze Rods - Comfort - Light

General comments

- Application subject to vertical loads caused by weight of the pipes
- Application not subjects to any thermal expansion or any other 3D loads

Application

	Base material	Concrete
	Product line	MQ System L&P
	Capacity limit	5x DN50 steel

MQ System Light & Project - Trapeze Rods On Concrete - Medium - Options

MP-PI pipe rings	
MP-PI 11-15 1/4" M8	2073431
MP-PI 16-20 3/8" M8	2073432
MP-PI 20-24 1/2" M8	2073433
MP-PI 25-28 3/4" M8	2073434
MP-PI 25-28 3/4" M8/M10	2126903
MP-PI 32-36 1" M8	2073435
MP-PI 38-46 1 1/4" M8	2073436
MP-PI 38-46 1 1/4" M8/M10	2126905
MP-PI 48-53 1 1/2" M8	2073437
MP-PI 54-58 M8	2073438
MP-PI 59-66 2" M8	2073439
MP-PI 67-73 M8/M10	2073470
MP-PI 75-80 2 1/2" M8/M10	2073471
MP-PI 81-87 M8/M10	2073472
MP-PI 87-92 3" M8/M10	2073473

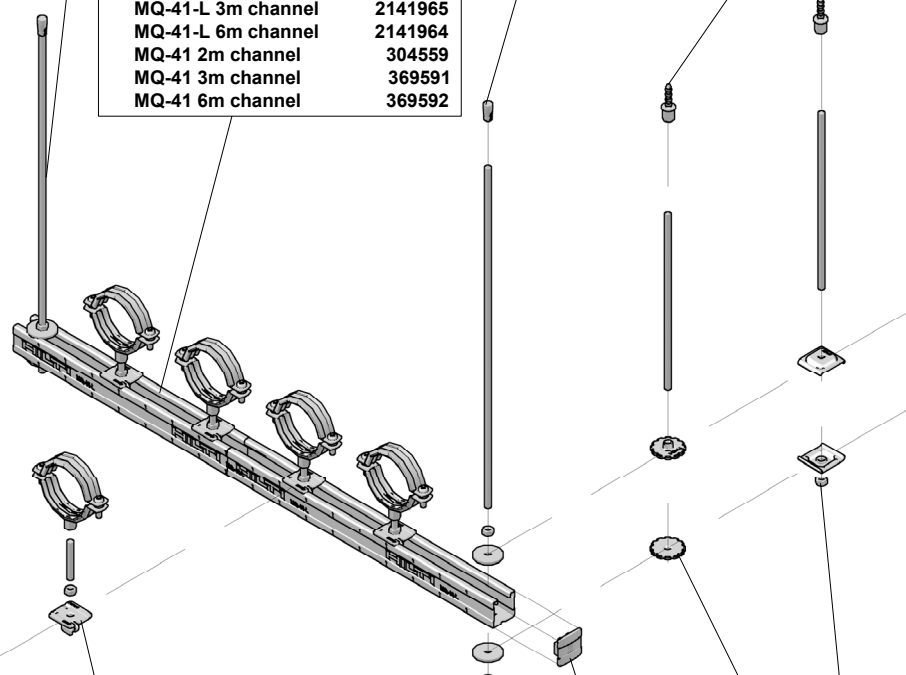
MPN-RC pipe rings	
MPN-RC 8/11 A	335672
MPN-RC 1/4" A	335673
MPN-RC 3/8" A	335674
MPN-RC 1/2" A	335675
MPN-RC 3/4" A	335676
MPN-RC 29/32 A	335677
MPN-RC 1" A	335678
MPN-RC 37/41 A	335679
MPN-RC 1 1/4" A	335680
MPN-RC 1 1/2" A	335681
MPN-RC 52/56 A	335682
MPN-RC 2" A	335683
MPN-RC 60/66 A	335684
MPN-RC 67/71 A	335686
MPN-RC 21/2" B	335688
MPN-RC 78/84 B	335690
MPN-RC 3" B	335692

Threaded rods	
M10	
AM10x1000 4.8 zincd	339795
AM10x2000 4.8 zincd	339796
AM10x3000 4.8 zincd	216418

Internally threaded screw anchor	
1x screw anchor	
HUS-I 6x35 M8/M10 anchor	416740
HUS-I 6x55 M8/M10 anchor	423180

Drop in anchor	
1x drop in anchor M10	
HKD M10x25 anchor	376963
HKD M10x30 anchor	376965
HKD M10x40 anchor	376967

Channel	
1x MQ-41 channel	
MQ-41-L 2m channel	2141966
MQ-41-L 3m channel	2141965
MQ-41-L 6m channel	2141964
MQ-41 2m channel	304559
MQ-41 3m channel	369591
MQ-41 6m channel	369592



Standard pipe ring saddle	
M8	
1x MQA-M8 saddle nut	369629
1x M8 nut	216465
1x M8 Threaded bolt	various
M10	
1x MQA-M10 saddle nut	369630
1x M10 nut	216466
1x M10 threaded bolt	various

Light duty pipe ring saddle	
M8	
1x MQA-S-M8 pipe ring saddle	2141906
1x M8 nut	216465
1x M8 Threaded bolt	various
M10	
1x MQA-S-M10 piping s.	2141907
1x M10 nut	216466
1x M10 Threaded bolt	various

Hammer head bolt	
M8	
1x HHK 41 M8X40	312361
HHK 41 M8X50	312362
HHK 41 M8X60	312363
HHK 41 M8X80	312365
HHK 41 M8X100	312367
HHK 41 M8X120	312368
HHK 41 M8X150	312369

Channel end cup	
2x MQZ-E41 end cup	369685

Connection of the vertical treaded rod	
M10	
2x A 10.5/40 washer	282857
2x M10 nut	216466
1x AM10 threaded rod	various

Connection of the vertical treaded rod	
M10	
2x MQZ-TW-M10 trap. wheel	2141931
1x AM10 threaded rod	various

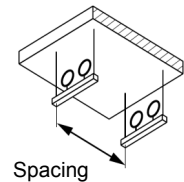
Connection of the vertical treaded rod	
M10	
2x MQZ-P11 square washer	2141909
2x M10 nut	216466
1x AM10 threaded rod	various

Application description	Application	Product lines	Base material
MQ System Light & Project applications - Trapeze Rods - Medium		1 MQ System L&P	Concrete
General comments		Anchors	
These pictures do not show any loading capacity limits or exposure or limitation to any load combinations.		Accessories	

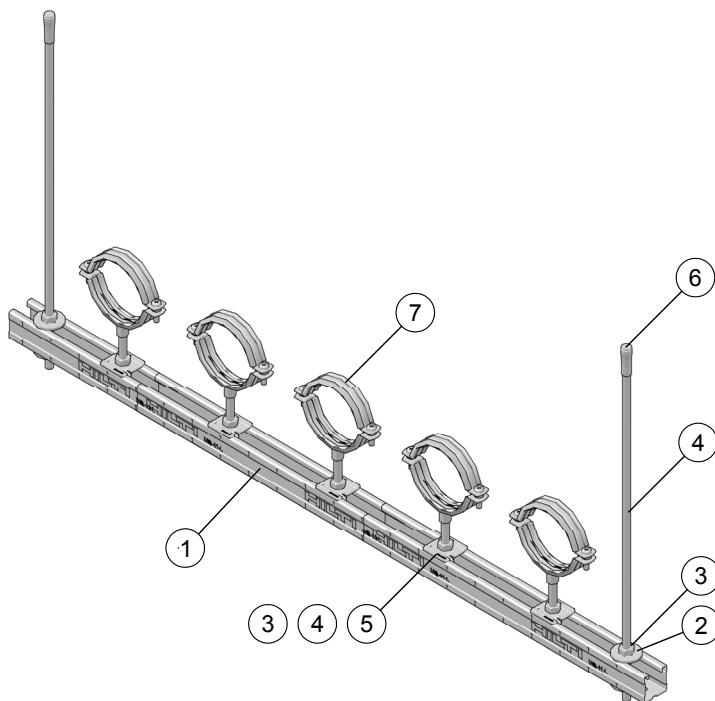
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MQ System Light & Project - Trapeze Rods - Basic - Medium

Type P-G-T-1-B-M-GL



- Limited to 5x DN 80 (O.D. 88.9 mm) steel pipe
- Spacing - support distance 3.0 m and 4.5 m
- Insulation 20 mm rubber



Additional loading capacity limits

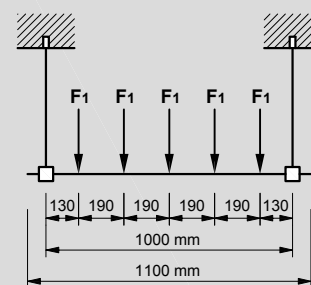
This particular case with spacing:

a) 3m:

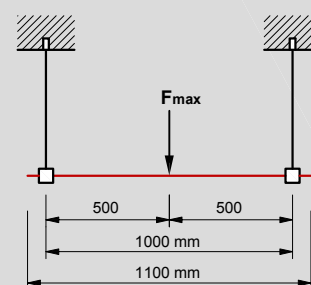
$F_1 = 0.37$ kN rec. loads $F_s = 0.93$ kN rec. loads

b) 4.5m (max. recommended):

$F_1 = 0.55$ kN rec. loads $F_s = 1.38$ kN rec. loads



$F_{max} = 1.55$ kN rec. loads



Bill of material

Ref.	Item no.	Description	Piece	Length [m]
1	2141965	MQ-41-L 3m channel	-	1.1
2	282857	A 10.5/40 flat washer	4	
3	216466	M10 hexagon nut	9	
4	339795	AM10x1000 4.8 threaded rod	-	1.3m = 2x0.5m + 5x0.06m
5	2141907	MQA-S M10 saddle nut	5	
6	376961	HKD 8x40 drop in anchor bulk	2	
7	2073473	MP-PI 3" pipe ring	5	

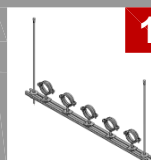
Application description

Plumbing - Trapeze rods - Basic - Medium

General comments

- Application subject to vertical loads caused by weight of the pipes
- Application not subjects to any thermal expansion or any other 3D loads

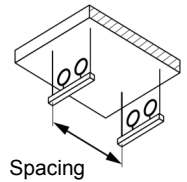
Application



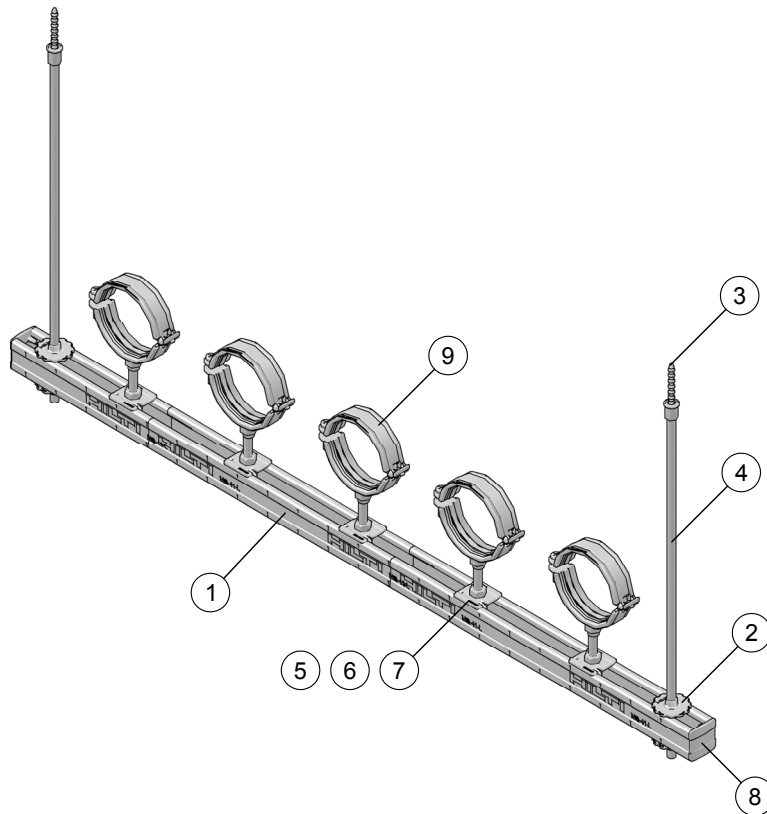
1	Base material	Concrete
	Product line	MQ System L&P
	Capacity limit	5x DN80 steel

MQ System Light & Project - Trapeze Rods - Comfort - Medium

Type P-G-T-1-C-M-GL



- Limited to 5x DN 80 (O.D. 88.9 mm) steel pipe
- Spacing - support distance 3 m and 4.5 m
- Insulation 20 mm rubber



Additional loading capacity limits

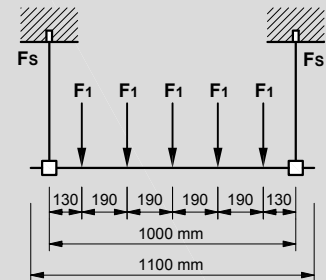
This particular case with spacing:

a) 3m:

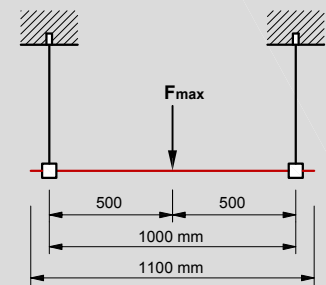
$F_1 = 0.37$ kN rec. loads $F_s = 0.93$ kN rec. loads

b) 4.5m (max. recommended):

$F_1 = 0.55$ kN rec. loads $F_s = 1.38$ kN rec. loads



$F_{max} = 1.55$ kN rec. loads



Bill of material

Ref.	Item no.	Description	Piece	Length [m]
1	2141965	MQ-41-L 3m channel	-	1.1m
2	2141931	MQZ-TW-M10 trapeze wheel	4	
3	416740	HUS-I 6x35 M8/M10 screw anchor	2	
4	339795	AM10x1000 4.8 threaded rod	-	1.0m = 2x 0.5m
5	2141907	MQA-S M10 saddle nut	5	
6	216392	AM10x80 4.6 threaded bolt	5	
7	216466	M10 hexagon nut	5	
8	369685	MQZ-E41 plastic end cap	2	
9	335692	MPN-RC 3" pipe ring	5	

Application description

Plumbing - Trapeze rods - Comfort - Medium

General comments

- Application subject to vertical loads caused by weight of the pipes
- Application not subjects to any thermal expansion or any other 3D loads

Application

	Base material	Concrete
	Product line	MQ System L&P
	Capacity limit	5x DN80 steel

MQ System Light & Project - Trapeze On Concrete - Heavy - Options

MP-PI pipe rings	
MP-PI 59-66 2" M8	2073439
MP-PI 67-73 M8/M10	2073470
MP-PI 75-80 2 1/2" M8/M10	2073471
MP-PI 81-87 M8/M10	2073472
MP-PI 87-92 3" M8/M10	2073473
MP-PI 99-105 3 1/2" M8/M10	2073474
MP-PI 107-115 4" M8/M10	2073475
MP-PI 120-128 M8/M10	2073476
MP-PI 129-134 M8/M10	2073477
MP-PI 135-143 5" M8/M10	2073478
MP-PI 149-161 M8/M10	2073479

MPN-RC pipe rings	
MPN-RC 2" A	335683
MPN-RC 60/66 A	335684
MPN-RC 67/71 A	335686
MPN-RC 2 1/2" B	335688
MPN-RC 78/84 B	335690
MPN-RC 3" B	335692
MPN-RC 101,6 B	335694
MPN-RC 110 B	335696
MPN-RC 4" B	335698
MPN-RC 125 B	335700
MPN-RC 133 B	335702
MPN-RC 5" B	335704
MPN-RC 160 B	335706

MP-MI pipe rings	
MP-MI 2" G	20857
MP-MI 68/72 G	20860
MP-MI 2 1/2" G	20862
MP-MI 78/84 G	20865
MP-MI 3" G	20866
MP-MI 101.6 G	20869
MP-MI 4" G	20871
MP-MI 117 G	20874
MP-MI 125 G	20876
MP-MI 133 G	20889
MP-MI 5" G	20882
MP-MI 159 G	20885

Standard pipe ring saddle	
M8	
1x MQA-M8 saddle nut	369629
1x M8 nut	216465
1x M8 Threaded bolt	various
M10	
1x MQA-M10 saddle nut	369630
1x M10 nut	216466
1x M10 threaded bolt	various
M12	
1x MQA-M12 saddle nut	369631
1x M12 nut	216467
1x M12 threaded bolt	various

Threaded rods	
M10	
AM10x1000 4.8 zincd	339795
AM10x2000 4.8 zincd	339796
AM10x3000 4.8 zincd	216418

Stud anchor	
1x screw anchor + coupling spacer + nut	
HST3 M10x90 30/10 stud anchor	2105712
M10x30 spacer coupling	216704
M10 nut	216466

Internally threaded screw anchor	
1x screw anchor	
HUS-I 6x35 M8/M10 anchor	416740
HUS-I 6x55 M8/M10 anchor	423180

Drop in anchor	
1x drop in anchor M10	
HKD M10x25 anchor	376963
HKD M10x30 anchor	376965
HKD M10x40 anchor	376967

Channel	
1x MQ channel	
MQ-41 2m channel	304559
MQ-41 3m channel	369591
MQ-41 6m channel	369592
MQ-52 3m channel	373795
MQ-52 6m channel	369598

Hammer head bolt	
M8	
1x HHK 41 M8X40	312361
HHK 41 M8X50	312362
HHK 41 M8X60	312363
HHK 41 M8X80	312365
HHK 41 M8X100	312367
HHK 41 M8X120	312368
HHK 41 M8X150	312369


Channel end cup	
2x MQZ-E41 end cup	369685

Connection of the vertical threaded rod	
M10	
2x A 10.5/40 washer	282857
2x M10 nut	216466
1x AM10 threaded rod	various

Connection of the vertical threaded rod	
M10	
2x MQZ-TW-M10 trapeze wheel	2141931
1x AM10 threaded rod	various

Light duty pipe ring saddle	
M8	
1x MQA-S-M8 pipe ring saddle	2141906
1x M8 nut	216465
1x M8 Threaded bolt	various
M10	
1x MQA-S-M10 piping saddle	2141907
1x M10 nut	216466
1x M10 Threaded bolt	various

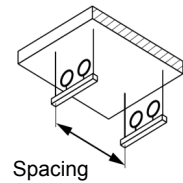
Connection of the vertical threaded rod	
M10	
2x MQZ-P11 square washer	2141909
2x M10 nut	216466
1x AM10 threaded rod	various

Application description	Application	Product lines	Base material
MQ System Light & Project applications - Trapeze Rods - Heavy		MQ System L&P	Concrete
General comments		Anchors	
These pictures do not show any loading capacity limits or exposure or limitation to any load combinations.		Accessories	

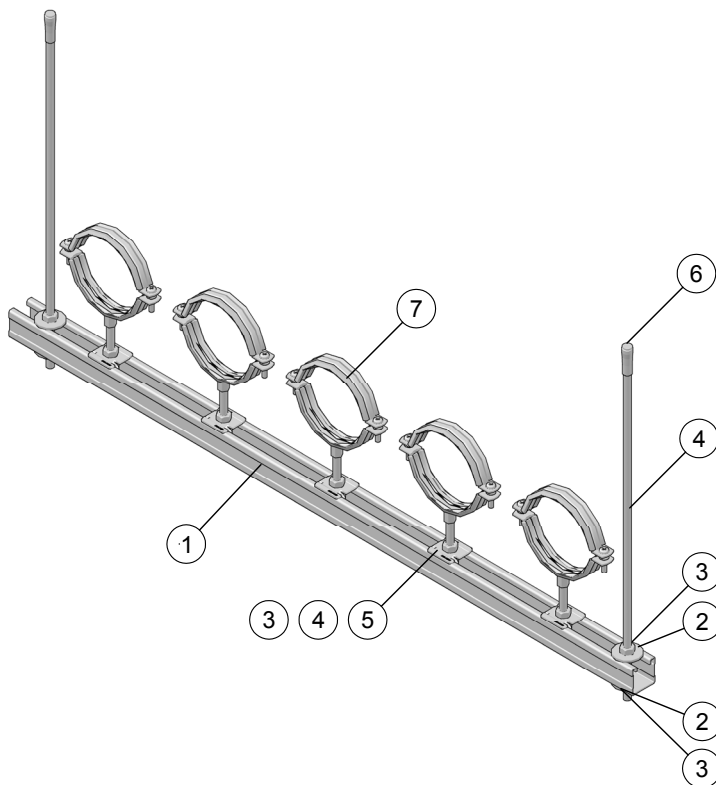
Hilti strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applicable Hilti instructions for use, within the application limits specified in the Hilti technical data sheets, technical specifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.

