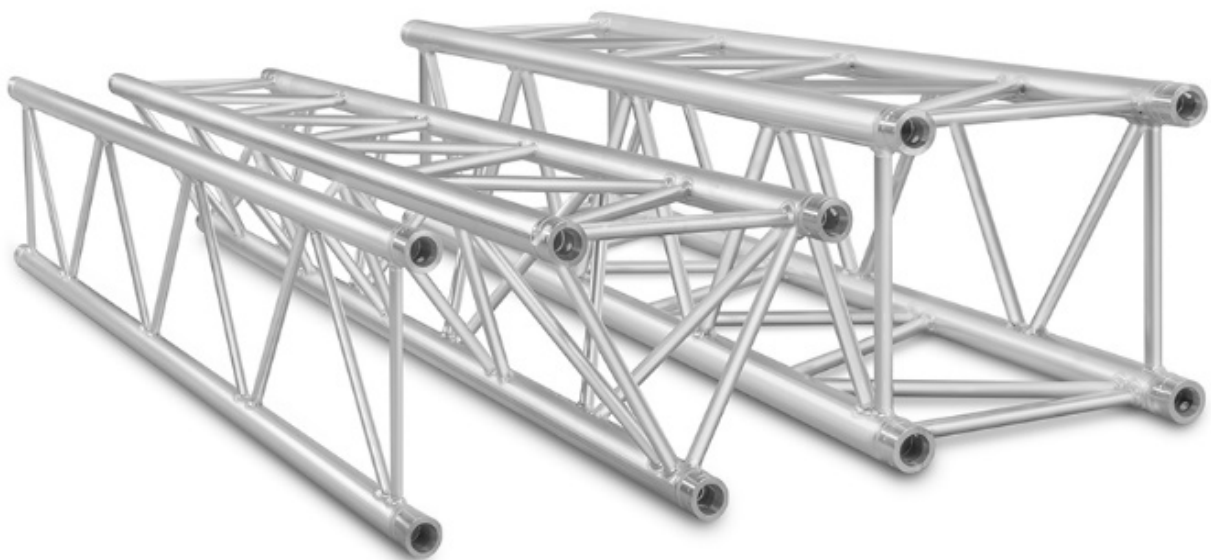


MILOS

M390 Truss

User manual

Part 2: Product-specific instructions



Original instructions

DN00129 Issue 1
July 2019

Manufacturer:

MILOS s.r.o.

Spindlerova 286

413 01 Roudnice nad Labem

Czech Republic

T +420 416 810 800

info@milos.cz

We have made every effort to ensure the accuracy of this manual. No liability will be accepted for errors. We reserve the right to change or alter our products or manuals without prior notice.

No part of this manual may be reproduced in any form or by any means without prior written permission.

If you have a warranty claim, malfunction or spare part inquiry, contact your point of sale or the manufacturer.

If you have comments or improvement ideas for this document, please contact us by using the e-mail address found on the back cover of the document. All comments and ideas will be carefully considered in the future development of the product or this document.

Contents

1	Introduction.....	4
1.1	About this product.....	4
1.2	Related information.....	4
1.3	About this manual.....	4
1.4	Terminology.....	4
1.5	Standards	5
2	Safety	5
3	Limitations of use	5
3.1	Allowable loading.....	5
3.2	Structural data	5
4	Transport, handling and storage	7
5	Identification	7
6	Technical specifications	7
6.1	Regular.....	7
6.2	Heavy duty.....	8
7	Load capacity	10
7.1	Regular.....	11
7.2	Heavy duty.....	12
8	Approved accessories.....	13
9	Coatings and surface treatments.....	14
10	Slinging methods	14
11	Assembly and disassembly.....	14
12	Maintenance	14
13	Inspection.....	14
14	Discard criteria.....	14
15	Warranty	14
16	Certificates.....	14

Change history

Issue	Date	Changes
1	July 2019	First issue.

1 Introduction

This manual is intended for truss owners, providers, skilled riggers and any person who has been trained in working safely with trusses.

This manual is Part 2 of the User Manual. The User Manual consists of the following parts:

- Part 1: General instructions
- Part 2: Product-specific instructions

This manual must be read in conjunction with *Part 1: General instructions* of the User Manual.

If there are discrepancies between *Part 1* and *Part 2*, the information given in *Part 2* is the information that applies to the product and overrides the information given in *Part 1*.

This manual assumes that you have been trained or work under the control of a competent or qualified person who has been trained in safety and assembly.

1.1 About this product

MILOS trusses are structural elements designed to be repeatedly assembled and disassembled to carry loads in temporary or permanent installations. Depending on the application, MILOS trusses can be referred to as lifting accessories or construction products. For information on the related standards, see Chapter 1.5.

The M390 series can be used for indoor and outdoor structures.

1.2 Related information

For more information on the product, see www.milossystems.com/products/truss/.

1.3 About this manual

Before working with the product, read this manual carefully and pay attention to the information provided. Use this manual to familiarise yourself with the product, its proper use and safety regulations.

1.3.1 Safety conventions



Indicates a hazardous situation, which, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme situations.



Indicates a hazardous situation, which, if not avoided, could result in death or serious injury.



Indicates a hazardous situation, which, if not avoided, could result in minor or moderate injury.



Indicates information considered important but not hazard-related.

1.4 Terminology

See *MILOS Trusses User Manual, Part 1: General instructions*.

Trusses and truss elements are hereinafter referred to by the term "truss".

1.5 Standards

See *MILOS Trusses User Manual, Part 1: General instructions*.

2 Safety

Before working with the product, see the section *Safety* in *MILOS Trusses User Manual, Part 1: General instructions*. Read the Safety information carefully and pay attention to the information provided.

In addition to the Safety information provided in Part 1, make sure you read the Safety information provided in this product-specific user manual.

NOTICE

Read these safety texts carefully before working with the product.

