Linear Applications

3-Axis gantry loader with vacuum pickup

Roller Systems

Roller Systems feature quick mounting, high loading capacity, any required stroke length, and high traveling speed. Low friction ensures reliability. The system may be mounted on any of the 40 series profiles. We recommend construction of the guide system based on the following principles:

Roller System 6 - 40x40 and 80x40 Standard profiles.
Roller Systems 10 and 14 - Standard or Heavy profiles.
Roller System 25 - only Heavy profiles

The guide rollers are precision, double row radial bearings. Permanently lubricated and sealed for heavy duty applications and long life. The bearing unit end caps provide a built-in lubrication pad and also serve as a very efficient dust cover.

IPS Roller Systems are compatible with controls and drive components of other manufacturers. They combine with timing belt drives, rodless air cylinders or precision lead screw drives.

Roller System 6
Max. load: 500 N (110 lbs)

Roller System 10
Max. load: 2,400 N (540 lbs)

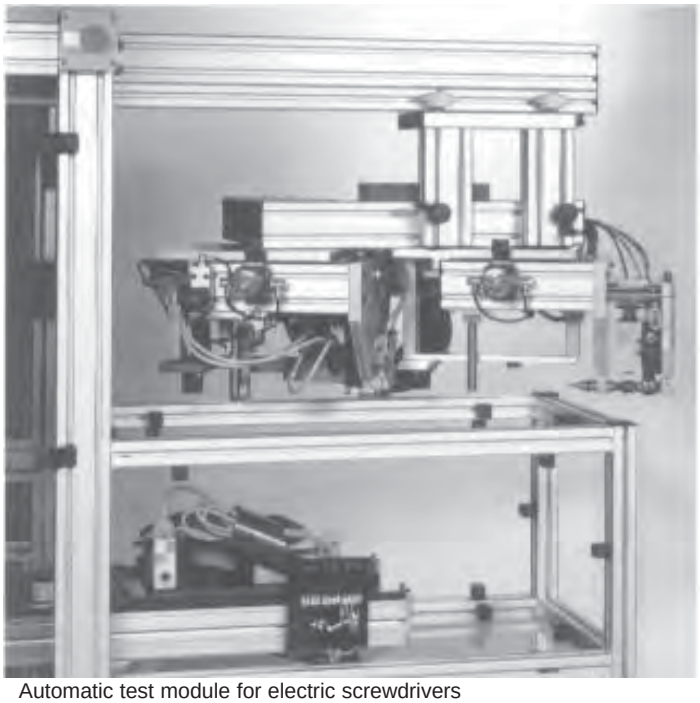
Roller System 14
Max. load: 3,000 N (675 lbs)

Roller System 25
Max. load: 12,000 N (2,700 lbs)

4

Engineered Linear Systems

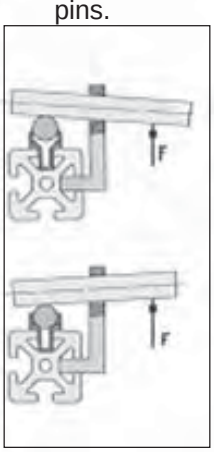
IPS offers a full line of pre-engineered Linear Systems for "off the shelf" purchase. Simply specify the stroke length, up to 6 meters (20'), and the type of motor mounting required. Some profiles are available to construct track lengths of up to 10 meters (30') or longer when joined in multiple modules.



Automatic test module for electric screwdrivers

Assembly of Guide Shaf t

1



2

3

Procedure for mounting the guide shafts:

1 Clean the T-slot of support profile and the shaft clamp.

2 Press the shaft clamp completely into the support profile (Shaft Clamp 25 must be attached to the profile using M8x16 FHCS and M8 T-slot nuts 40).

3 The linear shaft should be covered with an anticorrosive lubricant, petroleum jelly or silicon. Press in the guide shaft using a clamp press or similar means. Shafts can be additionally secured using dowel pins.

1 Shaft Clamp for connecting the shaft to 40 series Standard or Heavy T-slots

2 Shaft pressed in with mounting aid

3 For guides of more than 3m in length, stagger the clamp profile and shaft joints

Minimum Stroke Length

In order to insure adequate lubrication the following minimum stroke length requirements for slide must be observed.

Bearing Unit	6	10	14	14 HD	25
Single Unit	60 mm	80 mm	60 mm	80 mm	120 mm
Double Unit	80 mm	160 mm	140 mm	160 mm	300 mm
Custom Units	50 mm	-	120 mm	-	235 mm
	+ Length of Roller/Lube System				

Load Capacity

IPS linear guides feature simple assemby, high loading capacity, any required stroke length and high travel speed. The bearing units come in four sizes for light, medium and heavy duty applications.

- **Roller System 6**

Linear system suitable for compact, light duty applications.

- **Roller System 10**

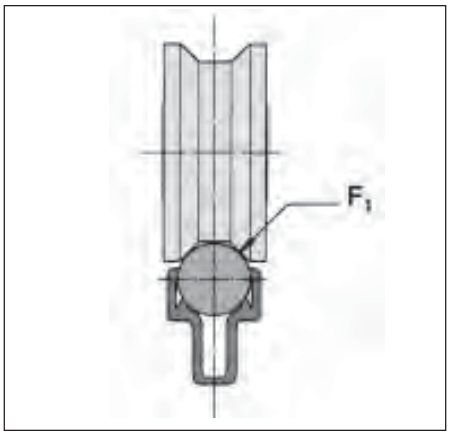
Linear system suitable for medium loads

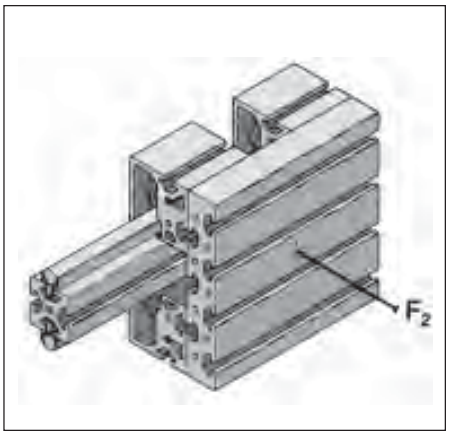
- **Roller System 14**

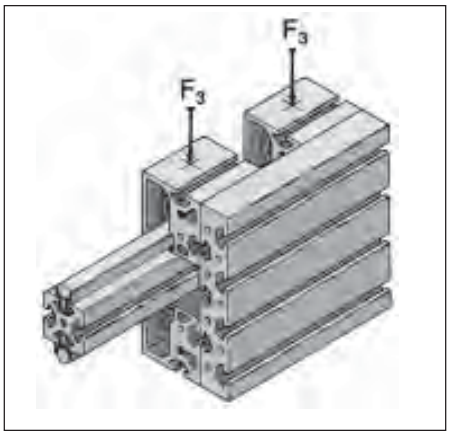
Field proven system for wide ranging linear motion applications.

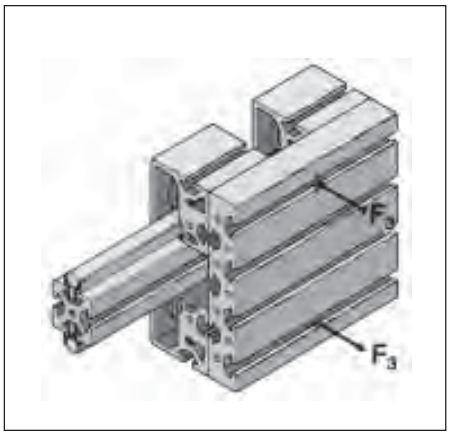
- **Roller System 25**

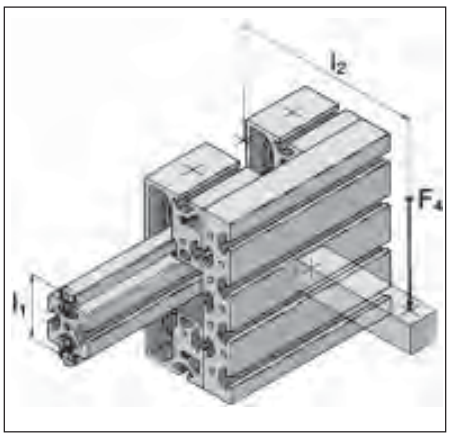
Heavy duty unit suitable for high loads.

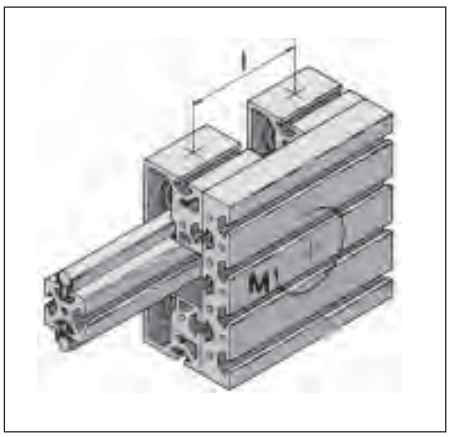










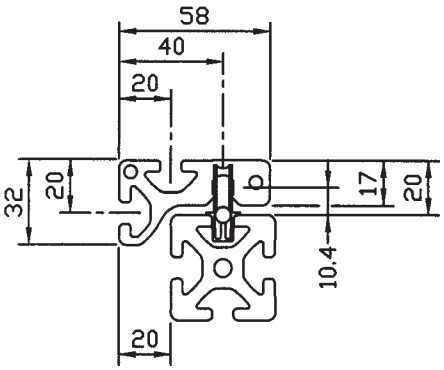


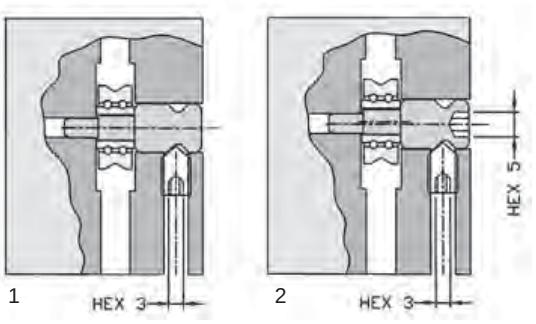
Roller System	6	10	14	25
F_1	125 N (28 lbs)	600 N (135 lbs)	750 N (170 lbs)	3,000 N (675 lbs)
F_2	500 N (112 lbs)	2,400 N (540 lbs)	3,000 N (675 lbs)	12,000 N (2,700 lbs)
F_3	250 N (56 lbs)	1,200 N (270 lbs)	1,500 N (337 lbs)	6,000 N (1,350 lbs)
F_4 [N]	$\frac{250}{\sqrt{1+\frac{l_2^2}{l_1^2}}}$	$\frac{1200}{\sqrt{1+\frac{l_2^2}{l_1^2}}}$	$\frac{1500}{\sqrt{1+\frac{l_2^2}{l_1^2}}}$	$\frac{6000}{\sqrt{1+\frac{l_2^2}{l_1^2}}}$
M [Nm]	250 x l	1,200 x l	1,500 x l	6,000 x l

Rated at 10,000 km (6213 miles)
5 m/s maximum (16 ft/s)

4

Roller System 6





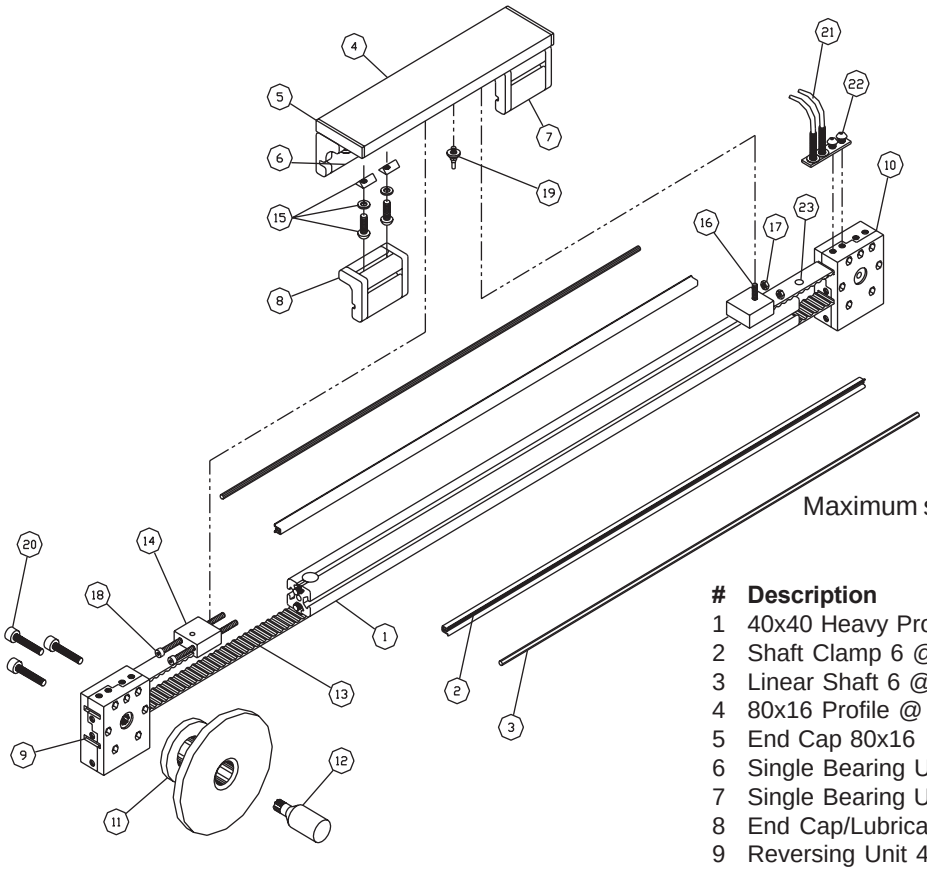
1 The roller is secured by a set screw that locks the main bolt

Required tools for assembly of Roller System 6: 3mm and 5mm hexagon wrench (40-009, 40-014)

2 The roller is preloaded with an eccentric bolt and 5mm wrench; tighten set screw with 3mm wrench

3 Roller profile with multiple rollers for custom bearing Unit

3



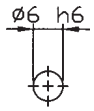
Maximum stroke for configuration shown: 675 mm

Note
Configuration shown: 80x16 plate with smooth top surface; bottom surface is tapped M8 for the limit stop and M6 for clamping block mount.

