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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.
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Naming convention used in the manuals of typical applications

After 07.2016

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

Sub-trade:
- a
  - P - Plumbing
  - H - Heating
  - V - Ventilation
  - S - Sprinkler
  - D - Drainage

Corrosion Protection:
- b
  - G - Galvanized
  - HDG – Hot dipped galvanized
  - STS – Stainless Steel

Specific number reference in library:
- d
  - 1 - 50 - MQ System
  - 51 - 100 - MM system
  - 101 - 150 - MI system
  - 151 - 200 - MIQ System

Type:
- c
  - 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
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MQ System Light & Project
Trapeze Rods On Concrete - Light - Options

**Application description**
MQ System Light & Project applications - Trapeze Rods - Light

**General comments**
These pictures do not show any loading capacity limits or exposure or limitation to any load combinations.

**Application**
MQ System L&P

**Product lines**
Concrete

**Base material**

---

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 - 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

Bill of material

<table>
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<tr>
<th>Ref.</th>
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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

<table>
<thead>
<tr>
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<td>Concrete</td>
<td>MQ System L&amp;P</td>
<td>5x DN50 steel</td>
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</table>

Additional loading capacity limits

This particular case

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

\[ F_S = 0.5 \text{ kN rec. loads} \]

\[ F_{max} = 0.6 \text{ kN} \]
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
\[ F_1 = 0.2 \text{ kN rec. loads}, \quad \Sigma F_1 = 1.0 \text{ kN} \]
\[ F_s = 0.5 \text{ kN rec. loads} \]
\[ F_{\max} = 0.6 \text{ kN rec. loads} \]

### Bill of material

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### 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

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<th>Base material</th>
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<td>Capacity limit</td>
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MQ System Light & Project - Trapeze Rods On Concrete - Medium - Options

**MQ-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/M10 2126903
- MP-32-36 1" M8 2073435
- MP-38-46 1 1/4" M8 2073436
- MP-38-46 1 1/4" M8/M10 2126905
- MP-48-53 1 1/2" M8 2073437
- MP-54-58 M8 2073438
- MP-59-66 2" M8 2073439
- MP-67-73 M8/M10 2073470
- MP-75-80 2 1/2" M8/M10 2073471
- MP-81-87 M8/M10 2126907
- MP-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

**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

**Threaded rods**
- M10
  - AM10x1000 4.8 zinced 339795
  - AM10x2000 4.8 zinced 339796
  - AM10x3000 4.8 zinced 216418
- M8
  - AM8x1000 4.8 zinced 339795

**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

**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 trap. 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
- M10
  - 1x MQA-S-M10 pipering 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 threaded rod**
- M10
  - 2x MQZ.P11 square washer 2141909
  - 2x M10 nut 216466
  - 1x AM10 threaded rod various

**Application**
- MQ System L&P
- Anchors
- 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:

- **3m:**
  - \( F_1 = 0.37 \text{ kN rec. loads} \)
  - \( F_S = 0.93 \text{ kN rec. loads} \)

- **4.5m (max. recommended):**
  - \( F_1 = 0.55 \text{ kN rec. loads} \)
  - \( F_S = 1.38 \text{ kN rec. loads} \)

\[ F_{\text{max}} = 1.55 \text{ kN rec. loads} \]

### Bill of material

<table>
<thead>
<tr>
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<th>Item no.</th>
<th>Description</th>
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<td>M10 hexagon nut</td>
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<td>1.3m = 2x0.5m + 5x0.06m</td>
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</table>

### 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**

<table>
<thead>
<tr>
<th>Base material</th>
<th>Product line</th>
<th>Capacity limit</th>
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<tbody>
<tr>
<td>Concrete</td>
<td>MQ System L&amp;P</td>
<td>5x DN80 steel</td>
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</table>
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

**Bill of material**

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<td>1.0m = 2x 0.5m</td>
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</table>

**Application description**

**Application**

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

**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

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**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) 4.5m (max. recommended)**:
  - $F_1 = 0.55 \text{ kN rec. loads}$
  - $F_s = 1.38 \text{ kN rec. loads}$

**F_{max} = 1.55 \text{ kN rec. loads}**
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 On Concrete - Heavy - Options

**Application description**

MQ System Light & Project applications - Trapeze Rods - Heavy

**General comments**

These pictures do not show any loading capacity limits or exposure or limitation to any load combinations.