NOTICE

Make sure manuals are available at all times for all users and employees.

3 Limitations of use

Make sure you read the information provided in section *Limitations of use* in *MILOS Trusses User Manual, Part 1: General instructions*.

MILOS trusses described in this manual are not specifically designed for lifting people. Adequate load reduction and safety precautions, according to local legislation, must be considered when people are lifted.

3.1 Allowable loading

For load capacity information, see Chapter 7.

3.2 Structural data

All our trusses are calculated according to the Eurocode 9 (DIN-EN 1999) standard. Eurocodes are standards based on Load and Resistance Factor Design (LRFD).

WARNING

The structural data provided before January 2016 was based on the German DIN 4113 standard. As this standard had a different safety principle, the structural values cannot be compared.

NOTICE

TÜV certificates issued after February 2015 are all based on Eurocode 9.

3.2.1 Regular

Code	Type	Material	Geometry								
			Dimensions centre to centre		Main chord [mm]	Diagonals [mm]	Cross-section complete truss				Average dead weight
			Height	Width			A	I _y	I _z	I _t	g
			[mm]	[mm]			[cm ²]	[cm ⁴]	[cm ⁴]	[cm ⁴]	[kg/m]
M390K-BTK/BTKF	duo	6082 T6	340	0	50x2	20x2	6.03	1760.6	17.4	n/a	2.5
M390K-STK/STKF/ STKU	trio	6082 T6	294	340	50x2	20x2	9.05	1768.7	1769.3	357.6	5.1
M390K-QTK/QTKF/ QTKU	quatro	6082 T6	340	340	50x2	20x2	12.06	3521.2	3521.2	1291.5	6.1

Table 1: Geometry

Code	Design values of resistances				
	Main chord	Complete truss			
	N _{Rd}	M _{y,Rd}	M _{z,Rd}	V _{z,Rd}	V _{y,Rd}
	[kN]	[kNm]	[kNm]	[kN]	[kN]
M390K-BTK/BTKF	35.71	12.14	n/a	9.25	n/a
M390K-STK/STKF/STKU	35.71	10.51	12.14	16.03	9.25
M390K-QTK/QTKF/QTKU	35.71	24.28	24.28	18.51	18.51

Table 2: Design values of resistances

3.2.2 Heavy duty

Code	Type	Material	Geometry								
			Dimensions centre to centre		Main chord [mm]	Diagonals [mm]	Cross-section complete truss				Average dead weight
							A	I _y	I _z	I _t	g
			Height [mm]	Width [mm]			[cm ²]	[cm ⁴]	[cm ⁴]	[cm ⁴]	[kg/m]
M390L-BTL/BTLF	duo	6082 T6	340	0	48x3	20x2	8.48	2473.0	21.6	n/a	3.1
M390L-STL/STLF/STLU	trio	6082 T6	294	340	48x3	20x2	12.72	2482.9	2483.7	375.9	5.4
M390L-QTL/QTLF	quatro	6082 T6	340	340	48x3	20x2	16.96	4945.9	4945.9	1331.6	7.3
M290x390-RTL/RTLF/RTLU	rect	6082 T6	340	240	48x3	20x2	16.96	4945.5	2486.0	516.5	7.6
M390K-QTKT	quatro	6082 T6	340	340	50x4	25x3	23.12	6743.9	6743.9	2341.2	10.7

Table 3: Geometry

Code	Design values of resistances				
	Main chord	Complete truss			
	N_{Rd}	$M_{y,Rd}$	$M_{z,Rd}$	$V_{z,Rd}$	$V_{y,Rd}$
	[kN]	[kNm]	[kNm]	[kN]	[kN]
M390L-BTL/BTLF	50.22	17.07	n/a	9.25	n/a
M390L-STL/STLF/STLU	50.22	14.78	17.07	16.03	9.25
M390L-QTL/QTFL	50.22	34.15	34.15	18.51	18.51
M290x390-RTL/RTLF/RTLU	50.22	34.15	12.05	20.64	9.95
M390K-QTKT	51.80	35.22	35.22	39.21	39.21

Table 4: Design values of resistances

4 Transport, handling and storage

See MILOS Trusses User Manual, Part 1: General instructions.

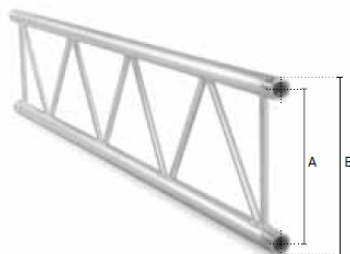
5 Identification

See MILOS Trusses User Manual, Part 1: General instructions.

6 Technical specifications

6.1 Regular

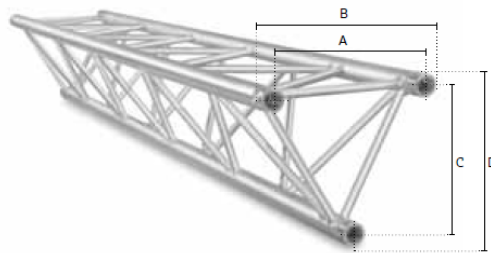
DUO



M390

	Main Chords	Diagonals	Alloy	A	B	Coupler
BTK	50x2 (2x0.08)	20x2 (0.78x0.08)	EN - AW 6082 T6	340 (13.38)	390 (15.35)	CCB
BTKF	50x2 (2x0.08)	20x2 (0.78x0.08)	EN - AW 6082 T6	340 (13.38)	390 (15.35)	CCF

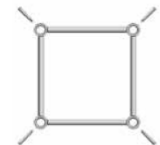
TRIO



M390

		Main Chords	Diagonals	Alloy	A	B	C	D	Coupler
STK		50x2 (2x0.08)	20x2 (0.78x0.08)	EN - AW 6082 T6	340 (13.38)	390 (15.35)	294 (11.57)	344 (13.54)	CCB
STKF	mm in	50x2 (2x0.08)	20x2 (0.78x0.08)	EN - AW 6082 T6	340 (13.38)	390 (15.35)	294 (11.57)	344 (13.54)	CCF
STKU		50x2 (2x0.08)	20x2 (0.78x0.08)	EN - AW 6082 T6	340 (13.38)	390 (15.35)	294 (11.57)	344 (13.54)	CCF