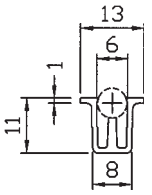
Alternative option: 80x16 plate with T-slots on top counterbored for M8 screws for attaching bearing units and clamping block; bottom of the plate is tapped M8 for the limit stop.

#	Description	Part #	Qty
1	40x40 Heavy Profile @ 1000mm	11-040	1
2	Shaft Clamp 6 @ 998mm	13-106	2
3	Linear Shaft 6 @ 998mm	13-506	2
4	80x16 Profile @ 300mm	10-081	1
5	End Cap 80x16	18-812	2
6	Single Bearing Unit 6 Centric	30-401	2
7	Single Bearing Unit 6 Eccentric	30-403	2
8	End Cap/Lubricating System 6	30-407	4
9	Reversing Unit 40 Spline	31-122	1
10	Reversing Unit 40 w/8mm Bore	31-124	1
11	Universal Adapter Flange	31-014	1
12	Adapter Shaft, Blank	31-010	1
13	Timing Belt 25T10 @ 2300mm	31-052-1	1
14	Clamping Block for Belt 25T10	31-030	2
15	Fastening Set for Bearing Units 6	20-007	4
16	M6x20 Socket Head Cap Screw	24-320-6	1
17	M6 Lock Nut	24-716-6	2
18	M6x120 Socket Head Cap Screw	24-3120-6	2
19	Limit Stop, Bi-Directional	31-038	1
20	M6x45 Socket Head Cap Screw	24-345-6	3
21	Proximity Switch	31-035	2
22	Mounting Plate for Proximity Switch	31-036	1
23	Exciter Cam	31-033	2

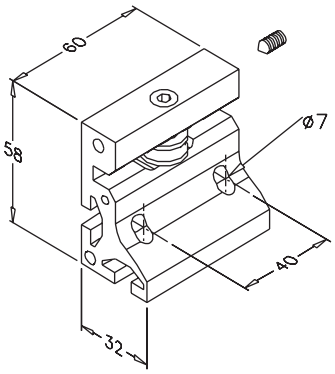
Roller System 6



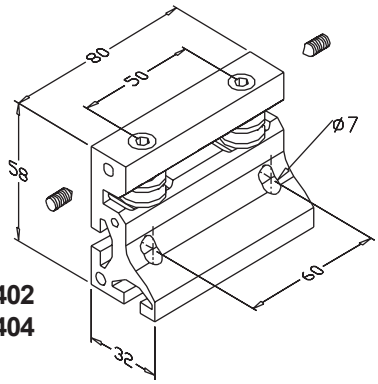
13-505
13-506



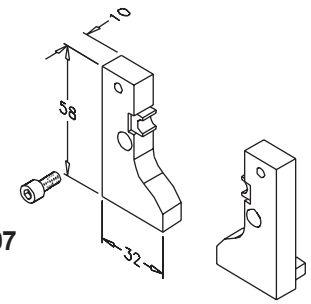
13-106



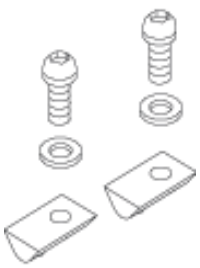
30-401
30-403



30-402
30-404



30-407



20-007

Application
Components for constructing Roller System 6 for light duty applications

Technical Data
Linear Shaft: Cf53 high grade carbon steel (AISI 1050)
Precision ground to ISO h6 tolerance $^{+0}_{-8}$ µm
Roundness: 4 µm
Parallelism: 5 µm/1000mm
Surface quality: R_a 0.3µm (R_z 1.6µm)
Hardness depth: minimum 0.4 mm
Surface hardness: 670 to 840 HV (RC 59 to 65)

Shaft clamp: Al, anodized

Bearing Units: Aluminum anodized housing, Roller 6 (30-008), Bolt 6 Centric (30-006) or Eccentric (30-007), and M6x8 cone point set screw
Preload range for eccentric bearing units ± 0.45 mm

End Cap/ Lubricating System (set of left and right): glass-filled nylon, black; includes felt, spring and M4x10 SHCS

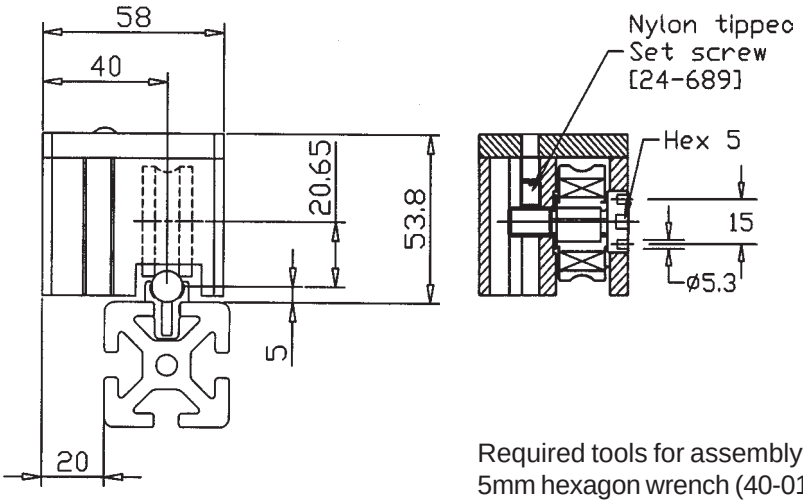
Fastening Set (one required per bearing unit): two M8x16 BHCS, two M8 T-slot nuts, and two M8 flat washers

Description	Unit	Weight	Part #
Linear Shaft 6	per meter*	0.22 kg/m	13-506
Linear Shaft 6, Hard Chrome Coated	per meter*	0.22 kg/m	13-505
Saw Cut for Linear Shaft			19-007
Shaft Clamp 6	per meter	0.12 kg/m	13-106
Saw Cut for Shaft Clamp			19-001
Single Bearing Unit 6, Centric	1 pc	0.18 kg	30-401
Single Bearing Unit 6, Eccentric	1 pc	0.18 kg	30-403
Double Bearing Unit 6, Centric	1 pc	0.22 kg	30-402
Double Bearing Unit 6, Eccentric	1 pc	0.22 kg	30-404
End Cap/ Lubricating System 6	1 set	20 g	30-407
Replacement Felt 6	1 pc		30-407z1
Fastening Set for Bearing Unit 6	1 set	40 g	20-007

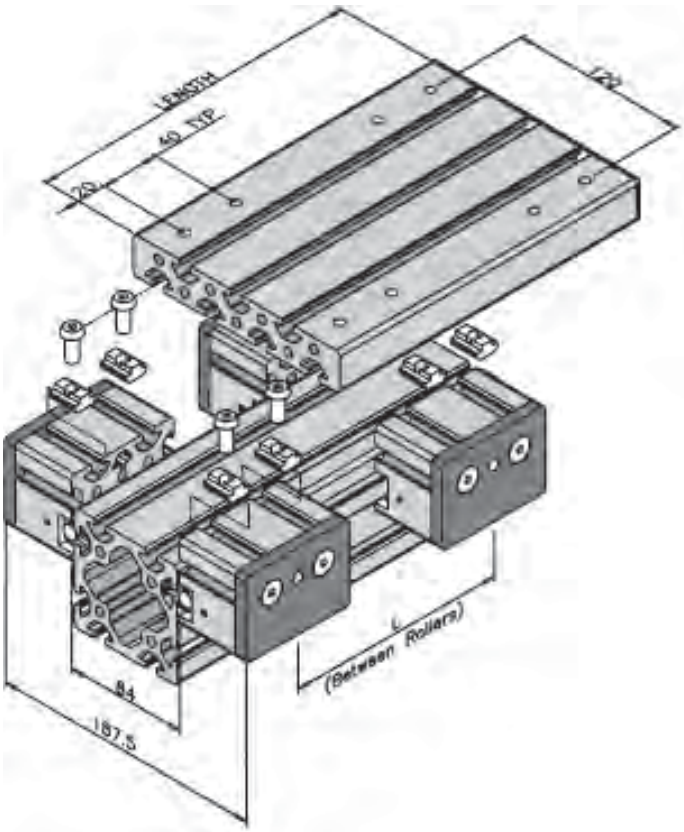
* Call for standard lengths in stock

4

Roller System 10



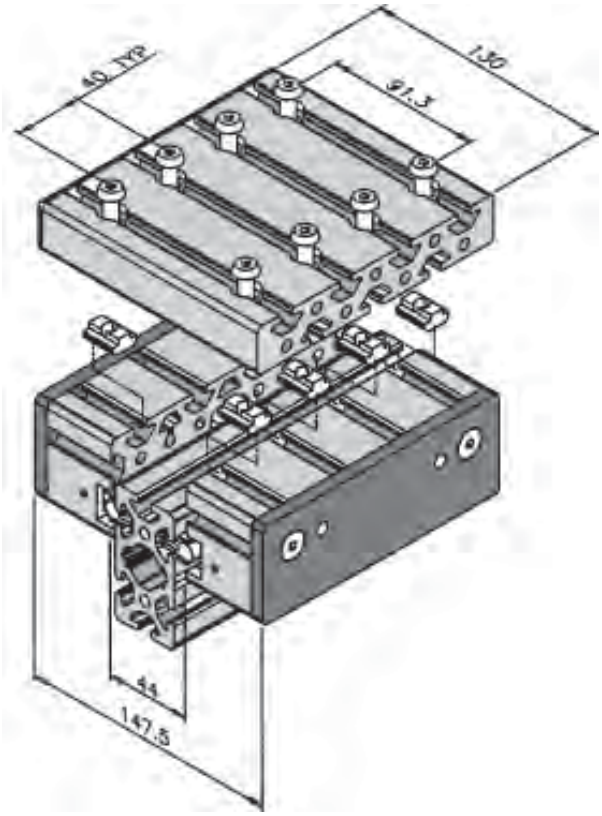
Required tools for assembly of Roller System 10:
5mm hexagon wrench (40-014), Spanner wrench (40-032-14)



Single Bearing Units 10 on 80x80 Profile

Carriage Plate: Length = L + 80
(T-slots parallel to 80x80 rail)

Recommended hardware: four fastening sets HD for bearing units (20-030). Required machining - eight access holes through 160x28 profile.



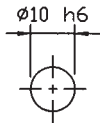
Double Bearing Units 10 on 80x40 Profile

Carriage Plate: Length = 130mm
(T-slots perpendicular to 80x40 rail)

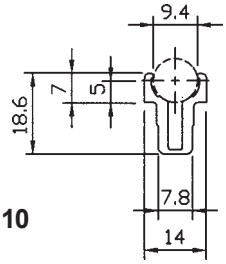
Recommended hardware: eight of each M8 T-slot nut HD (20-064), M8x25 SHCS (24-325-8), M8 safety spring washer (24-718-8). Required machining - eight counterbored holes on the top T-slots of 160x28.

Roller System 10

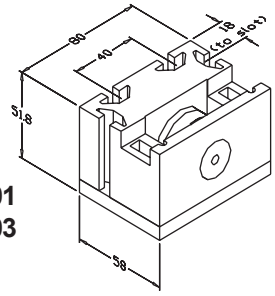
13-510



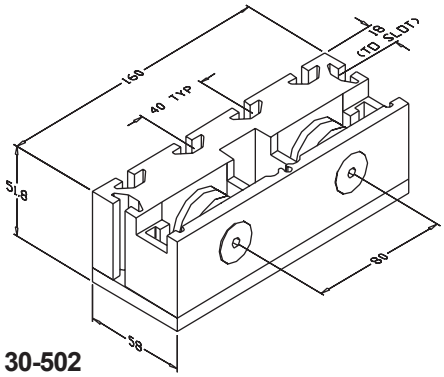
13-110



30-501
30-503

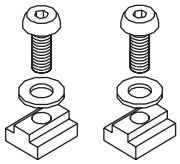


30-502
30-504



Note: T-slot on top are 40 series, on two sides are 28 series

20-030



Application
Components for constructing Roller System 10 for medium duty applications

Technical Data
Linear Shaft: Cf53 high grade carbon steel (AISI 1050)
Precision ground to ISO h6 tolerance $^{+0}_{-9}$ µm
Roundness: 4 µm
Parallelism: 6 µm/1000mm
Surface quality: R_a 0.3µm (R_z 1.6µm)
Hardness depth: minimum 0.4 mm
Surface hardness: 670 to 840 HV (RC 59 to 65)

Shaft Clamp: Al, anodized

Bearing Units:
Centric: Al, anodized housing, Roller 10 (30-510), Bolt 10/14 Centric (30-105), two spacers per roller (30-504z3), End Cap/ Lubricating System
Eccentric: Al, anodized housing, Roller 10 (30-510), Bolt 10 Eccentric (30-506), one spacer per roller (30-504z4), M8x12 nylon tipped set screw (24-689), End Cap/ Lubricating System
Preload range for eccentric bearing units ± 1.0 mm

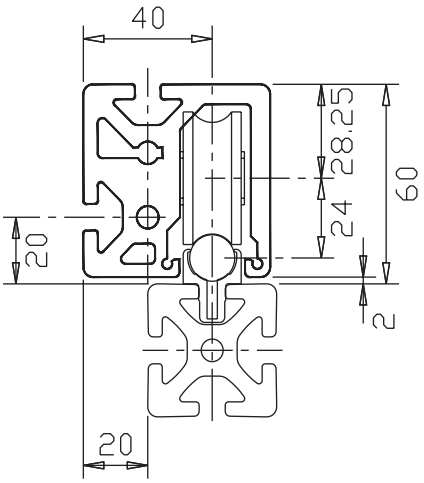
End Cap/ Lubricating System: Trespa cap with pin, felt, spring, M8x10 BHCS, M4x10 set screw, and access plug

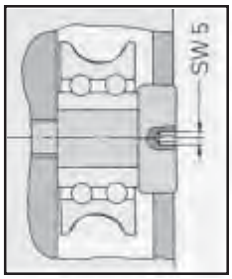
Fastening set (one required per single bearing unit, two per double bearing unit): two M8x18 BHCS, two M8 T-slot nuts HD, and two M8 safety spring washers.

