



TC
60

TCS
60

TS
60

TSS
60

0.6" Travel Range Linear Stages (60 x 60 mm)

Optical Tables

Stages

Optical Mounts

Components

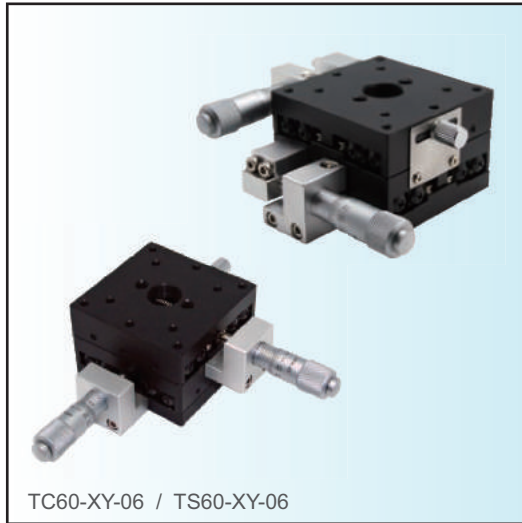
Motion Systems

Education Systems

Lasers

Optics & Crystals

Other Equipment



TC60-XY-06 / TS60-XY-06

Overview

- Stage Dimension : 60 x 60 mm
- Travel Range : 0.6" (± 7.5 mm)
- Stage Material : Aluminum
- 2 bearing types for selection
- Central / Side versions available
- Rail : (TC/TS) V-Grooved crossed roller bearing
- Rail : (TCS/TSS) Stainless steel V-Grooved crossed roller bearing
- Metric or Imperial versions available
- 100 pitch / 130 pitch screws or micrometer available □
- To order Imperial model please add * I - * to Item
- To order 130 pitch screws please add * F * to item

Specification

2

OPTIONS

of rail designs for high precision movement

1

Crossed Roller Bearing (AC)



TC/TS60-series

V-Grooved raceway on the dedicated rail for achieving high precision, stability and larger load capacity.

2

V-Grooved Crossed Roller Bearing (VC)



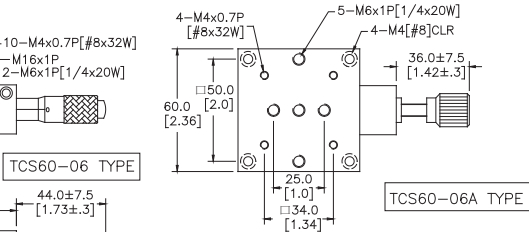
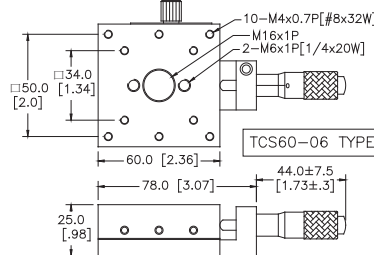
TCS/TSS60-series

Crossed-roller bearing preloaded provides smooth, stable and negligible backlash adjustment



Central Driven

TC / TCS-06

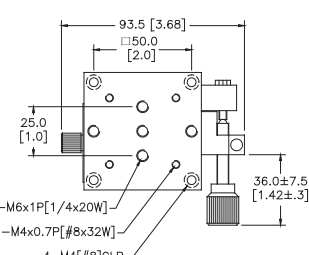
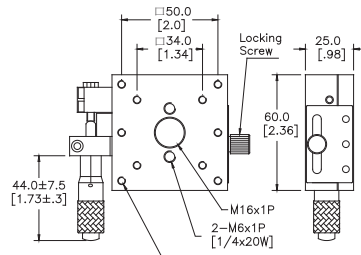


TC / TCS-06A



Side Driven

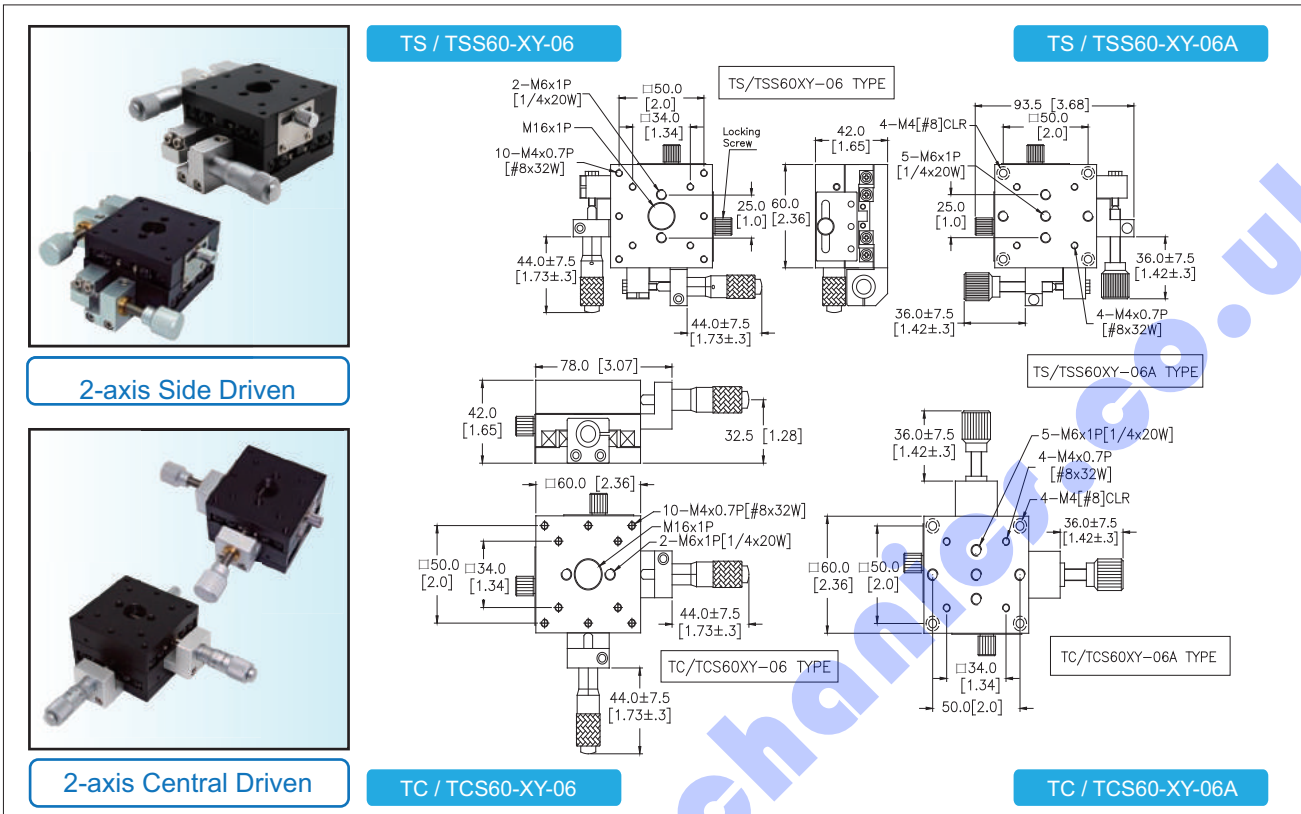
TS / TSS-06



TSS60-06 / 06A TYPE

TS / TSS-06A





Item Numbers

- **AC** = Crossed Roller Bearing / **VC** = Carbon Steel V-Grooved Crossed Roller Bearing
- **M** = Micrometer / **100** = 100 pitch screw / **130** = 130 pitch screw
- **I** = To order Imperial model please add * I - * to Item number

TC60 / TCS60 - series

Item Number	Drive Type	Travel Guide	Repeatability (mm)	Moving Parallelism (mm)	Read Resolution (mm)	Travel Range (mm)	Weight / Load (kg)
TC60-06	M	AC	0.005	± 0.005	0.01	± 7.5	0.31 / 10
TC60-06A	100	AC	0.005	± 0.005	----	± 7.5	0.30 / 10
TC60-06F	130	AC	0.005	± 0.005	----	± 7.5	0.30 / 10
TCS60-06	M	VC	0.003	± 0.003	0.01	± 7.5	0.33 / 20
TCS60-06A	100	VC	0.003	± 0.003	----	± 7.5	0.32 / 20
TCS60-06F	130	VC	0.003	± 0.003	----	± 7.5	0.32 / 20

TS60 / TSS60 - series

Item Number	Drive Type	Travel Guide	Repeatability (mm)	Moving Parallelism (mm)	Read Resolution (mm)	Travel Range (mm)	Weight / Load (kg)
TS60-06	M	AC	0.005	± 0.005	0.01	± 7.5	0.31 / 10
TS60-06A	100	AC	0.005	± 0.005	----	± 7.5	0.30 / 10
TS60-06F	130	AC	0.005	± 0.005	----	± 7.5	0.30 / 10
TSS60-06	M	VC	0.003	± 0.003	0.01	± 7.5	0.33 / 20
TSS60-06A	100	VC	0.003	± 0.003	----	± 7.5	0.32 / 20
TSS60-06F	130	VC	0.003	± 0.003	----	± 7.5	0.32 / 20

► More product information and item numbers for TCS / TSS60-series in the following page



- **AC** = Crossed Roller Bearing / **VC** = Carbon Steel V-Grooved Crossed Roller Bearing
- **M** = Micrometer / **100** = 100 pitch screw / **130** = 130 pitch screw
- **I** = To order Imperial model please add * I - * to Item number

TC60XY / TCS60XY - series

Item Number	Drive Type	Travel Guide	Repeatability (mm)	Moving Parallelism (mm)	Read Resolution (mm)	Travel Range (mm)	Weight / Load (kg)
TC60-XY-06	M	AC	0.005	± 0.005	0.01	± 7.5	0.31 / 0.33
TC60-XY-06A	100	AC	0.005	± 0.005	----	± 7.5	0.30 / 0.32
TC60-XY-06F	130	AC	0.005	± 0.005	----	± 7.5	0.30 / 0.32
TCS60-XY-06	M	VC	0.003	± 0.003	0.01	± 7.5	0.31 / 0.33
TCS60-XY-06A	100	VC	0.003	± 0.003	----	± 7.5	0.30 / 0.32
TCS60-XY-06F	130	VC	0.003	± 0.003	----	± 7.5	0.30 / 0.32