QUATRO



M390

		Main Chords	Diagonals	Alloy	A	B	Coupler
QTK	mm in	50x2 (2x0.08)	20x2 (0.78x0.08)	EN - AW 6082 T6	340 (13.38)	390 (15.35)	CCB
QTKF		50x2 (2x0.08)	20x2 (0.78x0.08)	EN - AW 6082 T6	340 (13.38)	390 (15.35)	CCF
QTKU		50x2 (2x0.08)	20x2 (0.78x0.08)	EN - AW 6082 T6	340 (13.38)	390 (15.35)	CCU

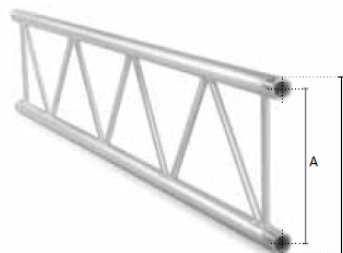
STANDARD LENGTHS AND WEIGHTS AVAILABLE

	m (ft)	0.50 (1.64)	1.00 (3.28)	1.50 (4.92)	2.00 (6.56)	2.50 (8.20)	3.00 (9.84)	4.00 (13.12)	5.00 (16.41)
DUO	kg (lbs)	1.60 (3.57)	2.60 (5.87)	3.70 (8.16)	4.70 (10.43)	5.70 (12.72)	6.80 (14.99)	8.80 (19.56)	10.90 (24.12)
TRIO	kg (lbs)	3.10 (6.84)	4.70 (10.53)	7.10 (15.65)	8.80 (19.04)	10.10 (22.27)	12.90 (22.48)	16.00 (35.36)	19.70 (43.63)
QUATRO	kg (lbs)	4.10 (9.04)	6.30 (14.04)	9.10 (20.06)	11.50 (25.35)	13.90 (30.64)	16.30 (36.12)	21.50 (47.4)	26.30 (58.18)

Connection material (pins/clips/couplers) and packaging are not included in above weights

6.2 Heavy duty

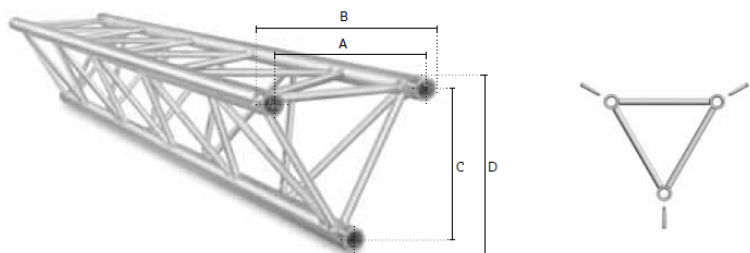
DUO



M390L

		Main Chords	Diagonals	Alloy	A	B	Coupler
BTL	mm in	48x3 (1.89x0.12)	20x2 (0.78x0.08)	EN - AW 6082 T6	340 (13.39)	388 (15.28)	CCB
BTLF		48x3 (1.89x0.12)	20x2 (0.78x0.08)	EN - AW 6082 T6	340 (13.39)	388 (15.28)	CCF

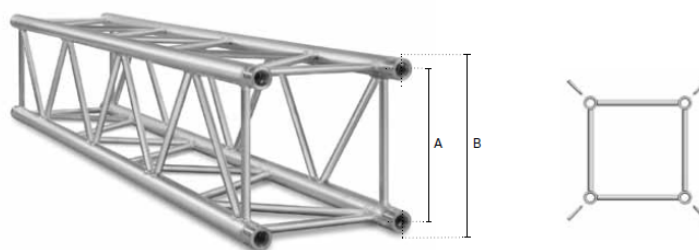
TRIO



M390L

		Main Chords	Diagonals	Alloy	A	B	C	D	Coupler
STL		48x3 (1.89x0.12)	20x2 (0.78x0.08)	EN - AW 6082 T6	340 (13.39)	388 (15.28)	294 (11.57)	342 (13.46)	CCB
STLF	mm in	48x3 (1.89x0.12)	20x2 (0.78x0.08)	EN - AW 6082 T6	340 (13.39)	388 (15.28)	294 (11.57)	342 (13.46)	CCF
STLU		48x3 (1.89x0.12)	20x2 (0.78x0.08)	EN - AW 6082 T6	340 (13.39)	388 (15.28)	294 (11.57)	342 (13.46)	CCF

QUATRO



M390L

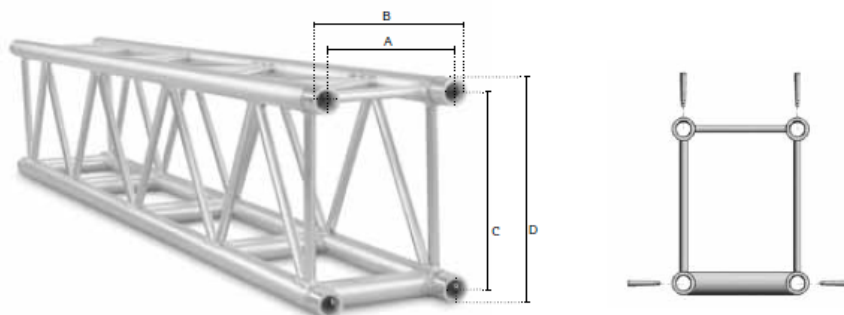
		Main Chords	Diagonals	Alloy	A	B	Coupler
QTL		48x3 (1.89x0.12)	20x2 (0.78x0.08)	EN - AW 6082 T6	340 (13.39)	388 (15.28)	CCB
QTLF	mm in	48x3 (1.89x0.12)	20x2 (0.78x0.08)	EN - AW 6082 T6	340 (13.39)	388 (15.28)	CCF
QTLU		48x3 (1.89x0.12)	20x2 (0.78x0.08)	EN - AW 6082 T6	340 (13.39)	388 (15.28)	CCF