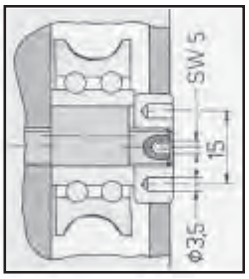
Description	Unit	Weight	Part #
Linear Shaft 10	per meter*	0.61 kg/m	13-510
Saw Cut for Linear Shaft			19-007
Shaft Clamp 10	per meter	0.25 kg/m	13-110
Saw Cut for Shaft Clamp			19-001
Single Bearing Unit 10, Centric	1 pc	0.48 kg	30-501
Single Bearing Unit 10, Eccentric	1 pc	0.48 kg	30-503
Double Bearing Unit 10, Centric	1 pc	0.88 kg	30-502
Double Bearing Unit 10, Eccentric	1 pc	0.88 kg	30-504
Replacement Felt 10	1 pc		30-504z5
Fastening Set HD for Bearing Unit	1 set	40 g	20-030

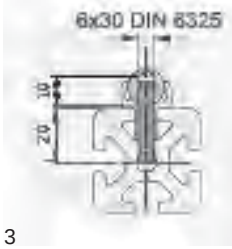
* Call for standard lengths in stock

Roller System 14

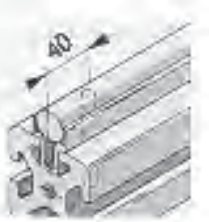




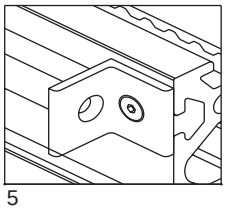




3

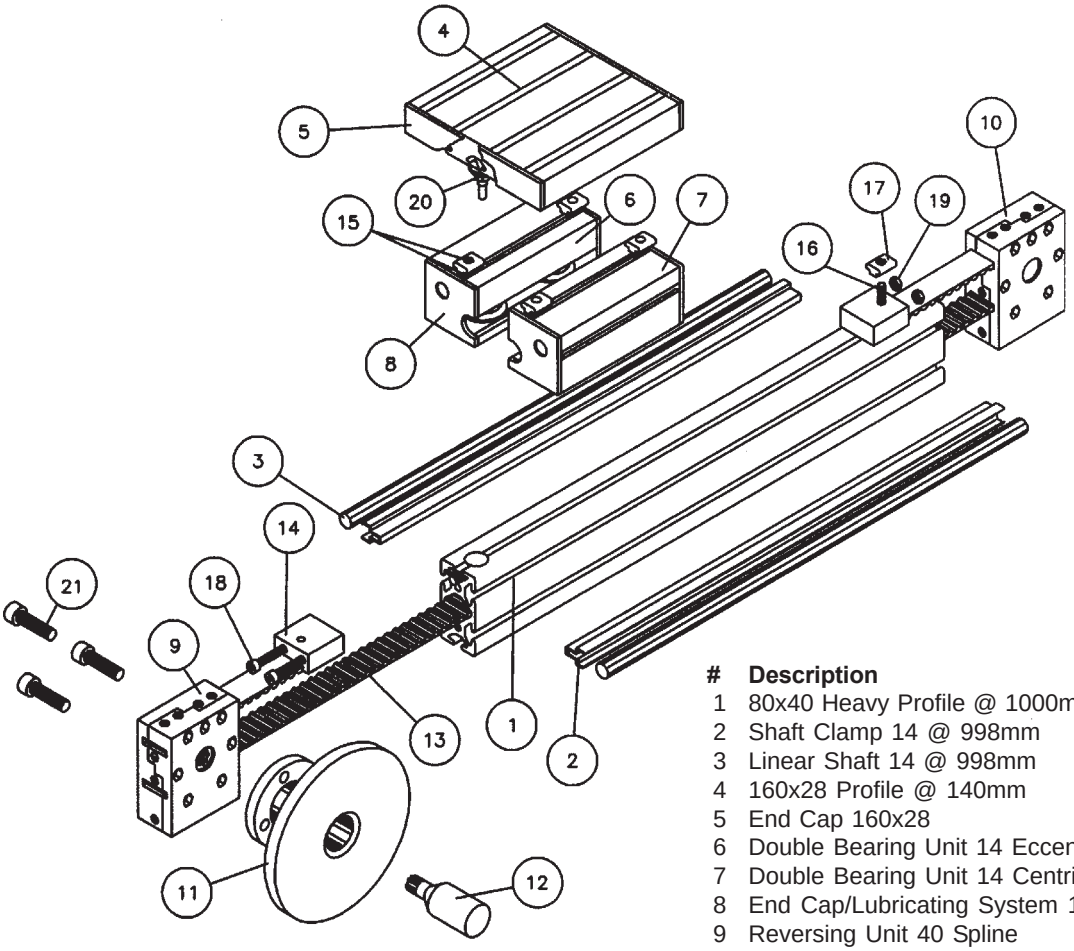


4



5

Required tools for assembly of Roller System 14: 5mm hexagon wrench (40-014), spanner wrench (40-032-14)



1 Roller is secured into block with shoulder bolt (use 5mm wrench)

2 Roller pre-loading with eccentric bolt. Roller is secured by counter lock spanner nut. Preload with 5mm Allen wrench

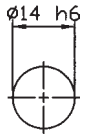
3-4 Shaft secured with 6mm straight pin over extreme lengths (any location)

5 Using the 28 angle bracket against slippage

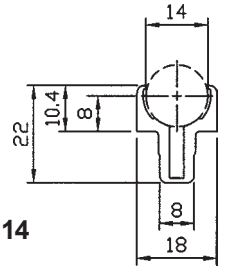
Maximum stroke for configuration shown:
with limit stop (31-038) - 765 mm
without limit stop - 850 mm

#	Description	Part #	Qty
1	80x40 Heavy Profile @ 1000mm	11-080	1
2	Shaft Clamp 14 @ 998mm	13-114	2
3	Linear Shaft 14 @ 998mm	13-514	2
4	160x28 Profile @ 140mm	11-128	1
5	End Cap 160x28	18-816	2
6	Double Bearing Unit 14 Eccentric	30-104	1
7	Double Bearing Unit 14 Centric	30-102	1
8	End Cap/Lubricating System 14	30-107	2
9	Reversing Unit 40 Spline	31-122	1
10	Reversing Unit 40 Idler	31-126	1
11	Universal Adapter Flange	31-014	1
12	Adapter Shaft, Blank	31-010	1
13	Timing Belt 25T10 @ 2300mm	31-052-1	1
14	Clamping Block for Belt 25T10	31-030	2
15	Fastening Set HD for Bearing Units	20-030	2
16	M6x20 Socket Head Cap Screw	24-320-6	1
17	HD T-Slot Nut St, M6	20-060	1
18	M6x120 Socket Head Cap Screw	24-3120-6	2
19	M6 Lock Nut	24-716-6	2
20	Limit Stop, Bi-Directional	31-038	1
21	M6x45 Socket Head Cap Screw	24-345-6	3

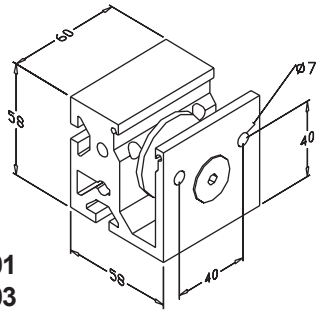
Roller System 14



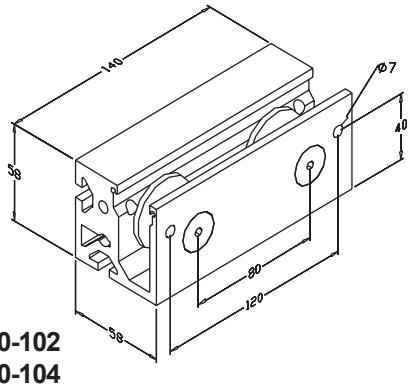
13-513
13-514



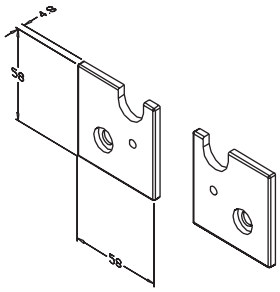
13-114



30-101
30-103



30-102
30-104



30-107

Application
Components for constructing Roller System 14 for medium duty applications

Technical Data
Linear Shaft: Cf53 high grade carbon steel (AISI 1050)
Precision ground to ISO h6 tolerance $^{+0}_{-11}$ µm
Roundness: 5 µm
Parallelism: 8 µm/1000mm
Surface quality: R_a 0.3µm (R_z 1.6µm)
Hardness depth: minimum 0.6 mm
Surface hardness: 670 to 840 HV (RC 59 to 65)

Shaft Clamp: Al, anodized

Bearing Units:
Al, anodized housing, Roller 14 (30-108), Bolt 14 Centric (30-105) or Eccentric (30-106), and spacer (30-108z1)
Preload range for eccentric bearing units ± 1.0 mm

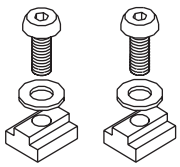
End Cap/ Lubricating System (set of left and right): glass-filled nylon, black; includes felt, spring, M8x10 BHCS

Fastening set (one required per bearing unit): two M8x18 BHCS, two M8 T-slot nuts HD, and two M8 safety spring washers

Description	Unit	Weight	Part #
Linear Shaft 14	per meter*	1.21 kg/m	13-514
Linear Shaft 14, (Hard chrome coated)	per meter*	1.21 kg/m	13-513
Saw Cut for Linear Shaft			19-007
Shaft Clamp 14	per meter	0.26 kg/m	13-114
Saw Cut for Shaft Clamp			19-001
Single Bearing Unit 14, Centric	1 pc	0.40 kg	30-101
Single Bearing Unit 14, Eccentric	1 pc	0.40 kg	30-103
Double Bearing Unit 14, Centric	1 pc	0.88 kg	30-102
Double Bearing Unit 14, Eccentric	1 pc	0.88 kg	30-104
End Cap/ Lubricating System 14	1 set	50 g	30-107
Replacement Felt 14	1 pc		30-107z1
Fastening Set HD for Bearing Unit	1 set	40 g	20-030

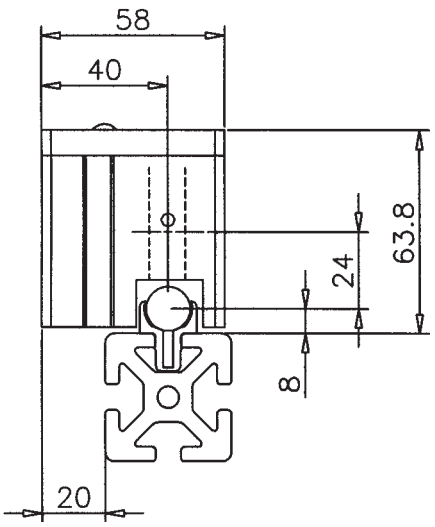
* Call for standard lengths in stock

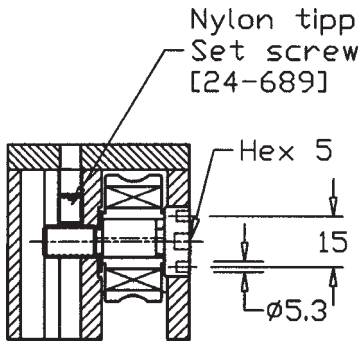
20-030



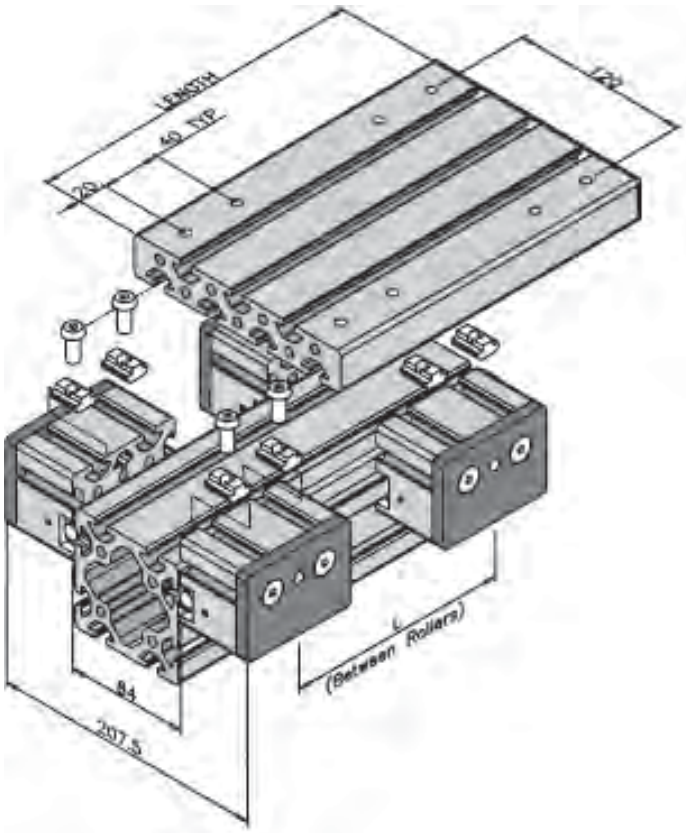
4

Roller System 14 HD





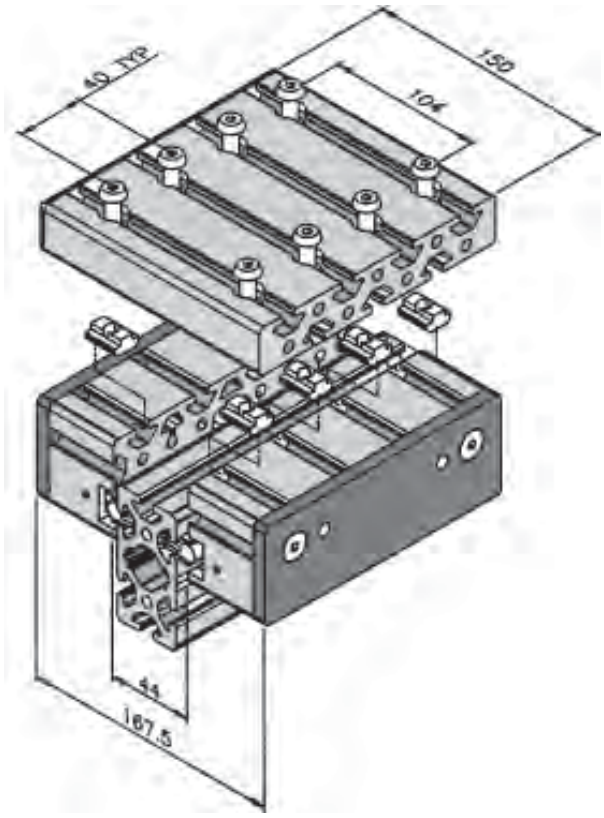
Required tools for assembly of Roller System 14HD: 5mm hexagon wrench (40-014), spanner wrench (40-032-14)



Single Bearing Units 14HD on 80x80 Profile

Carriage Plate: Length = L + 80
(T-slots parallel to 80x80 rail)

Recommended hardware: four fastening sets HD for bearing units (20-030). Required machining - eight access holes through 160x28 profile.