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-PI pipe rings
- MP-PI 59-66 2" M8 2073439
- MP-PI 67-73 M8/M10 2073470
- MP-PI 75-80 21/2" M8/M10 2073471
- MP-PI 81-87 M8/M10 2073472
- MP-PI 87-92 3" M8/M10 2073473
- MP-PI 99-105 31/2" 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

### Threaded rods
- M10
  - AM10x1000 4.8 zinced 339795
  - AM10x2000 4.8 zinced 339796
  - AM10x3000 4.8 zinced 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 M10x2s anchor 376963
  - HKD M10x30 anchor 376964
  - HKD M10x40 anchor 376967

### 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 59 G 20885

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

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

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

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

### Channel end cap
- 2x MQZ-E41 end cap 369685

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

### 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

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

### 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 M10x2s anchor 376963
  - HKD M10x30 anchor 376964
  - HKD M10x40 anchor 376967

### MP-MI pipe rings
- MP-MI 2" G 20857
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- 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 59 G 20885

### Standard pipe ring saddle
- M8
  - 1x MQA-M8 saddle nut 369629
  - 1x M8 nut 216465
  - 1x M8 Thrded bolt various M10
  - 1x MQA-M10 saddle nut 369630
  - 1x M10 nut 216466
  - 1x M10 Thrded bolt various M12
  - 1x MQA-M12 saddle nut 369631
  - 1x M12 nut 216467
  - 1x M12 Thrded bolt various
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:
   \( F_1 = 0.57 \text{ kN rec. loads} \)
   \( F_S = 1.43 \text{ kN rec. loads} \)

b) 4m (max. recommended):
   \( F_1 = 0.76 \text{ kN rec. loads} \)
   \( F_S = 1.9 \text{ kN rec. loads} \)

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

Bill of material

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Item no.</th>
<th>Description</th>
<th>Piece</th>
<th>Length [m]</th>
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<tbody>
<tr>
<td>1</td>
<td>369591</td>
<td>MQ-41 3m channel</td>
<td>1</td>
<td>1.1</td>
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<td>2</td>
<td>282857</td>
<td>A 10.5/40 flat washer</td>
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<td>3</td>
<td>216466</td>
<td>M10 hexagon nut</td>
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<tr>
<td>4</td>
<td>339795</td>
<td>AM10x1000 4.8 threaded rod</td>
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<td>1.3m = 2x 0.5m + 5x 0.06m</td>
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<td>MQA-S M10 saddle nut</td>
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<td>HKD 10x40 drop in anchor bulk</td>
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<td>MP-PI 4&quot; pipe ring</td>
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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

<table>
<thead>
<tr>
<th>Base material</th>
<th>Concrete</th>
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<tbody>
<tr>
<td>Product line</td>
<td>MQ System L&amp;P</td>
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<tr>
<td>Capacity limit</td>
<td>5x DN 100 steel</td>
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</tbody>
</table>
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:
   \[ F_1 = 0.57 \text{ kN rec. loads} \quad F_S = 1.43 \text{ kN rec. loads} \]

b) 3.75m (max. recommended):
   \[ F_1 = 0.71 \text{ kN rec. loads} \quad F_S = 1.78 \text{ kN rec. loads} \]

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

Bill of material

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<tr>
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<tr>
<td>1</td>
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<td>HUS-I 6x35 M8/M10 screw anchor</td>
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<td>4</td>
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<td>AM10x1000 4.8 threaded rod</td>
<td>-</td>
<td>1.0m = 2x0.5m</td>
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<td>5</td>
<td>2141907</td>
<td>MQA-S M10 saddle nut</td>
<td>5</td>
<td></td>
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<td>6</td>
<td>216392</td>
<td>AM10x80 4.6 threaded bolt</td>
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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