STANDARD LENGTHS AND WEIGHTS AVAILABLE

	m (ft)	0.50 (1.64)	1.00 (3.28)	1.50 (4.92)	2.00 (6.56)	2.50 (8.20)	3.00 (9.84)	4.00 (13.12)	5.00 (16.41)
DUO	kg (lbs)	2.00 (4.41)	3.30 (7.28)	4.50 (10.01)	6.00 (13.23)	7.20 (16.03)	8.60 (19.05)	11.30 (25.07)	14.10 (31.11)
TRIO	kg (lbs)	3.10 (6.88)	5.60 (12.35)	7.90 (17.46)	10.50 (23.15)	12.60 (27.93)	15.30 (33.73)	20.50 (45.20)	25.00 (55.12)
QUATRO	kg (lbs)	3.50 (7.83)	7.60 (16.76)	10.80 (23.81)	14.00 (30.87)	17.10 (37.7)	20.30 (44.75)	26.40 (58.2)	33.00 (72.75)

Connection material (pins/clips/couplers) and packaging are not included in above weights

RECT



M290x390

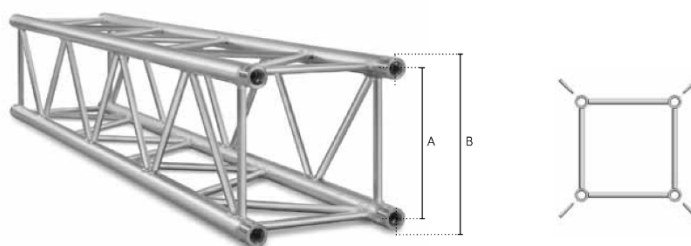
	Main Chords	Diagonals	Horizontal Braces	Alloy	A	B	C	D	Coupler
RTL	48x3 (1.89x0.12)	20x2 (0.78x0.08)	48x3 (1.89x0.12)	EN - AW 6082 T6	240 (9.45)	290 (11.40)	340 (13.38)	390 (15.35)	CCB
RTLF	48x3 (1.89x0.12)	20x2 (0.78x0.08)	48x3 (1.89x0.12)	EN - AW 6082 T6	240 (9.45)	290 (11.40)	340 (13.38)	390 (15.35)	CCF
RTLU	48x3 (1.89x0.12)	20x2 (0.78x0.08)	48x3 (1.89x0.12)	EN - AW 6082 T6	240 (9.45)	290 (11.40)	340 (13.38)	390 (15.35)	CCU

STANDARD LENGTHS AND WEIGHTS AVAILABLE

	m (ft)	0.50 (1.64)	1.00 (3.28)	1.50 (4.92)	2.00 (6.56)	2.50 (8.20)	3.00 (9.84)	3.50 (11.48)	4.00 (13.12)
RECT	kg (lbs)	4.50 (9.92)	7.70 (16.98)	10.90 (24.03)	14.10 (32.85)	17.30 (38.14)	20.50 (45.20)	23.70 (52.25)	26.90 (59.31)

Connection material (pins/clips/couplers) and packaging are not included in above weights

QUATRO



M390

	Main Chords	Diagonals	Alloy	A	B	Coupler
QTKT	50x4 (2x1.6)	25x3 (0.98x0.12)	EN - AW 6082 T6	340 (13.38)	390 (15.35)	CCB

STANDARD LENGTHS AND WEIGHTS AVAILABLE

	m (ft)	0.50 (1.64)	1.00 (3.28)	1.50 (4.92)	2.00 (6.56)	2.50 (8.20)	3.00 (9.84)	4.00 (13.12)	5.00 (16.41)
DUO	kg (lbs)	1.60 (3.57)	2.60 (5.87)	3.70 (8.16)	4.70 (10.43)	5.70 (12.72)	6.80 (14.99)	8.80 (19.56)	10.90 (24.12)
TRIO	kg (lbs)	3.10 (6.84)	4.70 (10.53)	7.10 (15.65)	8.80 (19.04)	10.10 (22.27)	12.90 (22.48)	16.00 (35.36)	19.70 (43.63)
QUATRO	kg (lbs)	4.10 (9.04)	6.30 (14.04)	9.10 (20.06)	11.50 (25.35)	13.90 (30.64)	16.30 (36.12)	21.50 (47.4)	26.30 (58.18)

Connection material (pins/clips/couplers) and packaging are not included in above weights

7 Load capacity

In addition to the information and instructions provided in *MILOS Trusses User Manual, Part 1: General instructions*, the truss loads shall never exceed the values stated in the load tables below.

As per Eurocode 9, all values provided are calculated based on a safety factor of 1.1 on the material and 1.5 on the load.