TS60XY / TSS60XY - series

Item Number	Drive Type	Travel Guide	Repeatability (mm)	Moving Parallelism (mm)	Read Resolution (mm)	Travel Range (mm)	Weight / Load (kg)
TS60-XY-06	M	AC	0.005	± 0.005	0.01	± 7.5	0.31 / 0.33
TS60-XY-06A	100	AC	0.005	± 0.005	----	± 7.5	0.30 / 0.32
TS60-XY-06F	130	AC	0.005	± 0.005	----	± 7.5	0.30 / 0.32
TSS60-XY-06	M	VC	0.003	± 0.003	0.01	± 7.5	0.31 / 0.33
TSS60-XY-06A	100	VC	0.003	± 0.003	----	± 7.5	0.30 / 0.32
TSS60-XY-06F	130	VC	0.003	± 0.003	----	± 7.5	0.30 / 0.32



Mitutoyo Micrometer

Utilizing Mitutoyo micrometer head 110 – 502 to reach 0.5 um reading figure. (used by TCS & TSS 60-series)

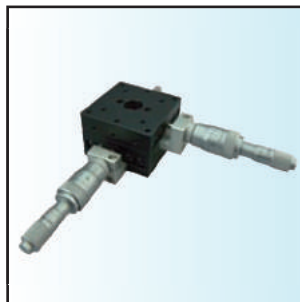
TCS60 / TSS60 - P series

Item Number	Drive Type	Travel Guide	Reading Figure (um)
TCS60-06P	P	VC	0.5
TCS60-XY-06P	P	VC	0.5
TSS60-XY-06P	P	VC	0.5
TSS60-XY-06P	P	VC	0.5

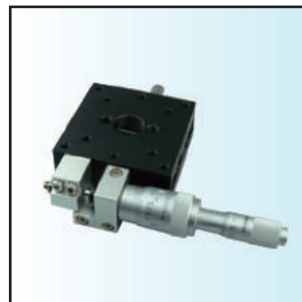
- **P** = Mitutoyo Micrometer



TCS60-06P



TCS60-XY-06P



TSS60-06P



TSS60-XY-06P

◀ More product information of TC / TS / TCS / TSS 60-series from the previous page

1" Travel Range Linear Stages (53 x 53 mm)




TCM53-XYZ-1


Overview

- Stage Dimension : 53 x 53 mm
- Travel Range : 1" (± 12.7 mm)
- Moving Parallelism : ± 0.005 mm
- Repeatability : 0.005 mm
- Loading : 2 kg
- Stage Material : Aluminum
- Central driven
- Micrometer or 100 pitch screws available
- To order Imperial model please add * I- * to Item number
- Unique mechanic design allows free movement of the central bearing block without moving the upper and lower plate.

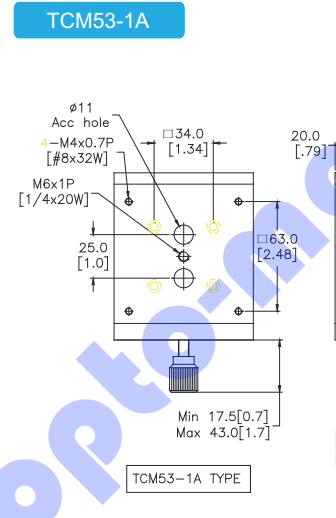
Specification



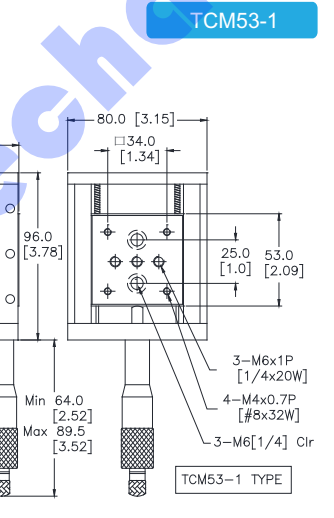
TCM53-1A



TCM53-1



TCM53-1A TYPE

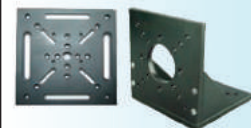


TCM53-1 TYPE

Related PRODUCTS

Related products for stages assemblies

Baseplate and Angle Bracket



D. 32 D. 43

SB-5 / AB-2

Item Numbers

- **M** = Micrometer / **100** = 100 pitch screw / **130** = 130 pitch screw / **AC** = Crossed Roller Bearing

Item Number	Drive Type (mm)	Travel Guide	Repeatability (mm)	Moving Parallelism (mm)	Read Resolution (mm)	Travel Range (mm)	Weight / Load (kg)
TCM53-1	M	AC	0.005	± 0.005	0.01	± 12.7	0.42 / 2
TCM53-1A	100	AC	0.005	± 0.005	----	± 12.7	0.31 / 2
TCM53-XY-1	M	AC	0.005	± 0.005	----	± 12.7	--- / 2
TCM53-XY-1A	100	AC	0.005	± 0.005	----	± 12.7	--- / 2
TCM53-XYZ-1	M	AC	0.005	± 0.005	----	± 12.7	--- / 2
TCM53-XYZ-1A	100	AC	0.005	± 0.005	----	± 12.7	--- / 2

- **I** = To order Imperial model please add * I- * to Item number



TS
65

TSS
65

1" Travel Range Linear Stages (65 x 65 mm)

Optical Tables

Stages

Optical Mounts

Components

Motion Systems

Education Systems

Lasers

Optics & Crystals

Other Equipment



TS65-XYZ-1

Overview

- Stage Dimension : 65 x 65 mm
- Travel Range : 1" (± 12.7 mm)
- Weight: 0.36 ~ 0.40 kg for single axis
- Load capacity: 10 ~ 20 kg
- Stage Material : Aluminum (black anodized)
- Micrometer driven at central or side position
- Additional locking plate for great stability (extra charges applied)
- Metric / Imperial versions are available
- 100 pitch adjustment screws or micrometer available
- To order Imperial model please add * I- * to Item

Specification

2

OPTIONS

of rail & bearing type for better precision movement

1

Crossed Roller Bearing (AC)



TS65-series

V-Grooved raceway on the dedicated rail for achieving high precision, stability and larger load capacity.

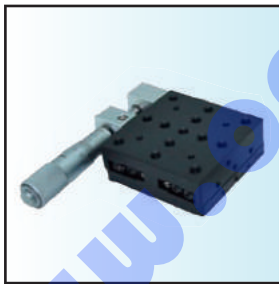
2

V-Grooved Crossed Roller Bearing



TSS65-series

Crossed-roller bearing preloaded provides smooth, stable and negligible backlash adjustment



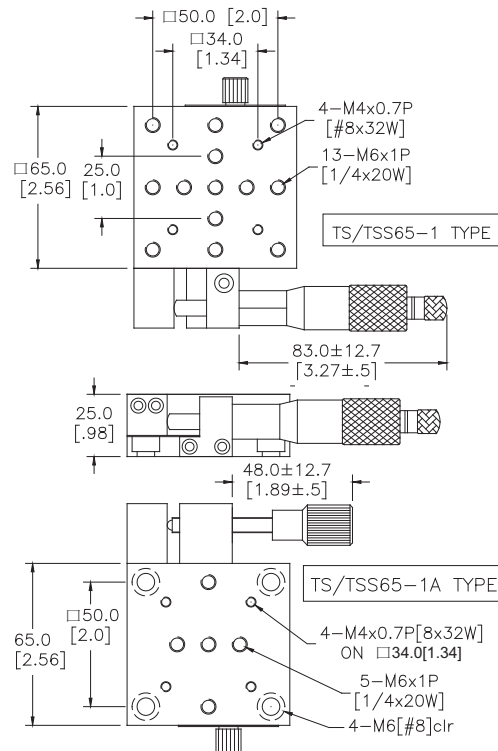
TS65 / TSS65 - 1

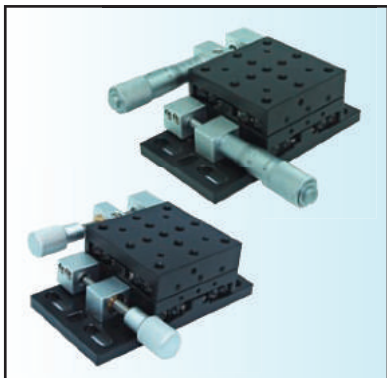
TS65 / TSS65 - 1



TS65 / TSS65 - 1A

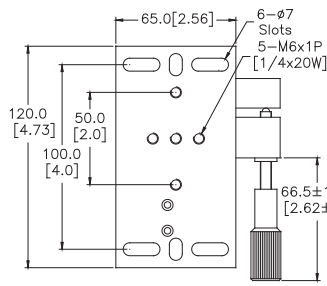
TS65 / TSS65 - 1A





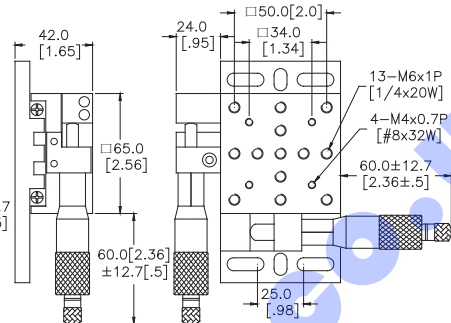
XY-axis Stages

TS65 / TSS65 -XY-1A

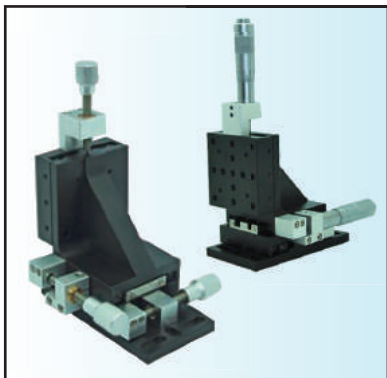


TS/TSS65XY-1 Type

TS65 / TSS65 -XY-1

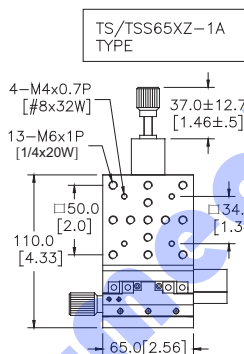


TS/TSS65XY-1 Type

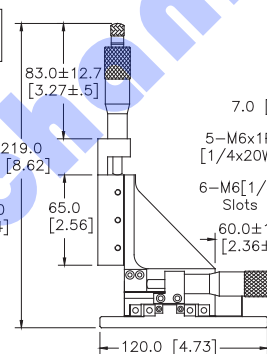


XYZ-axis Stages

TS65 / TSS65 -XYZ-1A

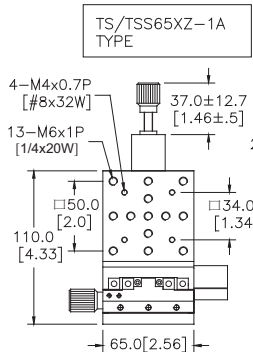


TS/TSS65XZ-1A TYPE

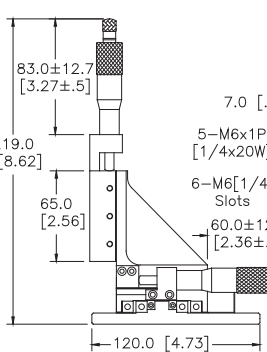


TS/TSS65XZ-1 TYPE

TS65 / TSS65 -XZ-1A



TS/TSS65XZ-1A TYPE



TS/TSS65XZ-1 TYPE



XZ-axis Stages

► Item numbers for TS / TSS 65-series, please see the following page



AB-65

● D. 43

Related PRODUCTS
 Related products for stages assemblies



Item Numbers

- **AC** = Crossed Roller Bearing / **VC** = Carbon Steel V-Grooved Crossed Roller Bearing
- **M** = Micrometer / **100** = 100 pitch screw / **130** = 130 pitch screw
- **I** = To order Imperial model please add *I-* to Item number