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<tr>
<td>1</td>
<td>Capacity limit</td>
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</table>
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

**Application description**

**General comments**

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

**Bill of material**

<table>
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<tr>
<th>Ref.</th>
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<tbody>
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<td>2141909</td>
<td>MQZ-P11 channel plate</td>
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<td>216466</td>
<td>M10 hexagon nut</td>
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<tr>
<td>4</td>
<td>339795</td>
<td>AM10x1000 4.8 threaded rod</td>
<td>-</td>
<td>1.0m = 2x 0.5m</td>
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<tr>
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<td>2105714</td>
<td>HST3 M10x110 50/30 stud anchor</td>
<td>2</td>
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<tr>
<td>6</td>
<td>216704</td>
<td>M10x30 spacer coupling</td>
<td>2</td>
<td></td>
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<tr>
<td>7</td>
<td>369631</td>
<td>MQA M12-B pipe ring saddle</td>
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<tr>
<td>8</td>
<td>339797</td>
<td>AM12x1000 4.8 threaded rod</td>
<td>-</td>
<td>0.2m = 3x0.065m</td>
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<td>9</td>
<td>216467</td>
<td>M12 hexagon nut</td>
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<td>10</td>
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</table>

**Application**

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

**Additional loading capacity limits**

This particular case with spacing:

a) 3m:
- $F_1 = 1.05$ kN rec. loads
- $F_S = 1.6$ kN rec. loads

b) 6m (max. recommended):
- $F_1 = 2.1$ kN rec. loads
- $F_S = 3.15$ kN rec. loads

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

---

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 - 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):
   - \( F_1 = 2.0 \text{ kN rec. loads} \)
   - \( F_s = 3.0 \text{ kN rec. loads} \)

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

**Bill of material**

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<td>MQ-52 3m channel</td>
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<td>M10 hexagon nut</td>
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<tr>
<td>4</td>
<td>339795</td>
<td>AM10x1000 4.8 threaded rod</td>
<td>-</td>
<td>1.0m = 2x 0.5m</td>
</tr>
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<td>HST3 M10x110 50/30 stud anchor</td>
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<td>6</td>
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<td>M10x30 spacer coupling</td>
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**Application description**

**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

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.
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MQ System Light & Project - Trapezoid Frame On Concrete - Medium - Options

MQ System Light & Project applications - Trapezoid Frame - Medium

General comments:
These pictures do not show any loading capacity limits or exposure or limitation to any load combinations.

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 - Basicc - 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

**Application description**

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

**Bill of material**

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Item no.</th>
<th>Description</th>
<th>Piece</th>
<th>Length [m]</th>
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<td>10</td>
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<td>M10 hexagon nut</td>
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<td></td>
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</tbody>
</table>

**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):**
  - \( F_1 = 0.5 \text{ kN rec. loads} \)
  - \( F_S = 1.25 \text{ kN rec. loads} \)

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

**Application**

- **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):**
  - $F_1 = 0.5 \text{ kN rec. loads}$  
  - $F_S = 1.25 \text{ kN rec. loads}$

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### 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**

- **Base material:** Concrete
- **Product line:** MQ System L&P
- **Capacity limit:** 5x DN 80 steel
Hilti strongly advise 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.

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

Application description
MQ System Light & Project applications - Trapeze Frame - Heavy

General comments
These pictures do not show any loading capacity limits or exposure or limitation to any load combinations.