MQ System Light & Project - Trapeze Rods - Basic - Heavy

Type P-G-T-1-B-H-GL



- Limited to 5x DN 100 (O.D. 108 mm) steel pipe
- Spacing - support distance 3 m and 4 m
- Insulation 20 mm rubber



Additional loading capacity limits

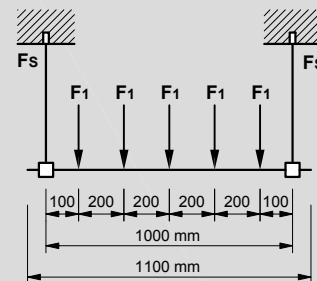
This particular case with spacing:

a) 3m:

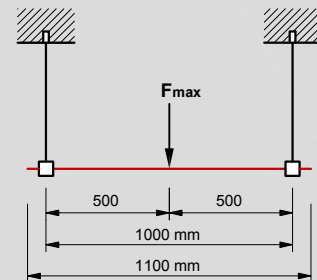
$F_1 = 0.57$ kN rec. loads $F_s = 1.43$ kN rec. loads

b) 4m (max. recommended):

$F_1 = 0.76$ kN rec. loads $F_s = 1.9$ kN rec. loads



$F_{max} = 2.0$ kN rec. loads



Bill of material

Ref.	Item no.	Description	Piece	Length [m]
1	369591	MQ-41 3m channel	-	1.1
2	282857	A 10.5/40 flat washer	4	
3	216466	M10 hexagon nut	9	
4	339795	AM10x1000 4.8 threaded rod	-	1.3m = 2x 0.5m + 5x 0.06m
5	2141907	MQA-S M10 saddle nut	5	
6	376967	HKD 10x40 drop in anchor bulk	2	
7	2073475	MP-PI 4" pipe ring	5	

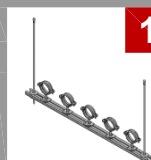
Application description

Plumbing - Trapeze Rods - Basic - Heavy

General comments

- Application subject to vertical loads caused by weight of the pipes
- Application not subjects to any thermal expansion or any other 3D loads

Application

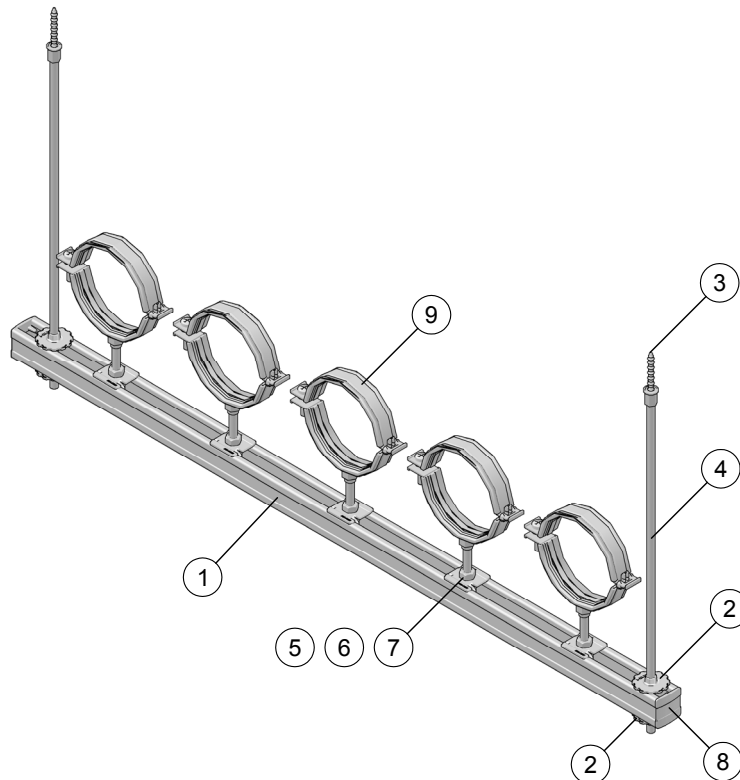
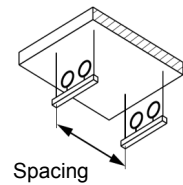


1	Base material	Concrete
	Product line	MQ System L&P
	Capacity limit	5x DN 100 steel

MQ System Light & Project - Trapeze Rods - Comfort - Heavy

Type P-G-T-1-C-H-GL

- Limited to 5x DN 100 (O.D. 108 mm) steel pipe
- Spacing - support distance 3 m and 3.75m
- Insulation 20 mm rubber



Additional loading capacity limits

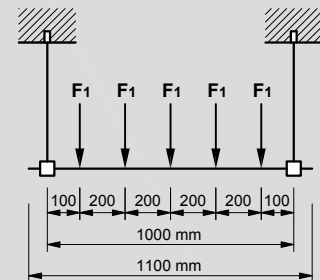
This particular case with spacing:

a) 3m:

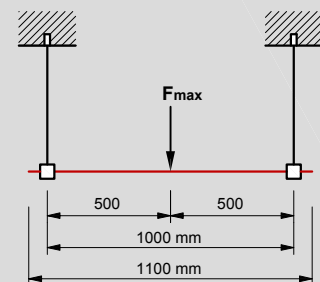
$F_1 = 0.57$ kN rec. loads $F_s = 1.43$ kN rec. loads

b) 3.75m (max. recommended):

$F_1 = 0.71$ kN rec. loads $F_s = 1.78$ kN rec. loads



$F_{max} = 2.0$ kN rec. loads



Bill of material

Ref.	Item no.	Description	Piece	Length [m]
1	369591	MQ-41 3m channel	-	1.1m
2	2141931	MQZ-TW-M10 trapeze wheel	4	
3	416740	HUS-I 6x35 M8/M10 screw anchor	2	
4	339795	AM10x1000 4.8 threaded rod	-	1.0m = 2x0.5m
5	2141907	MQA-S M10 saddle nut	5	
6	216392	AM10x80 4.6 threaded bolt	5	
7	216466	M10 hexagon nut	5	
8	369685	MQZ-E41 plastic end cap	2	
9	335698	MPN-RC 4" pipe ring	5	

Application description

Plumbing - Trapeze Rods - Comfort - Heavy

General comments

- Application subject to vertical loads caused by weight of the pipes
- Application not subjects to any thermal expansion or any other 3D loads

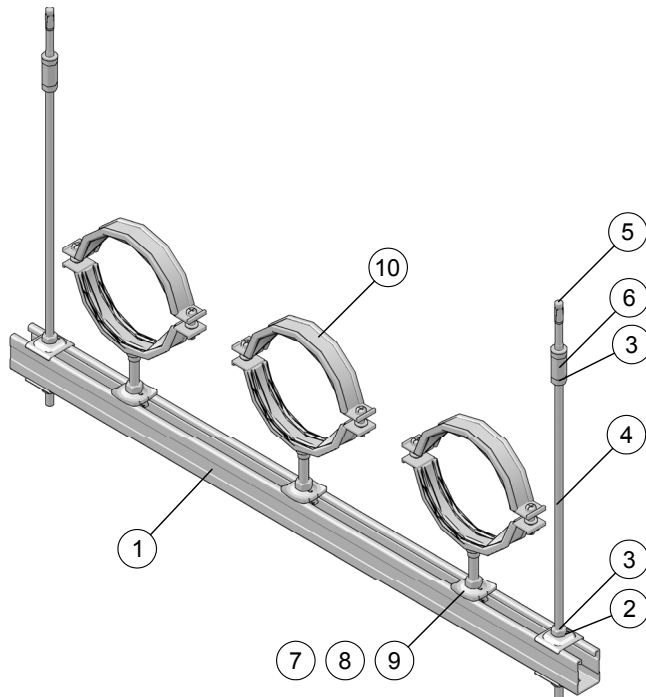
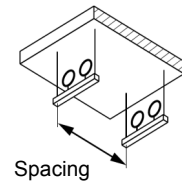
Application

	Base material	Concrete
	Product line	MQ System L&P
	Capacity limit	5x DN 100 steel

MQ System Light & Project - Trapeze Rods - Basic - Heavy

Type P-G-T-2-B-H-GL

- Limited to 3x DN 150 (O.D. 159 mm) steel pipe
- Spacing - support distance 3 m and 6 m
- Insulation 20 mm rubber



Additional loading capacity limits

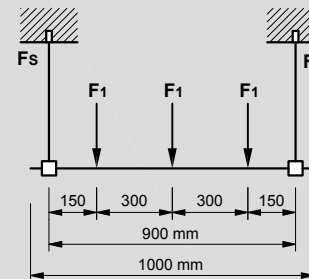
This particular case with spacing:

a) 3m:

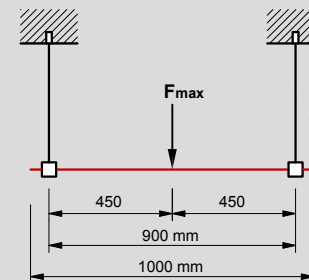
$F_1 = 1.05 \text{ kN rec. loads}$ $F_s = 1.6 \text{ kN rec. loads}$

b) 6m (max. recommended):

$F_1 = 2.1 \text{ kN rec. loads}$ $F_s = 3.15 \text{ kN rec. loads}$



$F_{max} = 3.7 \text{ kN rec. loads}$



Bill of material

Ref.	Item no.	Description	Piece	Length [m]
1	373795	MQ-52 3m channel	-	1
2	2141909	MQZ-P11 channel plate	4	
3	216466	M10 hexagon nut	6	
4	339795	AM10x1000 4.8 threaded rod	-	1.0m = 2x 0.5m
5	2105714	HST3 M10x110 50/30 stud anchor	2	
6	216704	M10x30 spacer coupling	2	
7	369631	MQA M12-B pipe ring saddle	3	
8	339797	AM12x1000 4.8 threaded rod	-	0.2m = 3x 0.065m
9	216467	M12 hexagon nut	3	
10	20885	MP-MI 159 M12 piping	3	

Application description

Plumbing - Trapeze Rods - Basic - Heavy

General comments

- Application subject to vertical loads caused by weight of the pipes
- Application not subjects to any thermal expansion or any other 3D loads

Application

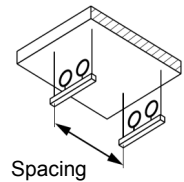
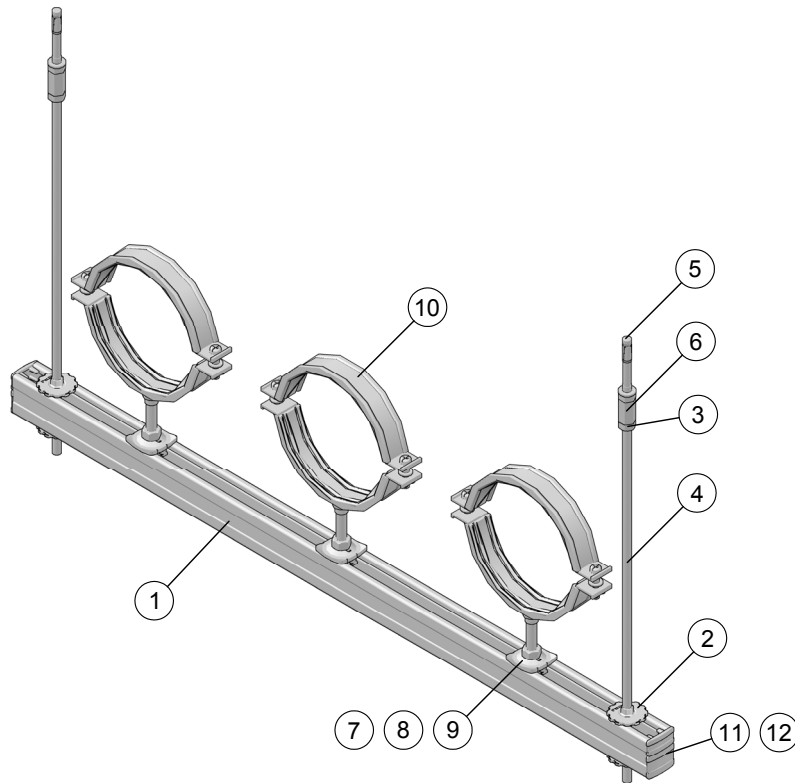


1	Base material	Concrete
	Product line	MQ System L&P
	Capacity limit	3x DN 150 steel

MQ System Light & Project - Trapeze Rods - Comfort - Heavy

Type P-G-T-2-C-H-GL

- Limited to 3x DN 150 (O.D. 159 mm) steel pipe
- Spacing - support distance 3 m and 5.75 m
- Insulation 20 mm rubber



Additional loading capacity limits

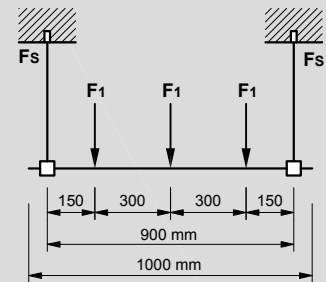
This particular case with spacing:

a) 3m:

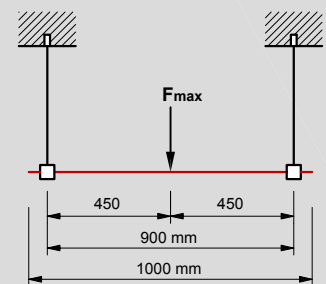
$F_1 = 1.05 \text{ kN rec. loads}$ $F_s = 1.6 \text{ kN rec. loads}$

b) 5.75m (max. recommended):

$F_1 = 2.0 \text{ kN rec. loads}$ $F_s = 3.0 \text{ kN rec. loads}$



$F_{max} = 3.7 \text{ kN rec. loads}$



Bill of material

Ref.	Item no.	Description	Piece	Length [m]
1	373795	MQ-52 3m channel	-	1
2	2141931	MQZ-TW-M10 trapeze wheel	4	
3	216466	M10 hexagon nut	2	
4	339795	AM10x1000 4.8 threaded rod	-	1.0m = 2x0.5m
5	2105714	HST3 M10x110 50/30 stud anchor	2	
6	216704	M10x30 spacer coupling	2	
7	369631	MQA M12-B pipe ring saddle	3	
8	216398	AM12x80 4.6 threaded bolt	3	
9	216467	M12 hexagon nut	3	
10	20885	MP-MI 159 M12 piperings	3	
11	369686	MQZ-E31 plastic end cap	2	
12	370598	MQZ-E21 plastic end cap	2	

Application description

Plumbing - Trapeze Rods - Comfort - Heavy

General comments

- Application subject to vertical loads caused by weight of the pipes
- Application not subjects to any thermal expansion or any other 3D loads

Application

	Base material	Concrete
	Product line	MQ System L&P
	Capacity limit	3x DN 150 steel

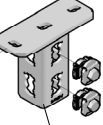
MQ System Light & Project - Trapeze Frame On Concrete - Medium - Options

MP-PI pipe rings		
MP-PI 11-15 1/4" M8		2073431
MP-PI 16-20 3/8" M8		2073432
MP-PI 20-24 1/2" M8		2073433
MP-PI 25-28 3/4" M8		2073434
MP-PI 25-28 3/4" M8/M10		2126903
MP-PI 32-36 1" M8		2073435
MP-PI 38-46 1 1/4" M8		2073436
MP-PI 38-46 1 1/4" M8/M10		2126905
MP-PI 48-53 1 1/2" M8		2073437
MP-PI 54-58 M8		2073438
MP-PI 59-66 2" M8		2073439
MP-PI 67-73 M8/M10		2073470
MP-PI 75-80 2 1/2" M8/M10		2073471
MP-PI 81-87 M8/M10		2073472
MP-PI 87-92 3" M8/M10		2073473

MPN-RC pipe rings		
MPN-RC 8/11 A		335672
MPN-RC 1/4" A		335673
MPN-RC 3/8" A		335674
MPN-RC 1/2" A		335675
MPN-RC 3/4" A		335676
MPN-RC 29/32 A		335677
MPN-RC 1" A		335678
MPN-RC 37/41 A		335679
MPN-RC 1 1/4" A		335680
MPN-RC 1 1/2" A		335681
MPN-RC 52/56 A		335682
MPN-RC 2" A		335683
MPN-RC 60/66 A		335684
MPN-RC 67/71 A		335686
MPN-RC 2 1/2" B		335688
MPN-RC 78/84 B		335690
MPN-RC 3" B		335692

Base material connector		
1x MQP-L-6/2 base m. c.		2141928
2x M10x20 hex. screw		216453
2x MQM-M10 wing nut		369626
2x anchor		
HST3 M10x90 30/10		2105712
or HUS3-H 8x55		2079794

Base connector		
1x MQV-2/2D-14 base c.		369639
2x MQN pushbutton		369623
2x anchor		
HST3 M12x105 30/10		2105718
or HUS3-H 10x70		2079912



Base material connector		
1x MQP-41 base m. c.		2141927
2x MQN pushbutton		369623
2x anchor		
HST3 M10x90 30/10		2105712
or HUS3-H 8x55		2079794

Stud anchor		
1x stud anchor		
HST3 M10x90 30/10 stud an.		2105712
HST3 M12x105 30/10 stud an.		2105718

Screw anchor		
1x screw anchor		
HUS3-H 8x55 screw anchor		2079794
HUS3-H 10x70 screw anchor		2079912

Angle		
1x MQW-L-1/1 angle		2142020
2x M10x20 hex. screw		216453
2x MQM-M10 wing nut		369626

Angle		
1x MQW-L-2/1 angle		2142021
3x M10x20 hex. screw		216453
3x MQM-M10 wing nut		369626

Angle		
1x MQW-Q2 angle		369655

Angle		
1x MQW-H2 angle		2141929
2x MQN pushbutton		369623


Channel		
1x MQ-41 channel		
MQ-41-L 2m channel		2141966
MQ-41-L 3m channel		2141965
MQ-41-L 6m channel		2141964
MQ-41 2m channel		304559
MQ-41 3m channel		369591
MQ-41 6m channel		369592

Channel end cup		
2x MQZ-E41 end cup		369685

Standard pipe ring saddle		
M8		
1x MQA-M8 saddle nut		369629
1x M8 nut		216465
1x M8 Threaded bolt		various
M10		
1x MQA-M10 saddle nut		369630
1x M10 nut		216466
1x M10 threaded bolt		various

Light duty pipe ring saddle		
M8		
1x MQA-S-M8 pipering saddle		2141906
1x M8 nut		216465
1x M8 Threaded bolt		various
M10		
1x MQA-S-M10 pipering saddle		2141907
1x M10 nut		216466
1x M10 Threaded bolt		various

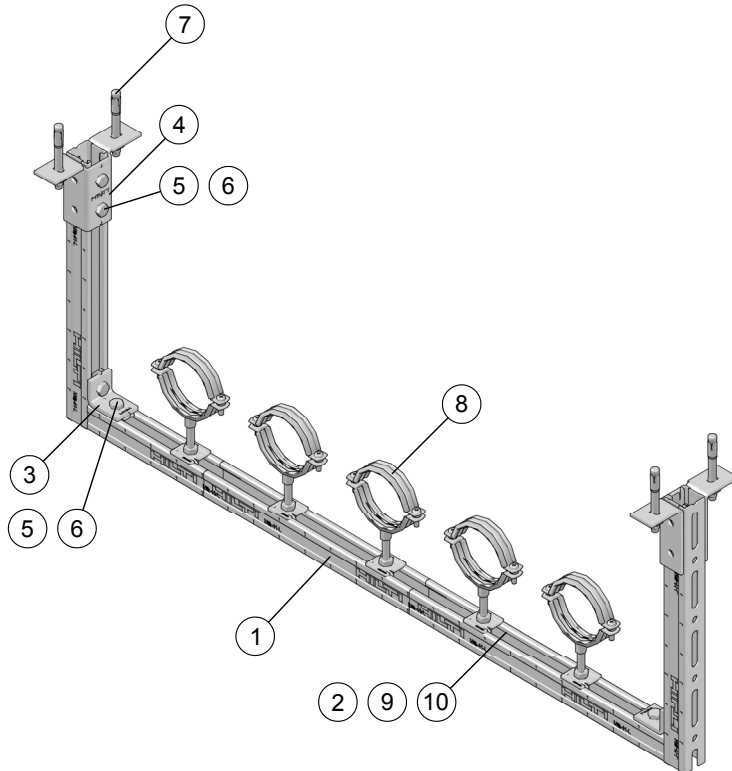
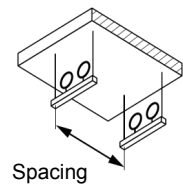
Hammer head bolt					
M8		M10			
HHK 41 M8X40		312361	HHK 41 M10X40		312371
HHK 41 M8X50		312362	HHK 41 M10X60		312373
HHK 41 M8X60		312363	HHK 41 M10X80		312374
HHK 41 M8X80		312365	HHK 41 M10X100		312375
HHK 41 M8X100		312367	HHK 41 M10X150		312377
HHK 41 M8X120		312368			
HHK 41 M8X150		312369			

Application description	Application	Product lines	Base material
MQ System Light & Project applications - Trapeze Frame - Medium	 2	MQ System L&P	Concrete
General comments		Anchors	
These pictures do not show any loading capacity limits or exposure or limitation to any load combinations.		Accessories	

MQ System Light & Project - Trapeze Frame - Basic - Medium

Type P-G-TF-1-B-M-GL

- Limited to 5x DN 80 (O.D. 88.9 mm) steel pipe
- Spacing - support distance 3 m and 4 m
- Insulation 20 mm rubber



Additional loading capacity limits

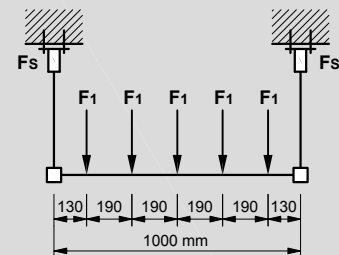
This particular case with spacing:

a) 3m:

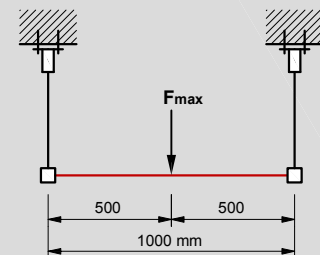
$F_1 = 0.37$ kN rec. loads $F_s = 0.93$ kN rec. loads

b) 4m (max. recommended):