1-axis

Item Number	Drive Type	Travel Guide	Moving Parallelism (mm)	Straightness of Travel (mm)	Travel Range (mm)	Repeatability (mm)	Weight / Load (kg)
TS65-1	M	AC	± 0.005	± 0.025	± 12.7	0.005	0.37 / 10
TS65-1A	100	AC	± 0.005	± 0.025	± 12.7	0.005	0.36 / 10
TSS65-1	M	CC	± 0.003	± 0.01	± 12.7	0.003	0.40 / 20
TSS65-1A	100	CC	± 0.003	± 0.01	± 12.7	0.003	0.39 / 20
TSS65-1V	M	CC	± 0.002	± 0.005	± 12.7	0.003	0.40 / 20

XY-axis

Item Number	Drive Type	Travel Guide	Moving Parallelism (mm)	Straightness of Travel (mm)	Travel Range (mm)	Repeatability (mm)	Weight / Load (kg)
TS65-XY-1	M	AC	± 0.01	± 0.025	± 12.7	0.005	0.7 / 10
TS65-XY-1A	100	AC	± 0.01	± 0.025	± 12.7	0.005	0.6 / 10
TSS65-XY-1	M	VC	± 0.006	± 0.01	± 12.7	0.003	0.9 / 20
TSS65-XY-1A	100	VC	± 0.006	± 0.01	± 12.7	0.003	0.85 / 20
TSS65-XY-1V	M	VC	± 0.004	± 0.005	± 12.7	0.003	0.9 / 20

XYZ-axis

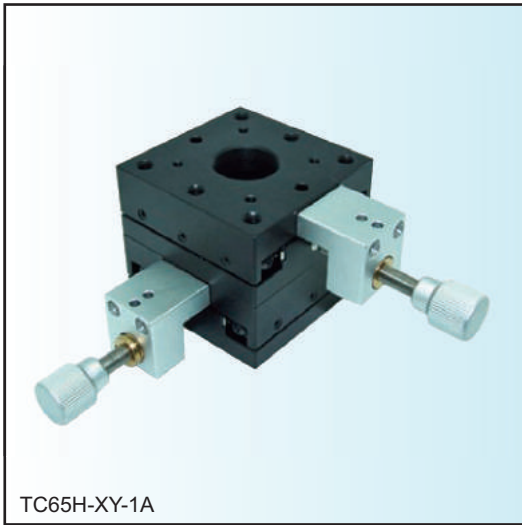
Item Number	Drive Type	Travel Guide	Moving Parallelism (mm)	Straightness of Travel (mm)	Travel Range (mm)	Repeatability (mm)	Weight / Load (XY) (Y) (kg)
TS65-XYZ-1	M	AC	± 0.01	± 0.025	± 12.7	0.005	1.24 / (XY)10(Y)5
TS65-XYZ-1A	100	AC	± 0.01	± 0.025	± 12.7	0.005	1.22 / (XY)10(Y)5
TSS65-XYZ-1	M	VC	± 0.006	± 0.01	± 12.7	0.003	1.24 / (XY)20(Y)10
TSS65-XYZ-1A	100	VC	± 0.006	± 0.01	± 12.7	0.003	1.22 / (XY)20(Y)10
TSS65-XYZ-1V	M	VC	± 0.004	± 0.005	± 12.7	0.003	1.24 / (XY)20(Y)10

XZ-axis

Item Number	Drive Type	Travel Guide	Moving Parallelism (mm)	Straightness of Travel (mm)	Travel Range (mm)	Repeatability (mm)	Weight / Load (XY) (Y) (kg)
TS65-XZ-1	M	AC	± 0.01	± 0.025	± 12.7	0.005	0.74 / (XY)10(Y)5
TS65-XZ-1A	100	AC	± 0.01	± 0.025	± 12.7	0.005	0.72 / (XY)10(Y)5
TSS65-XZ-1	M	VC	± 0.006	± 0.01	± 12.7	0.003	0.74 / (XY)20(Y)10
TSS65-XZ-1A	100	VC	± 0.006	± 0.01	± 12.7	0.003	0.72 / (XY)20(Y)10
TSS65-XZ-1V	M	VC	± 0.004	± 0.01	± 12.7	0.003	0.74 / (XY)20(Y)10

◀ Item numbers for TS / TSS 65-series, please see the following page


1" Travel Range Linear Stages (65 x 65mm)



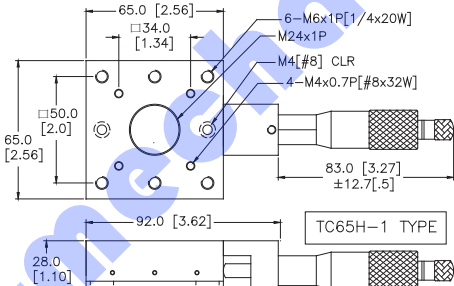
Overview

- Stage Dimension : 65 x 65 mm (central hole design)
- Travel Range : 1" (± 12.7 mm)
- Stage Material : Aluminum (black anodized)
- M24x1P thread aperture in stage center
- Rail: V-Grooved crossed roller bearing
- Micrometer / Leadscrew at central driven
- Moving Parallelism : ± 0.005mm
- Repeatability : 0.005mm / Reading Figure : 0.01 mm
- Weight: TC65H-1A (0.27kg) / TC65H-1 (0.28kg)
- Load Capacity : 10kg
- 100 pitch screws or micrometer available
- To order Imperial model please add * I- * to Item
- To order 130 pitch screws please add * F * to item

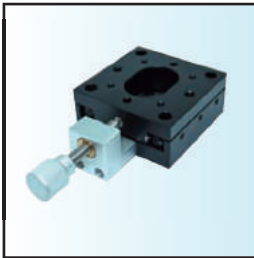
Specification



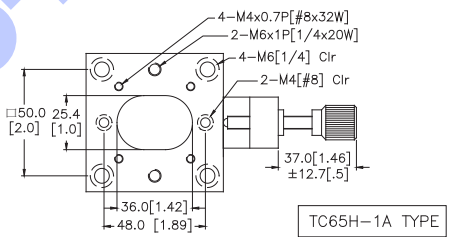
TC65H-1



65.0 [2.56]
34.0 [1.34]
65.0 [2.0]
50.0 [2.0]
65.0 [2.56]
6-M6x1P[1/4x20W]
M24x1P
M4[#8] CLR
4-M4x0.7P[#8x32W]
83.0 [3.27] ±12.7[.5]
92.0 [3.62]
28.0 [1.10]
TC65H-1 TYPE



TC65H-1A

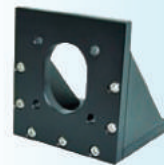


4-M4x0.7P[#8x32W]
2-M6x1P[1/4x20W]
4-M6[1/4] Clr
2-M4[#8] Clr
50.0 [2.0]
25.4 [1.0]
36.0 [1.42]
48.0 [1.89]
37.0 [1.46] ±12.7[.5]
TC65H-1A TYPE

Related PRODUCTS

Related products for stages assemblies

90° Angle Bracket



D. 43

AB-65

Item Numbers

- **M** = Micrometer / **100** = 100 pitch screw / **130** = 130 pitch screw / **AC** = Crossed Roller Bearing
- **I** = To order Imperial model please add * I- * to Item number

Item Number	Drive Type (mm)	Travel Guide	Repeatability (mm)	Moving Parallelism (mm)	Read Resolution (mm)	Travel Range (mm)	Weight / Load (kg)
TC65H-1	M	AC	0.005	± 0.005	0.01	± 12.7	0.28 / 10
TC65H-1A	100	AC	0.005	± 0.005	----	± 12.7	0.27 / 10
TC65H-XY-1	M	AC	0.005	± 0.005	----	± 12.7	--- / 10
TC65H-XY-1A	100	AC	0.005	± 0.005	----	± 12.7	--- / 10
TC65H-XYZ-1	M	AC	0.005	± 0.005	----	± 12.7	--- / 10
TC65H-XYZ-1A	100	AC	0.005	± 0.005	----	± 12.7	--- / 10



TC
80

TS
80

TCS
80

TSS
80

1" Travel Range Linear Stages (80 x 80 mm)

Optical Tables

Stages

Optical Mounts

Components

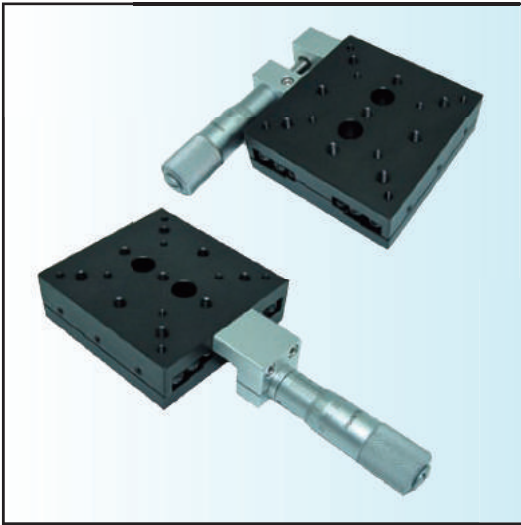
Motion Systems

Education Systems

Lasers

Optics & Crystals

Other Equipment



Overview

- Stage Dimension : 80 x 80 mm
- Travel Range : 1" (± 12.7 mm)
- Load capacity: 40 kg
- Reading Figure : 0.01 mm
- 2 kind of rail designs for precision movement
- Stage Material : Aluminum (black anodized)
- Micrometer or 100 pitch adjustment screw driven at central or side position
- Additional locking plate for great stability (extra charges applied)
- Metric / Imperial versions available
- To order Imperial model please add * I - * to Item numbers

Specification

2

OPTIONS
of rail designs for better precision movement

1

Crossed Roller Bearing (AC)



TC/TS80-series

V-Grooved raceway on the dedicated rail for achieving high precision, stability and larger load capacity.