7.1 Regular

M390 DUO

LOADING CHART

Span	m (ft)	3.00 (9.84)	4.00 (13.12)	5.00 (16.40)	6.00 (19.69)	7.00 (22.97)	8.00 (26.25)	9.00 (29.53)
CPL	kg (lbs)	998.00 (2200.21)	820.50 (1808.89)	654.30 (1442.48)	543.20 (1197.55)	463.40 (1021.62)	403.40 (889.34)	356.40 (785.73)
Deflection	mm (in)	4.50 (0.18)	8.80 (0.35)	13.70 (0.54)	19.80 (0.78)	27.00 (1.06)	35.30 (1.39)	44.80 (1.76)
TPL	kg (lbs)	625.50 (1378.99)	529.00 (1166.24)	471.00 (1038.38)	407.40 (898.16)	347.60 (766.33)	302.50 (666.90)	267.30 (589.29)
Deflection	mm (in)	4.80 (0.19)	9.60 (0.38)	16.80 (0.66)	25.20 (0.99)	34.30 (1.35)	44.80 (1.76)	56.80 (2.24)
QPL	kg (lbs)	417.00 (919.33)	398.00 (877.44)	327.20 (721.35)	271.60 (598.77)	231.70 (510.81)	201.70 (444.67)	178.20 (392.86)
Deflection	mm (in)	4.50 (0.18)	10.10 (0.40)	16.30 (0.64)	23.40 (0.92)	31.90 (1.26)	41.80 (1.65)	52.90 (2.08)
FPL	kg (lbs)	312.70 (689.38)	312.20 (688.28)	272.60 (600.98)	226.30 (498.91)	193.10 (425.71)	168.10 (370.60)	148.50 (327.39)
Deflection	mm (in)	4.30 (0.17)	10.10 (0.40)	17.30 (0.68)	24.90 (0.98)	33.80 (1.33)	44.20 (1.74)	56.00 (2.20)
UDL	kg (lbs)	417.00 (280.21)	312.20 (209.79)	249.30 (167.52)	181.10 (121.69)	132.40 (88.97)	100.80 (67.73)	79.20 (53.22)
Deflection	mm (in)	3.50 (0.14)	8.40 (0.33)	16.30 (0.64)	24.70 (0.97)	33.60 (1.32)	43.90 (1.73)	55.60 (2.19)

DUO figures are based on use in vertical mode and stabilized every 1m

M390 TRIO

LOADING CHART

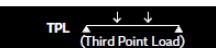
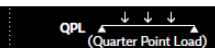
Span	m (ft)	4.00 (13.12)	6.00 (19.69)	8.00 (26.25)	10.00 (32.81)	12.00 (39.37)	14.00 (45.93)	16.00 (52.49)
CPL	kg (lbs)	705.10 (1554.48)	462.20 (1018.98)	338.50 (746.26)	262.40 (578.49)	210.10 (463.19)	171.40 (377.87)	141.20 (311.29)
Deflection	mm (in)	7.60 (0.30)	17.20 (0.68)	30.80 (1.21)	48.70 (1.92)	71.00 (2.80)	98.20 (3.87)	130.60 (5.14)
TPL	kg (lbs)	528.80 (1165.80)	346.70 (764.34)	253.90 (559.75)	196.80 (433.87)	157.50 (347.23)	128.50 (283.29)	105.90 (233.47)
Deflection	mm (in)	9.70 (0.38)	21.80 (0.86)	38.80 (1.53)	60.70 (2.39)	87.70 (3.45)	119.80 (4.72)	157.10 (6.19)
QPL	kg (lbs)	352.50 (777.13)	231.10 (509.49)	169.20 (373.02)	131.20 (289.25)	105.00 (231.49)	85.70 (188.94)	70.60 (155.65)
Deflection	mm (in)	9.00 (0.35)	20.30 (0.80)	36.20 (1.43)	56.80 (2.24)	82.30 (3.24)	112.80 (4.44)	148.50 (5.85)
FPL	kg (lbs)	293.80 (647.72)	192.60 (424.61)	141.00 (310.85)	109.30 (240.96)	87.50 (192.90)	71.40 (157.41)	58.80 (129.63)
Deflection	mm (in)	9.50 (0.37)	21.50 (0.85)	38.20 (1.50)	59.90 (2.36)	86.60 (3.41)	118.40 (4.66)	155.40 (6.12)
UDL	kg (lbs)	352.50 (236.87)	154.10 (103.55)	84.60 (56.85)	52.50 (35.28)	35.00 (23.52)	24.50 (16.46)	17.60 (11.83)
Deflection	mm (in)	9.40 (0.37)	21.30 (0.84)	38.00 (1.50)	59.50 (2.34)	86.00 (3.39)	117.60 (4.63)	154.50 (6.08)

TRIO figures are based on use in apex up/down orientation

M390 QUATRO - QTK, QTKF, QTKU

LOADING CHART

Span	m (ft)	4.00 (13.12)	6.00 (19.69)	8.00 (26.25)	10.00 (32.81)	12.00 (39.37)	14.00 (45.93)	16.00 (52.49)
CPL	kg (lbs)	1491.00 (3287.09)	1083.30 (2388.26)	802.70 (1769.65)	632.10 (1393.54)	516.50 (1138.69)	432.30 (953.06)	367.80 (810.86)
Deflection	mm (in)	8.00 (0.31)	19.80 (0.78)	35.40 (1.39)	55.60 (2.19)	80.70 (3.18)	110.70 (4.36)	146.00 (5.75)
TPL	kg (lbs)	946.00 (2085.57)	747.00 (1646.85)	602.00 (1327.18)	474.10 (1045.21)	387.40 (854.07)	324.20 (714.74)	275.80 (608.03)
Deflection	mm (in)	8.60 (0.34)	23.20 (0.91)	44.90 (1.77)	70.20 (2.76)	101.20 (3.98)	138.10 (5.44)	180.70 (7.11)
QPL	kg (lbs)	713.00 (1571.89)	541.70 (1194.24)	401.30 (884.71)	316.00 (696.66)	258.20 (569.23)	216.10 (476.42)	183.90 (405.43)
Deflection	mm (in)	9.10 (0.36)	23.50 (0.93)	41.80 (1.65)	65.50 (2.58)	94.60 (3.72)	129.20 (5.09)	169.40 (6.67)
FPL	kg (lbs)	586.00 (1291.91)	451.40 (995.17)	334.50 (737.45)	263.40 (580.70)	215.20 (474.43)	180.10 (397.05)	153.20 (337.75)
Deflection	mm (in)	9.50 (0.37)	24.90 (0.98)	44.30 (1.74)	69.30 (2.73)	99.90 (3.93)	136.30 (5.37)	178.50 (7.03)
UDL	kg (lbs)	623.30 (418.84)	361.10 (242.65)	200.70 (134.86)	126.40 (84.94)	86.10 (57.86)	61.80 (41.53)	46.00 (30.91)
Deflection	mm (in)	8.40 (0.33)	24.70 (0.97)	43.90 (1.73)	68.70 (2.70)	99.20 (3.91)	135.30 (5.33)	177.20 (6.98)