$F_1 = 0.5$ kN rec. loads $F_s = 1.25$ kN rec. loads



$F_{max} = 1.5$ kN rec. loads



Bill of material

Ref.	Item no.	Description	Piece	Length [m]
1	2141965	MQ-41-L 3m channel	-	2m = 1 x 1.1m + 2 x 0.45m
2	2141907	MQA-S M10 saddle nut	5	
3	2142020	MQW-L-1/1 angle	2	
4	2141928	MQP-L-6/2 base material connector	2	
5	369626	MQM-M10 wing nut	8	
6	216453	M10x20 hex screw	8	
7	2105712	HST3 M10x90 30/10 stud anchor	4	
8	2073473	MP-PI 3" pipe ring	5	
9	339795	AM10x1000 4.8 threaded rod	-	0.3m = 5 x 0.06m
10	216466	M10 hexagon nut	5	

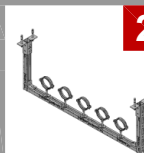
Application description

Plumbing - Trapeze Frame - Basic - Medium

General comments

- Application subject to vertical loads caused by weight of the pipes
- Application not subjects to any thermal expansion or any other 3D loads

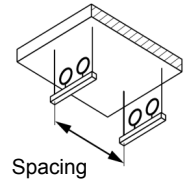
Application



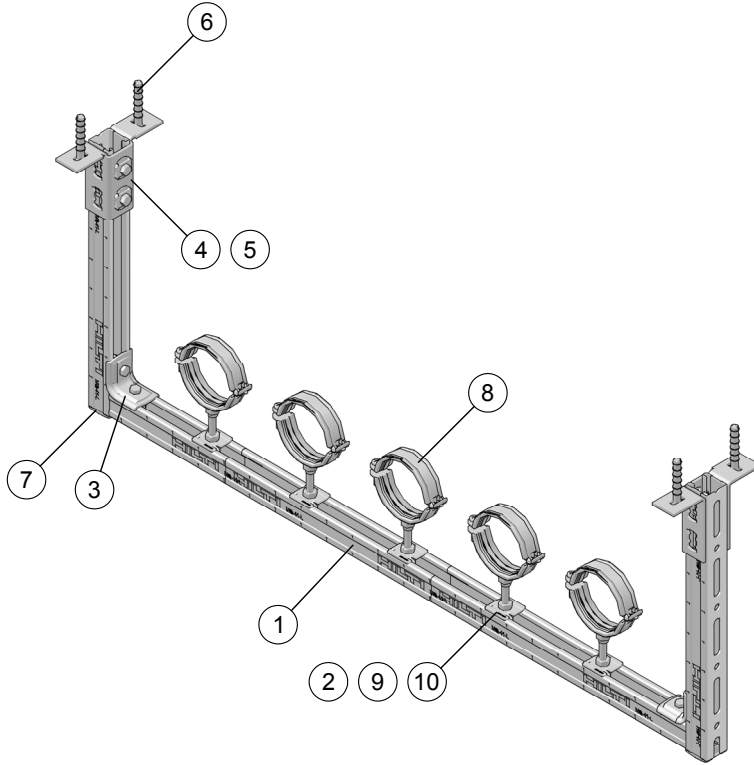
2	Base material	Concrete
	Product line	MQ System L&P
	Capacity limit	5x DN80 steel

MQ System Light & Project - Trapeze Frame - Comfort - Medium

Type P-G-TF-1-C-M-GL



- Limited to 5x DN 80 (O.D. 88.9 mm) steel pipe
- Spacing - support distance 3 m and 4 m
- Insulation 20 mm rubber

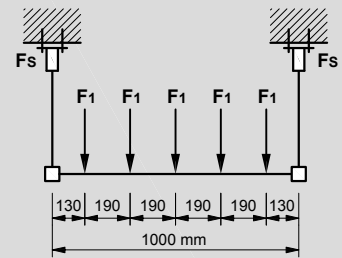


Additional loading capacity limits

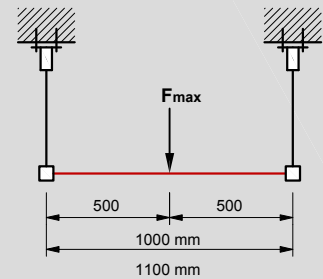
This particular case with spacing:

a) 3m:
 $F_1 = 0.37 \text{ kN rec. loads}$ $F_s = 0.93 \text{ kN rec. loads}$

b) 4m (max. recommended):
 $F_1 = 0.5 \text{ kN rec. loads}$ $F_s = 1.25 \text{ kN rec. loads}$



$F_{max} = 1.5 \text{ kN rec. loads}$



Bill of material

Ref.	Item no.	Description	Piece	Length [m]
1	2141965	MQ-41-L 3m channel	-	2m = 1x1.1m + 2x0.45m
2	2141907	MQA-S M10 saddle nut	5	
3	369655	MQW-Q2 angle	2	
4	369639	MQV-2/2D-14 channel base	2	
5	369623	MQN push button	4	
6	2079912	HUS3-H 10x70 screw anchor	4	
7	369685	MQZ-E41 plastic end cap	2	
8	335692	MPN-RC 3" pipe ring	5	
9	216392	AM10x80 4.6 threaded bolt	5	
10	216466	M10 hexagon nut	5	

Application description

Plumbing - Trapeze Frame - Comfort - Medium

General comments

- Application subject to vertical loads caused by weight of the pipes
- Application not subjects to any thermal expansion or any other 3D loads

Application

	2	Base material	Concrete
		Product line	MQ System L&P
		Capacity limit	5x DN 80 steel

MQ System Light & Project - Trapeze Frame On Concrete - Heavy - Options

MPN-RC pipe rings	
MPN-RC 2" A	335683
MPN-RC 60/66 A	335684
MPN-RC 67/71 A	335686
MPN-RC 21/2" B	335688
MPN-RC 78/84 B	335690
MPN-RC 3" B	335692
MPN-RC 101,6 B	335694
MPN-RC 110 B	335696
MPN-RC 4" B	335698
MPN-RC 125 B	335700
MPN-RC 133 B	335702
MPN-RC 5" B	335704
MPN-RC 160 B	335706

MP-MI pipe rings	
MP-MI 2" G	20857
MP-MI 68/72 G	20860
MP-MI 2 1/2" G	20862
MP-MI 78/84 G	20865
MP-MI 3" G	20866
MP-MI 101.6 G	20869
MP-MI 4" G	20871
MP-MI 117 G	20874
MP-MI 125 G	20876
MP-MI 133 G	20889
MP-MI 5" G	20882
MP-MI 159 G	20885

MP-PI pipe rings	
MP-PI 59-66 2" M8	2073439
MP-PI 67-73 M8/M10	2073470
MP-PI 75-80 2 1/2" M8/M10	2073471
MP-PI 81-87 M8/M10	2073472
MP-PI 87-92 3" M8/M10	2073473
MP-PI 99-105 3 1/2" M8/M10	2073474
MP-PI 107-115 4" M8/M10	2073475
MP-PI 120-128 M8/M10	2073476
MP-PI 129-134 M8/M10	2073477
MP-PI 135-143 5" M8/M10	2073478
MP-PI 149-161 M8/M10	2073479

Base connector	
1x MQV-2/2D-14 base c.	369639
2x MQN pushbutton	369623
2x anchor	
HST3 M12x105 30/10	2105718
or HUS3-H 10x70	2079912

Base material connector	
1x MQP-L-6/2 base m. c.	2141928
2x M10x20 hex. screw	216453
2x MQM-M10 wing nut	369626
2x anchor	
HST3 M10x90 30/10	2105712
or HUS3-H 8x55	2079794

Stud anchor	
1x stud anchor	
HST3 M10x90 30/10 stud anchor	2105712
HST3 M12x105 30/10 stud anchor	2105718

Screw anchor	
1x screw anchor	
HUS3-H 8x55 screw anchor	2079794
HUS3-H 10x70 screw anchor	2079912

Base material connector	
1x MQP-41 base m. c.	2141927
2x MQN pushbutton	369623
2x anchor	
HST3 M10x90 30/10	2105712
or HUS3-H 8x55	2079794

Channel	
1x MQ channel	
MQ-41 2m channel	304559
MQ-41 3m channel	369591
MQ-41 6m channel	369592

Channel	
1x MQ channel	
MQ-41 2m channel	304559
MQ-41 3m channel	369591
MQ-41 6m channel	369592
MQ-52 3m channel	373595
MQ-52 6m channel	369598

Angle	
1x MQW-L-2/1 angle	2142021
3x M10x20 hex. screw	216453
3x MQM-M10 wing nut	369626


Angle	
1x MQW-H2 angle	2141929
2x MQN pushbutton	369623

Standard pipe ring saddle	
M8	
1x MQA-M8 saddle nut	369629
1x M8 nut	216465
1x M8 Threaded bolt	various
M10	
1x MQA-M10 saddle nut	369630
1x M10 nut	216466
1x M10 threaded bolt	various
M12	
1x MQA-M12B saddle nut	369631
1x M12 nut	216467
1x M12 threaded bolt	various

Light duty pipe ring saddle	
M8	
1x MQA-S-M8 pipering saddle	2141906
1x M8 nut	216465
1x M8 Threaded bolt	various
M10	
1x MQA-S-M10 pipering saddle	2141907
1x M10 nut	216466
1x M10 Threaded bolt	various

Hammer head bolt			
M8		M10	
HHK 41 M8X40	312361	HHK 41 M10X40	312371
HHK 41 M8X50	312362	HHK 41 M10X60	312373
HHK 41 M8X60	312363	HHK 41 M10X80	312374
HHK 41 M8X80	312365	HHK 41 M10X100	312375
HHK 41 M8X100	312367	HHK 41 M10X150	312377
HHK 41 M8X120	312368		
HHK 41 M8X150	312369		

Channel end cup	
2x MQZ-E41 end cup	369685

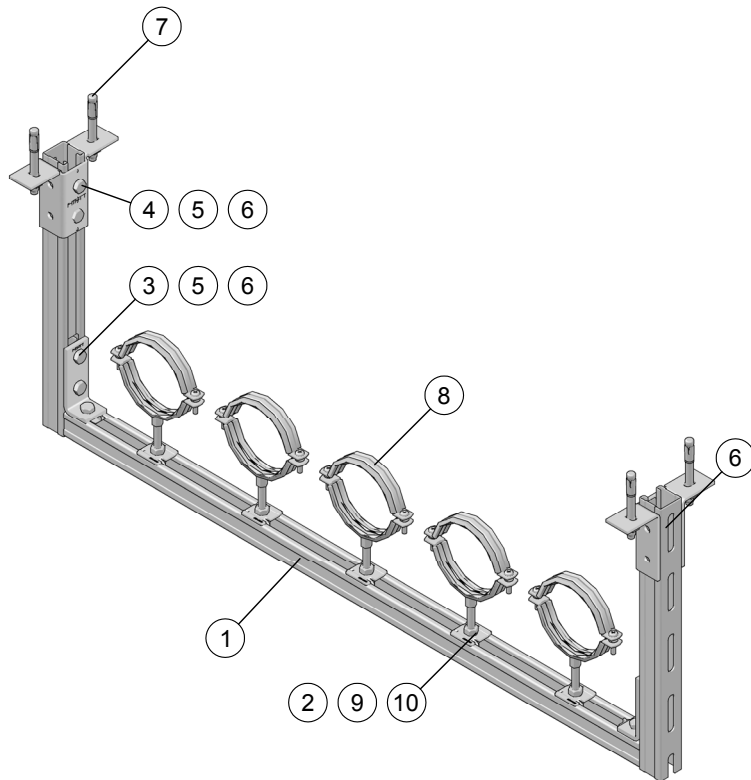
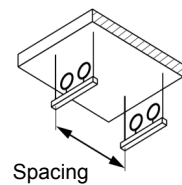
Application description	Application	Product lines	Base material
MQ System Light & Project applications - Trapeze Frame - Heavy	 2	MQ System L&P	Concrete
General comments		Anchors	
These pictures do not show any loading capacity limits or exposure or limitation to any load combinations.		Accessories	

Hilti strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applicable Hilti instructions for use, within the application limits specified in the Hilti technical data sheets, technical specifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.

MQ System Light & Project - Trapeze Frame - Basic - Heavy

Type P-G-TF-1-B-H-GL

- Limited to 5x DN 100 (O.D. 108 mm) steel pipe
- Spacing - support distance 3 m and 3.75 m
- Insulation 20 mm rubber



Additional loading capacity limits

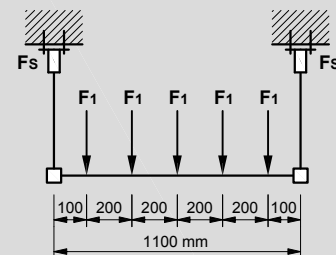
This particular case with spacing:

a) 3m:

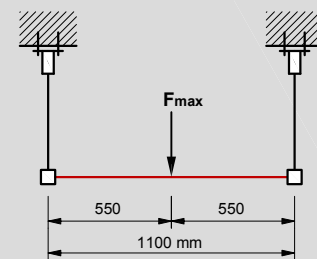
$F_1 = 0.57$ kN rec. loads $F_s = 1.43$ kN rec. loads

b) 3.75m (max. recommended):

$F_1 = 0.71$ kN rec. loads $F_s = 1.78$ kN rec. loads



$F_{max} = 2.0$ kN rec. loads



Bill of material

Ref.	Item no.	Description	Piece	Length [m]
1	369591	MQ-41 3m channel	-	2m = 1x 1.1m +2x 0.45m
2	2141907	MQA-S M10 saddle nut	5	
3	2142021	MQW-L-2/1 angle	2	
4	2141928	MQP-L-6/2 base material connector	2	
5	369626	MQM-M10 wing nut	10	
6	216453	M10x20 hex screw	10	
7	2105712	HST3 M10x90 30/10 stud anchor	4	
8	2073475	MP-PI 4" pipe ring	5	
9	339795	AM10x1000 4.8 threaded rod	-	0.3m = 3x 0.1m
10	216466	M10 hexagon nut	5	

Application description

Plumbing - Trapeze Frame - Basic - Heavy

General comments

- Application subject to vertical loads caused by weight of the pipes
- Application not subjects to any thermal expansion or any other 3D loads

Application

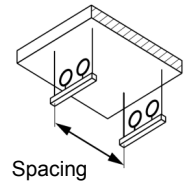


2

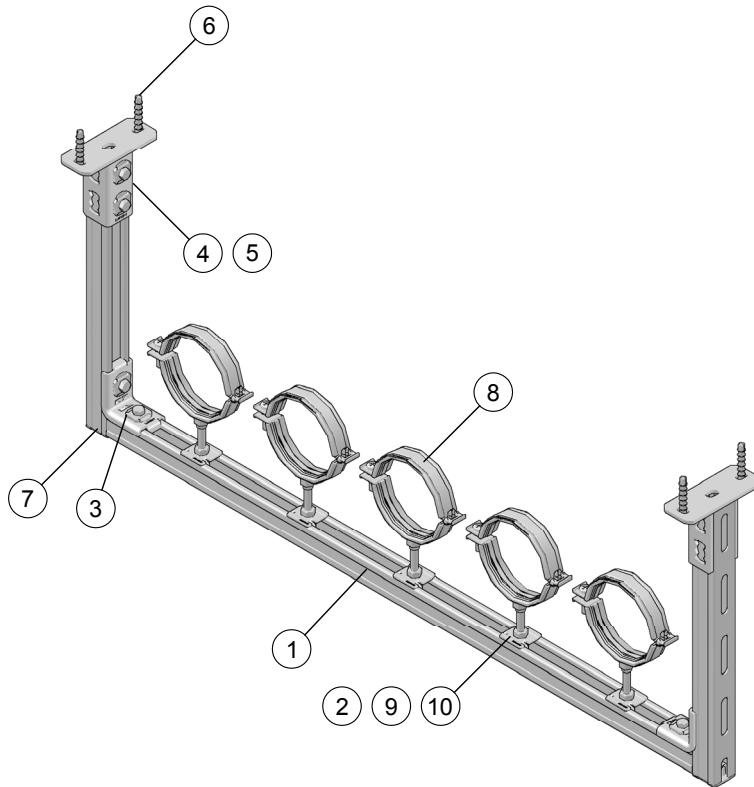
Base material	Concrete
Product line	MQ System L&P
Capacity limit	5x DN 100 steel

MQ System Light & Project - Trapeze Frame - Comfort - Heavy

Type P-G-TF-1-C-H-GL



- Limited to 5x DN 100 (O.D. 108 mm) steel pipe
- Spacing - support distance 3 m and 3.75 m
- Insulation 20 mm rubber

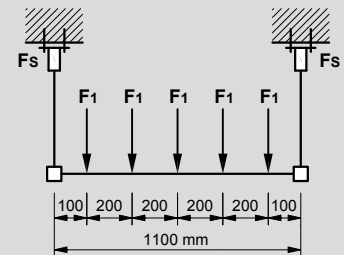


Additional loading capacity limits

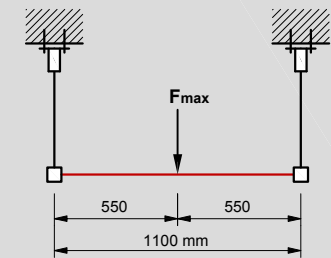
This particular case with spacing:

a) 3m:
 $F_1 = 0.57 \text{ kN rec. loads}$ $F_s = 1.43 \text{ kN rec. loads}$

b) 3.75m (max. recommended):
 $F_1 = 0.71 \text{ kN rec. loads}$ $F_s = 1.78 \text{ kN rec. loads}$



$F_{max} = 2.0 \text{ kN rec. loads}$



Bill of material

Ref.	Item no.	Description	Piece	Length [m]
1	369591	MQ-41 3m channel	-	2m = 1x 1.1m + 2x 0.45m
2	2141907	MQA-S M10 saddle nut	5	
3	2141929	MQW-H2 angle	2	
4	2141927	MQP-41 base material connector	2	
5	369623	MQN push button	8	
6	2079794	HUS3-H 8x55 screw anchor	4	
7	369685	MQZ-E41 plastic end cap	2	
8	335698	MPN-RC 4" pipe ring	5	
9	216392	AM10x80 4.6 threaded bolt	5	
10	216466	M10 hexagon nut	5	

Application description

Plumbing - Trapeze Frame - Comfort - Heavy

General comments

- Application subject to vertical loads caused by weight of the pipes
- Application not subjects to any thermal expansion or any other 3D loads

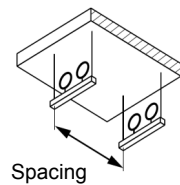
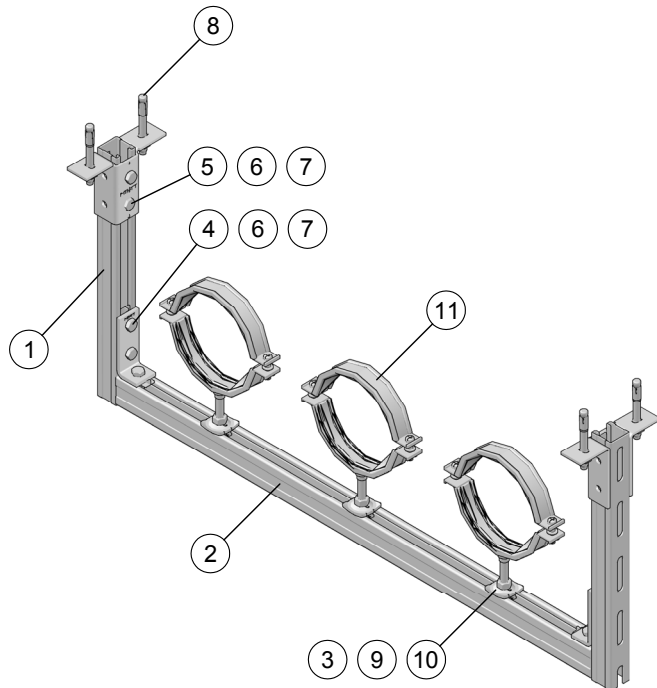
Application

	2 Base material	Concrete
	Product line	MQ System L&P
	Capacity limit	5x DN 100 steel

MQ System Light & Project - Trapeze Frame - Basic - Heavy

Type P-G-TF-2-B-H-GL

- Limited to 3x DN 150 (O.D. 159 mm) steel pipe
- Spacing - support distance 3 m and 5.75 m
- Insulation 20 mm rubber



Additional loading capacity limits

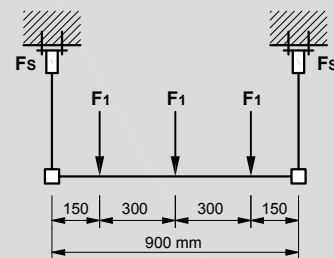
This particular case with spacing:

a) 3m:

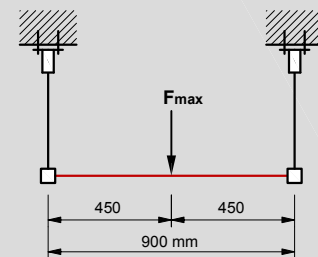
$F_1 = 1.05 \text{ kN rec. loads}$ $F_s = 1.58 \text{ kN rec. loads}$

b) 5.75m (max. recommended):