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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

### Application description

**Plumbing - Trapeze Frame - Basic - Heavy**

**General comments**

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

### Bill of material

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<tr>
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<th>Item no.</th>
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### 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):

$F_1 = 0.71 \text{ kN rec. loads}$

$F_S = 1.78 \text{ kN rec. loads}$

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

---

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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:
F₁ = 0.57 kN rec. loads  
Fₛ = 1.43 kN rec. loads

b) 3.75m (max. recommended):
F₁ = 0.71 kN rec. loads  
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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

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MQ System Light & Project - Trapeze Frame - Basicc - 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

**Bill of material**

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<thead>
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**Application description**

**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

---

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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:
   - $F_1 = 1.05$ kN rec. loads
   - $F_S = 1.58$ kN rec. loads

b) 4.75m (max. recommended):
   - $F_1 = 1.65$ kN rec. loads
   - $F_S = 2.48$ kN rec. loads

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

---

**Bill of material**

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**Application description**

- **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

---

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

**Application description**
MQ System Light & Project applications - Head rail - Light

**General comments**
These pictures do not show any loading capacity limits or exposure or limitation to any load combinations.

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### 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 11/4" M8 2073436
- MP-PI 48-53 11/2" 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 3/4" A 335673
- MPN-RC 1/2" A 335674
- MPN-RC 3/4" A 335675
- MPN-RC 29/32 A 335677
- MPN-RC 1" A 335678
- MPN-RC 3/4" 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

### 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

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

**M10**
- 1x HKK 41 M10X40 312371
- 1x HKK 41 M10X50 312372
- 1x HKK 41 M10X60 312374
- 1x HKK 41 M10X100 312375
- 1x HKK 41 M10X150 312377

### Light duty pipe ring saddle
**M8**
- 1x MZA-M8 saddle nut 369629
- 1x M8 nut 216465
- 1x M8 threaded bolt various

**M10**
- 1x MZA-M10 saddle nut 369630
- 1x M10 nut 216466
- 1x M10 threaded bolt various

### Screw anchor
**HUS3-H8**
- 1x screw anchor HUS3-H 8x55 screw anchor 2079794
- A 10.5/20 washer 282851

### Stud anchor
**HST3 M10x90 30/10 stud anchor** 2105712

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

### Application
- MQ System Light & Project
- Anchors
- Accessories

**Base material**
- Concrete

---

Page 31
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

Bill of material

<table>
<thead>
<tr>
<th>Ref.</th>
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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

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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

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Application description

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

Application

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### Application description

**MQ System Light & Project applications - Head Rail - Medium - Options**

**General comments**

These pictures do not show any loading capacity limits or exposure or limitation to any load combinations.

### Product lines

- **Base material**
  - Concrete
  - Anchors
  - Accessories

### 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/M10 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/M10 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 87-92 3" M8/M10 2073473

### MPN-RC pipe rings
- MPN-RC 8/11 A 335672
- MPN-RC 11/14 A 335673
- MPN-RC 12/16 A 335674
- MPN-RC 16/20 3/8" M8 2073432
- MPN-RC 16/20 3/8" M8/M10 2073434
- MPN-RC 20/24 1/2" M8 2073433
- MPN-RC 25/28 3/4" M8/M10 2073435
- MPN-RC 25/28 3/4" M8/M10 2126903
- MPN-RC 32/40 1" M8 2073436
- MPN-RC 37/41 A 335675
- MPN-RC 37/41 A 335676
- MPN-RC 37/41 A 335677
- MPN-RC 45/51 A 335678
- MPN-RC 45/51 A 335679
- MPN-RC 45/51 A 335680
- MPN-RC 52/56 A 335681
- MPN-RC 52/56 A 335682
- MPN-RC 60/66 A 335683
- MPN-RC 60/66 A 335684
- MPN-RC 67/73 A 335685
- MPN-RC 67/73 A 335686
- MPN-RC 78/84 B 335687
- MPN-RC 78/84 B 335688
- MPN-RC 81/87 A 335689
- MPN-RC 81/87 A 335690
- MPN-RC 87/92 3" M8/M10 2073473

### 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-M8 pipering saddle 2141906
  - 1x M8 nut 216465
  - 1x M8 Threaded bolt various
- M10
  - 1x MQA-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 M8X65 312364
  - HHK 41 M8X100 312367
  - HHK 41 M8X120 312368
  - HHK 41 M8X150 312369
- M10
  - 1x HHK 41 M10X40 312371
  - HHK 41 M10X50 312373
  - HHK 41 M10X60 312374
  - HHK 41 M10X100 312375
  - HHK 41 M10X150 312377