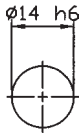


Double Bearing Units 14HD on 80x40 Profile

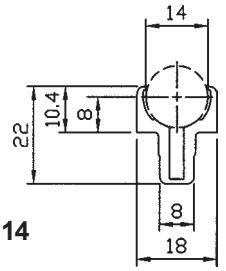
Carriage Plate: Length = 150mm
(T-slots perpendicular to 80x40 rail)

Recommended hardware: eight for each M8 T-slot nut HD (20-064), M8x25 SHCS (24-325-8), M8 safety spring washer (24-718-8). Required machining - eight counterbored holes on the top T-slots of 160x28.

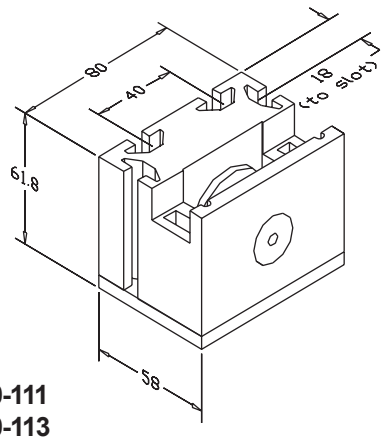
Roller System 14 HD



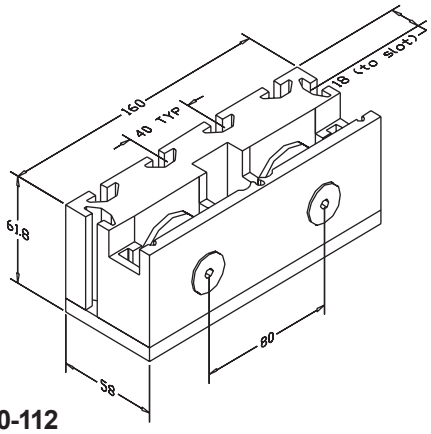
13-513
13-514



13-114

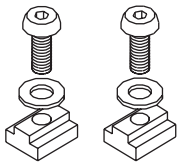


30-111
30-113



30-112
30-114

Note: T-slot on top are 40 series, on two sides are 28 series



20-030

Application
Components for constructing Roller System 14 HD for medium and heavy duty applications

Technical Data
Linear Shaft: Cf53 high grade carbon steel (AISI 1050)
Precision ground to ISO h6 tolerance $^{+0}_{-11}$µm
Roundness: 5 µm
Parallelism: 8 µm/1000mm
Surface quality: R_a 0.3µm (R_z 1.6µm)
Hardness depth: minimum 0.6 mm
Surface hardness: 670 to 840 HV (RC 59 to 65)

Shaft Clamp: Al, anodized

Bearing Units:
Al, anodized housing, Roller 14 (30-108), Bolt 14 Centric (30-105) or Eccentric (30-106), one spacer per roller (30-114z3), M8x12 nylon tipped set screw (24-689) for eccentric only, End Cap/ Lubricating System
Preload range for eccentric bearing units ± 1.0 mm

End Cap/ Lubricating System: Trespa cap with pin, felt, spring, M8x10 BHCS, M4x10 set screw, and access plug

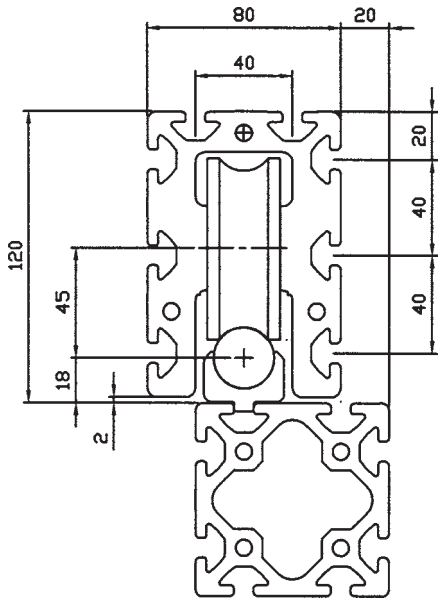
Fastening set (one required per single bearing unit, two per double bearing unit): two M8x18 BHCS, two M8 T-slot nuts HD, and two M8 safety spring washers.

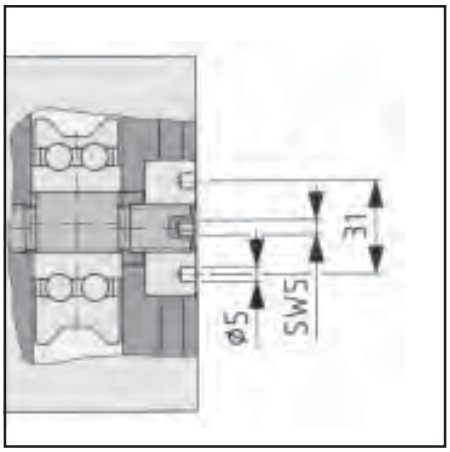
Description	Unit	Weight	Part #
Linear Shaft 14	per meter*	1.21 kg/m	13-514
Linear Shaft 14, Hard Chrome Coated	per meter*	1.21 kg/m	13-513
Saw Cut for Linear Shaft			19-007
Shaft Clamp 14	per meter	0.25 kg/m	13-114
Saw Cut for Shaft Clamp			19-001
Single Bearing Unit 14 HD, Centric	1 pc	0.58 kg	30-111
Single Bearing Unit 14 HD, Eccentric	1 pc	0.58 kg	30-113
Double Bearing Unit 14 HD, Centric	1 pc	1.07 kg	30-112
Double Bearing Unit 14 HD, Eccentric	1 pc	1.07 kg	30-114
Replacement Felt 14HD	1 pc		30-114z5
Fastening Set HD for Bearing Units	1 set	40 g	20-030

* Call for standard lengths in stock

4

Roller System 25





1

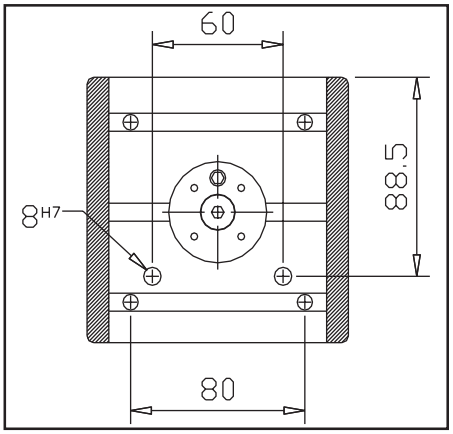
2

1 Roller adjusting with 5mm hexagon wrench. Spanner wrench required for eccentric adjustment.

2 Re-oiling of Bearing Units via felt oiler/ wiper on spring loaded End Cap/ Lubricating System.

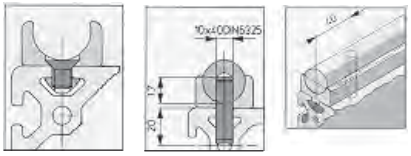
3 Standard bores for dowel pin 8^{H7} (included) drilled for 7.7 mm dia.

4 Area on back for optional set screw clearance bores (not included).

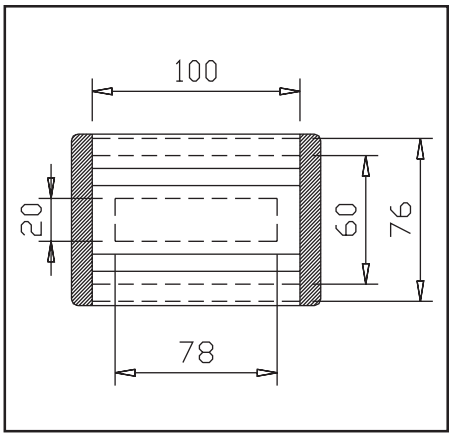


3

Required tools for assembly of Roller System 25: 5mm hexagon wrench (40-014), spanner wrench (40-032-25)

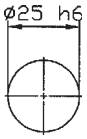


Attachment of Shaft Clamp Profile 25 to 40 Series profile using M8x16 FHCS and M8 T-slot Nuts. Shaft anchored with 10mm straight pin (any location)

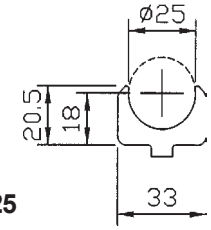


4

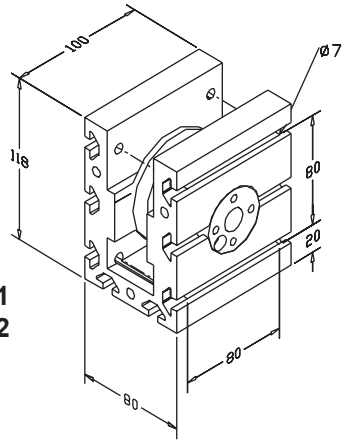
Roller System 25



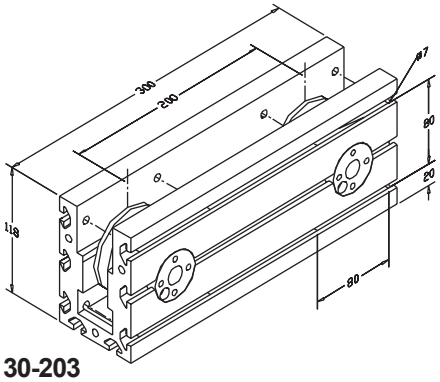
13-524
13-525



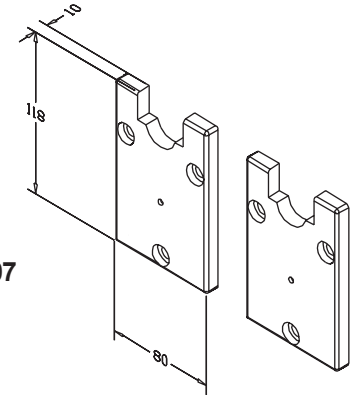
13-125



30-201
30-202



30-203
30-204



30-207

Application
Components for constructing Roller System 25 for heavy duty applications.

Technical Data
Linear Shaft: Cf53 high grade carbon steel (AISI 1050)
Precision ground to ISO h6 tolerance $^{+0}_{-13}$ µm
Roundness: 6 µm
Parallelism: 9 µm/1000mm
Surface quality: R_a 0.3µm (R_z 1.6µm)
Hardness depth: minimum 0.9 mm
Surface hardness: 670 to 840 HV (RC 59 to 65)

Shaft Clamp: Al, anodized

Bearing Units:
Al, anodized housing, Roller 25 (30-208), Bolt 25 Centric (30-205) or Eccentric (30-206)
Preload range for eccentric bearing units ± 1.5 mm

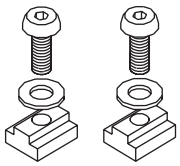
End Cap/ Lubricating System (set of two): glass-filled nylon, black; includes felt, spring, M8x10 BHCS

Fastening set (two required per single bearing unit, four per double bearing set): two M8x18 BHCS, two M8 T-slot nuts HD, and two M8 safety spring washers.