$F_1 = 2.0 \text{ kN rec. loads}$ $F_s = 3.0 \text{ kN rec. loads}$



$F_{max} = 3.5 \text{ kN rec. loads}$



Bill of material

Ref.	Item no.	Description	Piece	Length [m]
1	369591	MQ-41 3m channel	-	0.9m = 2x 0.45m
2	373795	MQ-52 3m channel	-	0.9m
3	369631	MQA M12-B pipe ring saddle	3	
4	2142021	MQW-L-2/1 angle	2	
5	2141928	MQP-L-6/2 base material connector	2	
6	369626	MQM-M10 wing nut	10	
7	216453	M10x20 hex screw	10	
8	2105712	HST3 M10x90 30/10 stud anchor	4	
9	339797	AM12x1000 4.8 threaded rod	-	0.2m = 3x 0.65m
10	216467	M12 hexagon nut	3	
11	20885	MP-MI 159 M12 piperling	3	

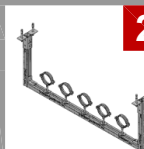
Application description

Plumbing - Trapeze Frame - Basic - Heavy

General comments

- Application subject to vertical loads caused by weight of the pipes
- Application not subjects to any thermal expansion or any other 3D loads

Application

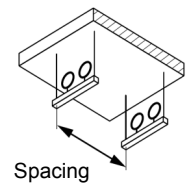


2

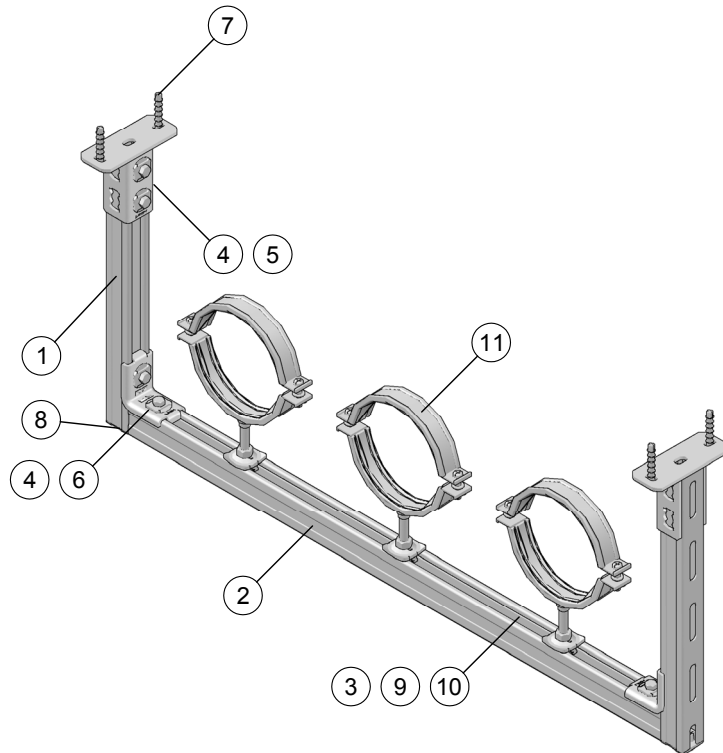
Base material	Concrete
Product line	MQ System L&P
Capacity limit	3x DN 150 steel

MQ System Light & Project - Trapeze Frame - Comfort - Heavy

Type P-G-TF-2-C-H-GL



- Limited to 3x DN 150 (O.D. 159 mm) steel pipe
- Spacing - support distance 3 m and 4.75 m
- Insulation 20 mm rubber



Additional loading capacity limits

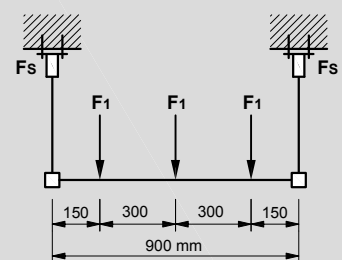
This particular case with spacing:

a) 3m:

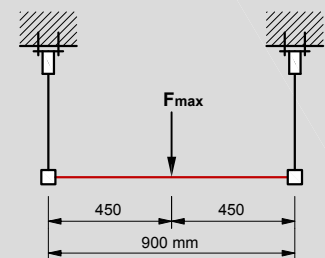
$F_1 = 1.05 \text{ kN rec. loads}$ $F_s = 1.58 \text{ kN rec. loads}$

b) 4.75m (max. recommended):

$F_1 = 1.65 \text{ kN rec. loads}$ $F_s = 2.48 \text{ kN rec. loads}$



$F_{max} = 3.5 \text{ kN rec. loads}$



Bill of material

Ref.	Item no.	Description	Piece	Length [m]
1	369591	MQ-41 3m channel	-	0.9m = 2x 0.45m
2	373795	MQ-52 3m channel	-	0.9
3	369631	MQA M12-B pipe ring saddle	3	
4	2141929	MQW-H2 angle	2	
5	2141927	MQP-41 base material connector	2	
6	369623	MQN push button	8	
7	2079794	HUS3-H 8x55 screw anchor	4	
8	369685	MQZ-E41 plastic end cap	2	
9	216398	AM12x80 4.6 threaded bolt	3	
10	216467	M12 hexagon nut	3	
11	20885	MP-MI 159 M12 piping	3	

Application description

Plumbing - Trapeze Frame - Comfort - Heavy

General comments

- Application subject to vertical loads caused by weight of the pipes
- Application not subjects to any thermal expansion or any other 3D loads

Application

	2	Base material	Concrete
		Product line	MQ System L&P
		Capacity limit	3x DN 150 steel

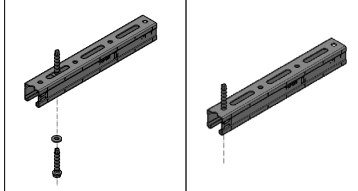
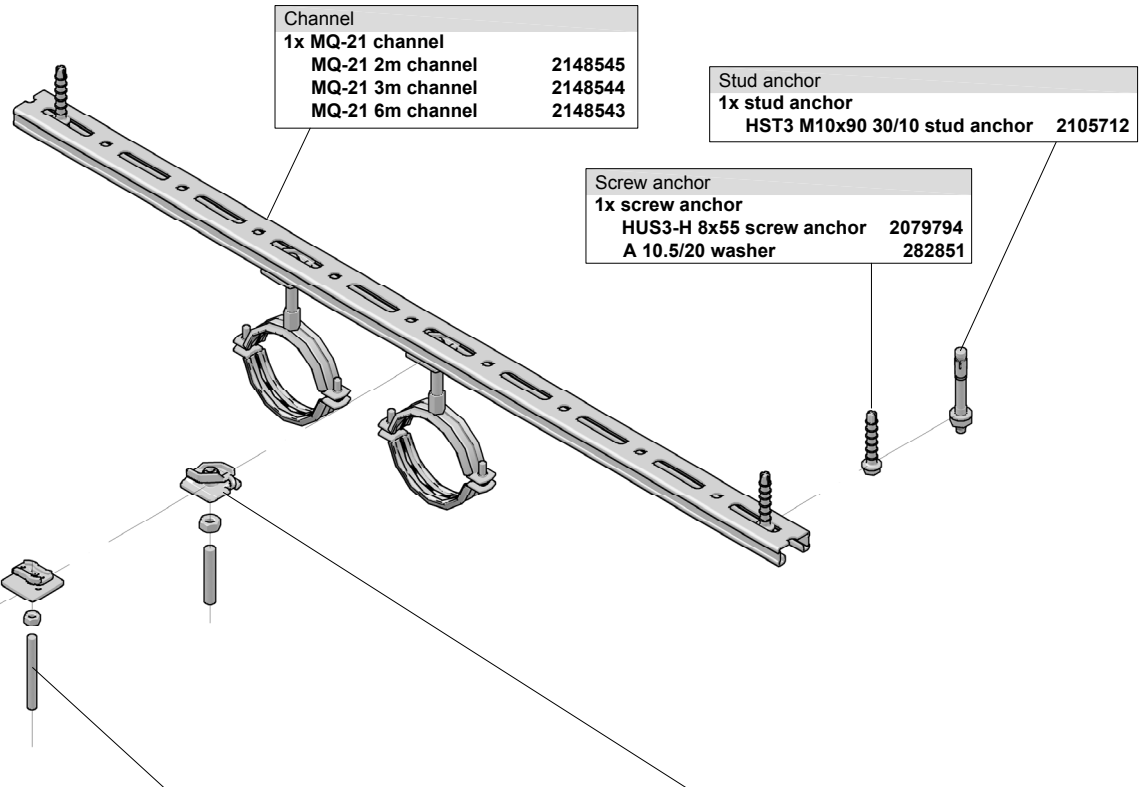
MQ System Light & Project - Head Rail On Concrete - Light - Options

MP-PI pipe rings	
MP-PI 11-15 1/4" M8	2073431
MP-PI 16-20 3/8" M8	2073432
MP-PI 20-24 1/2" M8	2073433
MP-PI 25-28 3/4" M8	2073434
MP-PI 25-28 3/4" M8/M10	2126903
MP-PI 32-36 1" M8	2073435
MP-PI 38-46 1 1/4" M8	2073436
MP-PI 38-46 1 1/4" M8/M10	2126905
MP-PI 48-53 1 1/2" M8	2073437
MP-PI 54-58 M8	2073438
MP-PI 59-66 2" M8	2073439

MPN-RC pipe rings	
MPN-RC 8/11 A	335672
MPN-RC 1/4" A	335673
MPN-RC 3/8" A	335674
MPN-RC 1/2" A	335675
MPN-RC 3/4" A	335676
MPN-RC 29/32 A	335677
MPN-RC 1" A	335678
MPN-RC 37/41 A	335679
MPN-RC 1 1/4" A	335680
MPN-RC 1 1/2" A	335681
MPN-RC 52/56 A	335682
MPN-RC 2" A	335683
MPN-RC 60/66	335684

Caution screw HUS3-H8:


Long slot	Anchor hole
For long slot use washer A10.5/20 282851	For anchor hole use without washer

Hammer head bolt	
M8	
1x HHK 41 M8X40	312361
HHK 41 M8X50	312362
HHK 41 M8X60	312363
HHK 41 M8X80	312365
HHK 41 M8X100	312367
HHK 41 M8X120	312368
HHK 41 M8X150	312369
M10	
1x HHK 41 M10X40	312371
HHK 41 M10X60	312373
HHK 41 M10X80	312374
HHK 41 M10X100	312375
HHK 41 M10X150	312377

Standard pipe ring saddle	
M8	
1x MQA-M8 saddle nut	369629
1x M8 nut	216465
1x M8 Threaded bolt	various
M10	
1x MQA-M10 saddle nut	369630
1x M10 nut	216466
1x M10 threaded bolt	various

Light duty pipe ring saddle	
M8	
1x MQA-S-M8 pipering saddle	2141906
1x M8 nut	216465
1x M8 Threaded bolt	various
M10	
1x MQA-S-M10 pipering saddle	2141907
1x M10 nut	216466
1x M10 Threaded bolt	various

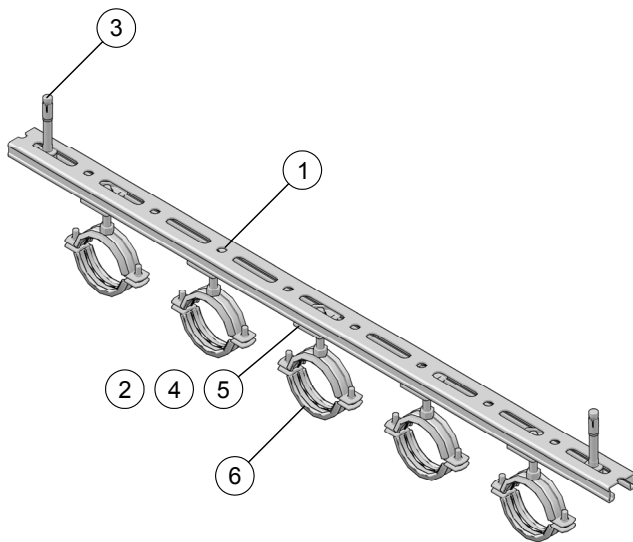
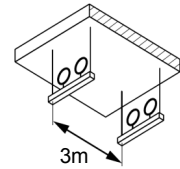
Application description	Application	Product lines	Base material
MQ System Light & Project applications - Head rail - Light		MQ System L&P	Concrete
General comments		Anchors	
These pictures do not show any loading capacity limits or exposure or limitation to any load combinations.		Accessories	

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MQ System Light & Project - Head Rail - Basic - Light

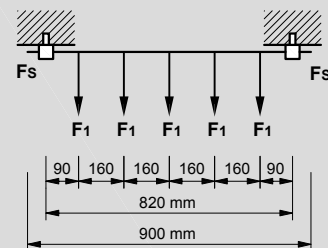
Type P-G-HR-1-B-L-GL

- Limited to 5x DN 50 (O.D. 60.3 mm) steel pipe
- Spacing - support distance 3 m
- Insulation 20 mm rubber

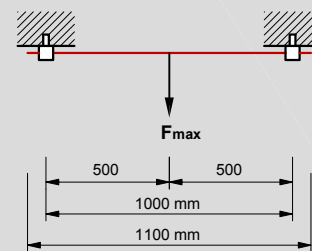


Additional loading capacity limits

This particular case
 $F_1 = 0.2 \text{ kN rec. loads}$
 $F_s = 0.5 \text{ kN rec. loads}$



$F_{max} = 0.6 \text{ kN rec. loads}$



Bill of material

Ref.	Item no.	Description	Piece	Length [m]
1	2148544	MQ-21 3m channel	-	0.9
2	2141906	MQA-S M8 saddle nut	5	
3	2105712	HST3 M10x90 30/10 stud anchor	2	
4	339793	AM8x1000 4.8 threaded rod	-	0.3m = 3x 0.1m
5	216465	M8 hexagon nut	5	
6	2073439	MP-PI 2" pipe ring	5	

Application description

Plumbing - Head Rail - Basic - Light

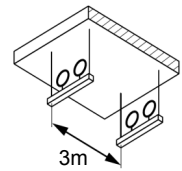
General comments

- Application subject to vertical loads caused by weight of the pipes
- Application not subjects to any thermal expansion or any other 3D loads

Application

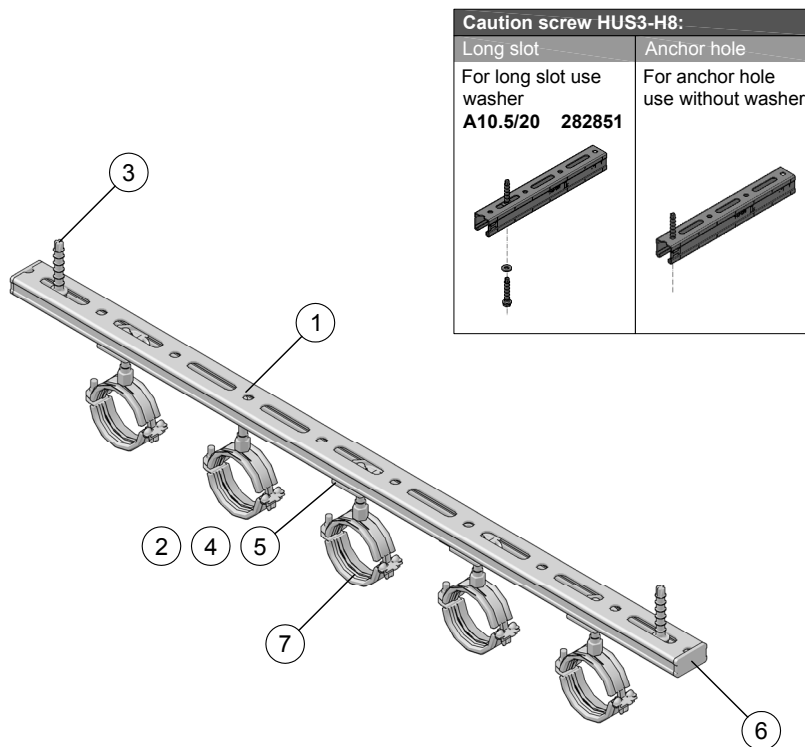
	Base material	Concrete
	Product line	MQ System L&P
	Capacity limit	5x DN 50 steel

MQ System Light & Project - Head Rail - Comfort - Light



Type P-G-HR-1-C-L-GL

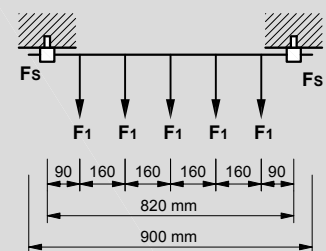
- Limited to 5x DN 50 (O.D. 60.3 mm) steel pipe
- Spacing - support distance 3 m
- Insulation 20 mm rubber



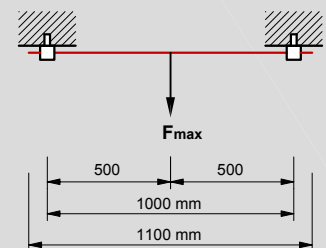
Caution screw HUS3-H8:	
Long slot	Anchor hole
For long slot use washer A10.5/20 282851	For anchor hole use without washer

Additional loading capacity limits

This particular case
 $F_1 = 0.2 \text{ kN rec. loads}$
 $F_s = 0.5 \text{ kN rec. loads}$



$F_{max} = 0.65 \text{ kN rec. loads}$



Bill of material

Ref.	Item no.	Description	Piece	Length [m]
1	2148544	MQ-21 3m channel	-	0.9
2	2141906	MQA-S M8 saddle nut	5	
3	2079794	HUS3-H 8x55 screw anchor	2	
4	216382	AM8x60 4.6 threaded bolt	5	
5	216465	M8 hexagon nut	5	
6	370598	MQZ-E21 plastic end cap	2	
7	335683	MPN-RC 2" pipe ring	5	

Application description

Plumbing - Head Rail - Comfort - Light

General comments

- Application subject to vertical loads caused by weight of the pipes
- Application not subjects to any thermal expansion or any other 3D loads

Application

	Base material	Concrete
	Product line	MQ System L&P
	Capacity limit	5x DN 50 steel

MQ System Light & Project - Head Rail On Concrete - Medium - Options

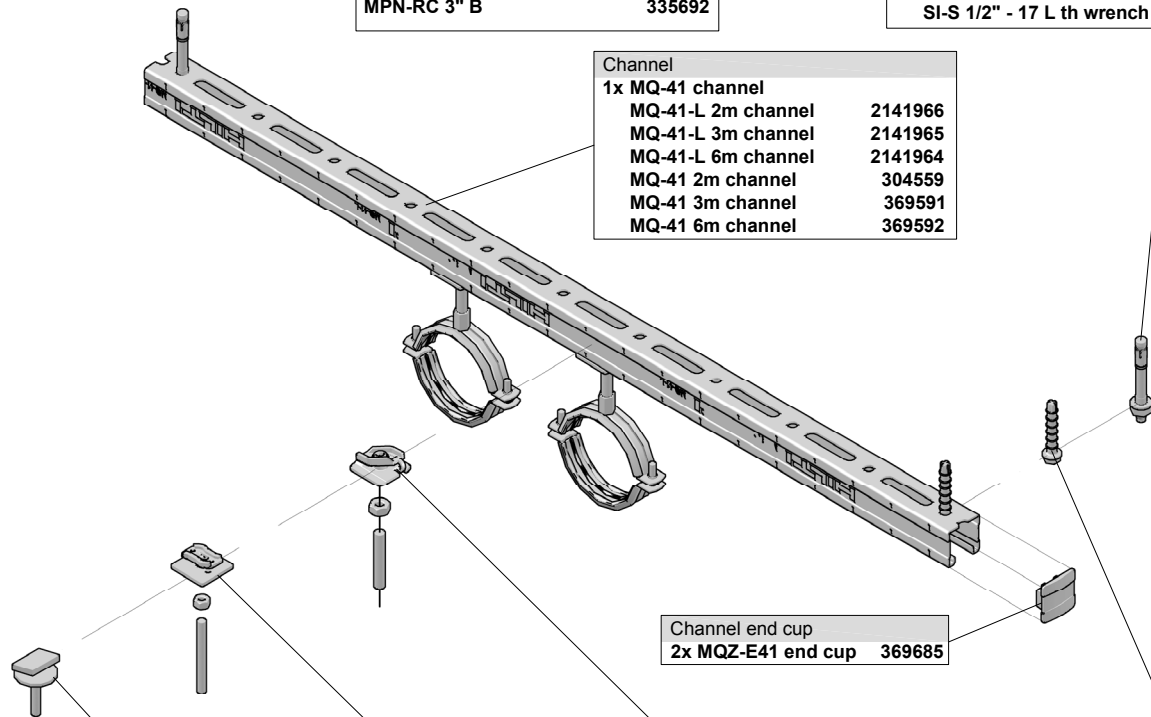
MP-PI pipe rings	
MP-PI 11-15 1/4" M8	2073431
MP-PI 16-20 3/8" M8	2073432
MP-PI 20-24 1/2" M8	2073433
MP-PI 25-28 3/4" M8	2073434
MP-PI 25-28 3/4" M8/M10	2126903
MP-PI 32-36 1" M8	2073435
MP-PI 38-46 1 1/4" M8	2073436
MP-PI 38-46 1 1/4" M8/M10	2126905
MP-PI 48-53 1 1/2" M8	2073437
MP-PI 54-58 M8	2073438
MP-PI 59-66 2" M8	2073439
MP-PI 67-73 M8/M10	2073470
MP-PI 75-80 2 1/2" M8/M10	2073471
MP-PI 81-87 M8/M10	2073472
MP-PI 87-92 3" M8/M10	2073473