### Channel end cup
- 2x MQZ-E41 end cup 369685

### Caution screw HUS3-H8:
- 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

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

### Channel
- 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

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

**Application description**

**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

**Bill of material**

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Item no.</th>
<th>Description</th>
<th>Piece</th>
<th>Length [m]</th>
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<tr>
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<td>2141907</td>
<td>MQA-S M10 saddle nut</td>
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<td>3</td>
<td>2105712</td>
<td>HST3 M10x90 30/10 stud anchor</td>
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<tr>
<td>4</td>
<td>339795</td>
<td>AM10x1000 4.8 threaded rod</td>
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<td>0.3 m = 3x 0.1m</td>
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<td>216466</td>
<td>M10 hexagon nut</td>
<td>5</td>
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</tr>
<tr>
<td>6</td>
<td>2073473</td>
<td>MP-PI 3” pipe ring</td>
<td>5</td>
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</tr>
</tbody>
</table>

**Application**

**Base material**

Concrete

**Product line**

MQ System L&P

**Capacity limit**

5x DN 80 steel

**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
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

Additional loading capacity limits

This particular case with spacing:

a) 3m:
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<tr>
<td>3</td>
<td>2079794</td>
<td>HUS3-H 8x55 screw anchor</td>
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<td></td>
</tr>
<tr>
<td>4</td>
<td>216392</td>
<td>AM10x80 4.6 threaded bolt</td>
<td>5</td>
<td></td>
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<tr>
<td>5</td>
<td>216466</td>
<td>M10 hexagon nut</td>
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<td>282862</td>
<td>A10.5/28 washer</td>
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</tr>
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<td>7</td>
<td>369685</td>
<td>MQZ-E41 plastic end cap</td>
<td>2</td>
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<td>8</td>
<td>335692</td>
<td>MPN-RC 3'' pipe ring</td>
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</table>

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

<table>
<thead>
<tr>
<th>Base material</th>
<th>Concrete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product line</td>
<td>MQ System L&amp;P</td>
</tr>
<tr>
<td>Capacity limit</td>
<td>5x DN 80 steel</td>
</tr>
</tbody>
</table>
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**MQ System Light & Project**

**Head Rail On Concrete - Heavy - Options**

<table>
<thead>
<tr>
<th>MP-PI pipe rings</th>
<th>MP-RC pipe rings</th>
<th>MP-MI pipe rings</th>
</tr>
</thead>
<tbody>
<tr>
<td>MP-PI 59-66 2” M8</td>
<td>MP-RC 2” A</td>
<td>MP-MI 2” G</td>
</tr>
<tr>
<td>MP-PI 67-73 M8/M10</td>
<td>MP-RC 6/86 A</td>
<td>MP-MI 6/82 G</td>
</tr>
<tr>
<td>MP-PI 75-80 21/2” M8/M10</td>
<td>MP-RC 21/2” B</td>
<td>MP-MI 2 1/2” G</td>
</tr>
<tr>
<td>MP-PI 81-87 M8/M10</td>
<td>MP-RC 78/84 B</td>
<td>MP-MI 78/84 G</td>
</tr>
<tr>
<td>MP-PI 87-92 3” M8/M10</td>
<td>MP-RC 3” B</td>
<td>MP-MI 3” G</td>
</tr>
<tr>
<td>MP-PI 99-105 31/2” M8/M10</td>
<td>MP-RC 101,6 B</td>
<td>MP-MI 101.6 G</td>
</tr>
<tr>
<td>MP-PI 107-115 4” M8/M10</td>
<td>MP-RC 110 B</td>
<td>MP-MI 4” G</td>
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<tr>
<td>MP-PI 120-128 M8/M10</td>
<td>MP-RC 4” B</td>
<td>MP-MI 117 G</td>
</tr>
<tr>
<td>MP-PI 129-134 5” M8/M10</td>
<td>MP-RC 125 B</td>
<td>MP-MI 125 G</td>
</tr>
<tr>
<td>MP-PI 135-143 5” M8/M10</td>
<td>MP-RC 133 B</td>
<td>MP-MI 133 G</td>
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<tr>
<td>MP-PI 149-161 M8/M10</td>
<td>MP-RC 5” B</td>
<td>MP-MI 5” G</td>
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<td>MP-RC 160 B</td>
<td>MP-MI 159 G</td>
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</table>