Description	Unit	Weight	Part #
Linear Shaft 25	per meter*	3.83 kg/m	13-525
Linear Shaft 25, Hard Chrome Coated	per meter*	3.83 kg/m	13-524
Saw Cut for Linear Shaft			19-007
Shaft Clamp 25	per meter	1.0 kg/m	13-125
Saw Cut for Shaft Clamp			19-001
Single Bearing Unit 25, Centric	1 pc	2.2 kg	30-202
Single Bearing Unit 25, Eccentric	1 pc	2.2 kg	30-201
Double Bearing Unit 25, Centric	1 pc	5.3 kg	30-204
Double Bearing Unit 25, Eccentric	1 pc	5.3 kg	30-203
End Cap/ Lubricating System 25	1 set		30-207
Replament Felt 25	1 pc		30-207z1
Fastening Set HD for Bearing Unit	1 set	40 g	20-030

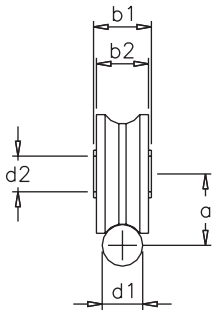
* Call for standard lengths in stock

20-030



Components for Bearing Units

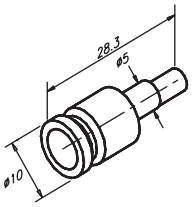
Track Rollers



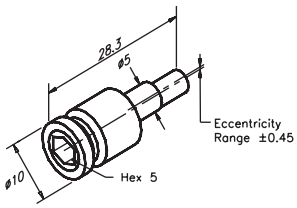
Technical Data
St, 100 Cr6, ground and hardened, double ball bearing with two shields, maintenance free

Dimensions, mm					Load, N		Maximum	Weight	Part #
Shaft Dia d1	d2	a	b1	b2	Dynamic	Static	RPM	g	
6	5	10.5	8	7	1600	900	5000	7	**30-008**
10	12	20.65	15.9	15.9	8500	5100	-	16	**30-508**
14	12	24	20	18	10800	6400	2500	88	**30-108**
25	20	45	30	28	24000	14400	1250	590	**30-208**

Bolts



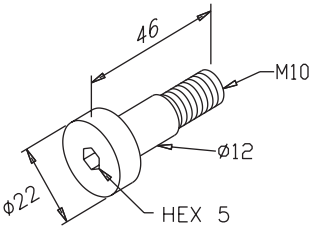
30-006



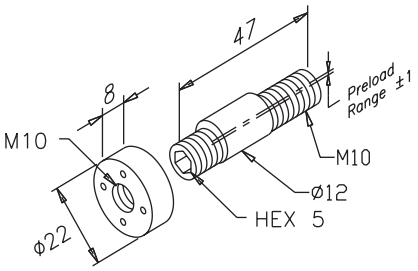
30-007

Technical Data
St, black oxide

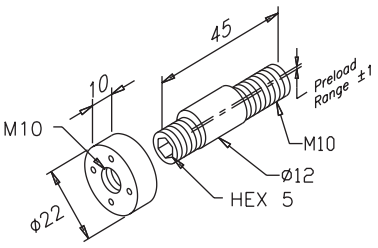
Type	Eccentricity mm	Used in Bearing Units	Weight g	Part #
6-Centric	N/A	30-401, 30-402	6	**30-006**
6-Eccentric	0.45	30-403, 30-404	6	**30-007**
10/14-Centric	N/A	30-101, 30-102, 30-111, 30-112, 30-501, 30-502	48	**30-105**
10-Eccentric	1.0	30-503, 30-504	46	**30-506**
14-Eccentric	1.0	30-103, 30-104	46	**30-106**
25-Centric	N/A	30-202, 30-204	120	**30-205**
25-Eccentric	1.5	30-201, 30-203	120	**30-206**



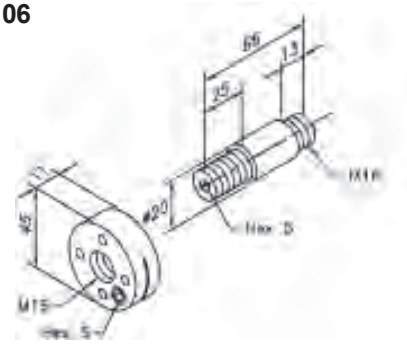
30-105



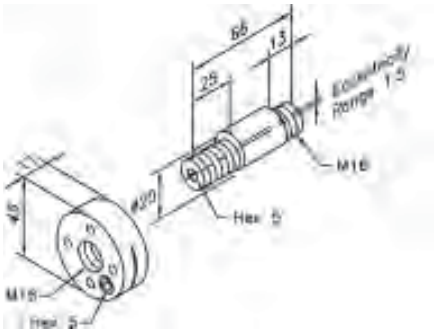
30-106



30-506

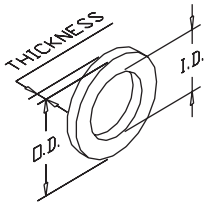


30-205



30-206

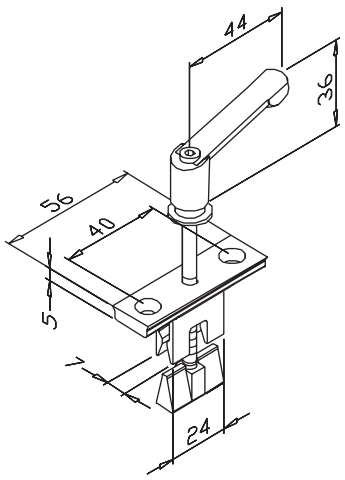
Spacers

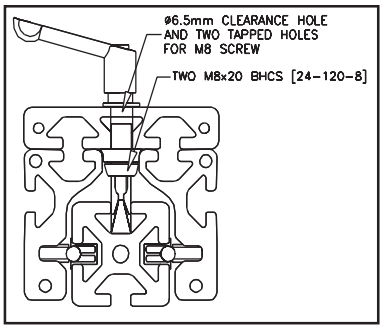


Technical Data
St, black oxide

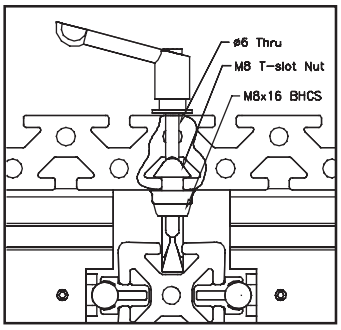
Dimensions, mm			Used with	Qty Required per Roller	Part #
I.D.	O.D.	Thickness			
12	18	1.0	Bolt 14 Centric and Eccentric	1	**30-108z1**
10.2	19	1.1	Bolt 14 HD Centric and Eccentric	1	**30-114z3**
12.2	19	2.1	Bolt 10 Centric	2	**30-504z3**
10.2	19	2.1	Bolt 10 Eccentric	1	**30-504z4**

Locking Mechanism
for Linear Slides





1



2

1 Mounting example of locking mechanism 28 on 16x80 profile (M5 stud **shortened** by 12mm).

2 Mounting example of locking mechanism 28 on 160x28 carriage plate.

Holding Force

Hand Tight appx. 5.5 Nm lubricated	Hand Tight Appx. 5.5 Nm
appx 200 N	appx. 500 N

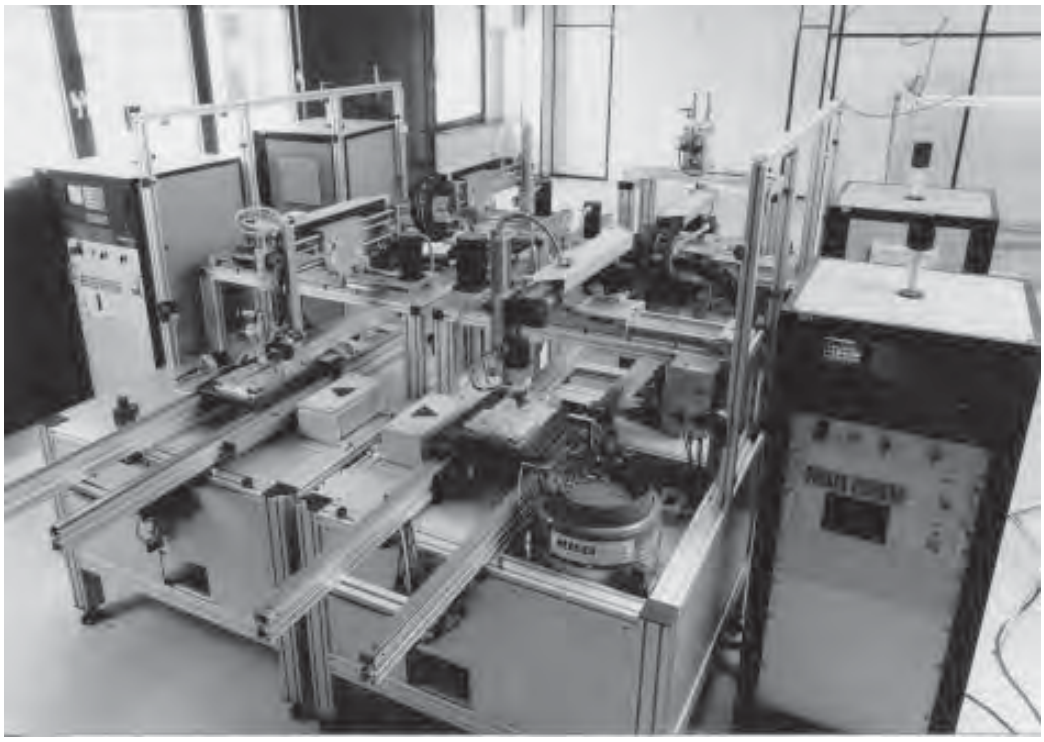
Application
Locks linear slides on 40 series rail. Locking does not distort shaft or roller. Not suitable for high shock loads. Use locking mechanism 28 for 160x28 carriage plates, and Locking Mechanism 40 on 160x40 carriage plates.

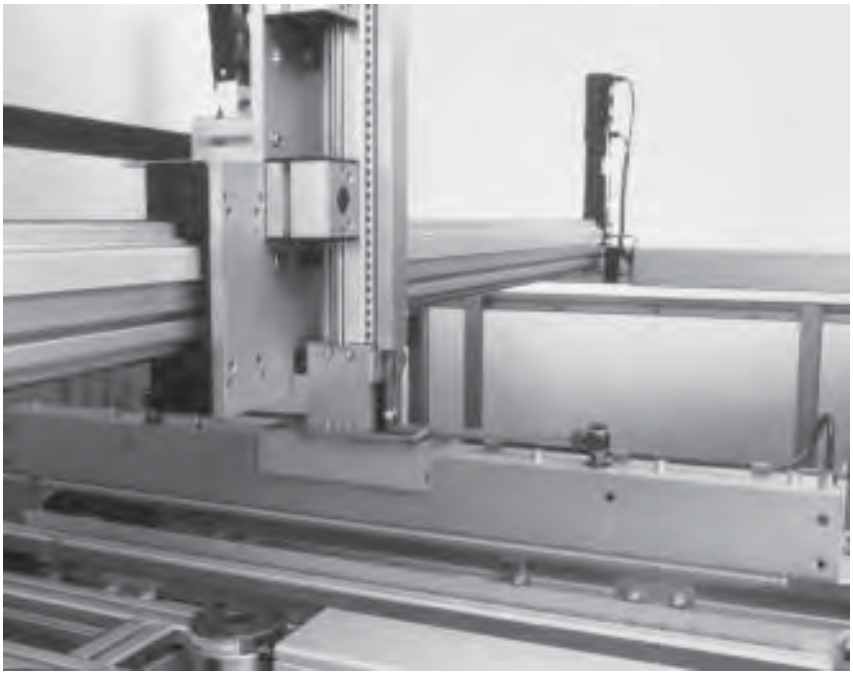
Technical Data
Clamping Jaw: cast steel, zinc plated
Clamping Wedge: cast steel, rust resistant, plated
Handle, black
Washer, zinc plated
Max. tightening torque 5.5 Nm

Order all hardware separately

Description	Unit	Weight	Part #
Locking Mechanism 28	1 pc	94 g	30-414
Locking Mechanism 40	1 pc	95 g	30-415

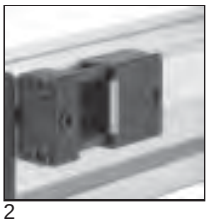
4

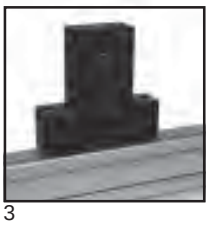


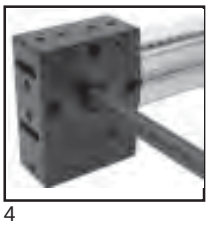


Linear Drive Components


1


2


3


4

1 Timing Belt Reversing Unit 40 for driving or reversing the timing belt

2 Timing Belt Clamp and Tensioner

3 Counter Reversing Unit

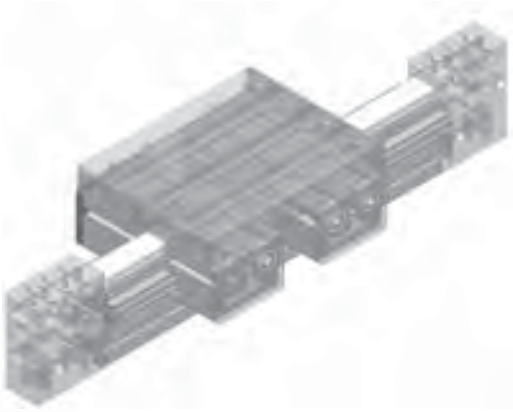
4 Multi-Spline Shaft

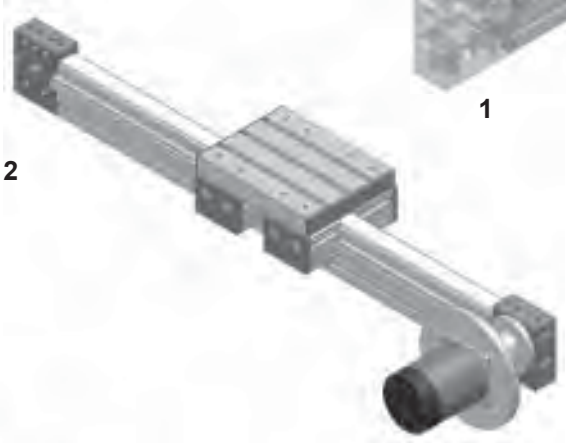
Design Examples

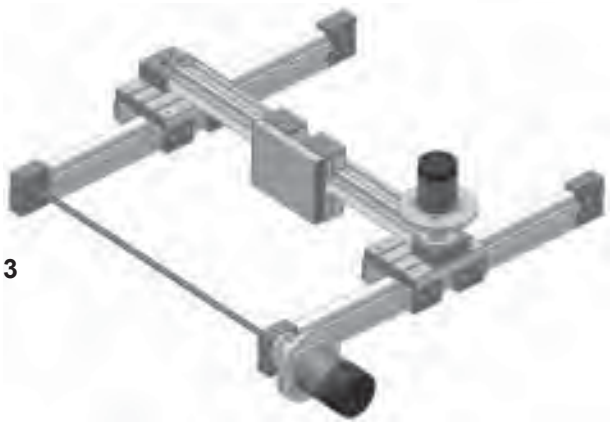
1-2 Construction with one axis of movement

3 Construction with two axis of movement.

NOTE: Timing Belt Reversing Units are not structural elements. ALL MOTORS MUST BE PROPERLY SUPPORTED.