CPL	TPL	QPL	FPL	UDL
				
(Centre Point Load)	(Third Point Load)	(Quarter Point Load)	(Fifth Point Load)	(Uniformly Distributed Load)

All truss loading calculations and TUV certifications are based on:
 Truss supported or suspended at both ends • Static loadings only • Loads applied on the node points • Included self-weight of the trusses • Spans made of different truss lengths • Interaction of bending moment and shear force at connector • Structural calculations based on DIN EN 1999-1-1 and DIN EN 1999-1-1/A2 made in 2014 • To comply with BS 7905-2 / ANSI E12-2006 / CWA 15902-2 all loading data should be multiplied by 0.85 • For any other application, or in case of an assembled structure, contact Milos or a structural engineer • Safety factors used - self weight 1.35 / loading 1.5

7.2 Heavy duty

M390L DUO

LOADING CHART

Span	m (ft)	3.00 (9.84)	4.00 (13.12)	5.00 (16.40)	6.00 (19.69)	7.00 (22.97)	8.00 (26.25)	9.00 (29.53)
CPL	kg (lbs)	1249.30 (2754.23)	1154.60 (2545.45)	921.10 (2030.68)	765.00 (1686.53)	653.00 (1439.62)	568.80 (1253.99)	502.90 (1108.70)
Deflection	mm (in)	4.00 (0.16)	8.80 (0.35)	13.70 (0.54)	19.80 (0.78)	27.00 (1.06)	35.30 (1.39)	44.80 (1.76)
TPL	kg (lbs)	624.60 (1377.01)	623.20 (1373.92)	621.80 (1370.83)	573.70 (1264.79)	489.80 (1079.82)	426.60 (940.49)	377.20 (831.58)
Deflection	mm (in)	3.40 (0.13)	8.10 (0.32)	15.80 (0.62)	25.20 (0.99)	34.40 (1.35)	44.90 (1.77)	56.80 (2.24)
QPL	kg (lbs)	416.40 (918.00)	415.50 (916.02)	414.50 (913.81)	382.50 (843.27)	326.50 (719.81)	284.40 (626.99)	251.40 (554.24)
Deflection	mm (in)	3.20 (0.13)	7.50 (0.30)	14.70 (0.58)	23.50 (0.93)	32.00 (1.26)	41.80 (1.65)	52.90 (2.08)
FPL	kg (lbs)	312.30 (688.50)	311.60 (686.96)	310.90 (685.42)	310.20 (683.87)	272.10 (599.88)	237.00 (522.49)	209.50 (461.87)
Deflection	mm (in)	3.00 (0.12)	7.20 (0.28)	14.00 (0.55)	24.20 (0.95)	33.90 (1.33)	44.30 (1.74)	56.10 (2.21)
UDL	kg (lbs)	416.40 (279.81)	311.60 (209.39)	248.70 (167.12)	206.80 (138.96)	176.80 (118.80)	142.20 (95.55)	111.70 (75.06)
Deflection	mm (in)	2.50 (0.10)	5.90 (0.23)	11.60 (0.46)	20.10 (0.79)	31.90 (1.26)	43.90 (1.73)	55.60 (2.19)

DUO figures are based on use in vertical mode and stabilized every 1m

M390L TRIO

LOADING CHART

Span	m (ft)	6.00 (19.69)	8.00 (26.25)	10.00 (32.81)	12.00 (39.37)	14.00 (45.93)	16.00 (52.49)	18.00 (59.06)
CPL	kg (lbs)	654.90 (1443.81)	482.50 (1063.73)	377.10 (831.36)	305.20 (672.85)	252.40 (556.45)	211.50 (466.28)	178.70 (393.97)
Deflection	mm (in)	17.20 (0.68)	30.70 (1.21)	48.40 (1.91)	70.40 (2.77)	97.00 (3.82)	128.40 (5.06)	165.00 (6.50)
TPL	kg (lbs)	491.20 (1082.91)	361.90 (797.85)	282.80 (623.47)	228.90 (504.64)	189.30 (417.33)	158.60 (349.65)	134.00 (295.42)
Deflection	mm (in)	21.80 (0.86)	38.80 (1.53)	60.70 (2.39)	87.60 (3.45)	119.60 (4.71)	156.70 (6.17)	199.00 (7.83)
QPL	kg (lbs)	327.50 (722.01)	241.30 (531.97)	188.50 (415.57)	152.60 (336.43)	126.20 (278.22)	105.80 (233.25)	89.30 (196.87)
Deflection	mm (in)	20.30 (0.80)	36.20 (1.43)	56.70 (2.23)	82.00 (3.23)	112.20 (4.42)	147.50 (5.81)	188.00 (7.40)
FPL	kg (lbs)	272.90 (601.64)	201.00 (443.13)	157.10 (346.35)	127.10 (280.21)	105.20 (231.93)	88.10 (194.23)	74.40 (164.02)
Deflection	mm (in)	21.50 (0.85)	38.30 (1.51)	59.90 (2.36)	86.50 (3.41)	118.10 (4.65)	154.90 (6.10)	196.90 (7.75)
UDL	kg (lbs)	218.30 (146.69)	120.60 (81.04)	75.40 (50.67)	50.90 (34.20)	36.10 (24.26)	26.40 (17.74)	19.90 (13.37)
Deflection	mm (in)	21.30 (0.84)	38.00 (1.50)	59.50 (2.34)	85.90 (3.38)	117.30 (4.62)	153.90 (6.06)	195.60 (7.70)