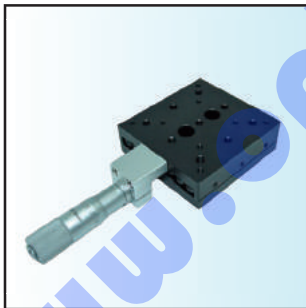
2

V-Grooved Crossed Roller Bearing (VC)



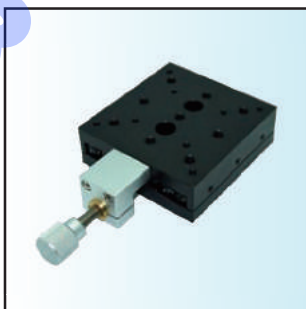
TCS/TSS80-series

Crossed-roller bearing preloaded provides smooth, stable and negligible backlash adjustment



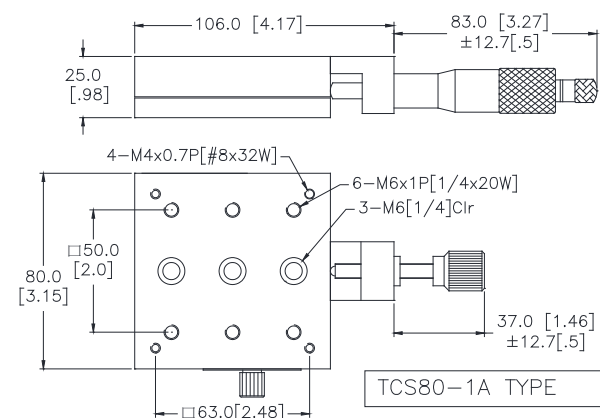
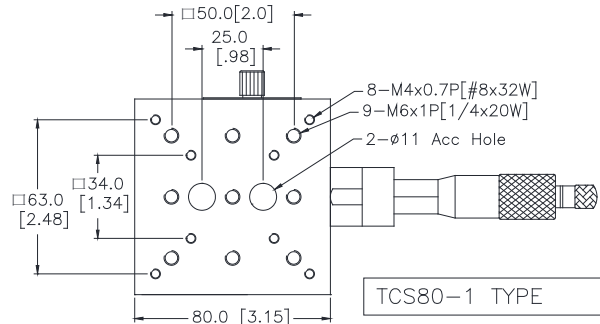
TC / TCS80-1 Central

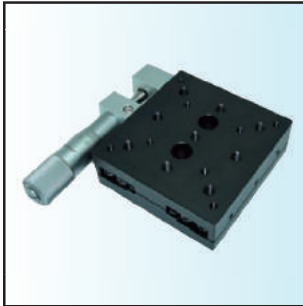
TC / TCS80 - 1



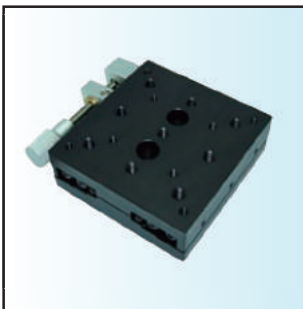
TC / TCS80-1A Central

TC / TCS80 - 1A





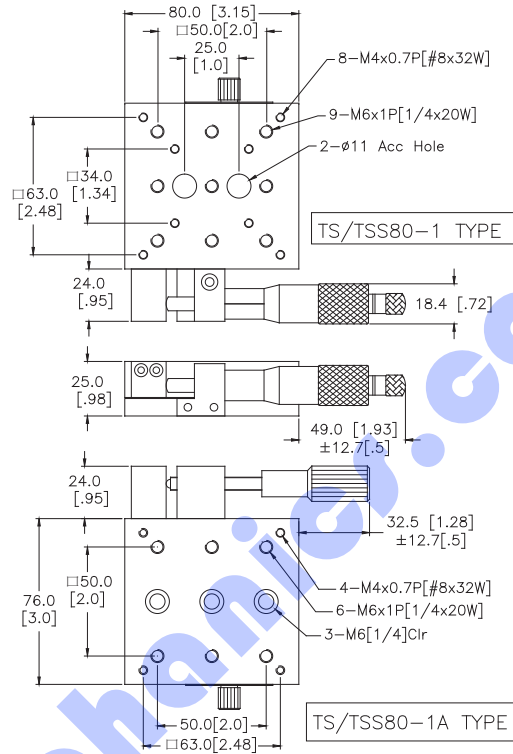
TS / TSS80-1 Side



TS / TSS80-1A Side

TC / TCS80 - 1

TC / TCS80 - 1A



Related

PRODUCTS

Related products for stages assemblies



90° Angle Bracket

1. AB-1N
2. AB-2
3. AB-3

Item Numbers

Item Number	Drive Type	Travel Guide	Repeatability (mm)	Moving Parallelism (mm)	Straightness of Travel (mm)	Travel Range (mm)	Weight / Load (kg)
TC80-1	M	AC	0.005	(X)±0.005 (Y)±0.01	± 0.025	± 12.7	0.56 / 10
TC80-1A	100	AC	0.005	(X)±0.005 (Y)±0.01	± 0.025	± 12.7	0.55 / 10
TCS80-1	M	VC	0.003	(X)±0.003 (Y)±0.006	± 0.01	± 12.7	0.56 / 20
TCS80-1A	100	VC	0.003	(X)±0.003 (Y)±0.006	± 0.01	± 12.7	0.55 / 20
Item Number	Drive Type	Travel Guide	Repeatability (mm)	Moving Parallelism (mm)	Straightness of Travel (mm)	Travel Range (mm)	Weight / Load (kg)
TS80-1	M	AC	0.005	(X)±0.005 (Y)±0.01	± 0.025	± 12.7	0.56 / 10
TS80-1A	100	AC	0.005	(X)±0.005 (Y)±0.01	± 0.025	± 12.7	0.55 / 10
TSS80-1	M	VC	0.003	(X)±0.003 (Y)±0.006	± 0.01	± 12.7	0.56 / 20
TSS80-1A	100	VC	0.003	(X)±0.003 (Y)±0.006	± 0.01	± 12.7	0.55 / 20

• **M** = Micrometer / **100** = 100 pitch screw / **130** = 130 pitch screw / **AC** = Crossed Roller Bearing / **VC** = Carbon Steel V-Grooved Crossed Roller Bearing / **I** = To order Imperial model please add *I-* to Item number



TCS
80

TSS
80

Linear Stages with Digital Display Micrometer

Optical Tables

Stages

Optical Mounts

Components

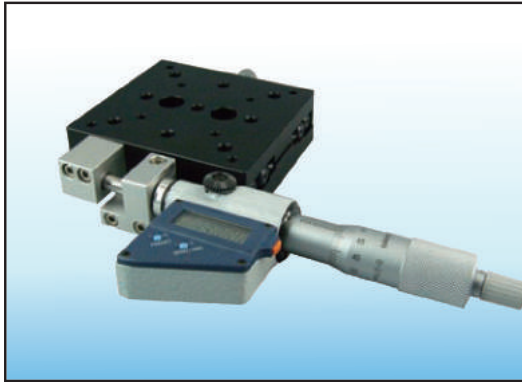
Motion Systems

Education Systems

Lasers

Optics & Crystals

Other Equipment



TSS80-1D

TCS80-1D

1um Linear Stage with Digital Display Micrometer (80 x 80 mm)

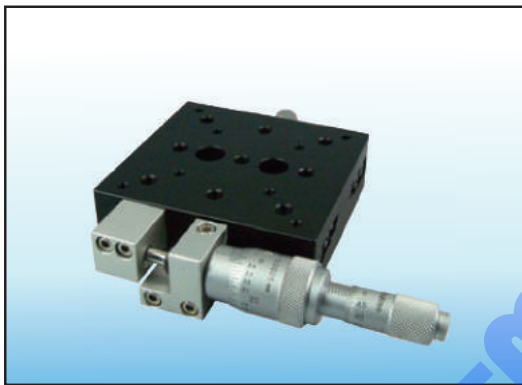
Overview

- Stage Dimension : 80 x 80 mm
- Micrometer Type : Mitutoyo 350-511-30 micrometer head
- Rail : Stainless steel V-grooved crossed roller bearing
- Stage Material : Aluminum
- Driving Position : Side
- Additional locking screw on the side

1um digital display micrometer can be applied to Stages with platform dimension larger than 60x60mm.

Item Number	Drive Type	Reading Figure	Travel Guide
TSS80-1D	D	1 um	VC
TCS80-1D	D	1 um	VC

• **D** = 1um



TSS80-05P

TCS80-05P

0.5um Linear Stage with Digital Display Micrometer (80 x 80 mm)

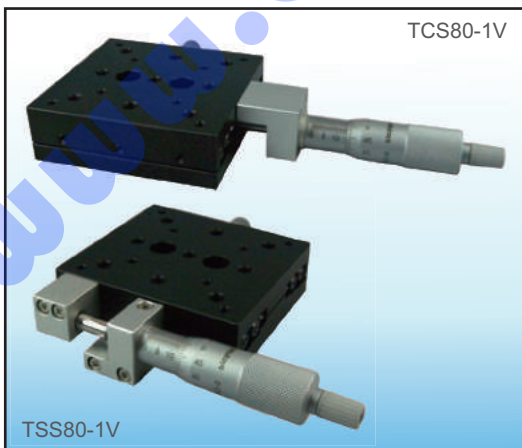
Overview

- Stage Dimension : 80 x 80 mm
- Micrometer Type : Mitutoyo 110-502 micrometer head
- Rail : Stainless steel V-grooved crossed roller bearing
- Stage Material : Aluminum
- Driving Position : Side
- Additional locking screw on the side

Mitutoyo 110-502 digital display micrometer can be applied to Stages with platform dimension larger than 60x60mm.