MPN-RC pipe rings	
MPN-RC 8/11 A	335672
MPN-RC 1/4" A	335673
MPN-RC 3/8" A	335674
MPN-RC 1/2" A	335675
MPN-RC 3/4" A	335676
MPN-RC 29/32 A	335677
MPN-RC 1" A	335678
MPN-RC 37/41 A	335679
MPN-RC 1 1/4" A	335680
MPN-RC 1 1/2" A	335681
MPN-RC 52/56 A	335682
MPN-RC 2" A	335683
MPN-RC 60/66 A	335684
MPN-RC 67/71 A	335686
MPN-RC 21/2" B	335688
MPN-RC 78/84 B	335690
MPN-RC 3" B	335692

Caution screw HUS3-H8:

Long slot	Anchor hole
For long slot use washer A10.5/20 282851	For anchor hole use without washer

Stud anchor	
1x stud anchor	
HST3 M10x90 30/10 stud anchor	2105712
1x wrench	
SI-S 1/2" - 17 L th wrench	2070404



Channel	
1x MQ-41 channel	
MQ-41-L 2m channel	2141966
MQ-41-L 3m channel	2141965
MQ-41-L 6m channel	2141964
MQ-41 2m channel	304559
MQ-41 3m channel	369591
MQ-41 6m channel	369592

Channel end cup	
2x MQZ-E41 end cup	369685

Hammer head bolt	
M8	
1x HHK 41 M8X40	312361
HHK 41 M8X50	312362
HHK 41 M8X60	312363
HHK 41 M8X80	312365
HHK 41 M8X100	312367
HHK 41 M8X120	312368
HHK 41 M8X150	312369
M10	
1x HHK 41 M10X40	312371
HHK 41 M10X60	312373
HHK 41 M10X80	312374
HHK 41 M10X100	312375
HHK 41 M10X150	312377

Standard pipe ring saddle	
M8	
1x MQA-M8 saddle nut	369629
1x M8 nut	216465
1x M8 Threaded bolt	various
M10	
1x MQA-M10 saddle nut	369630
1x M10 nut	216466
1x M10 threaded bolt	various

Light duty pipe ring saddle	
M8	
1x MQA-S-M8 pipering saddle	2141906
1x M8 nut	216465
1x M8 Threaded bolt	various
M10	
1x MQA-S-M10 pipering saddle	2141907
1x M10 nut	216466
1x M10 Threaded bolt	various

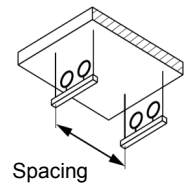
Screw anchor	
1x screw anchor	
HUS3-H 8x55 screw anchor	2079794
1x wrench	
SI-S 1/2" - 13 L th wrench	2070403

Application description	Application	Product lines	Base material
MQ System Light & Project applications - Head Rail - Medium		MQ System L&P	Concrete
General comments		Anchors	
These pictures do not show any loading capacity limits or exposure or limitation to any load combinations.		Accessories	

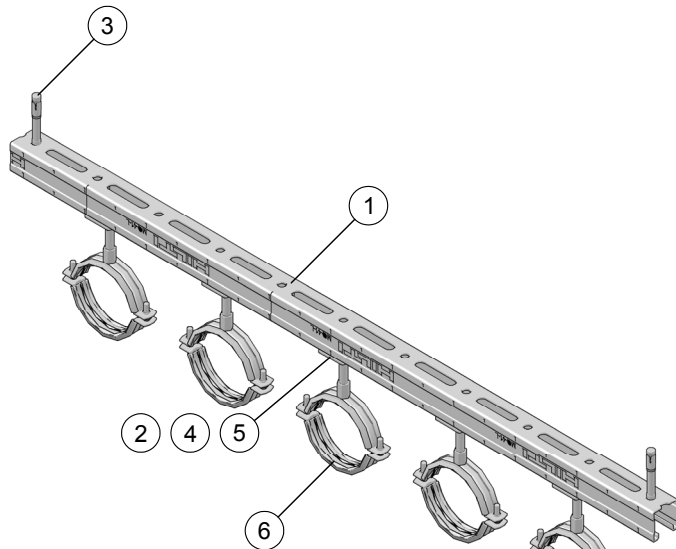
Hilti strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applicable Hilti instructions for use, within the application limits specified in the Hilti technical data sheets, technical specifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.

MQ System Light & Project - Head Rail - Basic - Medium

Type P-G-HR-1-B-M-GL



- Limited to 5x DN 80 (O.D. 88.9 mm) steel pipe
- Spacing - support distance 3 m and 4.75 m
- Insulation 20 mm rubber



Additional loading capacity limits

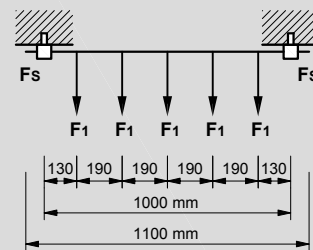
This particular case with spacing:

a) 3m:

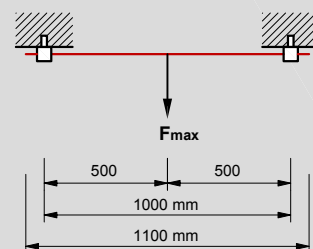
$F_1 = 0.37$ kN rec. loads $F_s = 0.93$ kN rec. loads

b) 4.75m (max. recommended):

$F_1 = 0.58$ kN rec. loads $F_s = 1.45$ kN rec. loads



$F_{max} = 1.6$ kN rec. loads



Bill of material

Ref.	Item no.	Description	Piece	Length [m]
1	2141965	MQ-41-L 3m channel	-	1.1m
2	2141907	MQA-S M10 saddle nut	5	
3	2105712	HST3 M10x90 30/10 stud anchor	2	
4	339795	AM10x1000 4.8 threaded rod	-	0.3m = 3x 0.1m
5	216466	M10 hexagon nut	5	
6	2073473	MP-PI 3" pipe ring	5	

Application description

Plumbing - Head Rail - Basic - Medium

General comments

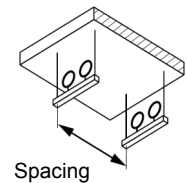
- Application subject to vertical loads caused by weight of the pipes
- Application not subjects to any thermal expansion or any other 3D loads

Application

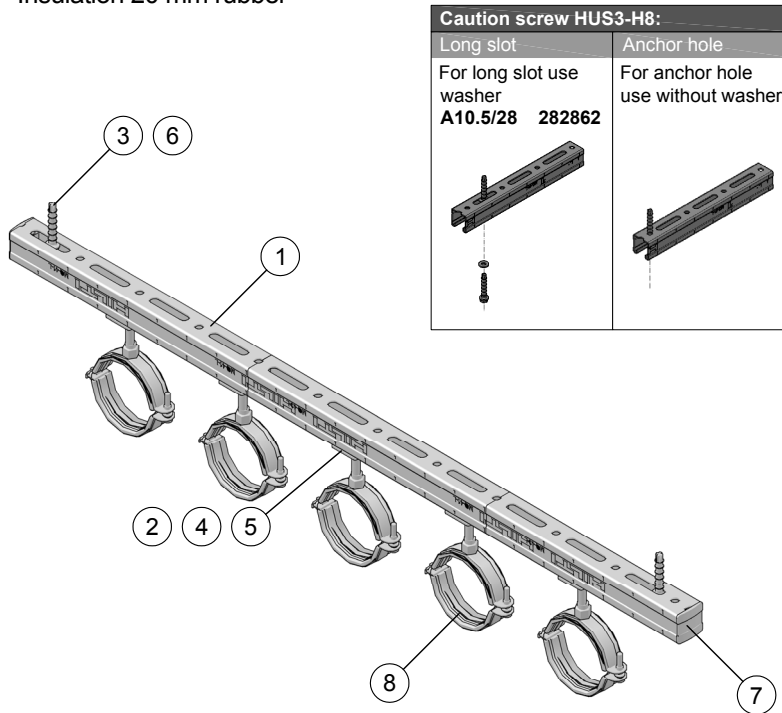
	Base material	Concrete
	Product line	MQ System L&P
	Capacity limit	5x DN 80 steel

MQ System Light & Project - Head Rail - Comfort - Medium

Type P-G-HR-1-C-M-GL



- Limited to 5x DN 80 (O.D. 88.9 mm) steel pipe
- Spacing - support distance 3 m nad 4.75 m
- Insulation 20 mm rubber



Caution screw HUS3-H8:

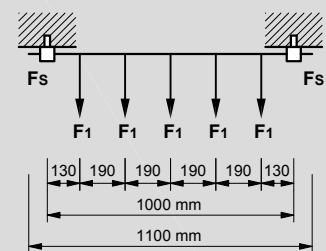
Long slot	Anchor hole
For long slot use washer A10.5/28 282862	For anchor hole use without washer

Additional loading capacity limits

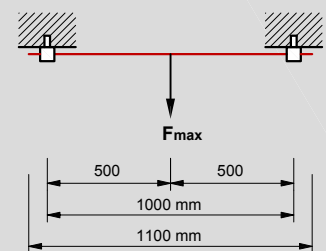
This particular case with spacing:

a) 3m:
 $F_1 = 0.37 \text{ kN rec. loads}$ $F_s = 0.93 \text{ kN rec. loads}$

b) 4.75m (max. recommended):
 $F_1 = 0.58 \text{ kN rec. loads}$ $F_s = 1.45 \text{ kN rec. loads}$



$F_{max} = 1.6 \text{ kN rec. loads}$



Bill of material

Ref.	Item no.	Description	Piece	Length [m]
1	2141965	MQ-41-L 3m channel	-	1.1
2	2141907	MQA-S M10 saddle nut	5	
3	2079794	HUS3-H 8x55 screw anchor	2	
4	216392	AM10x80 4.6 threaded bolt	5	
5	216466	M10 hexagon nut	5	
6	282862	A10.5/28 washer	2	
7	369685	MQZ-E41 plastic end cap	2	
8	335692	MPN-RC 3" pipe ring	5	

Application description

Plumbing - Head Rail - Comfort - Medium

General comments

- Application subject to vertical loads caused by weight of the pipes
- Application not subjects to any thermal expansion or any other 3D loads

Application

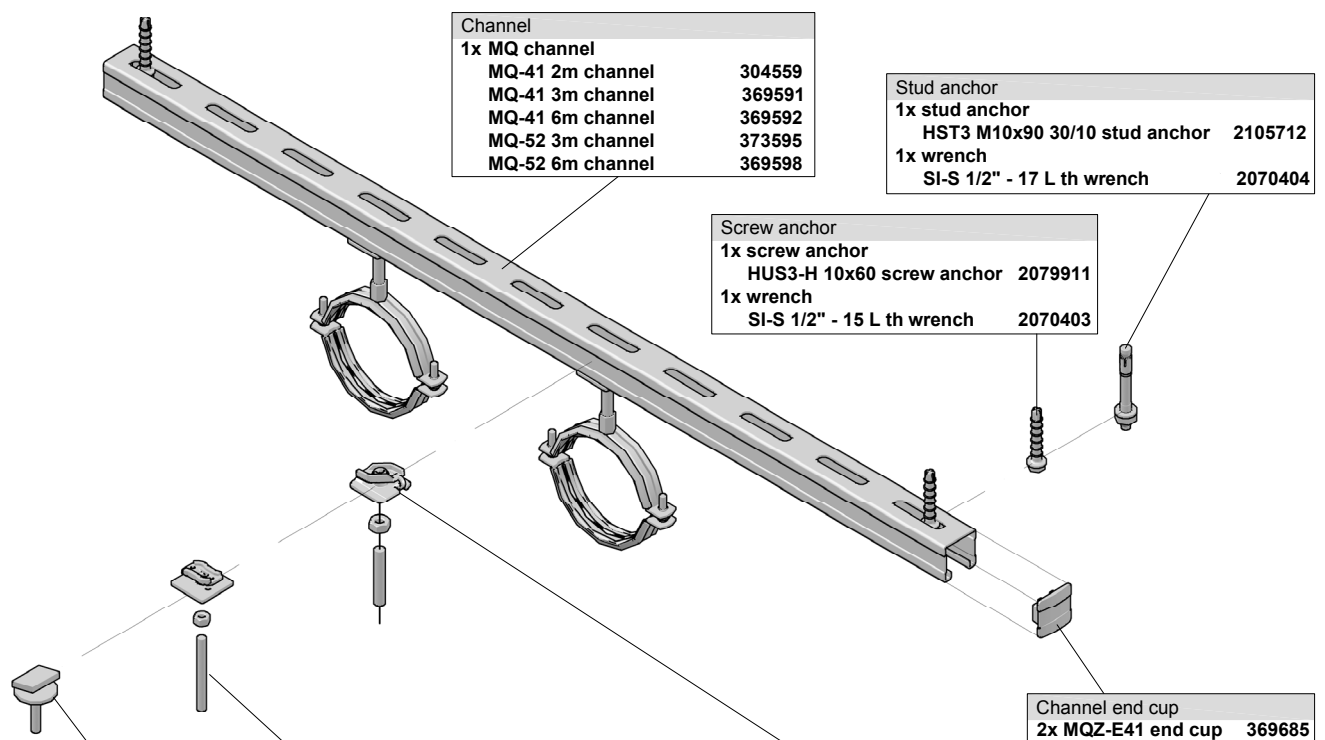
	Base material	Concrete
	Product line	MQ System L&P
	Capacity limit	5x DN 80 steel

MQ System Light & Project - Head Rail On Concrete - Heavy - Options

MP-PI pipe rings	
MP-PI 59-66 2" M8	2073439
MP-PI 67-73 M8/M10	2073470
MP-PI 75-80 2 1/2" M8/M10	2073471
MP-PI 81-87 M8/M10	2073472
MP-PI 87-92 3" M8/M10	2073473
MP-PI 99-105 3 1/2" M8/M10	2073474
MP-PI 107-115 4" M8/M10	2073475
MP-PI 120-128 M8/M10	2073476
MP-PI 129-134 M8/M10	2073477
MP-PI 135-143 5" M8/M10	2073478
MP-PI 149-161 M8/M10	2073479

MPN-RC pipe rings	
MPN-RC 2" A	335683
MPN-RC 60/66 A	335684
MPN-RC 67/71 A	335686
MPN-RC 2 1/2" B	335688
MPN-RC 78/84 B	335690
MPN-RC 3" B	335692
MPN-RC 101,6 B	335694
MPN-RC 110 B	335696
MPN-RC 4" B	335698
MPN-RC 125 B	335700
MPN-RC 133 B	335702
MPN-RC 5" B	335704
MPN-RC 160 B	335706

MP-MI pipe rings	
MP-MI 2" G	20857
MP-MI 68/72 G	20860
MP-MI 2 1/2" G	20862
MP-MI 78/84 G	20865
MP-MI 3" G	20866
MP-MI 101.6 G	20869
MP-MI 4" G	20871
MP-MI 117 G	20874
MP-MI 125 G	20876
MP-MI 133 G	20889
MP-MI 5" G	20882
MP-MI 159 G	20885



Channel	
1x MQ channel	
MQ-41 2m channel	304559
MQ-41 3m channel	369591
MQ-41 6m channel	369592
MQ-52 3m channel	373595
MQ-52 6m channel	369598

Stud anchor	
1x stud anchor	
HST3 M10x90 30/10 stud anchor	2105712
1x wrench	
SI-S 1/2" - 17 L th wrench	2070404

Screw anchor	
1x screw anchor	
HUS3-H 10x60 screw anchor	2079911
1x wrench	
SI-S 1/2" - 15 L th wrench	2070403

Channel end cup	
2x MQZ-E41 end cup	369685

Hammer head bolt	
M8	
1x HHK 41 M8X40	312361
HHK 41 M8X50	312362
HHK 41 M8X60	312363
HHK 41 M8X80	312365
HHK 41 M8X100	312367
HHK 41 M8X120	312368
HHK 41 M8X150	312369
M10	
1x HHK 41 M10X40	312371
HHK 41 M10X60	312373
HHK 41 M10X80	312374
HHK 41 M10X100	312375
HHK 41 M10X150	312377

Standard pipe ring saddle	
M8	
1x MQA-M8 saddle nut	369629
1x M8 nut	216465
1x M8 Threaded bolt	various
M10	
1x MQA-M10 saddle nut	369630
1x M10 nut	216466
1x M10 threaded bolt	various

Light duty pipe ring saddle	
M8	
1x MQA-S-M8 pipering saddle	2141906
1x M8 nut	216465
1x M8 Threaded bolt	various
M10	
1x MQA-S-M10 pipering saddle	2141907
1x M10 nut	216466
1x M10 Threaded bolt	various

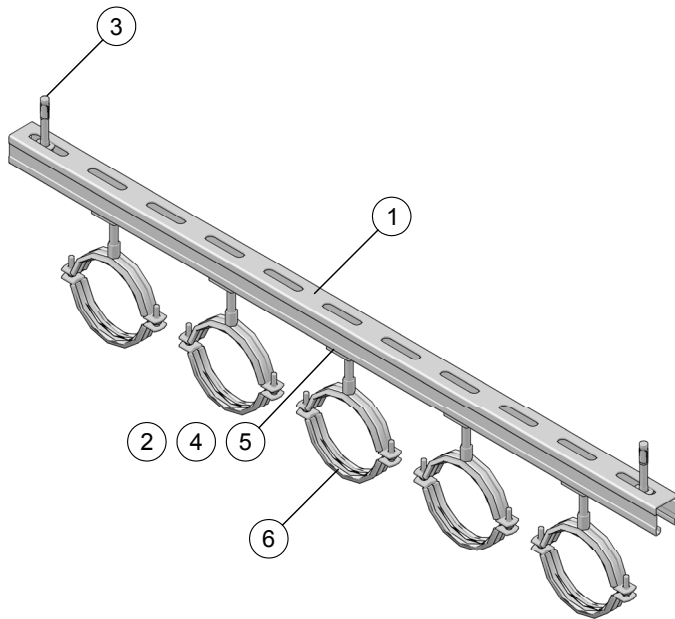
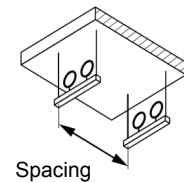
Application description	Application	Product lines	Base material
MQ System Light & Project applications - Head Rail - Heavy		MQ System L&P	Concrete
General comments		Anchors	
These pictures do not show any loading capacity limits or exposure or limitation to any load combinations.		Accessories	

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MQ System Light & Project - Head Rail - Basic - Heavy

Type P-G-HR-1-B-H-GL

- Limited to 5x DN 100 (O.D. 108 mm) steel pipe
- Spacing - support distance 3 m and 4.5 m
- Insulation 20 mm rubber



Additional loading capacity limits

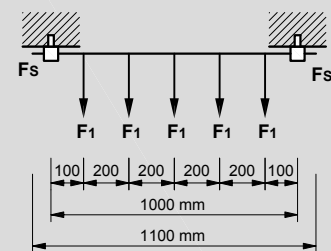
This particular case with spacing:

a) 3m:

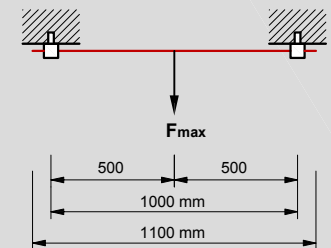
$F_1 = 0.52$ kN rec. loads $F_s = 1.3$ kN rec. loads

b) 4.5m (max. recommended):

$F_1 = 0.78$ kN rec. loads $F_s = 1.95$ kN rec. loads



$F_{max} = 2.1$ kN rec. loads



Bill of material

Ref.	Item no.	Description	Piece	Length [m]
1	369591	MQ-41 3m channel	-	1.1
2	2141907	MQA-S M10 saddle nut	5	
3	2105712	HST3 M10x90 30/10 stud anchor	2	
4	339795	AM10x1000 4.8 threaded rod	-	0.3m = 3x0.01m
5	216466	M10 hexagon nut	5	
6	2073475	MP-PI 4" pipe ring	5	

Application description

Plumbing - Head Rail - Basic - Heavy

General comments

- Application subject to vertical loads caused by weight of the pipes
- Application not subjects to any thermal expansion or any other 3D loads

Application

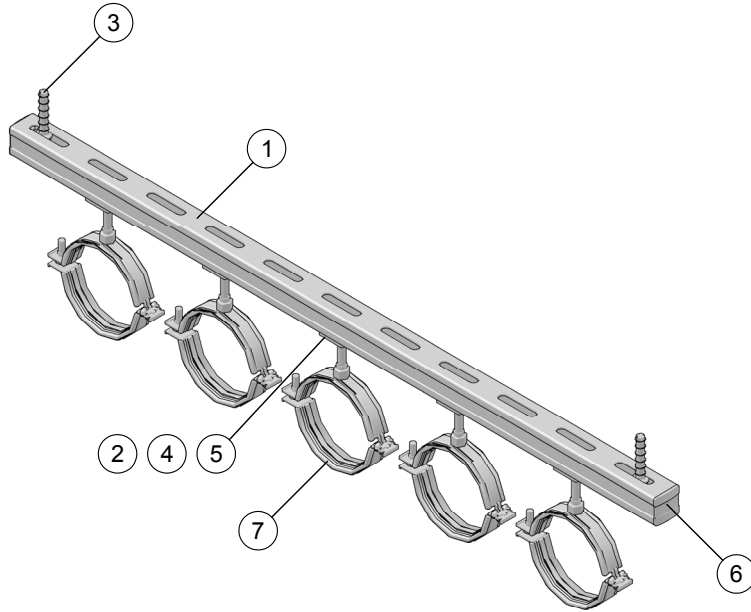
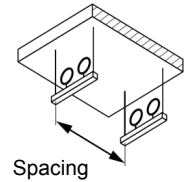