TRIO figures are based on use in apex up/down orientation

M390L QUATRO

LOADING CHART

Span	m (ft)	6.00 (19.69)	8.00 (26.25)	10.00 (32.81)	12.00 (39.37)	14.00 (45.93)	16.00 (52.49)	18.00 (59.06)
CPL	kg (lbs)	1526.90 (3366.23)	1133.50 (2498.94)	894.70 (1972.47)	733.30 (1616.65)	616.10 (1358.27)	526.60 (1160.95)	455.40 (1003.98)
Deflection	mm (in)	19.80 (0.78)	35.40 (1.39)	55.60 (2.19)	80.50 (3.17)	110.30 (4.34)	145.30 (5.72)	185.60 (7.31)
TPL	kg (lbs)	1054.00 (2323.67)	850.10 (1874.15)	671.00 (1479.30)	550.00 (1212.54)	462.10 (1018.75)	394.90 (870.60)	341.50 (752.88)
Deflection	mm (in)	23.20 (0.91)	44.90 (1.77)	70.20 (2.76)	101.30 (3.99)	138.10 (5.44)	180.70 (7.11)	229.20 (9.02)
QPL	kg (lbs)	763.50 (1683.23)	566.70 (1249.36)	447.40 (986.35)	366.70 (808.43)	308.10 (679.24)	263.30 (580.48)	227.70 (501.99)
Deflection	mm (in)	23.50 (0.93)	41.80 (1.65)	65.50 (2.58)	94.50 (3.72)	129.10 (5.08)	169.20 (6.66)	215.00 (8.46)
FPL	kg (lbs)	618.90 (1364.44)	472.30 (1041.24)	372.80 (821.88)	305.60 (673.73)	256.70 (565.93)	219.40 (483.69)	189.70 (418.22)
Deflection	mm (in)	24.20 (0.95)	44.30 (1.74)	69.30 (2.73)	99.90 (3.93)	136.30 (5.37)	178.40 (7.02)	226.40 (8.91)
UDL	kg (lbs)	412.60 (277.25)	283.40 (190.44)	178.90 (120.22)	122.20 (82.11)	88.00 (59.13)	65.80 (44.22)	50.60 (34.00)
Deflection	mm (in)	20.10 (0.79)	43.90 (1.73)	68.80 (2.71)	99.20 (3.91)	135.30 (5.33)	177.10 (6.97)	224.80 (8.85)

M290x390 RECT

LOADING CHART

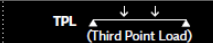
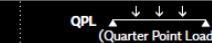
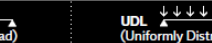
Span	m (ft)	4.00 (13.12)	5.00 (16.40)	6.00 (19.69)	7.00 (22.97)	8.00 (26.25)	9.00 (29.53)	10.00 (32.81)
CPL	kg (lbs)	1938.00 (4273.29)	1637.00 (3609.59)	1404.00 (3095.82)	1224.00 (2698.92)	1087.00 (2396.84)	970.00 (2138.85)	875.00 (1929.38)
Deflection	mm (in)	7.40 (0.29)	12.30 (0.48)	18.30 (0.71)	25.50 (0.99)	34.00 (1.33)	43.60 (1.70)	54.50 (2.13)
TPL	kg (lbs)	1278.00 (2817.99)	1103.00 (2432.12)	973.00 (2145.47)	859.00 (1894.10)	773.00 (1704.47)	697.00 (1536.89)	630.00 (1389.15)
Deflection	mm (in)	8.30 (0.32)	14.00 (0.55)	21.50 (0.84)	30.30 (1.18)	41.00 (1.60)	53.00 (2.07)	66.20 (2.58)
QPL	kg (lbs)	925.70 (2041.17)	883.00 (1947.02)	755.00 (1664.78)	650.80 (1435.01)	566.20 (1248.47)	500.00 (1102.50)	446.70 (984.97)
Deflection	mm (in)	8.40 (0.33)	15.60 (0.61)	23.20 (0.90)	32.00 (1.25)	41.80 (1.63)	53.00 (2.07)	65.50 (2.55)
FPL	kg (lbs)	694.30 (1530.93)	692.60 (1527.18)	604.00 (1331.82)	521.00 (1148.81)	462.00 (1018.71)	412.00 (908.46)	369.00 (813.65)
Deflection	mm (in)	8.00 (0.31)	15.60 (0.61)	23.70 (0.92)	32.60 (1.27)	43.40 (1.69)	55.60 (2.17)	68.60 (2.68)
UDL	kg (lbs)	694.30 (466.55)	554.10 (372.34)	460.50 (309.44)	371.90 (249.91)	283.10 (190.23)	222.20 (149.31)	178.70 (120.08)
Deflection	mm (in)	6.60 (0.26)	13.00 (0.51)	22.40 (0.87)	33.60 (1.31)	44.00 (1.72)	55.70 (2.17)	68.80 (2.68)