Item Number	Drive Type	Reading Figure	Travel Guide
TSS80-05P	P	0.5 um	VC
TCS80-05P	P	0.5 um	VC

• **P** = Mitutoyo 110-502 micrometer head



TCS80-1V

TCS80-1V

TSS80-1V

1um Linear Stage with Digital Display Micrometer (80 x 80 mm)

Overview

- Stage Dimension : 80 x 80 mm
- Micrometer Type : Mitutoyo 150-190 micrometer head
- Rail : Stainless steel V-grooved crossed roller bearing
- Stage Material : Aluminum
- Driving Position : Center / Side
- Additional locking screw on the side

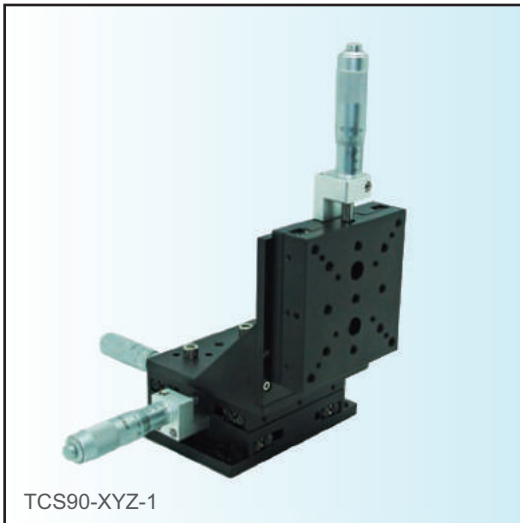
Mitutoyo 150-190 digital display micrometer can be applied to Stages with platform dimension larger than 60x60mm.

Item Number	Drive Type	Reading Figure	Travel Guide
TSS80-1V	V	1 um	VC
TCS80-1V	V	1 um	VC

• **V** = Mitutoyo 150-190 micrometer head



1" Travel Range Linear Stages (90 x 90 mm)



Overview

- Stage Dimension : 90 x 90 mm
- Travel Range : 1" (± 12.7 mm)
- Reading Figure : 0.01 mm
- Stage Material : Aluminum (black anodized)
- Central / Side Driven with micrometer or adjustment screw
- Additional locking plate for greater stability
- Rail (TC/TS) : V-Grooved crossed roller bearing
- Rail (TCS/TSS) : Stainless steel V-Grooved crossed roller bearing
- Allows assembly of 2 or 3-axis stages with angle bracket
- Accept customized dimension of bottom plate
- Metric / Imperial versions available
- 100 pitch adjustment screws or micrometer available
- To order Imperial model please add * I - * to Item number

Specification

2

OPTIONS
of rail designs for better precision movement

1

Crossed Roller Bearing (AC)



TC/TS90-series

V-Grooved raceway on the dedicated rail for achieving high precision, stability and larger load capacity.

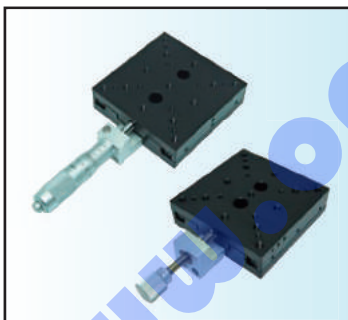
2

V-Grooved Crossed Roller Bearing (VC)



TCS/TSS90-series

Crossed-roller bearing preloaded provides smooth, stable and negligible backlash adjustment

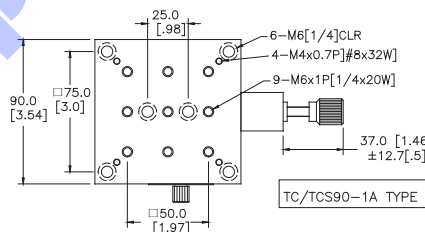


TC90 / TCS90 - Central

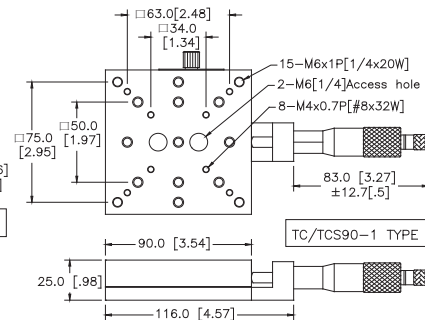


TS90 / TSS90 - Side

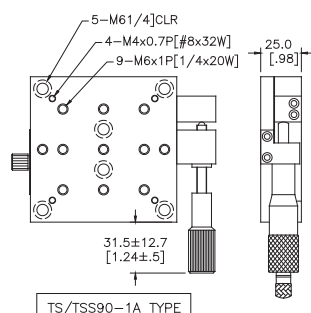
TC90 / TCS90 - 1A



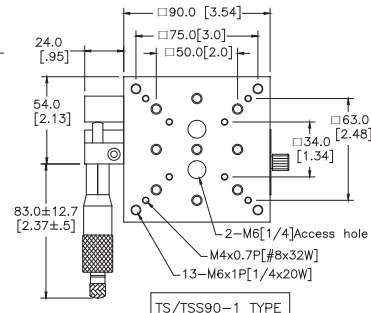
TC90 / TCS90 - 1



TS90 / TSS90 - 1A



TS90 / TSS90 - 1



► Please see the following page for more product information for TC / TCS / TS / TSS 90-series



Optical Tables

Stages

Optical Mounts

Components

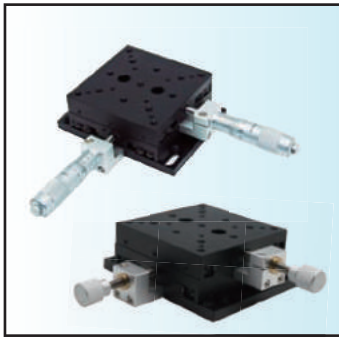
Motion Systems

Education Systems

Lasers

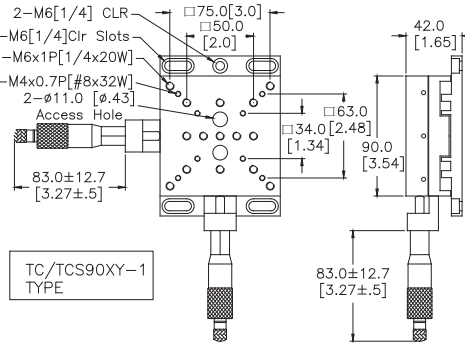
Optics & Crystals

Other Equipment

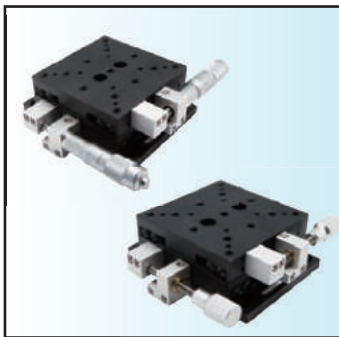
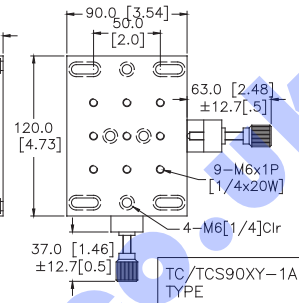


XY-axis Central

TC90 / TCS90-XY-1

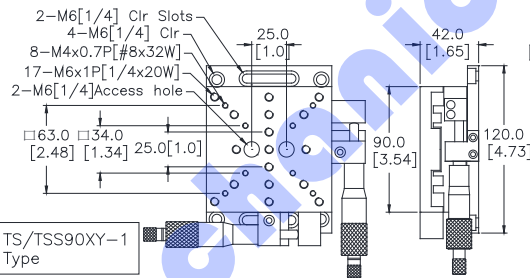


TC90 / TCS90-XY-1A

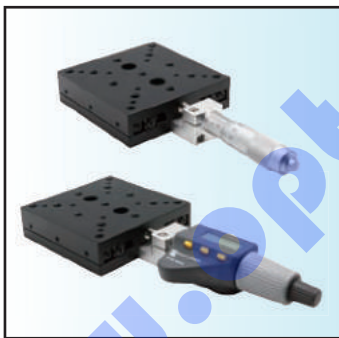
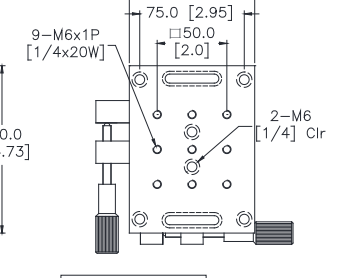


XY-axis Side

TS90 / TSS90-XY-1

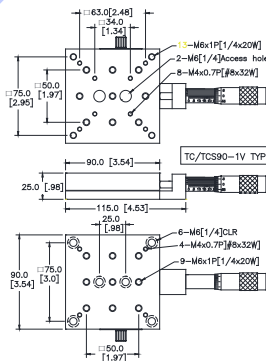


TS90 / TSS90-XY-1A

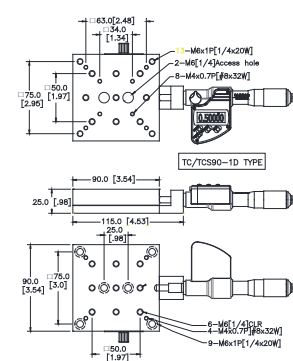


TC90 / TCS90-1V / 1D

TC90 / TCS90-1V

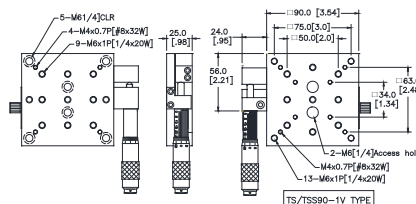


TC90 / TCS90-1D

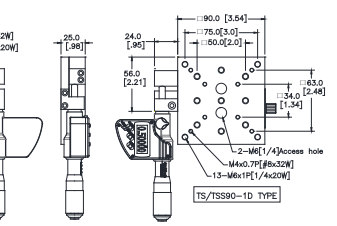


TS90 / TSS90-1V / 1D

TS90 / TSS90-1V



TS90 / TSS90-1D



Please see the previous page for more product information for TC / TCS / TS / TSS 90-series