Base material	Concrete
Product line	MQ System L&P
Capacity limit	5x DN 100 steel

MQ System Light & Project - Head Rail - Comfort - Heavy

Type P-G-HR-1-C-H-GL

- Limited to 5x DN 100 (O.D. 108 mm) steel pipe
- Spacing - support distance 3 m and 4.25 m
- Insulation 20 mm rubber



Additional loading capacity limits

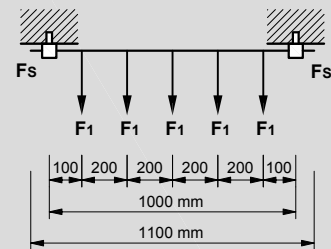
This particular case with spacing:

a) 3m:

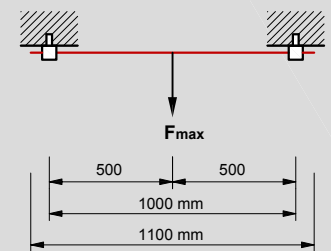
$F_1 = 0.57 \text{ kN rec. loads}$ $F_s = 1.43 \text{ kN rec. loads}$

b) 4.25m (max. recommended):

$F_1 = 0.8 \text{ kN rec. loads}$ $F_s = 2.0 \text{ kN rec. loads}$



$F_{max} = 2.1 \text{ kN rec. loads}$



Bill of material

Ref.	Item no.	Description	Piece	Length [m]
1	369591	MQ-41 3m channel	-	1.1
2	2141907	MQA-S M10 saddle nut	5	
3	2079911	HUS3-H 10x60 screw anchor	2	
4	216392	AM10x80 4.6 threaded bolt	5	
5	216466	M10 hexagon nut	5	
6	369685	MQZ-E41 plastic end cap	2	
7	335698	MPN-RC 4" pipe ring	5	

Application description

Plumbing - Head Rail - Comfort - Heavy

General comments

- Application subject to vertical loads caused by weight of the pipes
- Application not subjects to any thermal expansion or any other 3D loads

Application

	Base material	Concrete
	Product line	MQ System L&P
	Capacity limit	5x DN 100 steel

MQ System Light & Project - Cantilever Arm On Concrete - Light - Options

MP-PI pipe rings	
MP-PI 11-15 1/4" M8	2073431
MP-PI 16-20 3/8" M8	2073432
MP-PI 20-24 1/2" M8	2073433
MP-PI 25-28 3/4" M8	2073434
MP-PI 25-28 3/4" M8/M10	2126903
MP-PI 32-36 1" M8	2073435
MP-PI 38-46 1 1/4" M8	2073436
MP-PI 38-46 1 1/4" M8/M10	2126905
MP-PI 48-53 1 1/2" M8	2073437
MP-PI 54-58 M8	2073438
MP-PI 59-66 2" M8	2073439

MPN-RC pipe rings	
MPN-RC 8/11 A	335672
MPN-RC 1/4" A	335673
MPN-RC 3/8" A	335674
MPN-RC 1/2" A	335675
MPN-RC 3/4" A	335676
MPN-RC 29/32 A	335677
MPN-RC 1" A	335678
MPN-RC 37/41 A	335679
MPN-RC 1 1/4" A	335680
MPN-RC 1 1/2" A	335681
MPN-RC 52/56 A	335682
MPN-RC 2" A	335683
MPN-RC 60/66 A	335684

Stud anchor	
1x stud anchor	
HST3 M10x90 30/10 stud anchor	2105712
1x wrench	
SI-S 1/2" - 17 L th wrench	2070404

Screw anchor	
1x screw anchor	
HUS3-H 8x55 screw anchor	2079794
1x wrench	
SI-S 1/2" - 13 L th wrench	2070402

Bracket	
1x MQK-L-21 bracket	
MQK-L-21/200 bracket	2141924
MQK-L-21/300 bracket	2141925
MQK-L-21/450 bracket	2141926

Stud anchor	
1x stud anchor	
HST3 M12x105 30/10 stud anchor	2105718

Screw anchor	
1x screw anchor	
HUS3-H 10x70 screw anchor	2079912

Bracket	
1x MQK-41 bracket	
MQK-41/300 bracket	369609
MQK-41/450 bracket	369610
MQK-41/600 bracket	369611
MQK-41/1000 bracket	369612

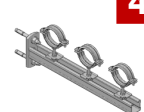
Channel end cup	
1x MQZ-E41 end cup	369685

Channel end cup	
2x MQZ-E21 end cup	370598

Hammer head bolt	
M8	
1x HHK 41 M8X40	312361
HHK 41 M8X50	312362
HHK 41 M8X60	312363
HHK 41 M8X80	312365
HHK 41 M8X100	312367
HHK 41 M8X120	312368
HHK 41 M8X150	312369
M10	
1x HHK 41 M10X40	312371
HHK 41 M10X60	312373
HHK 41 M10X80	312374
HHK 41 M10X100	312375
HHK 41 M10X150	312377

Standard pipe ring saddle	
M8	
1x MQA-M8 saddle nut	369629
1x M8 nut	216465
1x M8 Threaded bolt	various
M10	
1x MQA-M10 saddle nut	369630
1x M10 nut	216466
1x M10 threaded bolt	various

Light duty pipe ring saddle	
M8	
1x MQA-S-M8 pipering saddle	2141906
1x M8 nut	216465
1x M8 Threaded bolt	various
M10	
1x MQA-S-M10 pipering saddle	2141907
1x M10 nut	216466
1x M10 Threaded bolt	various

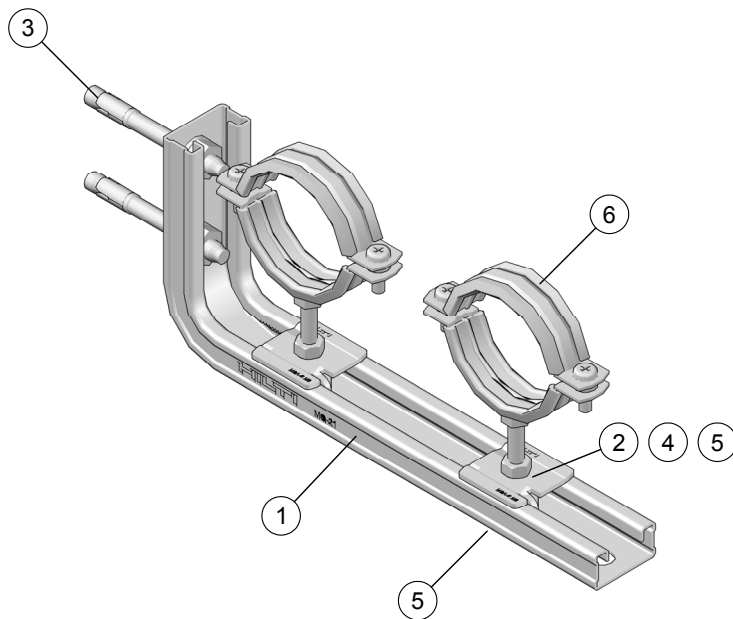
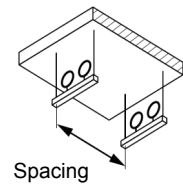
Application description	Application	Product lines	Base material
MQ System Light & Project applications - Cantilever Arm - Light	 4	MQ System L&P	Concrete
General comments		Anchors	
These pictures do not show any loading capacity limits or exposure or limitation to any load combinations.		Accessories	

Hilti strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applicable Hilti instructions for use, within the application limits specified in the Hilti technical data sheets, technical specifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.

MQ System Light & Project - Cantilever Arm - Basic - Light

Type P-G-CA-1-B-L-GL

- Limited to 2x DN 50 (O.D. 60.3 mm) steel pipe
- Spacing - support distance 3 m and 3.5 m
- Insulation 20 mm rubber



Additional loading capacity limits

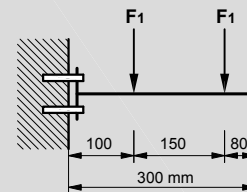
This particular case with spacing:

a) 3m:

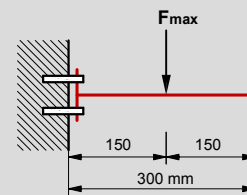
$F_1 = 0.2$ kN rec. loads

b) 3.5m (max. recommended):

$F_1 = 0.23$ kN rec. loads



$F_{max} = 0.5$ kN rec. loads



Bill of material

Ref.	Item no.	Description	Piece	Length [m]
1	2141925	MQK-L-21/300 bracket	1	
2	2141906	MQA-S M8 saddle nut	2	
3	2105712	HST3 M10x90 30/10 stud anchor	2	
4	339793	AM8x1000 4.8 threaded rod	-	0.12m = 2 x 0.06m
5	216465	M8 hexagon nut	2	
6	2073439	MP-PI 2" pipe ring	2	

Application description

Plumbing - Cantilever arm - Basic - Light

General comments

- Application subject to vertical loads caused by weight of the pipes
- Application not subjects to any thermal expansion or any other 3D loads

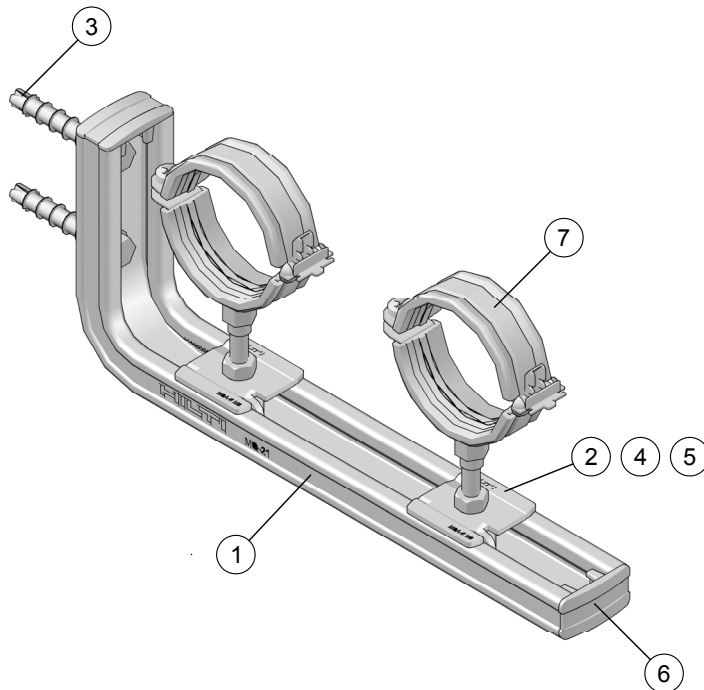
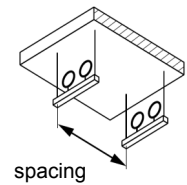
Application

	2	Base material	Concrete
		Product line	MQ System L&P
		Capacity limit	2x DN 50 steel

MQ System Light & Project - Cantilever Arm - Comfort - Light

Type P-G-CA-1-C-L-GL

- Limited to 2x DN 50 (O.D. 60.3 mm) steel pipe
- Spacing - support distance 3 m and 3.5 m
- Insulation 20 mm rubber



Additional loading capacity limits

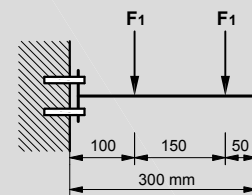
This particular case with spacing:

a) 3m:

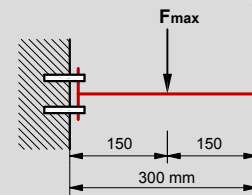
$F_1 = 0.2 \text{ kN rec. loads}$

b) 3.5m (max. recommended):

$F_1 = 0.23 \text{ kN rec. loads}$



$F_{max} = 0.5 \text{ kN rec. loads}$



Bill of material

Ref.	Item no.	Description	Piece	Length [m]
1	2141925	MQK-L-21/300 bracket	1	
2	2141906	MQA-S M8 saddle nut	2	
3	2079794	HUS3-H 8x55 screw anchor	2	
4	216382	AM8x60 4.6 threaded bolt	2	
5	216465	M8 hexagon nut	2	
6	370598	MQZ-E21 plastic end cap	2	
7	335683	MPN-RC 2" pipe ring	2	

Application description

Plumbing - Cantilever arm - Comfort - Light

General comments

- Application subject to vertical loads caused by weight of the pipes
- Application not subjects to any thermal expansion or any other 3D loads

Application

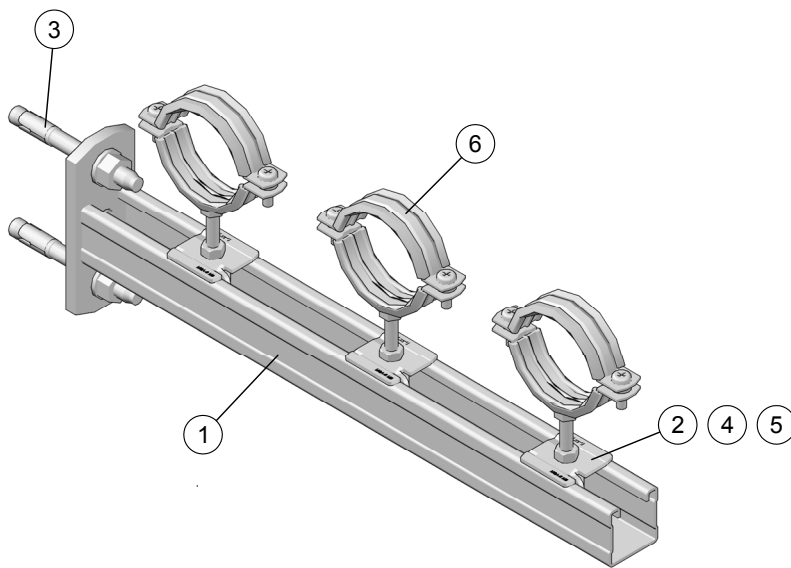
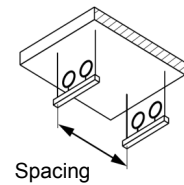


2	Base material	Concrete
	Product line	MQ System L&P
	Capacity limit	2x DN 50 steel

MQ System Light & Project - Cantilever Arm - Basic - Light

Type P-G-CA-2-B-L-GL

- Limited to 3x DN 50 (O.D. 60.3 mm) steel pipe
- Spacing - support distance 3 m and 4.75 m
- Insulation 20 mm rubber



Additional loading capacity limits

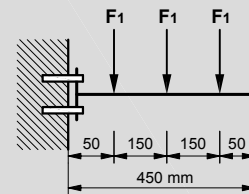
This particular case with spacing:

a) 3m:

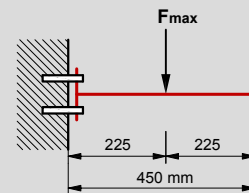
$F_1 = 0.2 \text{ kN rec. loads}$

b) 4.75m (max. recommended):

$F_1 = 0.31 \text{ kN rec. loads}$



$F_{\max} = 1.0 \text{ kN rec. loads}$



Bill of material

Ref.	Item no.	Description	Piece	Length [m]
1	369610	MQK-41/450 bracket	1	
2	2141907	MQA-S M10 saddle nut	3	
3	2105718	HST3 M12x105 30/10 stud anchor	2	
4	339795	AM10x1000 4.8 threaded rod	-	0.18m = 3x0.06m
5	216466	M10 hexagon nut	3	
6	2073439	MP-PI 2" pipe ring	3	

Application description

Plumbing - Cantilever arm - Basic - Light

General comments

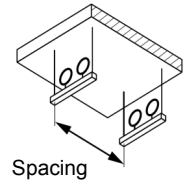
- Application subject to vertical loads caused by weight of the pipes
- Application not subjects to any thermal expansion or any other 3D loads

Application

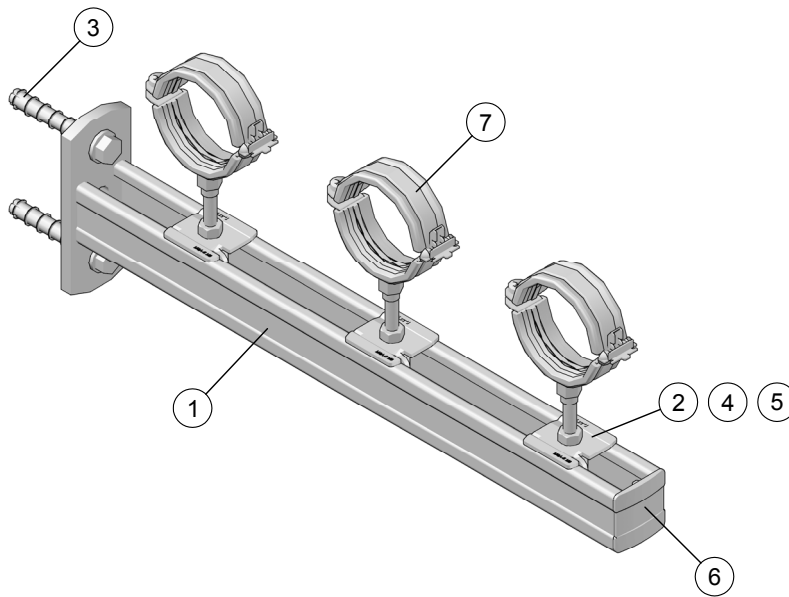
	2	Base material	Concrete
		Product line	MQ System L&P
		Capacity limit	3x DN 50 steel

MQ System Light & Project - Cantilever Arm - Comfort - Light

Type P-G-CA-2-C-L-GL



- Limited to 3x DN 50 (O.D. 60.3 mm) steel pipe
- Spacing - support distance 3 m and 4.5 m
- Insulation 20 mm rubber



Additional loading capacity limits

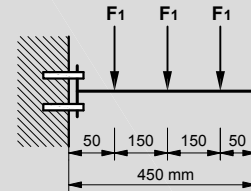
This particular case with spacing:

a) 3m:

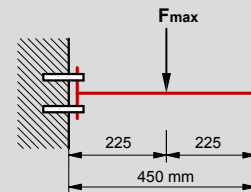
$F_1 = 0.2 \text{ kN rec. loads}$

b) 4.5m (max. recommended):

$F_1 = 0.29 \text{ kN rec. loads}$



$F_{max} = 0.9 \text{ kN rec. loads}$



Bill of material

Reference	Item no.	Description	Piece	Length [m]
1	369610	MQK-41/450 bracket	1	
2	2141907	MQA-S M10 saddle nut	3	
3	2079912	HUS3-H 10x70 screw anchor	2	
4	216392	AM10x80 4.6 threaded bolt	3	
5	216466	M10 hexagon nut	3	
6	369685	MQZ-E41 plastic end cap	1	
7	335683	MPN-RC 2" pipe ring	3	

Application description

Plumbing - Cantilever arm - Comfort - Light

General comments

- Application subject to vertical loads caused by weight of the pipes
- Application not subjects to any thermal expansion or any other 3D loads

Application



Base material	Concrete
Product line	MQ System L&P
Capacity limit	3x DN 50 steel

MQ System Light & Project - Cantilever Arm On Concrete - Medium- Options

MP-PI pipe rings		
MP-PI 11-15 1/4" M8		2073431
MP-PI 16-20 3/8" M8		2073432
MP-PI 20-24 1/2" M8		2073433
MP-PI 25-28 3/4" M8		2073434
MP-PI 25-28 3/4" M8/M10		2126903
MP-PI 32-36 1" M8		2073435
MP-PI 38-46 1 1/4" M8		2073436
MP-PI 38-46 1 1/4" M8/M10		2126905
MP-PI 48-53 1 1/2" M8		2073437
MP-PI 54-58 M8		2073438
MP-PI 59-66 2" M8		2073439
MP-PI 67-73 M8/M10		2073470
MP-PI 75-80 2 1/2" M8/M10		2073471
MP-PI 81-87 M8/M10		2073472
MP-PI 87-92 3" M8/M10		2073473

MPN-RC pipe rings		
MPN-RC 8/11 A		335672
MPN-RC 1/4" A		335673
MPN-RC 3/8" A		335674
MPN-RC 1/2" A		335675
MPN-RC 3/4" A		335676
MPN-RC 29/32 A		335677
MPN-RC 1" A		335678
MPN-RC 37/41 A		335679
MPN-RC 1 1/4" A		335680
MPN-RC 1 1/2" A		335681
MPN-RC 52/56 A		335682
MPN-RC 2" A		335683
MPN-RC 60/66 A		335684
MPN-RC 67/71 A		335686
MPN-RC 2 1/2" B		335688
MPN-RC 78/84 B		335690
MPN-RC 3" B		335692

Stud anchor	
2x stud anchor	
HST3 M12x105 30/10 s. anchor	2105718

Screw anchor	
2x screw anchor	
HUS3-H 10x70 screw anchor	2079912

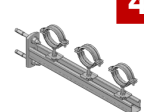
Bracket	
1x MQK-72 bracket	
MQK-72/450 bracket	369615
MQK-72/600 bracket	369616

Channel end cup	
1x MQZ-E31 end cup	369686
1x MQZ-E41 end cup	369685

Hammer head bolt		
M8		
1x HHK 41 M8X40		312361
HHK 41 M8X50		312362
HHK 41 M8X60		312363
HHK 41 M8X80		312365
HHK 41 M8X100		312367
HHK 41 M8X120		312368
HHK 41 M8X150		312369
M10		
1x HHK 41 M10X40		312371
HHK 41 M10X60		312373
HHK 41 M10X80		312374
HHK 41 M10X100		312375
HHK 41 M10X150		312377

Standard pipe ring saddle		
M8		
1x MQA-M8 saddle nut		369629
1x M8 nut		216465
1x M8 Threaded bolt		various
M10		
1x MQA-M10 saddle nut		369630
1x M10 nut		216466
1x M10 threaded bolt		various

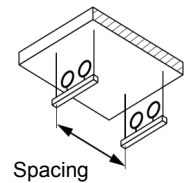
Light duty pipe ring saddle		
M8		
1x MQA-S-M8 pipering saddle		2141906
1x M8 nut		216465
1x M8 Threaded bolt		various
M10		
1x MQA-S-M10 pipering saddle		2141907
1x M10 nut		216466
1x M10 Threaded bolt		various

Application description	Application	Product lines	Base material
MQ System Light & Project applications - Cantilever Arm - Medium	 4	MQ System L&P	Concrete
General comments		Anchors	
These pictures do not show any loading capacity limits or exposure or limitation to any load combinations.		Accessories	

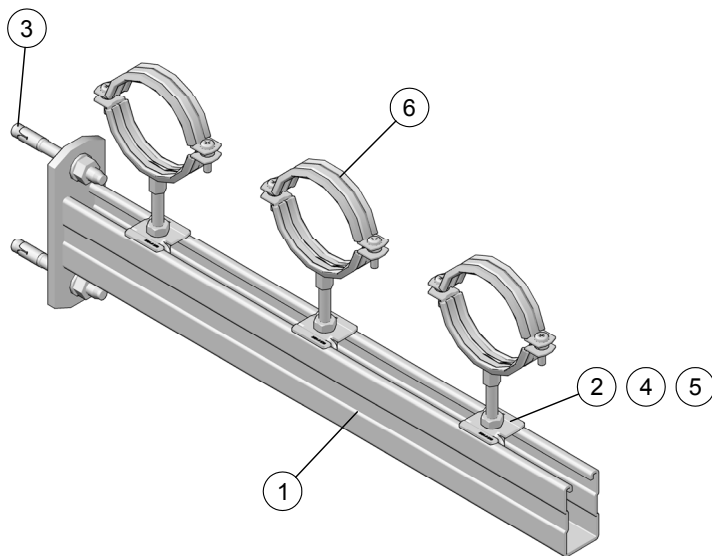
Hilti strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applicable Hilti instructions for use, within the application limits specified in the Hilti technical data sheets, technical specifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.