**Base material**

Concrete

**Hammer head bolt**

- M8
  - 1x HKH 41 M8X40 312361
  - HKH 41 M8X50 312362
  - HKH 41 M8X60 312363
  - HKH 41 M8X80 312365
  - HKH 41 M8X100 312367
  - HKH 41 M8X120 312368
  - HKH 41 M8X150 312369
  - M10
    - 1x HKH 41 M10X40 312371
    - HKH 41 M10X50 312373
    - HKH 41 M10X80 312374
    - HKH 41 M10X100 312375
    - HKH 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 piping 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

**Application description**

MQ System Light & Project applications - Head Rail - Heavy

**General comments**

These pictures do not show any loading capacity limits or exposure or limitation to any load combinations.
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

Application description

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

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<td>MQ-41 3m channel</td>
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<td>2141907</td>
<td>MQA-S M10 saddle nut</td>
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<tr>
<td>3</td>
<td>2105712</td>
<td>HST3 M10x90 30/10 stud anchor</td>
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<tr>
<td>4</td>
<td>339795</td>
<td>AM10x1000 4.8 threaded rod</td>
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<td>0.3 m = 3 x 0.01 m</td>
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<td>5</td>
<td>216466</td>
<td>M10 hexagon nut</td>
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<td>6</td>
<td>2073475</td>
<td>MP-PI 4” pipe ring</td>
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</tr>
</tbody>
</table>

Application

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

Additional loading capacity limits

This particular case with spacing:

a) 3m:
   \[ F_1 = 0.52 \text{ kN rec. loads} \quad F_s = 1.3 \text{ kN rec. loads} \]

b) 4.5m (max. recommended):
   \[ F_1 = 0.78 \text{ kN rec. loads} \quad F_s = 1.95 \text{ kN rec. loads} \]

\[ F_{\text{max}} = 2.1 \text{ kN rec. loads} \]
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:

- **3m:**
  - \( F_1 = 0.57 \text{ kN rec. loads} \)
  - \( F_S = 1.43 \text{ kN rec. loads} \)

- **4.25m (max. recommended):**
  - \( F_1 = 0.8 \text{ kN rec. loads} \)
  - \( F_S = 2.0 \text{ kN rec. loads} \)

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

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<td>MQA-S M10 saddle nut</td>
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<td>2079911</td>
<td>HUS3-H 10x60 screw anchor</td>
<td>2</td>
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<td>4</td>
<td>216392</td>
<td>AM10x80 4.6 threaded bolt</td>
<td>5</td>
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<td>MPN-RC 4” pipe ring</td>
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</table>

### Application description

**Plumbing - Head Rail - Comfort - Heavy**

- **General comments:**
  - Application subject to vertical loads caused by weight of the pipes
  - Application not subject 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
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MQ System Light & Project

Cantilever Arm On Concrete - Light - Options

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Application description
MQ System Light & Project applications - Cantilever Arm - Light

General comments
These pictures do not show any loading capacity limits or exposure or limitation to any load combinations.
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

Bill of material

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<tr>
<th>Ref.</th>
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<th>Description</th>
<th>Piece</th>
<th>Length [m]</th>
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Application description

Plumbing - Cantilever arm - Basic - Light

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

Application

<table>
<thead>
<tr>
<th>Base material</th>
<th>Product line</th>
<th>Capacity limit</th>
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<tbody>
<tr>
<td>Concrete</td>
<td>MQ System L&amp;P</td>
<td>2x DN 50 steel</td>
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</tbody>
</table>

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

\( F_{\text{max}} = 0.5 \, \text{kN} \) rec. loads
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:**

\[ F_1 = 0.2 \text{ kN rec. loads} \]