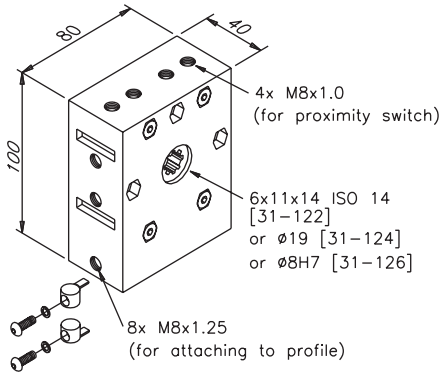

1

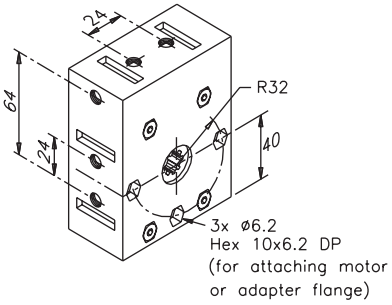

2

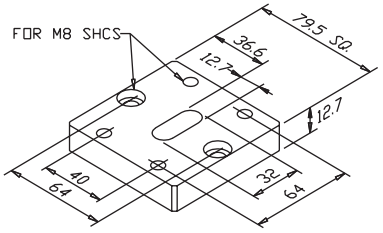

3

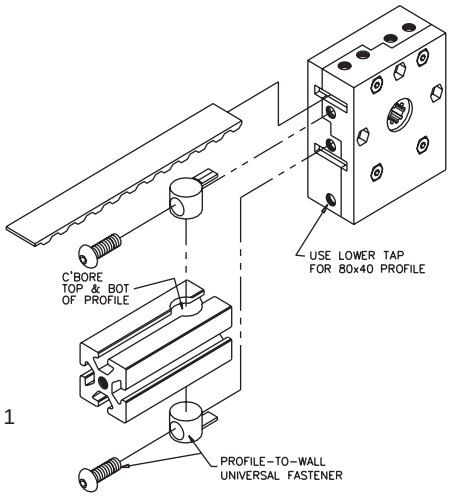
4

Reversing Unit 40

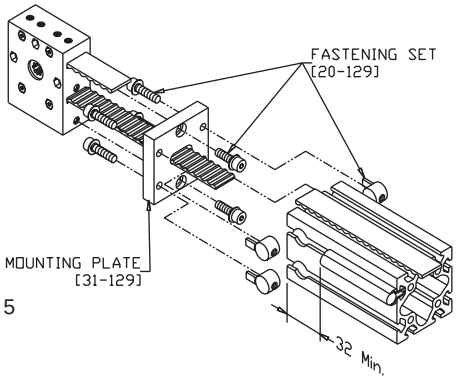




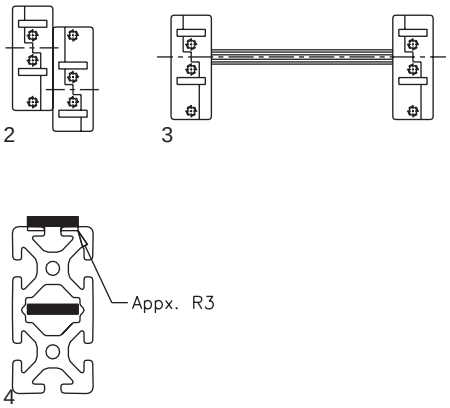




1



5



2 3 4

1 Attachment of Reversing Unit 40 to a profile (mounting hardware included).

2 Two Reversing Units 40 with belts running on opposite sides of 80x80 profile

3 Reversing Units 40 with a common spline connection

4 Top of profile needs a 3mm radius to prevent belt chatter

5 Mounting the Reversing Unit 40 to an 80x80 or 160x80 profile with the belt running on the 80mm side (requires mounting plate 31-129 and fastening set 20-129).

Application

To drive and reverse timing belt 25T10 for precise linear motion using profiles and linear guides. Choice of drive pulleys with spline 6x11x14mm ISO14 with Ø8^{H7} or Ø19. Pulley with 8mm bore can be drilled to max. Ø15mm. Housing accommodates attachment of drive motor adapter flange or serial connection of multiple reversing units. Reversing Unit 40 can be mounted to the end of profile directly or with Mounting Plate (31-129). Mounting Plate is designed for center mount of Reversing Units 40 and 80 to end of 80x80 or 160x80 Profile with belt running on 80mm side.

Technical Data

Die cast zinc, black coated
Pulley: St, black oxide, Pitch - 10 mm, Teeth - 15 (one revolution corresponds to 150mm), Pitch Dia. 47.75 mm
Maximum load M_D= 20 Nm (14.7 ft-lb)
Belt length inside reversing unit depends on type of connection:

90° connection	- 140 mm
180° connection	- 160 mm
w/ Counter Reversing Unit	- 200 mm

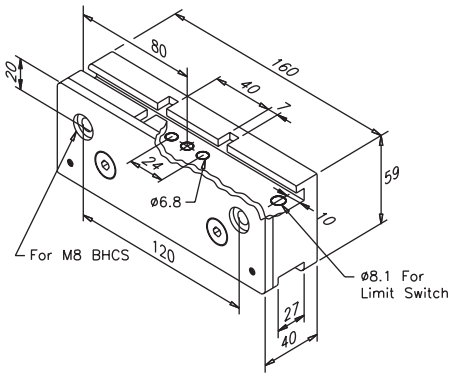
Complete with two Profile-to-Wall fasteners and ten access hole plugs

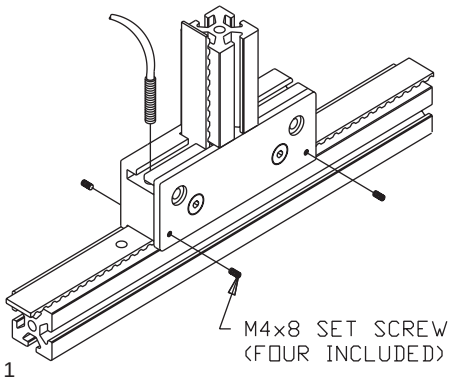
Mounting Plate 31-129:
Al, anodized

Fastening Set 20-129:
Two M8x16 SHCS, four M8x35 SHCS, six M8 rib spring washers and four M8 barrel nuts.

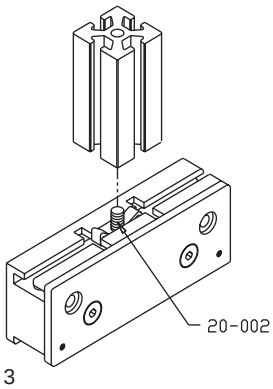
Description	Pulley	Unit	Weight	Part #
Reversing Unit 40	Spline	1 set	1.85 kg	31-122
	8mm Bore	1 set	1.85 kg	31-124
	Idler	1 set	1.85 kg	31-126
Replacement pulleys available on request				
Mounting Plate, Rev. Unit 40		1 pc	.40 kg	31-129
Fast. set for Mounting Plate RU40		1 set		20-129

Counter Reversing Unit

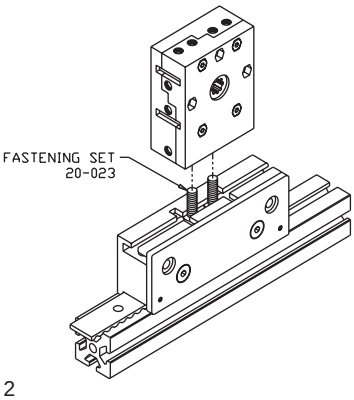




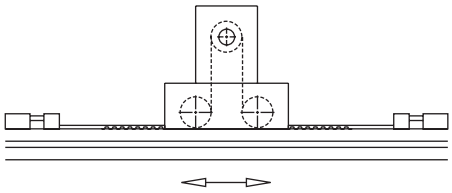
1



3



2



4

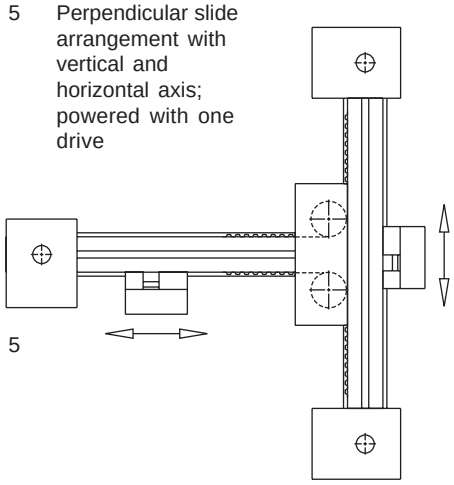
1 Optional attachment of Proximity Switch (31-035) in Counter Revering Unit

2 Attachment of Reversing Unit 40 to Counter Reversing Unit using Fastening Set 20-023

3 Attachment of 40x40 profile to Counter Rev. Unit using Standard Fastener 20-002

4 Stationary drive unit with profile as mobile axis

5 Perpendicular slide arrangement with vertical and horizontal axis; powered with one drive



5

Application
Counter Reversing Unit permits flexibility in drive attachment between mobile and stationary platforms. A two-axis system may be constructed with one powered drive. The unit is attached to the machine base or frame either directly or with optional bracket. It permits reduction in the mass of the mobile platform allowing higher operating speeds and load capacity.

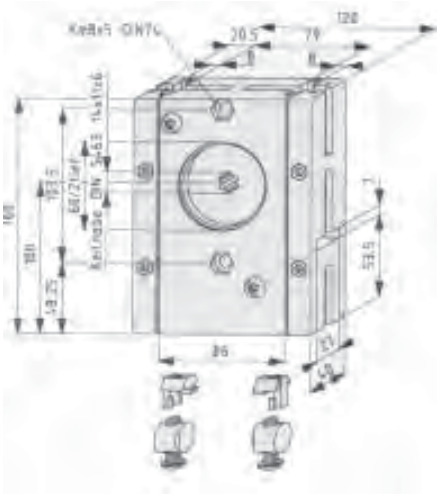
Technical Data
Al, black anodized
Friction moment at 1% belt tensioning
for Reversing Unit 40: M_R = 0.30 Nm
for Reversing Unit 80: M_R = 0.60 Nm

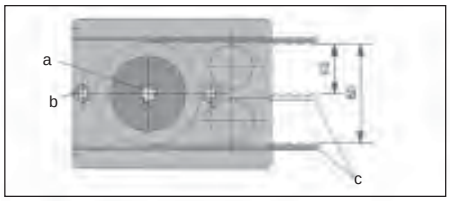
Length of Timing Belt 25T10 inside counter reversing unit: 210 mm

Order all hardware separately:
Fastening set 20-023 includes fastening plate and two M8x20 BHCS

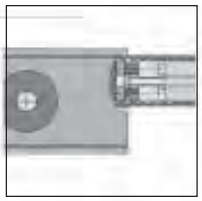
Description	Unit	Weight	Part #
Counter Reversing Unit	1 pc	.80 kg	31-023
Fastening Set, Counter Rev. Unit	1 set		20-023

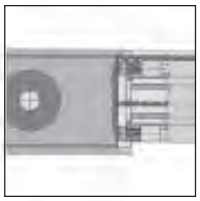
Reversing Unit 80

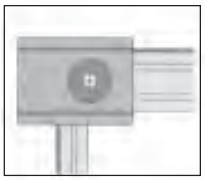


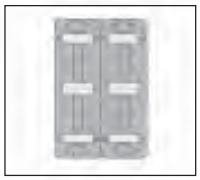


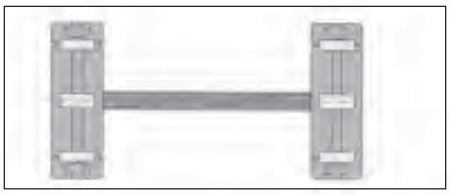
1

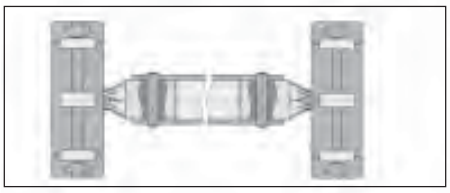

2


3


4

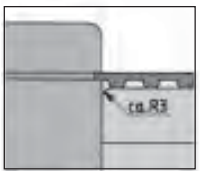

5


6


7


8


9



10

1 Function of bores
a) Timing pulley with multispline hub or bore Ø11 H7
b) Bores in basic shell for mounting a drive unit, special adapter flange or for interconnecting Reversing Units.
c) Belt emergence options (for profiles of height 40 or 80 mm).
2 Timing Belt turned through 180° (emergence 40 mm) on 40 series profiles (40mm). Belt is returned outside the profile.
3 Belt turned through 180° (emergence 40 mm) on 40 series profiles (80 mm and above). Belt is returned in the profile cavity.
4 Timing Belt turned around 90°.
5 Possible parallel arrangement of Reversing Units for double belt drive with double loading capacity.
6 Connection between Reversing Units and multi-spline shaft.
7 Connection of Reversing Units with adapter shafts and hollow shafts for distances over 500 mm.
8-10 Necessary rounding of the profiles at the joint to the Reversing Unit.

Application
Drive or reversal of Timing Belt 25T10 for constructing linear units in conjunction with linear guides. Timing pulley with multi-spline toothing prepared for mounting multi-spline shafts and adapter shafts with multi-spline toothing 6x11x14 ISO 14.

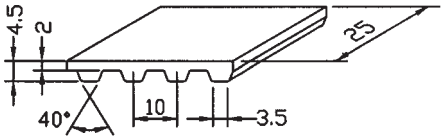
Technical Data
Housing: Die Cast Zinc, black
Roller-bearing timing pulley: pitch-10 mm, number of teeth- 28 (one revolution corresponds to 280 mm)
Includes: two fasteners, two M8x30 BHCS, two special T-slot nuts M8

Friction moment with 1% pre-tensioning of the timing belt:
Emergence dimension 40: M_R = 1.05 Nm
Emergence dimension 80: M_R = 0.55 Nm
Max. load: M_D = 72 Nm

Belt length inside Reversing Unit for 90° reversal: 190 mm
180° reversal (emerg. 40): 360 mm
180° reversal (emerg. 80): 340 mm

Description	Unit	Weight	Part #
Reversing Unit 80, Spline	1 set	3.95 kg	31-135

Hi-Flex Timing Belt



For two pulley drives pre-tension force:

$Fv \geq 0.5\ Fu$ (Fu - peripheral force)

Pre-tension elongation (Δl) in mm per meter (L):

$$\frac{\Delta l}{L} = \frac{Fv}{600}$$

Application

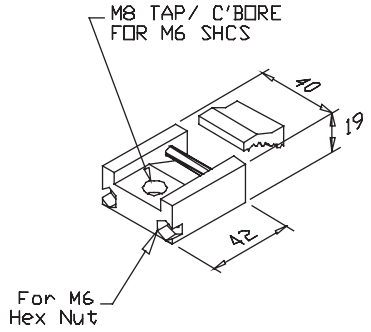
Flexible, heavy duty transmission belt to convert the rotation of a drive motor into linear motion. Total length depends on profile length and amount of belt contained inside reversing unit. Pretensioning is determined by a the maximum operating peripheral force.