MQ System Light & Project - Cantilever Arm - Basic - Medium

Type P-G-CA-1-B-M-GL



- Limited to 3x DN 80 (O.D. 88.9 mm) steel pipe
- Spacing - support distance 3 m and 4 m
- Insulation 20 mm rubber



Additional loading capacity limits

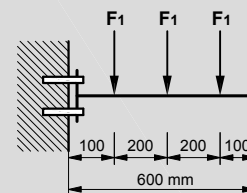
This particular case with spacing:

a) 3m:

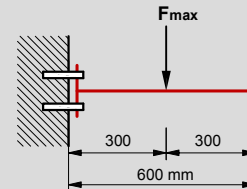
$F_1 = 0.37$ kN rec. loads

b) 4m (max. recommended):

$F_1 = 0.5$ kN rec. loads



$F_{max} = 1.48$ kN rec. loads



Bill of material

Ref.	Item no.	Description	Piece	Length [m]
1	369616	MQK-72/600 bracket	1	
2	2141907	MQA-S M10 saddle nut	3	
3	2105718	HST3 M12x105 30/10 stud anchor	2	
4	339795	AM10x1000 4.8 threaded rod	-	0.18m = 3 x 0.06m
5	216466	M10 hexagon nut	3	
6	2073473	MP-PI 3" pipe ring	3	

Application description

Plumbing - Cantilever arm - Basic - Medium

General comments

- Application subject to vertical loads caused by weight of the pipes
- Application not subjects to any thermal expansion or any other 3D loads

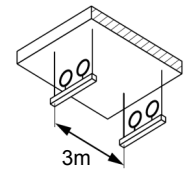
Application



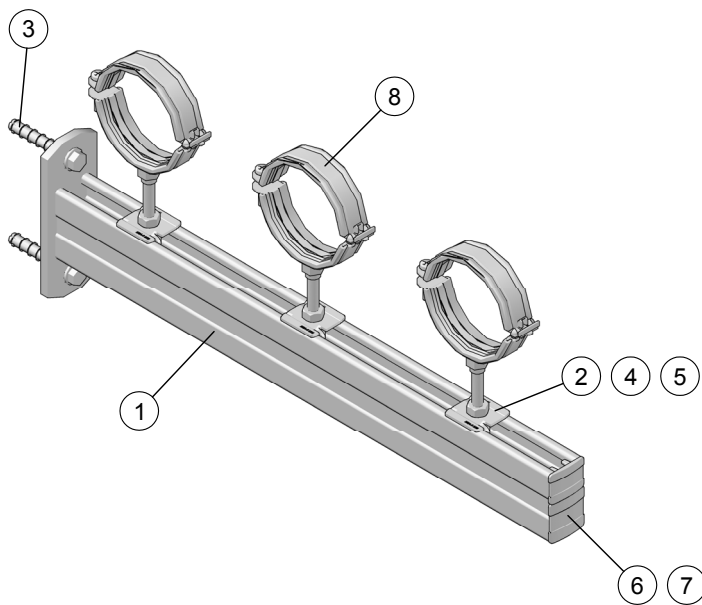
4	Base material	Concrete
	Product line	MQ System L&P
	Capacity limit	3x DN 80 steel

MQ System Light & Project - Cantilever Arm - Comfort - Medium

Type P-G-CA-1-C-M-GL

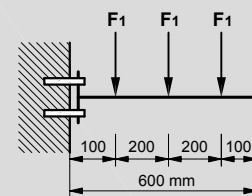


- Limited to 3x DN 80 (O.D. 88.9 mm) steel pipe
- Spacing - support distance 3 m
- Insulation 20 mm rubber

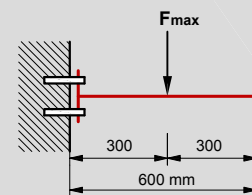


Additional loading capacity limits

This particular case
 $F_1 = 0.37 \text{ kN rec. loads}$



$F_{max} = 1.0 \text{ kN rec. loads}$



Bill of material

Ref.	Item no.	Description	Piece	Length [m]
1	369616	MQK-72/600 bracket	1	
2	2141907	MQA-S M10 saddle nut	3	
3	2079912	HUS3-H 10x70 screw anchor	2	
4	216392	AM10x80 4.6 threaded bolt	3	
5	216466	M10 hexagon nut	3	
6	369685	MQZ-E41 plastic end cap	1	
7	369686	MQZ-E31 plastic end cap	1	
8	335692	MPN-RC 3" pipe ring	3	

Application description

Plumbing - Cantilever arm - Comfort - Medium

General comments

- Application subject to vertical loads caused by weight of the pipes
- Application not subjects to any thermal expansion or any other 3D loads

Application

	Base material	Concrete
	Product line	MQ System L&P
	Capacity limit	3x DN 80 steel

MQ System Light & Project - Goal Post On Concrete - Medium - Options

MP-PI pipe rings	
MP-PI 11-15 1/4" M8	2073431
MP-PI 16-20 3/8" M8	2073432
MP-PI 20-24 1/2" M8	2073433
MP-PI 25-28 3/4" M8	2073434
MP-PI 25-28 3/4" M8/M10	2126903
MP-PI 32-36 1" M8	2073435
MP-PI 38-46 1 1/4" M8	2073436
MP-PI 38-46 1 1/4" M8/M10	2126905
MP-PI 48-53 1 1/2" M8	2073437
MP-PI 54-58 M8	2073438
MP-PI 59-66 2" M8	2073439
MP-PI 67-73 M8/M10	2073470
MP-PI 75-80 2 1/2" M8/M10	2073471
MP-PI 81-87 M8/M10	2073472
MP-PI 87-92 3" M8/M10	2073473

MPN-RC pipe rings	
MPN-RC 8/11 A	335672
MPN-RC 1/4" A	335673
MPN-RC 3/8" A	335674
MPN-RC 1/2" A	335675
MPN-RC 3/4" A	335676
MPN-RC 29/32 A	335677
MPN-RC 1" A	335678
MPN-RC 37/41 A	335679
MPN-RC 1 1/4" A	335680
MPN-RC 1 1/2" A	335681
MPN-RC 52/56 A	335682
MPN-RC 2" A	335683
MPN-RC 60/66 A	335684
MPN-RC 67/71 A	335686
MPN-RC 2 1/2" B	335688
MPN-RC 78/84 B	335690
MPN-RC 3" B	335692

Angle	
1x MQW-L-2/1 angle	2142021
3x M10x20 hex. screw	216453
3x MQM-M10 wing nut	369626

Angle	
1x MQW-Q2 angle	369655

Angle	
1x MQW-H2 angle	2141929
2x MQN pushbutton	369623

Angle	
1x MQW-L-1/1 angle	2142020
2x M10x20 hex. screw	216453
2x MQM-M10 wing nut	369626

Channel	
1x MQ-41-L	
MQ-41-L 2m channel	2141966
MQ-41-L 3m channel	2141965
MQ-41-L 6m channel	2141964

Stud anchor	
1x stud anchor	
HST3 M10x90 30/10 stud anchor	2105712
HST3 M12x105 30/10 stud anchor	2105718

Screw anchor	
1x screw anchor	
HUS3-H 8x55 screw anchor	2079794
HUS3-H 10x70 screw anchor	2079912

Base material connector	
1x MQP-L-6/2 base m. c.	2141928
2x M10x20 hex. screw	216453
2x MQM-M10 wing nut	369626
2x anchor	
HST3 M10x90 30/10	2105712
or HUS3-H 8x55	2079794


Base connector	
1x MQV-2/2D-14 base c.	369639
2x MQN pushbutton	369623
2x anchor	
HST3 M12x105 30/10	2105718
or HUS3-H 10x70	2079912

Base material connector	
1x MQP-41 base m. c.	2141927
2x MQN pushbutton	369623
2x anchor	
HST3 M10x90 30/10	2105712
or HUS3-H 8x55	2079794

Standard pipe ring saddle	
M8	
1x MQA-M8 saddle nut	369629
1x M8 nut	216465
1x M8 Threaded bolt	various
M10	
1x MQA-M10 saddle nut	369630
1x M10 nut	216466
1x M10 threaded bolt	various

Light duty pipe ring saddle	
M8	
1x MQA-S-M8 pipering saddle	2141906
1x M8 nut	216465
1x M8 Threaded bolt	various
M10	
1x MQA-S-M10 pipering saddle	2141907
1x M10 nut	216466
1x M10 Threaded bolt	various

Hammer head bolt	
M8	
1x HHK 41 M8X40	312361
HHK 41 M8X50	312362
HHK 41 M8X60	312363
HHK 41 M8X80	312365
HHK 41 M8X100	312367
HHK 41 M8X120	312368
HHK 41 M8X150	312369
M10	
1x HHK 41 M10X40	312371
HHK 41 M10X60	312373
HHK 41 M10X80	312374
HHK 41 M10X100	312375
HHK 41 M10X150	312377

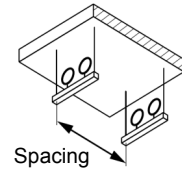
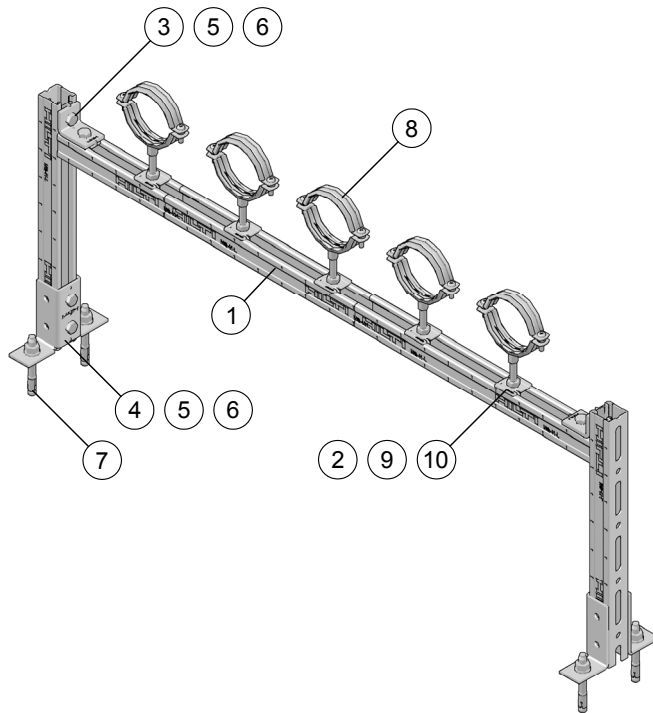
Application description	Application	Product lines	Base material
MQ System volume applications - Goal Post - Medium		MQ System L&P	Concrete
General comments		Anchors	
These pictures do not show any loading capacity limits or exposure or limitation to any load combinations.		Accessories	

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MQ System Light & Project - Goal Post - Basic - Medium

Type P-G-GP-1-B-M-GL

- Limited to 5x DN 80 (O.D. 88.9 mm) steel pipe
- Spacing - support distance 3 m and 4 m
- Insulation 20 mm rubber



Additional loading capacity limits

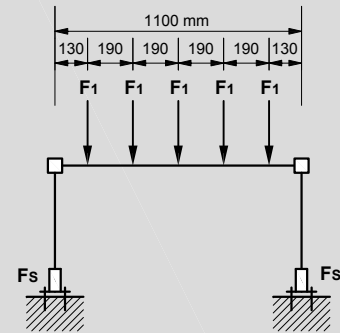
This particular case with spacing:

a) 3m:

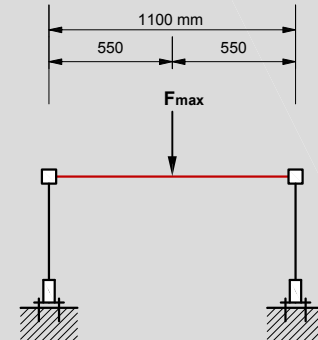
$F_1 = 0.37$ kN rec. loads $F_s = 0.93$ kN rec. loads

b) 4m (max. recommended):

$F_1 = 0.49$ kN rec. loads $F_s = 1.23$ kN rec. loads



$F_{max} = 1.5$ kN rec. loads



Bill of material

Ref.	Item no.	Description	Piece	Length [m]
1	2141965	MQ-41-L 3m channel	-	2.1m = 1 x 1.1m + 2 x 0.5m
2	2141907	MQA-S M10 saddle nut	5	
3	2142020	MQW-L-1/1 angle	2	
4	2141928	MQP-L-6/2 base material connector	2	
5	369626	MQM-M10 wing nut	8	
6	216453	M10x20 hex screw	8	
7	2105712	HST3 M10x90 30/10 stud anchor	4	
8	2073473	MP-PI 3" pipe ring	5	
9	339795	AM10x1000 4.8 threaded rod	-	0.3m = 5 x 0.06m
10	216466	M10 hexagon nut	5	

Application description

Plumbing - Goal Post - Basic - Medium

General comments

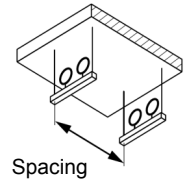
- Application subject to vertical loads caused by weight of the pipes
- Application not subjects to any thermal expansion or any other 3D loads

Application



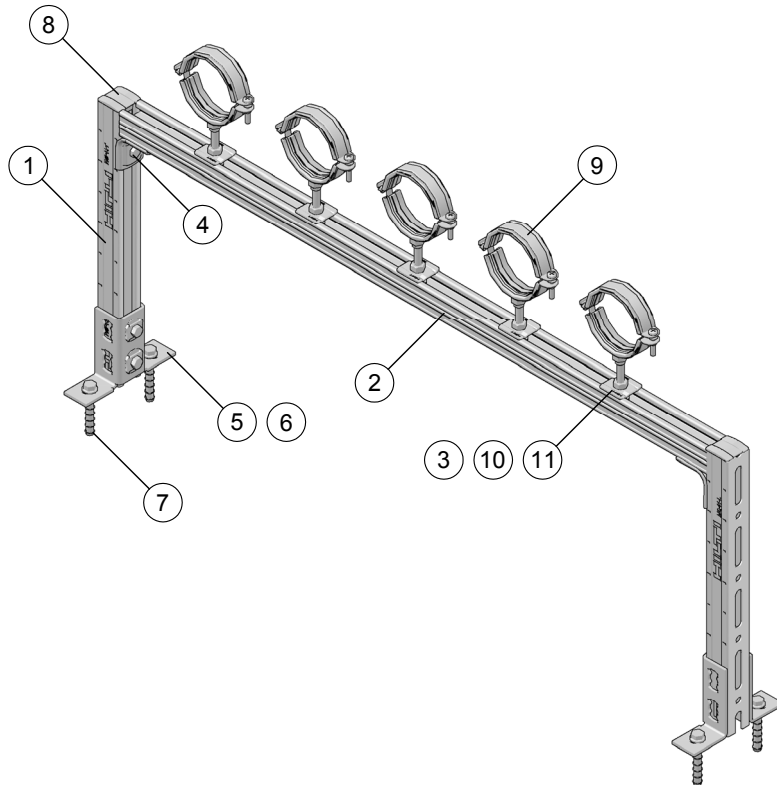
5	Base material	Concrete
	Product line	MQ System L&P
	Capacity limit	5x DN80 steel

MQ System Light & Project - Goal Post - Comfort - Medium



Type P-G-GP-1-C-M-GL

- Limited to 5x DN 80 (O.D. 88.9 mm) steel pipe
- Spacing - support distance 3 m and 4.5 m
- Insulation 20 mm rubber



Additional loading capacity limits

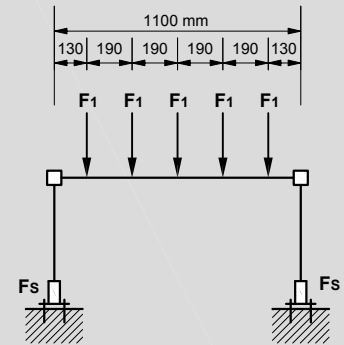
This particular case with spacing:

a) 3m:

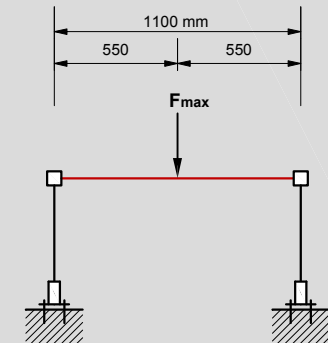
$F_1 = 0.37$ kN rec. loads $F_s = 0.93$ kN rec. loads

b) 4.5m (max. recommended):

$F_1 = 0.55$ kN rec. loads $F_s = 1.37$ kN rec. loads



$F_{max} = 1.8$ kN rec. loads



Bill of material

Ref.	Item no.	Description	Piece	Length [m]
1	2141965	MQ-41-L 3m channel	-	0.8m = 2 x 0.4m
2	369601	MQ-21 D 3m channel	-	1.1m
3	2141907	MQA-S M10 saddle nut	5	
4	369655	MQW-Q2 angle	2	
5	369639	MQV-2/2D-14 channel base	2	
6	369623	MQN push button	4	
7	2079912	HUS3-H 10x70 screw anchor	4	
8	369685	MQZ-E41 plastic end cap	2	
9	335692	MPN-RC 3" pipe ring	5	
10	216392	AM10x80 4.6 threaded bolt	5	
11	216466	M10 hexagon nut	5	

Application description

Plumbing - Goal Post - Comfort - Medium

General comments

- Application subject to vertical loads caused by weight of the pipes
- Application not subjects to any thermal expansion or any other 3D loads

Application

	Base material	Concrete
	Product line	MQ System L&P
	Capacity limit	5x DN80 steel

MQ System Light & Project - Goal Post On Concrete - Heavy - Options

MP-PI pipe rings	
MP-PI 11-15 1/4" M8	2073431
MP-PI 16-20 3/8" M8	2073432
MP-PI 20-24 1/2" M8	2073433
MP-PI 25-28 3/4" M8	2073434
MP-PI 25-28 3/4" M8/M10	2126903
MP-PI 32-36 1" M8	2073435
MP-PI 38-46 1 1/4" M8	2073436
MP-PI 38-46 1 1/4" M8/M10	2126905
MP-PI 48-53 1 1/2" M8	2073437
MP-PI 54-58 M8	2073438
MP-PI 59-66 2" M8	2073439
MP-PI 67-73 M8/M10	2073470
MP-PI 75-80 2 1/2" M8/M10	2073471
MP-PI 81-87 M8/M10	2073472
MP-PI 87-92 3" M8/M10	2073473

MPN-RC pipe rings	
MPN-RC 8/11 A	335672
MPN-RC 1/4" A	335673
MPN-RC 3/8" A	335674
MPN-RC 1/2" A	335675
MPN-RC 3/4" A	335676
MPN-RC 29/32 A	335677
MPN-RC 1" A	335678
MPN-RC 37/41 A	335679
MPN-RC 1 1/4" A	335680
MPN-RC 1 1/2" A	335681
MPN-RC 52/56 A	335682
MPN-RC 2" A	335683
MPN-RC 60/66 A	335684
MPN-RC 67/71 A	335686
MPN-RC 21/2" B	335688
MPN-RC 78/84 B	335690
MPN-RC 3" B	335692