Item Numbers

- **M** = Micrometer / **100** = 100 pitch screw / **130** = 130 pitch screw / **I** = To order Imperial model please add *I-* to Item number
- **AC** = Crossed Roller Bearing / **VC** = Carbon Steel V-Grooved Crossed Roller Bearing

Item Number	Drive Type	Travel Guide	Repeatability (mm)	Moving Parallelism (mm)	Straightness of Travel (mm)	Travel Range (mm)	Weight / Load (kg)
TC90-1	M	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 12.7	1.09 / 12
TC90-1A	100	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 12.7	1.10 / 12
TCS90-1	M	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	1.09 / 25
TCS90-1A	100	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	1.10 / 25
TCS90-1V	M	VC	0.001	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	1.09 / 25
TCS90-1D	M	VC	0.001	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	1.2 / 25
TC90-XY-1	M	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 12.7	1.0 / 12
TC90-XY-1A	100	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 12.7	0.9 / 12
TCS90-XY-1	M	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	1.2 / 25
TCS90-XY-1A	100	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	1.0 / 25
TCS90-XY-1V	M	VC	0.001	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	1.0 / 25
TCS90-XY-1D	M	VC	0.001	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	1.3 / 25
TC90-XYZ-1	M	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 12.7	2.0 / 12
TC90-XYZ-1A	100	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 12.7	1.7 / 12
TCS90-XYZ-1	M	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	2.5 / 25
TCS90-XYZ-1A	100	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	2.1 / 25
TCS90-XYZ-1V	M	VC	0.001	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	2.5 / 25
TCS90-XYZ-1D	M	VC	0.001	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	2.6 / 25

Item Number	Drive Type	Travel Guide	Repeatability (mm)	Moving Parallelism (mm)	Straightness of Travel (mm)	Travel Range (mm)	Weight / Load (kg)
TS90-1	M	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 12.7	0.6 / 12
TS90-1A	100	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 12.7	0.58 / 12
TSS90-1	M	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	0.8 / 25
TSS90-1A	100	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	0.78 / 25
TSS90-1V	M	VC	0.001	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	0.8 / 25
TSS90-1D	M	VC	0.001	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	0.84 / 25
TS90-XY-1	M	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 12.7	--- / 12
TS90-XY-1A	100	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 12.7	--- / 12
TSS90-XY-1	M	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	--- / 25
TSS90-XY-1A	100	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	--- / 25
TSS90-XY-1D	M	VC	0.001	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	--- / 25
TSS90-XY-1V	M	VC	0.001	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	--- / 25
TS90-XYZ-1	M	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 12.7	--- / 12
TS90-XYZ-1A	100	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 12.7	--- / 12
TSS90-XYZ-1	M	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	--- / 25
TSS90-XYZ-1A	100	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	--- / 25
TSS90-XYZ-1D	M	VC	0.001	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	--- / 25
TSS90-XYZ-1V	M	VC	0.001	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	--- / 25

Optical Tables

Stages

Optical Mounts

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Education Systems

Lenses

Optics & Crystals

Other Equipment



TC
90H

TS
90H

TCS
90H

TSS
90H

1" Travel Range Linear Stages (90 x 90 mm Center Hole)

Optical Tables

Stages

Optical Mounts

Components

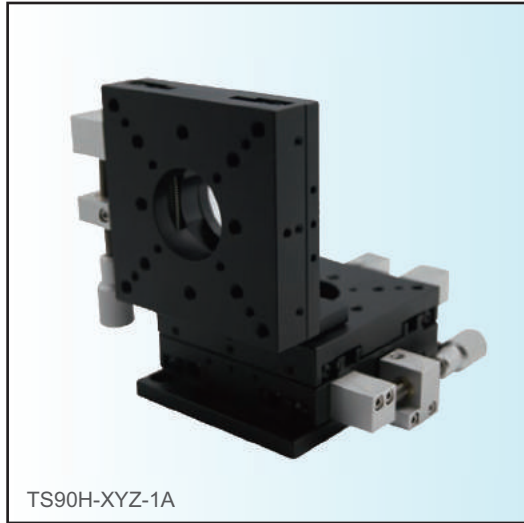
Motion Systems

Education Systems

Lasers

Optics & Crystals

Other Equipment



TS90H-XYZ-1A

Overview

- Stage Dimension : 90 x 90 mm
- Travel Range : 1" (± 12.7 mm)
- Stage Material : Aluminum (black anodized)
- Rail : (TC/TS) V-Grooved crossed roller bearing
- Rail : (TCS/TSS) Stainless steel V-Grooved crossed roller bearing
- Ø36mm Aperture in the platform center
- Central / Side Driven
- Additional locking plate for greater stability
- Allows assembly of 2 or 3-axis stages with angle brackets
- 100 pitch adjustment screws or micrometer available
- Metric / Imperial versions available
- To order Imperial model please add * I - * to Item

Specification

2

OPTIONS

of rail & bearing type for better precision movement

1

Crossed Roller Bearing (AC)



TC/TS90H-series

V-Grooved raceway on the dedicated rail for achieving high precision, stability and larger load capacity.

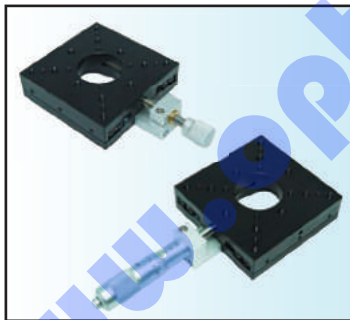
2

V-Grooved Crossed Roller Bearing (VC)



TCS/TSS90H-series

Crossed-roller bearing preloaded provides smooth, stable and negligible backlash adjustment

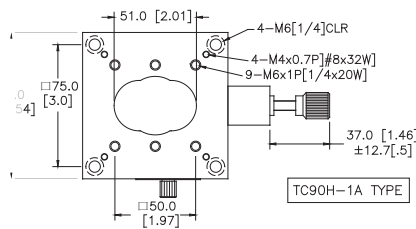


TC90H / TCS90H - Central



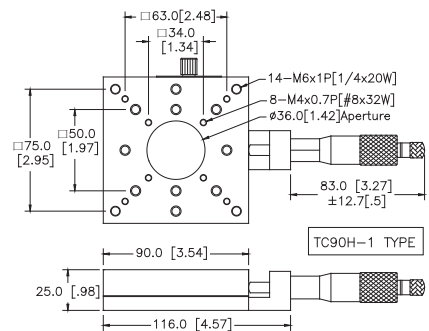
TS90H / TSS90H - Side

TC90H / TCS90H - 1A

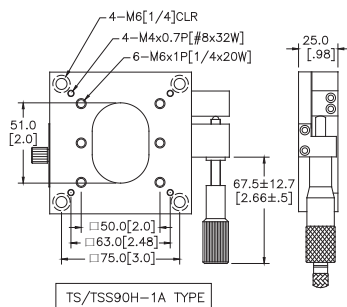


TC90H-1A TYPE

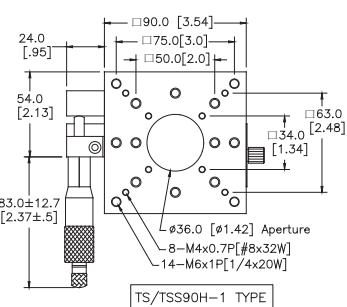
TC90H / TCS90H - 1



TC90H-1 TYPE



TS/TSS90H-1A TYPE

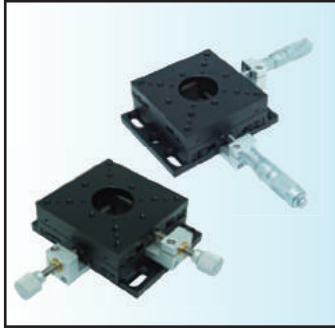


TS/TSS90H-1 TYPE

TS90H / TSS90H - 1A

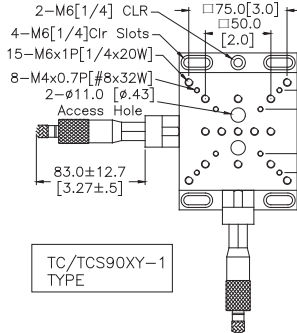
TS90H / TSS90H - 1



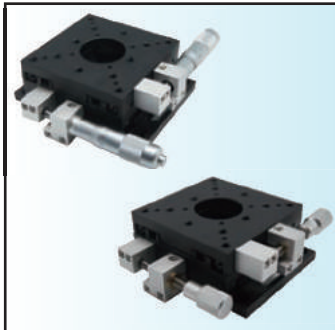
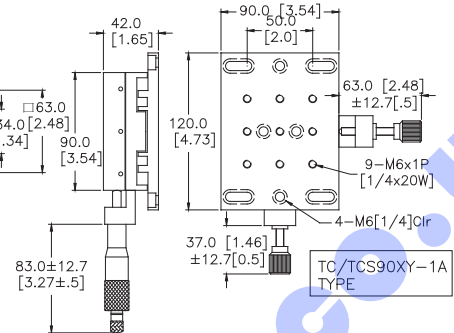


XY-axis Central

TC90H / TCS90H-XY-1

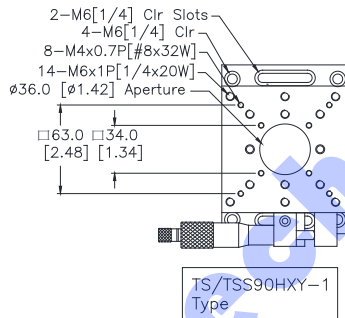


TC90H / TCS90H-XY-1A

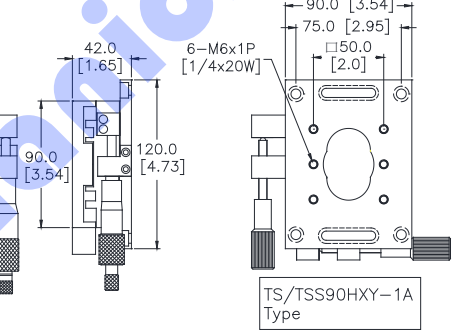


XY-axis Side

TS90H / TSS90H-XY-1

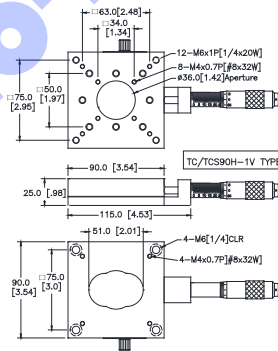


TS90H / TSS90H-XY-1A

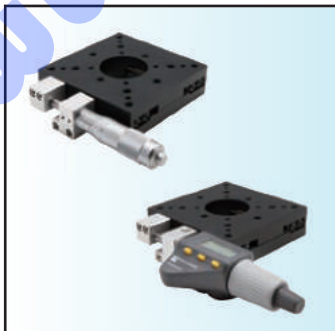
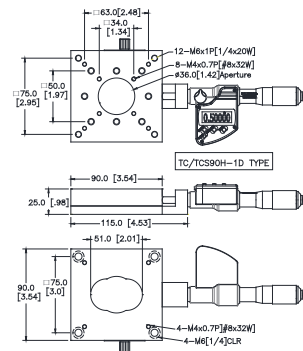