Span	11.00 (36.09)	12.00 (39.37)	13.00 (42.65)	14.00 (45.93)	15.00 (49.21)	16.00 (52.49)	18.00 (59.06)	20.00 (65.62)
CPL	789.00 (1739.75)	724.00 (1596.42)	662.00 (1459.71)	614.20 (1354.31)	566.50 (1249.13)	524.30 (1156.08)	452.90 (998.64)	394.40 (869.65)
Deflection	66.20 (2.58)	79.80 (3.11)	94.00 (3.67)	110.50 (4.31)	127.30 (4.96)	145.50 (5.67)	185.90 (7.25)	232.00 (9.05)
TPL	574.00 (1265.67)	532.00 (1173.06)	491.00 (1082.66)	451.00 (994.46)	421.00 (928.31)	393.30 (867.23)	339.70 (749.04)	295.80 (652.24)
Deflection	81.00 (3.16)	98.40 (3.84)	116.80 (4.56)	135.60 (5.29)	157.20 (6.13)	180.70 (7.05)	229.20 (8.94)	283.70 (11.06)
QPL	402.70 (887.95)	365.80 (806.59)	334.30 (737.13)	307.10 (677.16)	283.30 (624.68)	262.20 (578.15)	226.50 (499.43)	197.20 (434.83)
Deflection	79.30 (3.09)	94.60 (3.69)	111.10 (4.33)	129.10 (5.03)	148.50 (5.79)	169.30 (6.60)	215.20 (8.39)	266.90 (10.41)
FPL	335.60 (740.00)	304.90 (672.30)	278.60 (614.31)	255.90 (564.26)	236.00 (520.38)	218.50 (481.79)	188.70 (416.08)	164.30 (362.28)
Deflection	83.90 (3.27)	100.00 (3.90)	117.40 (4.58)	136.30 (5.32)	156.70 (6.11)	178.50 (6.96)	226.50 (8.83)	280.40 (10.94)
UDL	146.40 (98.38)	121.90 (81.91)	102.90 (69.15)	87.70 (58.93)	75.50 (50.73)	65.50 (44.01)	50.30 (33.80)	39.40 (26.48)
Deflection	83.30 (3.25)	99.20 (3.87)	116.60 (4.55)	135.30 (5.28)	155.60 (6.07)	177.20 (6.91)	224.90 (8.77)	278.50 (10.86)

M390 QUATRO - QTKT

LOADING CHART

Span	m (ft)	4.00 (13.12)	6.00 (19.69)	8.00 (26.25)	10.00 (32.81)	12.00 (39.37)	14.00 (45.93)	16.00 (52.49)
CPL	kg (lbs)	2299.40 (5069.31)	1515.40 (3340.89)	1118.10 (2464.99)	875.50 (1930.15)	710.20 (1565.72)	589.20 (1298.96)	495.70 (1092.83)
Deflection	mm (in)	6.50 (0.26)	14.60 (0.57)	26.10 (1.03)	41.10 (1.62)	59.70 (2.35)	82.20 (3.24)	108.70 (4.28)
TPL	kg (lbs)	1724.60 (3802.09)	1136.50 (2505.55)	838.50 (1848.58)	656.60 (1447.56)	532.70 (1174.40)	441.90 (974.22)	371.80 (819.68)
Deflection	mm (in)	8.20 (0.32)	18.50 (0.73)	33.00 (1.30)	51.60 (2.03)	74.50 (2.93)	101.60 (4.00)	133.10 (5.24)
QPL	kg (lbs)	1149.70 (2534.66)	757.70 (1670.44)	559.00 (1232.38)	437.70 (964.96)	355.10 (782.86)	294.60 (649.48)	247.90 (546.53)
Deflection	mm (in)	7.60 (0.30)	17.20 (0.68)	30.70 (1.21)	48.20 (1.90)	69.70 (2.74)	95.30 (3.75)	125.20 (4.93)
FPL	kg (lbs)	958.10 (2112.25)	631.40 (1392.00)	465.90 (1027.13)	364.80 (804.25)	295.90 (652.35)	245.50 (541.23)	206.60 (455.48)
Deflection	mm (in)	8.10 (0.32)	18.30 (0.72)	32.50 (1.28)	50.90 (2.00)	73.50 (2.89)	100.40 (3.95)	131.50 (5.18)
UDL	kg (lbs)	1149.70 (2534.66)	505.10 (1113.56)	279.50 (616.19)	175.10 (386.03)	118.40 (261.03)	84.20 (185.63)	62.00 (136.69)
Deflection	mm (in)	8.00 (0.31)	18.10 (0.71)	32.30 (1.27)	50.50 (1.99)	73.00 (2.87)	99.70 (3.93)	130.70 (5.15)

 CPL (Centre Point Load)	 TPL (Third Point Load)	 QPL (Quarter Point Load)	 FPL (Fifth Point Load)	 UDL (Uniformly Distributed Load)
All truss loading calculations and TUV certifications are based on: Truss supported or suspended at both ends • Static loadings only • Loads applied on the node points • Included self-weight of the trusses • Spans made of different truss lengths • Interaction of bending moment and shear force at connector • Structural calculations based on DIN EN 1999-1-1 and DIN EN 1999-1-1/A2 made in 2014 • To comply with BS 7905-2 / ANSI E1.2-2006 / CWA 15902-2 all loading data should be multiplied by 0.85 • For any other application, or in case of an assembled structure, contact Milos or a structural engineer • Safety factors used - self weight 1.35 / loading 1.5				

8 Approved accessories

For a complete overview of approved accessories, see our brochures or www.milosystems.com.



By using excessive force when tightening accessories such as lamp hooks or clamps, you may cause damage to the truss chords.



Pay special attention when using clamps or hooks. Their inside radius may not meet the tube they need to be attached to. This can lead to severe damage.

NOTICE

You should never allow accessories to damage other products.

9 Coatings and surface treatments

See MILOS Trusses User Manual, Part 1: General instructions.

10 Slinging methods

See MILOS Trusses User Manual, Part 1: General instructions.

11 Assembly and disassembly

See MILOS Trusses User Manual, Part 1: General instructions.

12 Maintenance

See MILOS Trusses User Manual, Part 1: General instructions.

13 Inspection

See MILOS Trusses User Manual, Part 1: General instructions.

14 Discard criteria

See MILOS Trusses User Manual, Part 1: General instructions.

15 Warranty

See MILOS Trusses User Manual, Part 1: General instructions.

16 Certificates

The TÜV certificates for this product are available at:

<https://www.milossystems.com/support/product-support/download-center>

Contact details:
MILOS s.r.o.
Spindlerova 286
413 01 Roudnice nad Labem
Czech Republic
T +420 416 810 800
info@milos.cz