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

**b) 3.5m (max. recommended):**

\[ F_1 = 0.23 \text{ kN rec. loads} \]

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

### Bill of material

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Item no.</th>
<th>Description</th>
<th>Piece</th>
<th>Length [m]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2141925</td>
<td>MQK-L-21/300 bracket</td>
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<td>2141906</td>
<td>MQA-S M8 saddle nut</td>
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<td>3</td>
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<tr>
<td>4</td>
<td>216382</td>
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<td>MPN-RC 2&quot; pipe ring</td>
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<td></td>
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</tbody>
</table>

### 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**

<table>
<thead>
<tr>
<th>Base material</th>
<th>Product line</th>
<th>Capacity limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concrete</td>
<td>MQ System L&amp;P</td>
<td>2x DN 50 steel</td>
</tr>
</tbody>
</table>
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:**
  - \( F_1 = 0.2 \) kN rec. loads
- **b) 4.75m (max. recommended):**
  - \( F_1 = 0.31 \) kN rec. loads
  - \( F_{max} = 1.0 \) kN rec. loads

### Bill of material

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Item no.</th>
<th>Description</th>
<th>Piece</th>
<th>Length [m]</th>
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</tr>
<tr>
<td>4</td>
<td>339795</td>
<td>AM10x1000 4.8 threaded rod</td>
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<td>0.18 m = 3x 0.06 m</td>
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<tr>
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### 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**

- **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:
   - F₁ = 0.2 kN rec. loads

b) 4.5m (max. recommended):
   - F₁ = 0.29 kN rec. loads
   - Fₘₐₓ = 0.9 kN rec. loads

Bill of material

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<td>2</td>
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<td>MQA-S M10 saddle nut</td>
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<td></td>
</tr>
<tr>
<td>3</td>
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<td>HUS3-H 10x70 screw anchor</td>
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<td>7</td>
<td>335683</td>
<td>MPN-RC 2&quot; pipe ring</td>
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<td></td>
</tr>
</tbody>
</table>

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
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 On Concrete - Medium - Options

**Application description**

MQ System Light & Project applications - Cantilever Arm - Medium

**General comments**

These pictures do not show any loading capacity limits or exposure or limitation to any load combinations.

**Material**

- **Base material**: MQ System L&P

**Product lines**

- **Concrete**
- **Anchors**

**Accessories**

- **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

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

- **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

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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:
   \[ F_1 = 0.37 \text{ kN rec. loads} \]

b) 4m (max. recommended):
   \[ F_1 = 0.5 \text{ kN rec. loads} \]

\[ F_{\text{max}} = 1.48 \text{ kN rec. loads} \]

Bill of material

<table>
<thead>
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<th>Ref.</th>
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<th>Piece</th>
<th>Length [m]</th>
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<td>2105718</td>
<td>HST3 M12x105 30/10 stud anchor</td>
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</tr>
<tr>
<td>4</td>
<td>339795</td>
<td>AM10x1000 4.8 threaded rod</td>
<td>-</td>
<td>0.18m = 3 x 0.06m</td>
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<tr>
<td>5</td>
<td>216466</td>
<td>M10 hexagon nut</td>
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<td>MP-PI 3” pipe ring</td>
<td>3</td>
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Application description

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

Application

<table>
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<tr>
<th>Base material</th>
<th>Product line</th>
<th>Capacity limit</th>
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<tbody>
<tr>
<td>Concrete</td>
<td>MQ System L&amp;P</td>
<td>3x DN 80 steel</td>
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</tbody>
</table>
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
F₁ = 0.37 kN rec. loads
Fₘₐₓ = 1.0 kN rec. loads