TC90H / TCS90H-1V / 1D

TC90H / TCS90H-1V

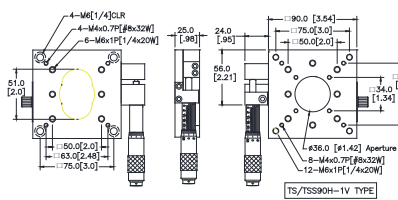


TC90H / TCS90H-1D

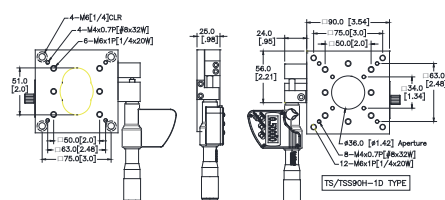


TS90H / TSS90H-1V / 1D

TS90H / TSS90H-1V



TS90H / TSS90H-1D



► Please see the following page for product item numbers for TC / TCS / TS / TSS 90H-series



- **M** = Micrometer / **100** = 100 pitch screw / **130** = 130 pitch screw
- **AC** = Crossed Roller Bearing / **VC** = Carbon Steel V-Grooved Crossed Roller Bearing

Item Number	Drive Type	Travel Guide	Repeatability (mm)	Moving Parallelism (mm)	Straightness of Travel (mm)	Travel Range (mm)	Weight / Load (kg)
TC90H-1	M	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 12.7	0.5 / 12
TC90H-1A	100	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 12.7	0.48 / 12
TCS90H-1	M	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	0.6 / 25
TCS90H-1A	100	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	0.58 / 25
TCS90H-1V	M	VC	0.002	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	0.6 / 25
TCS90H-1D	M	VC	0.001	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	0.62 / 25
TC90H-XY-1	M	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 12.7	0.98 / 12
TC90H-XY-1A	100	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 12.7	1.0 / 12
TCS90H-XY-1	M	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	1.1 / 25
TCS90H-XY-1A	100	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	1.12 / 25
TCS90H-XY-1V	M	VC	0.002	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	1.0 / 25
TCS90H-XY-1D	M	VC	0.001	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	1.0 / 25
TC90H-XYZ-1	M	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 12.7	1.78 / 12
TC90H-XYZ-1A	100	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 12.7	1.76 / 12
TCS90H-XYZ-1	M	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	1.9 / 25
TCS90H-XYZ-1A	100	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	1.9 / 25
TCS90H-XYZ-1V	M	VC	0.002	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	1.9 / 25
TCS90H-XYZ-1D	M	VC	0.001	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	1.9 / 25

Item Number	Drive Type	Travel Guide	Repeatability (mm)	Moving Parallelism (mm)	Straightness of Travel (mm)	Travel Range (mm)	Weight / Load (kg)
TS90H-1	M	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 12.7	1.09 / 12
TS90H-1A	100	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 12.7	1.10 / 12
TSS90H-1	M	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	1.09 / 25
TSS90H-1A	100	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	1.10 / 25
TSS90H-1V	M	SC	0.002	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	1.1 / 25
TSS90H-1D	M	VC	0.001	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	1.1 / 25
TS90H-XY-1	M	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 12.7	0.9 / 12
TS90H-XY-1A	100	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 12.7	0.86 / 12
TSS90H-XY-1	M	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	1.0 / 25
TSS90H-XY-1A	100	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	0.98 / 25
TSS90H-XY-1V	M	VC	0.002	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	1.0 / 25
TSS90H-XY-1D	M	VC	0.001	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	1.02 / 25
TS90H-XYZ-1	M	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 12.7	2.2 / 12
TS90H-XYZ-1A	100	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 12.7	2.1 / 12
TSS90H-XYZ-1	M	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	2.3 / 25
TSS90H-XYZ-1A	100	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	2.3 / 25
TSS90H-XYZ-1V	M	AC	0.002	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	2.3 / 25
TSS90H-XYZ-1D	M	AC	0.001	(X)±0.004 (XY)±0.008	± 0.01	± 12.7	2.3 / 25

◀ Please see the previous page for more product information for TC / TCS / TS / TSS 90H-series linear stages

2" Travel Range Linear Stages (120 x 120 mm)



Overview

- Stage Dimension : 120 x 120 mm
- Travel Range : 2" (± 25.4 mm)
- Rail: (TC/TS) V-Grooved crossed roller bearing
- Rail: (TCS/TSS) Stainless steel V-Grooved crossed roller bearing
- Reading Figure : 0.01 mm
- Stage Material : Aluminum (black anodized)
- Central / Side Driven by adjustment screw or micrometer
- Additional locking plate for greater stability
- Allows assembly of 2 or 3-axis stages with angle bracket
- Accept customized dimension of bottom plate
- Metric / Imperial versions available
- 100 pitch adjustment screws or micrometer available
- To order Imperial model please add * I - * to Item numbers

Specification

2

OPTIONS

of rail & bearing type for better precision movement

1

Crossed Roller Bearing (AC)



TC/TS120-series

V-Grooved raceway on the dedicated rail for achieving high precision, stability and larger load capacity.

2

V-Grooved Crossed Roller Bearing (VC)

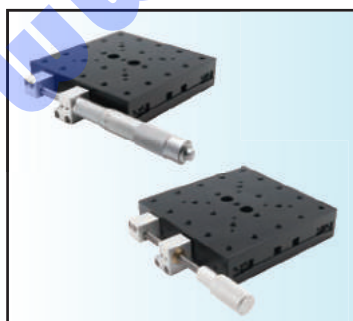


TCS/TSS120-series

Crossed-roller bearing preloaded provides smooth, stable and negligible backlash adjustment

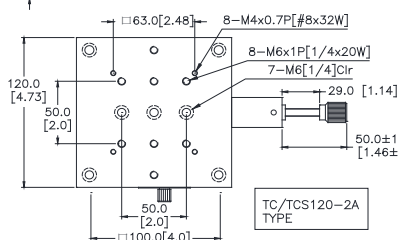
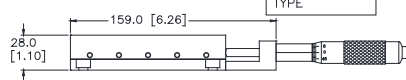
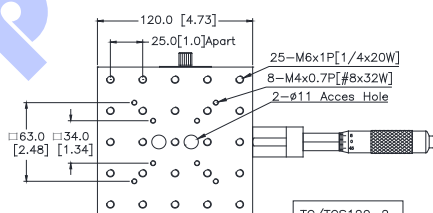


TC120 / TCS120 - Central



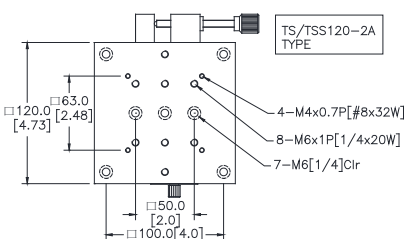
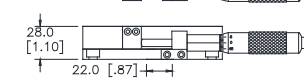
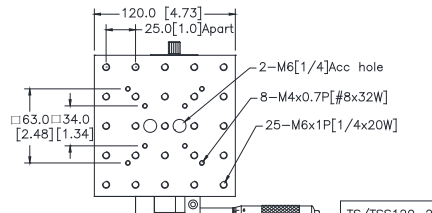
TS120 / TSS120 - Side

TC120 / TCS120 - 2



TC120 / TCS120 - 2A

TS120 / TSS120 - 2



TS120 / TSS120 - 2A

Please see the previous page for more product information for TC / TCS / TS / TSS 120-series linear stages ▶



Optical Tables

Stages

Optical Mounts

Components

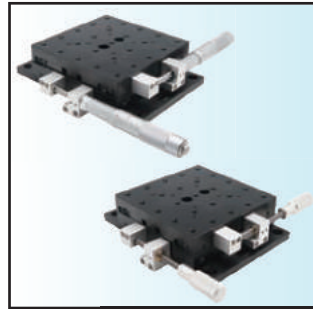
Motion Systems

Education Systems

Lasers

Optics & Crystals

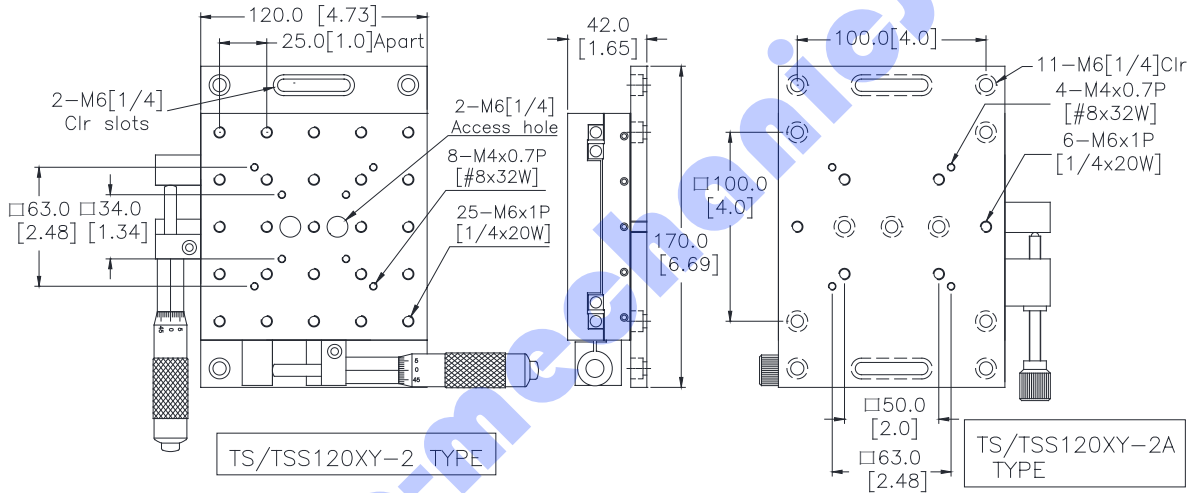
Other Equipment



XY-axis Side

TS120 / TSS120-XY-2

TS120 / TSS120-XY-2A



Constructing XYZ translation stages

The TC / TCS / TS / TSS 120-series 1" Travel Range Linear Stage can be integrated with 90° angle brackets for constructing 3-axis XYZ translation stages.