Technical Data

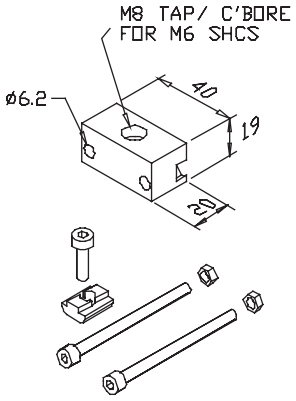
Polyurethane, steel reinforced
Maximum tensile load - 2,400 N
Temperature range -30°C to +80°C

Description	Unit	Part #
Hi-Flex Timing Belt 25T10	per meter, max. 50M	31-052-1

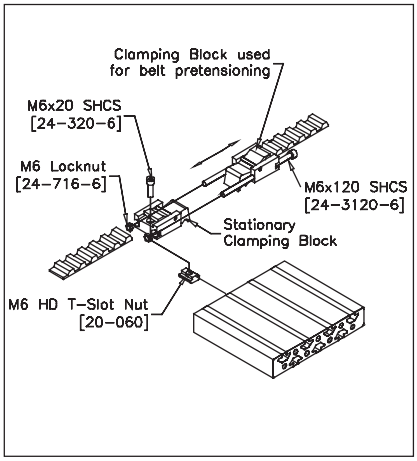
Clamping and Tensioning Blocks



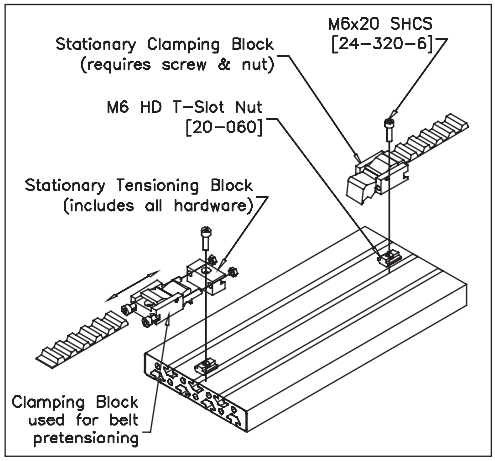
31-030



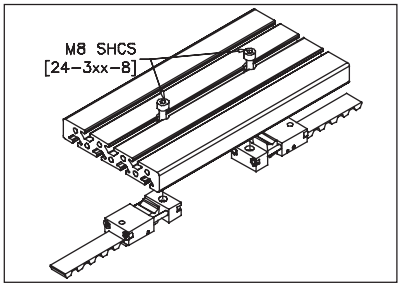
31-031



1



2



3

1 Two Clamping Blocks used for belt clamping and tensioning. Order all hardware separately

2 Two Clamping Blocks and one Tensioner used for belt tensioning. Used when design does not permit the belt ends to come close. Tensioning block includes all hardware. Order screw and T-nut separately for attaching stationary clamping block (on the right).

3 Using two Clamping Blocks and two Tensioners is recommended for long linears (over 3.5 M) to allow proper belt tensioning. Order M8 screws separately.

Application

For attaching timing belt to a carriage slide and providing tensioning adjustment. Each end of belt requires clamping block. Tensioning block may be used on one or both ends of the belt.

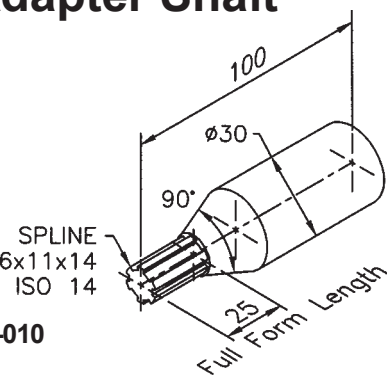
Technical Data

Al, black anodized
Tensioner includes: one M6x25 SHCS and one M6 T-slot Nut HD for attachment to base plate, two M6 lock nuts and two M6x80 SHCS.

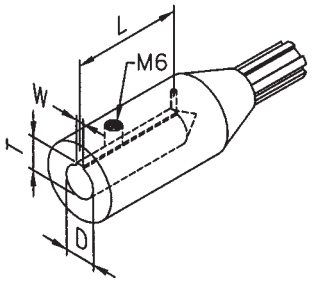
Description	Unit	Weight	Part #
Clamping Block, Belt 25T10	1 set	62 g	31-030
Tensioning Block	1 set	92 g	31-031

4

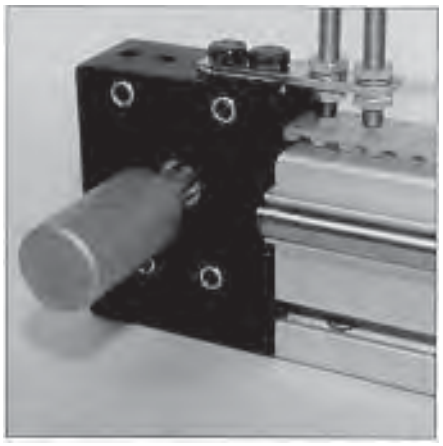
Adapter Shaft

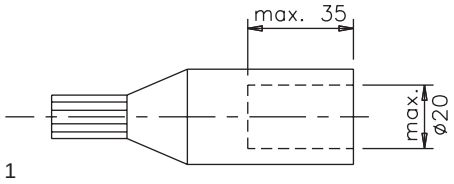


31-010



31-012
31-013

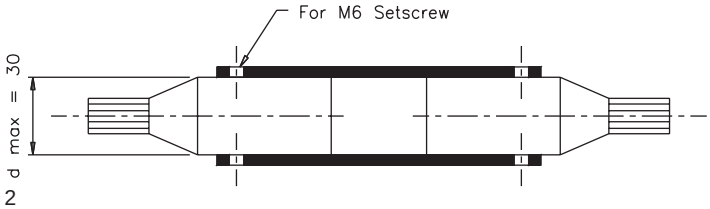




1

1 Adapter Shaft 31-010 can be machined for appropriate adapting configuration

2 Adapter shafts connected with a hollow shaft



2

Application
Adapter element between Reversing Unit 40 and various drive motors. Surface hardening permits machining for appropriate adapting configuration. For rigid connection of Reversing Units 40 and 80 in parallel, when distance between them exceeds 1M (3 ft).

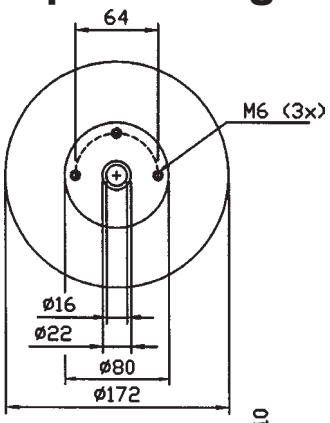
Technical Data
St., surface coated

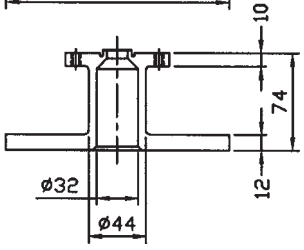
Part #	D	L	W	T
31-012	12.7	44.5	3.17	14.22
31-013	15.88	50.8	4.73	18.0

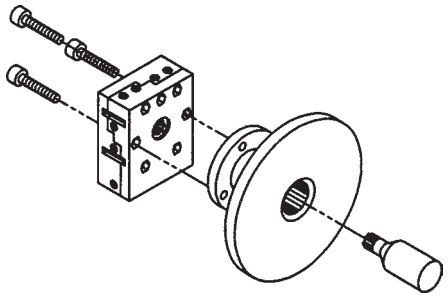
Description	Unit	Weight	Part #
Adapter Shaft, Blank	1 pc	0.36 kg	31-010
Adapter Shaft, 1/2" Bore with Keyway	1 pc	0.31 kg	31-012
Adapter Shaft, 5/8" Bore with Keyway	1 pc	0.27 kg	31-013

4

Universal Adapter Flange







Application
Transition element for connecting drive motors to the Reversing Unit 40. Can be serviced to customer needs. Design accommodates hole pattern of NEMA motors up to size 56.

Technical Data
Al, black powder coated

Order all hardware separately.
Requires three M6x45 SHCS (24-345-6) for mounting to Reversing Unit 40

Description	Unit	Weight	Part #
Universal Adapter Flange	1 pc	1.0 kg	31-014

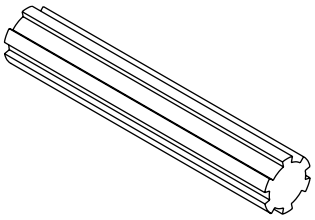
Gear Boxes

Application
Gearheads mount directly to Reversing Units 40.

Technical Data
Range available
3:1 to 100:1

Contact Parker Zenith Division (877-955-4327) or www.parkergearhead.com for availability and complete information

Spline Shaft



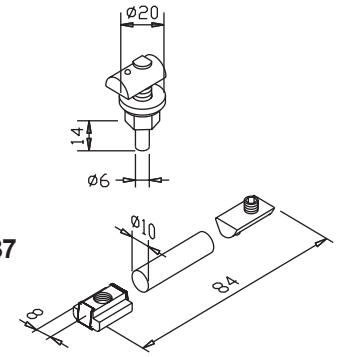
Application
To connect multiple reversing units 40 for generation of synchronous motion cycles such as required for gantry applications.

Technical Data
Cold drawn steel, 1045,
6x11x14 ISO 14, DIN 5463
Max. recommended length without bearing support: 500mm horiz.
Weight 0.92 kg/m

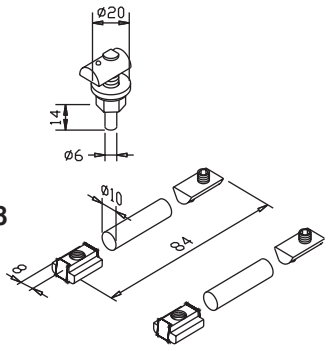
Description	Unit	Part #
Spline Shaft	per meter*	13-566
Saw cut necessary for cut off		19-007

*Call for maximum lengths in stock

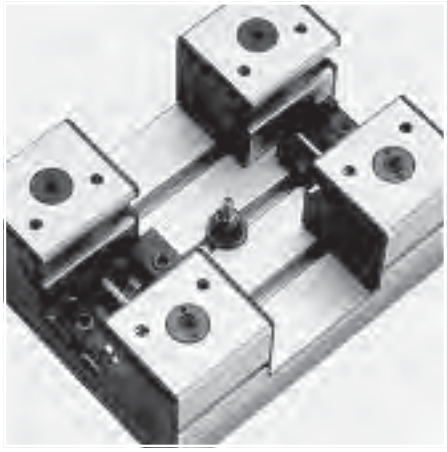
Limit Stop

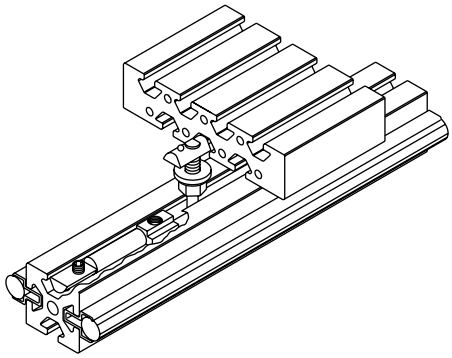


31-037



31-038





Application
To define mechanically the limits of travel. The rubber shock absorber provides for a cushioned end stop.

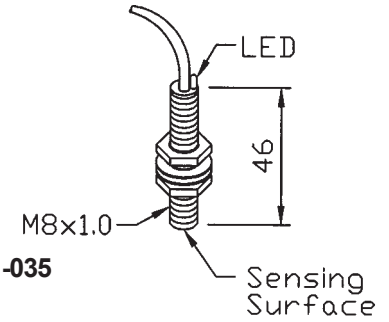
Technical Data
31-037:
M8 T-slot nut HD w/retainer spring, M8x8 cup point set screw, rubber shock absorber, two M8 T-slot nuts, M8x44 set screw, M8 washer, M8 flange nut

31-038:
two M8 T-slot nuts HD w/retainer spring, two M8x8 cup point set screws, two rubber shock absorbers, three M8 T-slot nuts, M8x44 set screw, M8 washer, M8 flange nut

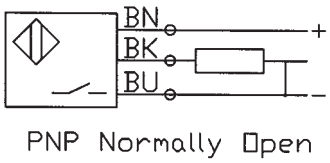
Description	Unit	Weight	Part #
Limit Stop - One Direction	1 set	65 g	31-037
Limit Stop Bi-Directional	1 set	93 g	31-038

4

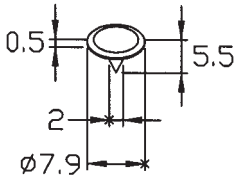
Proximity Switch



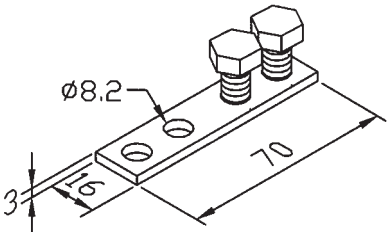
31-035



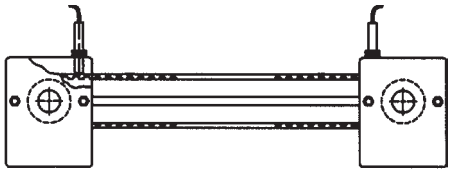
PNP Normally Open



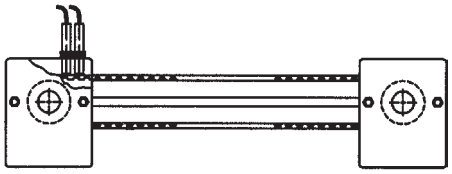
31-033



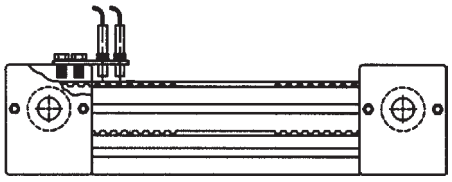
31-036



1



2



3

1 Attachment of proximity switches when exciter does not run through reversing unit.

2 Attachment of both proximity switches for simplified control wiring installation on drive side of platform.

3 Attachment of both proximity switches on drive side of platform using mounting element 31-036.

Application
Proximity switches determine the limits of travel or provide reference positions. Exciter cams actuate inductive proximity switch, pressed into the flat surface of the timing belt.
Mounting element provides attachment of proximity switches on reversing unit 40.