Bill of material

<table>
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<td>369616</td>
<td>MQK-72/600 bracket</td>
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</tr>
<tr>
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<td>2141907</td>
<td>MQA-S M10 saddle nut</td>
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<td></td>
</tr>
<tr>
<td>3</td>
<td>2079912</td>
<td>HUS3-H 10x70 screw anchor</td>
<td>2</td>
<td></td>
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<tr>
<td>4</td>
<td>216392</td>
<td>AM10x80 4.6 threaded bolt</td>
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<td>M10 hexagon nut</td>
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<td>6</td>
<td>369685</td>
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<td>MQZ-E31 plastic end cap</td>
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<td>335692</td>
<td>MPN-RC 3&quot; pipe ring</td>
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<td></td>
</tr>
</tbody>
</table>

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
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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

Bill of material

<table>
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<tr>
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<th>Item no.</th>
<th>Description</th>
<th>Piece</th>
<th>Length [m]</th>
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<td>2.1m = 1 x 1.1m + 2 x 0.5m</td>
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<td>7</td>
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<td>HST3 M10x90 30/10 stud anchor</td>
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<td>8</td>
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<td>MP-PI 3&quot; pipe ring</td>
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<tr>
<td>9</td>
<td>339795</td>
<td>AM10x1000 4.8 threaded rod</td>
<td>-</td>
<td>0.3m = 5 x 0.06m</td>
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<td>10</td>
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<td>M10 hexagon nut</td>
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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

MQ System L&P

Product line

Base material

Concrete

Capacity limit

5x DN80 steel

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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

Bill of material

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Item no.</th>
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<th>Piece</th>
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Application description

Plumbing - Goal Post - Comfort - Medium

General comments

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

Application

<table>
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<tr>
<th>Base material</th>
<th>Product line</th>
<th>Capacity limit</th>
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</thead>
<tbody>
<tr>
<td>Concrete</td>
<td>MQ System L&amp;P</td>
<td>5x DN80 steel</td>
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MQ System Light & Project
Goal Post On Concrete - Heavy - Options

Application description
MQ System Light & Project applications - Goal Post - Heavy

General comments
These pictures do not show any loading capacity limits or exposure or limitation to any load combinations.

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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

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

Bill of material

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Item no.</th>
<th>Description</th>
<th>Piece</th>
<th>Length [m]</th>
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<tbody>
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<td>MQA-S M10 saddle nut</td>
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<td>M10 hexagon nut</td>
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</tbody>
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Application

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

**Bill of material**

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Item no.</th>
<th>Description</th>
<th>Piece</th>
<th>Length [m]</th>
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<tr>
<td>1</td>
<td>369591</td>
<td>MQ-41 3m channel</td>
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<td>M10 hexagon nut</td>
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</table>

**Application description**

- Plumbing - Goal Post - Comfort - Heavy

**General comments**

- Application subject to vertical loads caused by weight of the pipes
- Application not subject 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

**Additional loading capacity limits**

This particular case with spacing:

a) 3m:  
F₁ = 0.57 kN rec. loads  Fₛ = 1.43 kN rec. loads

b) 3.25m (max. recommended):  
F₁ = 0.61 kN rec. loads  Fₛ = 1.52 kN rec. loads

**MQ System Light & Project**

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 5.75 m
- Insulation 20 mm rubber

**Application description**

**Plumbing - Goal Post - Basic - Heavy**

**General comments**

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

**Bill of material**

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Item no.</th>
<th>Description</th>
<th>Piece</th>
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<tbody>
<tr>
<td>1</td>
<td>369591</td>
<td>MQ-41 3m channel</td>
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<td>1.1m = 2 x 0.55m</td>
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<td>MQ-52 3m channel</td>
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**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):
   \( F_1 = 2.1 \text{ kN rec. loads} \)
   \( F_S = 3.15 \text{ kN rec. loads} \)

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

<table>
<thead>
<tr>
<th>Bill of material</th>
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<tbody>
<tr>
<td>Ref.</td>
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Application description

- Plumbing - Goal Post - Comfort - Heavy

General comments

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

<table>
<thead>
<tr>
<th>Application</th>
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<tbody>
<tr>
<td><strong>Base material</strong></td>
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<tr>
<td><strong>Product line</strong></td>
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<td><strong>Capacity limit</strong></td>
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