Related

PRODUCTS

Related products for stages assemblies



D. 43

AB-2

◀ Please see the previous page for more product information for TC / TCS / TS / TSS 120-series linear stages



Item Numbers

- **M** = Micrometer / **100** = 100 pitch screw
- **AC** = Crossed Roller Bearing / **VC** = Carbon Steel V-Grooved Crossed Roller Bearing
- **I** = To order Imperial model please add * I-* to Item number

Item Number	Drive Type	Travel Guide	Repeatability (mm)	Moving Parallelism (mm)	Straightness of Travel (mm)	Travel Range (mm)	Weight / Load (kg)
TC120-2	M	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 25.4	1.23 / 15
TC120-2A	100	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 25.4	1.22 / 15
TCS120-2	M	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 25.4	1.23 / 30
TCS120-2A	100	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 25.4	1.22 / 30
TC120-XY-2	M	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 25.4	--- / 15
TC120-XY-2A	100	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 25.4	--- / 15
TCS120-XY-2	M	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 25.4	--- / 30
TCS120-XY-2A	100	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 25.4	--- / 30
TC120-XYZ-2	M	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 25.4	--- / 15
TC120-XYZ-2A	100	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 25.4	--- / 15
TCS120-XYZ-2	M	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 25.4	--- / 30
TCS120-XYZ-2A	100	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 25.4	--- / 30

Item Number	Drive Type	Travel Guide	Repeatability (mm)	Moving Parallelism (mm)	Straightness of Travel (mm)	Travel Range (mm)	Weight / Load (kg)
TS120-2	M	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 25.4	1.23 / 15
TS120-2A	100	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 25.4	1.22 / 15
TSS120-2	M	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 25.4	1.23 / 30
TSS120-2A	100	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 25.4	1.22 / 30
TS120-XY-2	M	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 25.4	--- / 15
TS120-XY-2A	100	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 25.4	--- / 15
TSS120-XY-2	M	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 25.4	--- / 30
TSS120-XY-2A	100	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 25.4	--- / 30
TS120-XYZ-2	M	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 25.4	--- / 15
TS120-XYZ-2A	100	AC	0.005	(X)±0.008 (XY)±0.016	± 0.025	± 25.4	--- / 15
TSS120-XYZ-2	M	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 25.4	--- / 30
TSS120-XYZ-2A	100	VC	0.003	(X)±0.004 (XY)±0.008	± 0.01	± 25.4	--- / 30



TC
120H

TS
120H

TCS
120H

TSS
120H

2" Travel Range Linear Stage with Center Hole (120 x 120 mm)

Optical Tables

Stages

Optical Mounts

Components

Motion Systems

Education Systems

Lasers

Optics & Crystals

Other Equipment



TC120H-XYZ-2

Overview

- Stage Dimension : 120 x 120 mm
- Travel Range : 2" (± 25.4 mm)
- Stage Material : Aluminum (black anodized)
- Ø52mm Aperture at platform center
- Reading Figure : 0.01 mm
- Rail: (TC/TS) V-Grooved crossed roller bearing
- Rail: (TCS/TSS) Stainless steel V-Grooved crossed roller bearing
- Accept customized dimension of bottom plate
- Allows assembly of 2 or 3-axis stages with angle bracket
- Metric / Imperial versions available
- Central / Side Driven with 100 pitch adjustment screws or micrometer
- To order Imperial model please add * I - * to Item numbers

Specification

2

OPTIONS

of rail & bearing type for better precision movement

1

Crossed Roller Bearing (AC)



TC/TS120H
-series

V-Grooved raceway on the dedicated rail for achieving high precision, stability and larger load capacity.

2

V-Grooved Crossed Roller Bearing (VC)



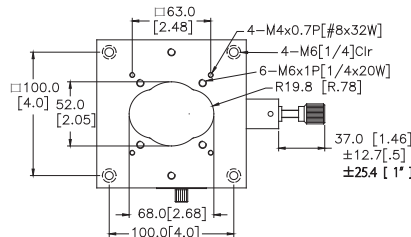
TCS/TSS120H
-series

Crossed-roller bearing preloaded provides smooth, stable and negligible backlash adjustment

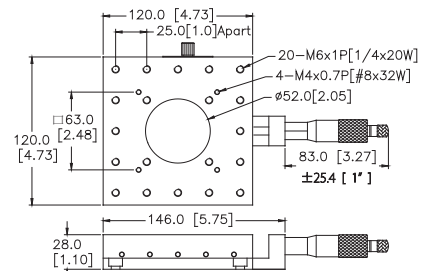


TC120H/TCS120H Central

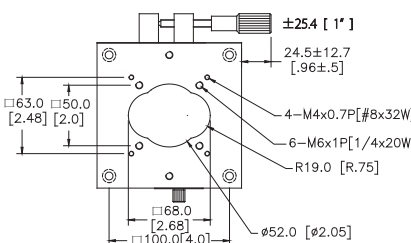
TC120H / TCS120H - 2A



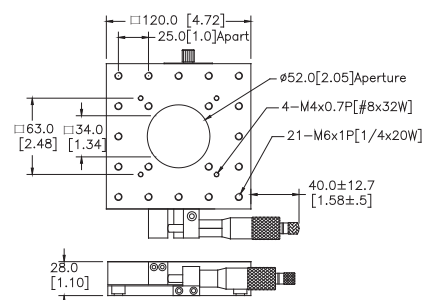
TC120H / TCS120H - 2



TS120H / TSS120H Side

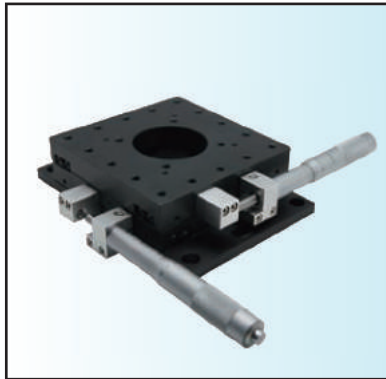


TS120H / TSS120H - 2A



TS120H / TSS120H - 2





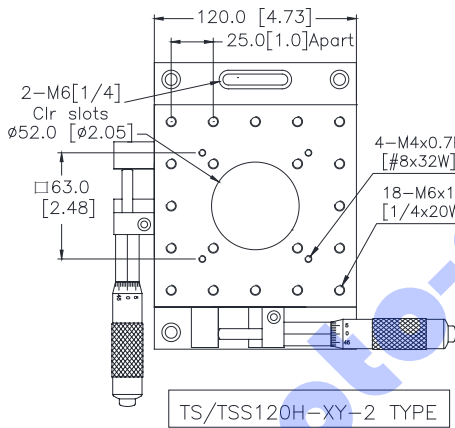
XY-axis Side



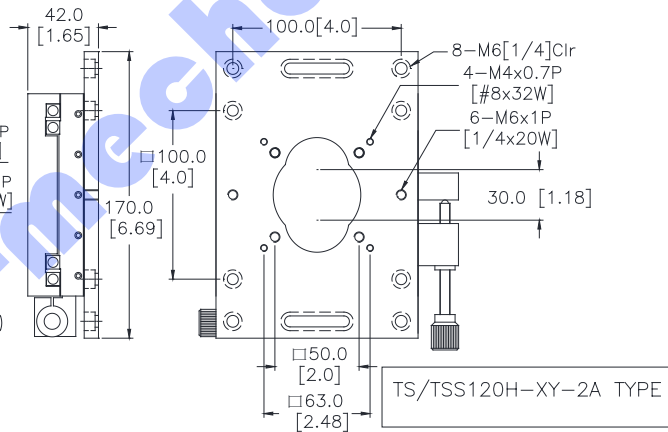
XYZ-axis Central

TS120H / TSS120H-XZ-2

TS120H / TSS120H-XZ-2A



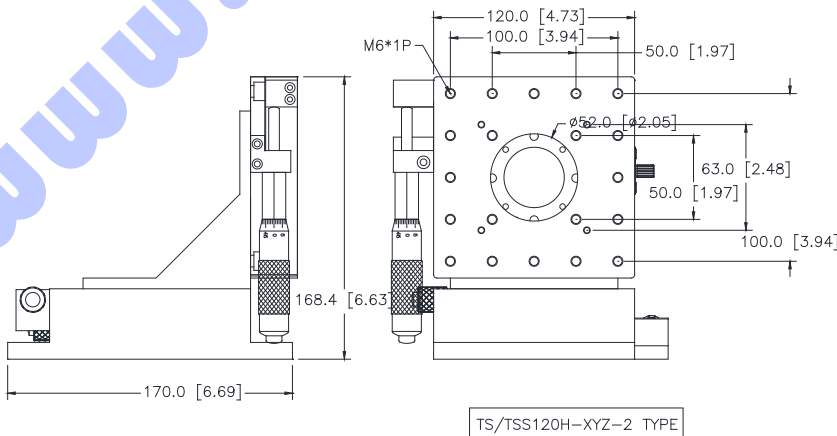
TS/TSS120H-XZ-2 TYPE



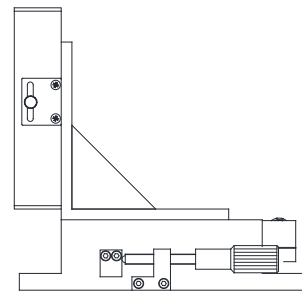
TS/TSS120H-XZ-2A TYPE

TS120H / TSS120H-XZ-2

TS120H / TSS120H-XZ-2A



TS/TSS120H-XZ-2 TYPE



TS/TSS120H-XZ-2A TYPE

► Please see the following page for product item numbers for TC / TCS / TS / TSS 120H-series