MP-MI pipe rings	
MP-MI 2" G	20857
MP-MI 68/72 G	20860
MP-MI 2 1/2" G	20862
MP-MI 78/84 G	20865
MP-MI 3" G	20866
MP-MI 101.6 G	20869
MP-MI 4" G	20871
MP-MI 117 G	20874
MP-MI 125 G	20876
MP-MI 133 G	20889
MP-MI 5" G	20882
MP-MI 159 G	20885

Stud anchor	
1x stud anchor	
HST3 M10x90 30/10 s. an.	2105712
HST3 M12x105 30/10 s. an.	2105718

Screw anchor	
1x screw anchor	
HUS3-H 8x55 screw anchor	2079794
HUS3-H 10x70 screw anchor	2079912

Base material connector	
1x MQP-L-6/2 base m. c.	2141928
2x M10x20 hex. screw	216453
2x MQM-M10 wing nut	369626
2x anchor	
HST3 M10x90 30/10	2105712
or HUS3-H 8x55	2079794

Base connector	
1x MQV-2/2D-14 base c.	369639
2x MQN pushbutton	369623
2x anchor	
HST3 M12x105 30/10	2105718
or HUS3-H 10x70	2079912

Base material connector	
1x MQP-41 base m. c.	2141927
2x MQN pushbutton	369623
2x anchor	
HST3 M10x90 30/10	2105712
or HUS3-H 8x55	2079794

Light duty pipe ring saddle	
M8	
1x MQA-S-M8 piperling saddle	2141906
1x M8 nut	216465
1x M8 Threaded bolt	various
M10	
1x MQA-S-M10 piperling saddle	2141907
1x M10 nut	216466
1x M10 Threaded bolt	various

Standard pipe ring saddle	
M8	
1x MQA-M8 saddle nut	369629
1x M8 nut	216465
1x M8 Threaded bolt	various
M10	
1x MQA-M10 saddle nut	369630
1x M10 nut	216466
1x M10 threaded bolt	various
M12	
1x MQA-M12B saddle nut	369631
1x M12 nut	216467
1x M12 threaded bolt	various

Angle	
1x MQW-H2 angle	2141929
2x MQN pushbutton	369623


Angle	
1x MQW-L-2/1 angle	2142021
3x M10x20 hex. screw	216453
3x MQM-M10 wing nut	369626

Angle	
1x MQW-L-1/1 angle	2142020
2x M10x20 hex. screw	216453
2x MQM-M10 wing nut	369626

Channel	
1x MQ channel	
MQ-41 2m channel	304559
MQ-41 3m channel	369591
MQ-41 6m channel	369592
MQ-52 3m channel	373795
MQ-52 6m channel	369598
MQ-41 D 3m channel	369603
MQ-41 D 6m channel	369604

Channel	
1x MQ-41 channel	
MQ-41 2m channel	2141966
MQ-41 3m channel	2141965
MQ-41 6m channel	2141964

Hammer head bolt	
M8	
1x HHK 41 M8X40	312361
HHK 41 M8X50	312362
HHK 41 M8X60	312363
HHK 41 M8X80	312365
HHK 41 M8X100	312367
HHK 41 M8X120	312368
HHK 41 M8X150	312369
M10	
1x HHK 41 M10X40	312371
HHK 41 M10X60	312373
HHK 41 M10X80	312374
HHK 41 M10X100	312375
HHK 41 M10X150	312377

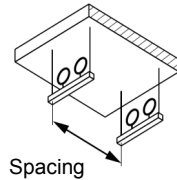
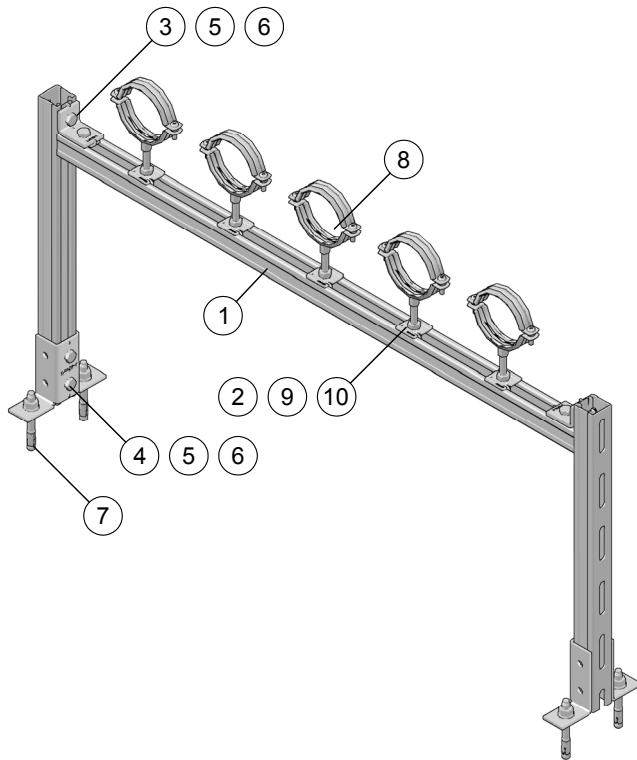
Application description	Application	Product lines	Base material
MQ System Light & Project applications - Goal Post - Heavy		MQ System L&P	Concrete
General comments		Anchors	
These pictures do not show any loading capacity limits or exposure or limitation to any load combinations.		Accessories	

Hilti strongly advises customers to verify the respective product application for the intended use by consulting a structural engineer and making the necessary calculations to ensure compliance with the applicable norms and standards. Failure to consult and heed the advice of a structural engineer will free Hilti from any liability. It is essential that the product is used strictly in accordance with the applicable Hilti instructions for use, within the application limits specified in the Hilti technical data sheets, technical specifications and supporting product literature, and that the relevant application limits are not exceeded at any time. All rights reserved by Hilti Corporation. Duplication, utilization and/or publication of drawings contained in this manual are not permitted unless expressly agreed by Hilti Corporation.

MQ System Light & Project - Goal Post - Basic - Heavy

Type P-G-GP-1-B-H-GL

- Limited to 5x DN 100 (O.D. 108 mm) steel pipe
- Spacing - support distance 3 m and 3.75 m
- Insulation 20 mm rubber



Additional loading capacity limits

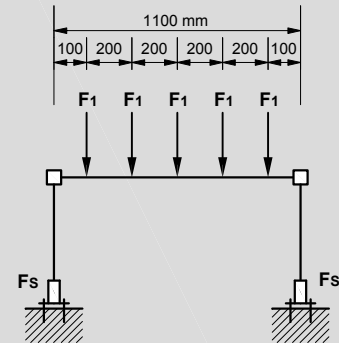
This particular case with spacing:

a) 3m:

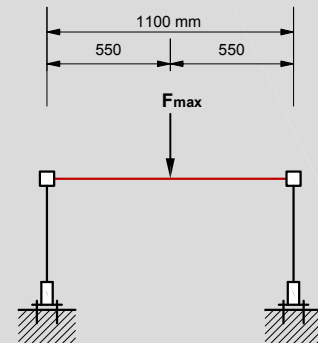
$F_1 = 0.56$ kN rec. loads $F_s = 1.4$ kN rec. loads

b) 3.75m (max. recommended):

$F_1 = 0.71$ kN rec. loads $F_s = 1.77$ kN rec. loads



$F_{max} = 2.0$ kN rec. loads



Bill of material

Ref.	Item no.	Description	Piece	Length [m]
1	369591	MQ-41 3m channel	-	2.2m = 1 x 1.1m + 2 x 0.55m
2	2141907	MQA-S M10 saddle nut	5	
3	2142021	MQW-L-2/1 angle	2	
4	2141928	MQP-L-6/2 base material connector	2	
5	369626	MQM-M10 wing nut	8	
6	216453	M10x20 hex screw	8	
7	2105712	HST3 M10x90 30/10 stud anchor	4	
8	2073475	MP-PI 4" pipe ring	5	
9	339795	AM10x1000 4.8 threaded rod	-	0.3m = 5 x 0.06m
10	216466	M10 hexagon nut	5	

Application description

Plumbing - Goal Post - Basic - Heavy

General comments

- Application subject to vertical loads caused by weight of the pipes
- Application not subjects to any thermal expansion or any other 3D loads

Application

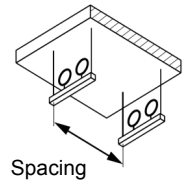
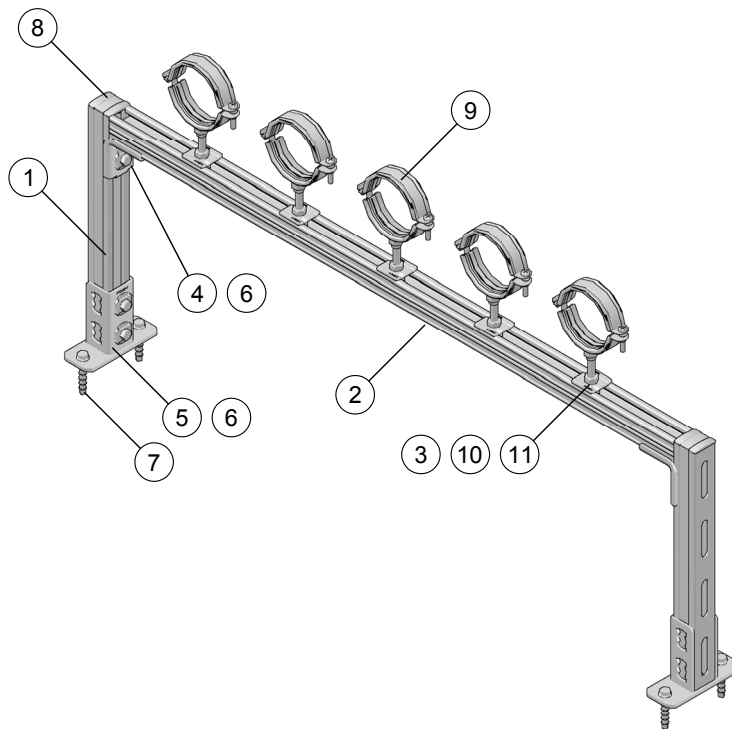


5	Base material	Concrete
	Product line	MQ System L&P
	Capacity limit	5x DN 100 steel

MQ System Light & Project - Goal Post - Comfort - Heavy

Type P-G-GP-1-C-H-GL

- Limited to 5x DN 100 (O.D. 108 mm) steel pipe
- Spacing - support distance 3 m and 3.25 m
- Insulation 20 mm rubber



Additional loading capacity limits

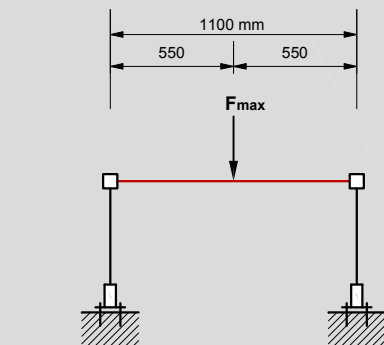
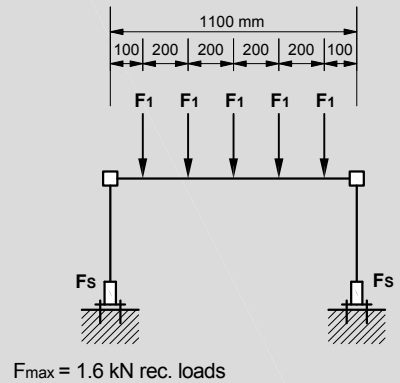
This particular case with spacing:

a) 3m:

$F_1 = 0.57 \text{ kN rec. loads}$ $F_s = 1.43 \text{ kN rec. loads}$

b) 3.25m (max. recommended):

$F_1 = 0.61 \text{ kN rec. loads}$ $F_s = 1.52 \text{ kN rec. loads}$



Bill of material

Ref.	Item no.	Description	Piece	Length [m]
1	369591	MQ-41 3m channel	-	0.8m = 2 x 0.4m
2	369601	MQ-21 D 3m channel	-	1.1m
3	2141907	MQA-S M10 saddle nut	5	
4	2141929	MQW-H2 angle	2	
5	2141927	MQP-41 base material connector	2	
6	369623	MQN push button	8	
7	2079794	HUS3-H 8x55 screw anchor	4	
8	369685	MQZ-E41 plastic end cap	2	
9	335698	MPN-RC 4" pipe ring	5	
10	216392	AM10x80 4.6 threaded bolt	5	
11	216466	M10 hexagon nut	5	

Application description

Plumbing - Goal Post - Comfort - Heavy

General comments

- Application subject to vertical loads caused by weight of the pipes
- Application not subjects to any thermal expansion or any other 3D loads

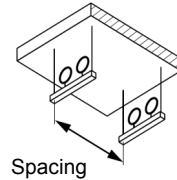
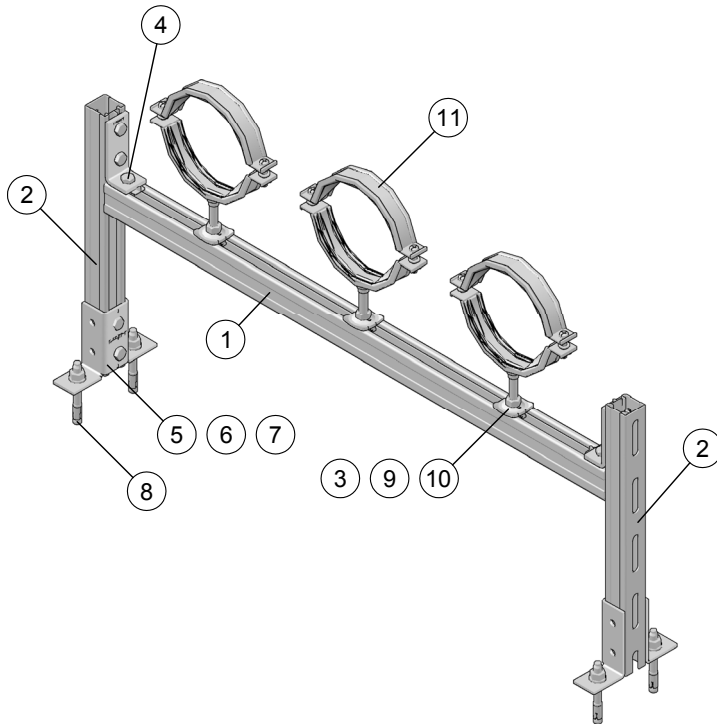
Application

	Base material	Concrete
	Product line	MQ System L&P
	Capacity limit	5x DN 100 steel

MQ System Light & Project - Goal Post - Basic - Heavy

Type P-G-GP-2-B-H-GL

- Limited to 3x DN 150 (O.D. 159 mm) steel pipe
- Spacing - support distance 3 m and 5.75m
- Insulation 20 mm rubber



Additional loading capacity limits

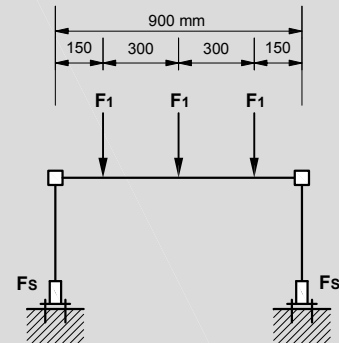
This particular case with spacing:

a) 3m:

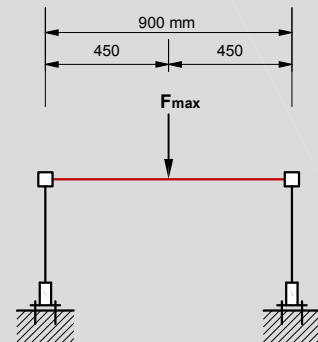
$F_1 = 1.05$ kN rec. loads $F_s = 1.58$ kN rec. loads

b) 5.75m (max. recommended):

$F_1 = 2.0$ kN rec. loads $F_s = 3.0$ kN rec. loads



$F_{max} = 3.5$ kN rec. loads



Bill of material

Ref.	Item no.	Description	Piece	Length [m]
1	369591	MQ-41 3m channel	-	1.1m = 2 x 0.55m
2	373795	MQ-52 3m channel	-	0.9m
3	369631	MQA M12-B pipe ring saddle	3	
4	2142021	MQW-L-2/1 angle	2	
5	2141928	MQP-L-6/2 base material connector	2	
6	369626	MQM-M10 wing nut	10	
7	216453	M10x20 hex screw	10	
8	2105712	HST3 M10x90 30/10 stud anchor	4	
9	339797	AM12x1000 4.8 threaded rod	-	0.2m = 3 x 0.066m
10	216467	M12 hexagon nut	3	
11	20885	MP-MI 159 M12 piping	3	

Application description

Plumbing - Goal Post - Basic - Heavy

General comments

- Application subject to vertical loads caused by weight of the pipes
- Application not subjects to any thermal expansion or any other 3D loads

Application

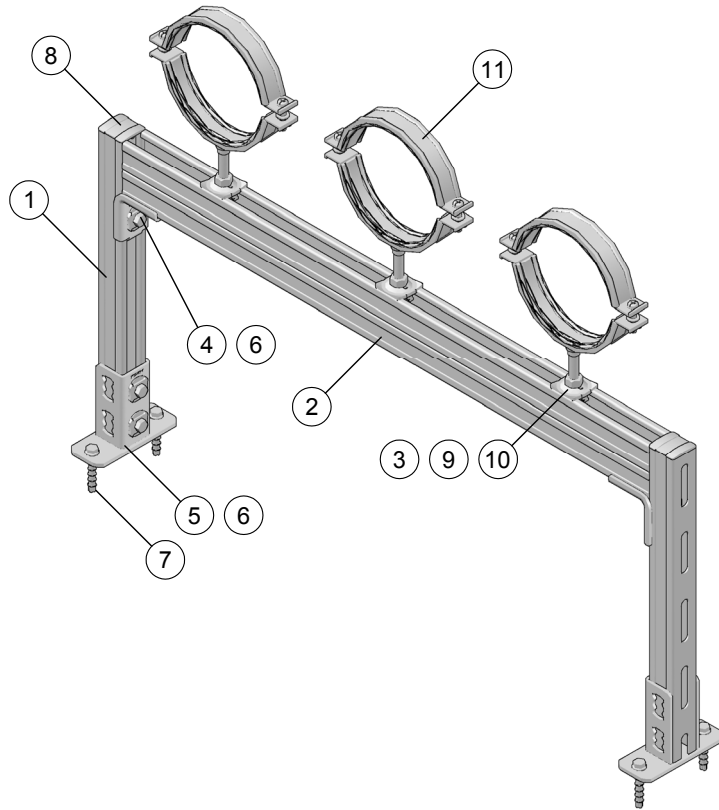
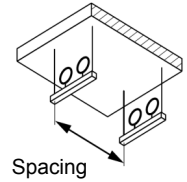


Base material	Concrete
Product line	MQ System L&P
Capacity limit	3x DN 150 steel

MQ System Light & Project - Goal Post - Comfort - Heavy

Type P-G-GP-2-C-H-GL

- Limited to 3x DN 150 (O.D. 159 mm) steel pipe
- Spacing - support distance 3 m and 6 m
- Insulation 20 mm rubber



Additional loading capacity limits

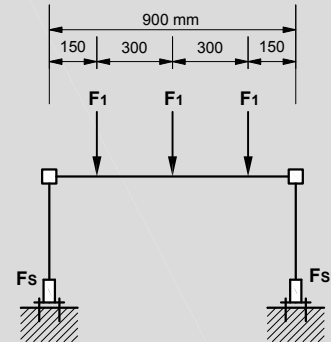
This particular case with spacing:

a) 3m:

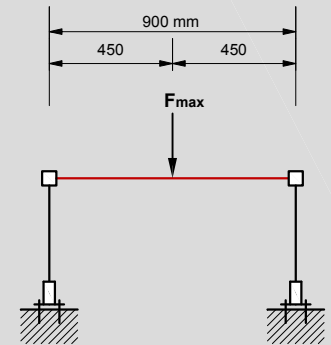
$F_1 = 1.05 \text{ kN rec. loads}$ $F_s = 1.58 \text{ kN rec. loads}$

b) 6.0m (max. recommended):

$F_1 = 2.1 \text{ kN rec. loads}$ $F_s = 3.15 \text{ kN rec. loads}$



$F_{max} = 5.2 \text{ kN rec. loads}$



Bill of material

Ref.	Item no.	Description	Piece	Length [m]
1	369591	MQ-41 3m channel	-	0.8m = 2 x 0.4m
2	369603	MQ-41 D 3m channel	-	0.9m
3	369631	MQA M12-B pipe ring saddle	3	
4	2141929	MQW-H2 angle	2	
5	2141927	MQP-41 base material connector	2	
6	369623	MQN push button	8	
7	2079794	HUS3-H 8x55 screw anchor	4	
8	369685	MQZ-E41 plastic end cap	2	
9	216398	AM12x80 4.6 threaded bolt	3	
10	216467	M12 hexagon nut	3	
11	20885	MP-MI 159 M12 piping	3	

Application description

Plumbing - Goal Post - Comfort - Heavy

General comments

- Application subject to vertical loads caused by weight of the pipes
- Application not subjects to any thermal expansion or any other 3D loads

Application

	5 Base material	Concrete
	Product line	MQ System L&P
	Capacity limit	3x DN 150 steel

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