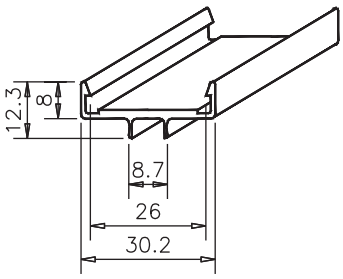
Technical Data
Inductive proximity switch in PNP sequence with LED indicator.
Maximum sensing distance: 1.5 mm
Output function: Normally Open
Supply voltage: 10-30 VDC
Includes two lock washers (must be used) and two hex nuts

Exciter Cam: St, black

Mounting Element: St, zinc plated
Includes two hex bolts M8x1x16 (24-316-8-1)

Description	Unit	Weight	Part #
Proximity Switch	1 pc	65 g	31-035
Exciter Cam	1 pc	1 g	31-033
Mounting Element for Proximity Switch	1 set	43 g	31-036

Timing Belt Guide

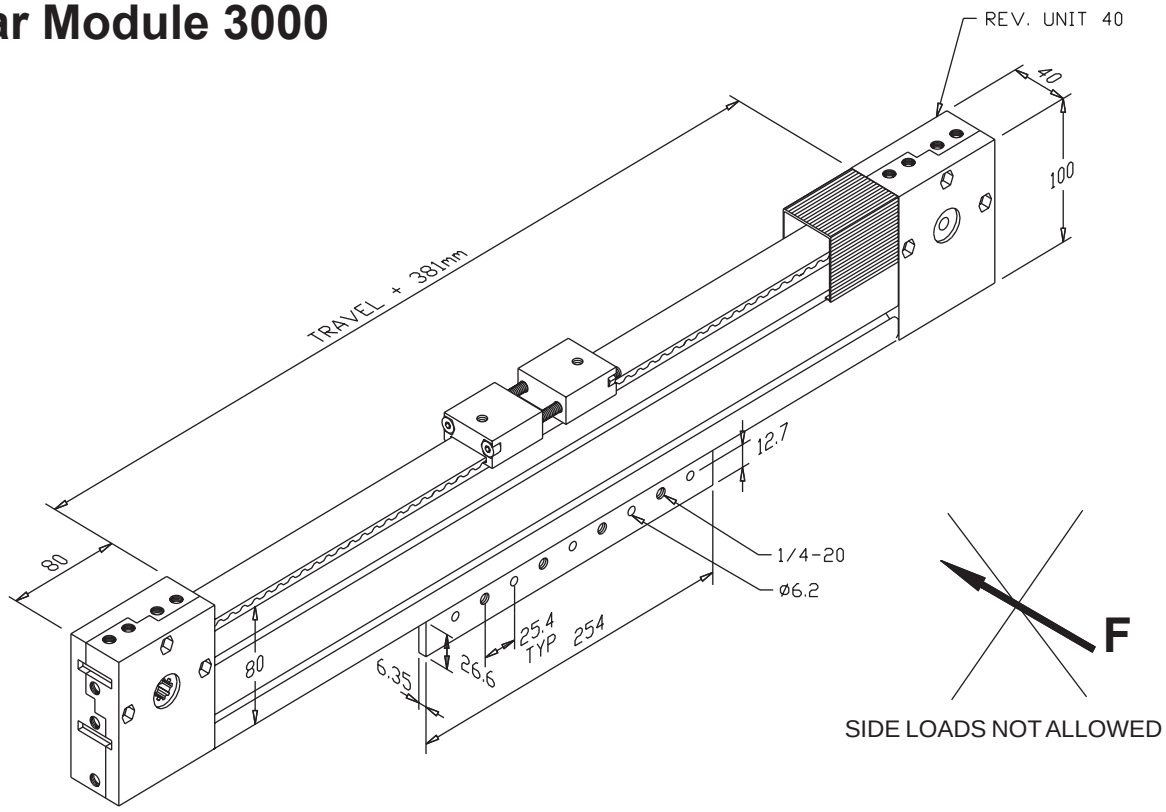


Application
To provide guidance for 25mm wide timing belt over long distances in belt drive systems. Not to be used in areas where interference with clamping block, limit stop or other parts might occur.

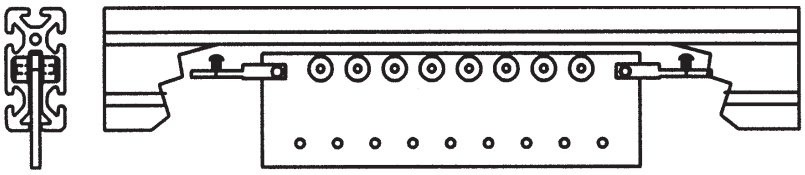
Technical Data
Al, clear anodized
Weight 0.2 kg/m

Description	Unit	Part #
Timing Belt Guide Profile	cut off max. 3M	13-700
	pkg of 10 at 3M ea.	13-700-3
Saw cut necessary for cut to length		19-001

Linear Module 3000



SIDE LOADS NOT ALLOWED



Application
High speed linear actuator up to 3M/sec. with travel up to 5500mm. Durable, precise, low maintenance, low cost, flexible, expandable and readily available.

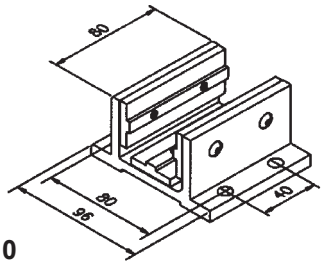
Notes:
Specify length of travel when ordering. For motor mounting dimensions, see Reversing Unit 40, page 159. Proximity switches can be used (order separately). Adapter shaft and universal adapter flange can be used for motor mounting (order separately). Linear Module 3000 uses hi-flex timing belt 25T10.

Description	Unit	Part #
Linear Module 3000	1 unit	32-300

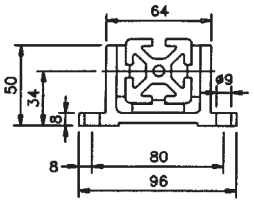
Profile Slide Block

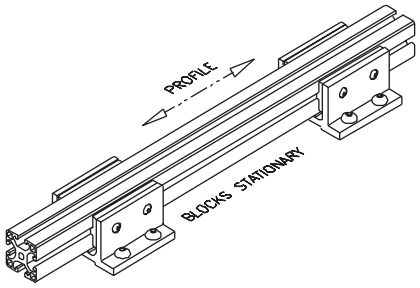
Profile Slide Blocks are a versatile, cost efficient concept to build a multitude of adjustable slides and movable rail systems with 40mm and 80mm wide profiles. Delrin slide pads engage directly into the T-slots. Shims provide adjustment for a variety of assembly tolerances. Slide blocks designed for a compression load - do not hang a load from the pad.

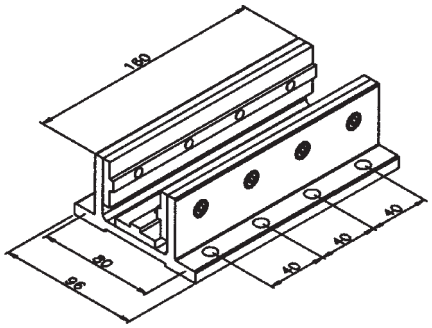
The slide blocks attach to any surface with M8 button head screws. The block slides along a profile when the profile is stationary, or a profile slides in the block, when the block is mounted. Clamping mechanism can be added to lock slide block in place.



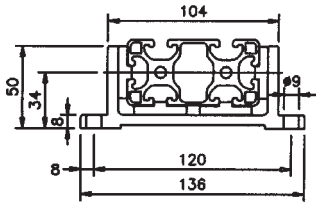
30-410

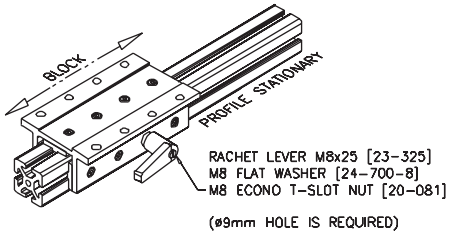


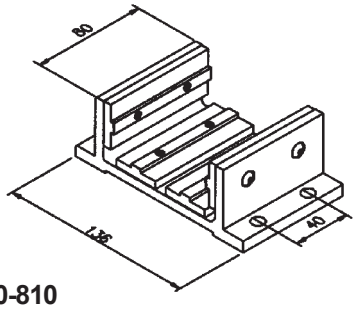




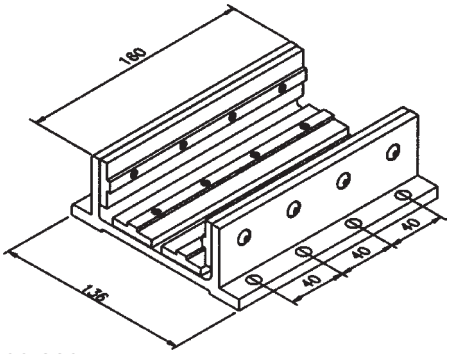
30-420







30-810



30-820

Application
Bearing block for slides and movable rail applications requiring very cost efficient construction. This block can be used on the 40 or 80mm side of 40 series Standard or Heavy profiles.

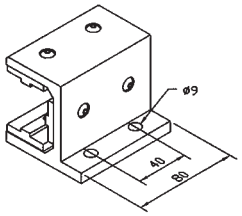
Technical Data
Al, anodized
Includes: M5x12 BHCS
Slide pad: Delrin; max. continuous surface temperature in air 185ºF (85ºC)
Shim: PET (Polyethylene Terephthalate) .005" thick, four per block

Safe load:
30-410 = 1,000 N (225 lbs)
30-420 = 2,000 N (450 lbs)
30-810 = 2,000 N (450 lbs)
30-820 = 4,000 N (900 lbs)

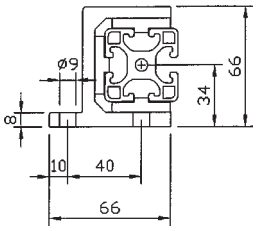
Description	Unit	Weight	Part #
Slide Block 40, 80mm long	1 pc	.31 kg	30-410
Slide Block 40, 160mm long	1 pc	.62 kg	30-420
Slide Block 80, 80mm long	1 pc	.38 kg	30-810
Slide Block 80, 160mm long	1 pc	.76 kg	30-820
Slide Profile 40	cut off max. 6M	3.46 kg/m	13-410
Saw cut necessary for cut to length			19-001
Slide Profile 80	cut off max. 6M	4.19 kg/m	13-810
Saw cut necessary for cut to length			19-002

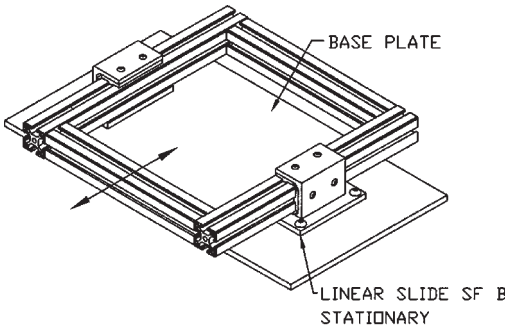
Sold under License from 80/20, Inc., Pat. No. 5,429,438

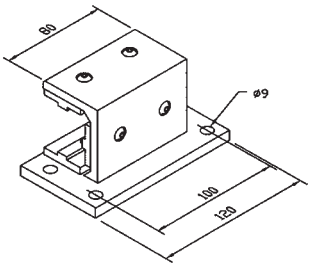
Single Flange Slide Block



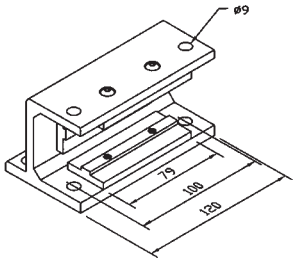
30-430







30-440



30-450

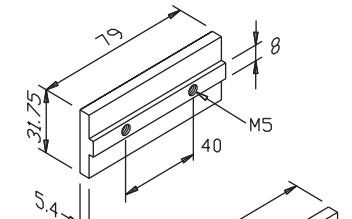
Application
Used with 40x40 profiles for low cost linear applications where one side is not available for mounting. Delrin slide pads engage directly into the profile T-slots.

Technical Data
Al, anodized
Includes M5x12 BHCS
Slide pad: Delrin; max. continuous surface temperature on air 185ºF (85ºC)
Shim: PET (Polyethylene Terephthalate) .005" thick, four per block
Safe load - 1,000 N (225 lbs)

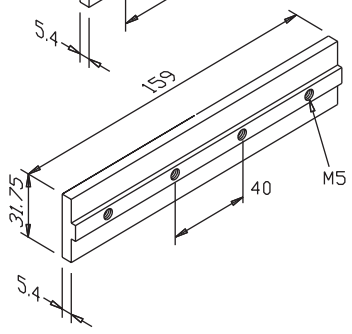
Description	Unit	Weight	Part #
Slide Block, Single Flange A	1 pc	0.31 kg	30-430
Slide Block, Single Flange B	1 pc	0.37 kg	30-440
Slide Block, Single Flange C	1 pc	0.42 kg	30-450
Slide Profile 40 SF	cut off max. 6M	3.32 kg/m	13-430
Saw cut necessary for cut to length			19-001

Sold under License from 80/20, Inc., Pat. No. 5,429,438

Slide Pad and Shim



30-412



30-812

Application
Replacement parts for Profile Slide Blocks. Slide pad can also be attached to a profile to serve as a guide in sliding door applications.

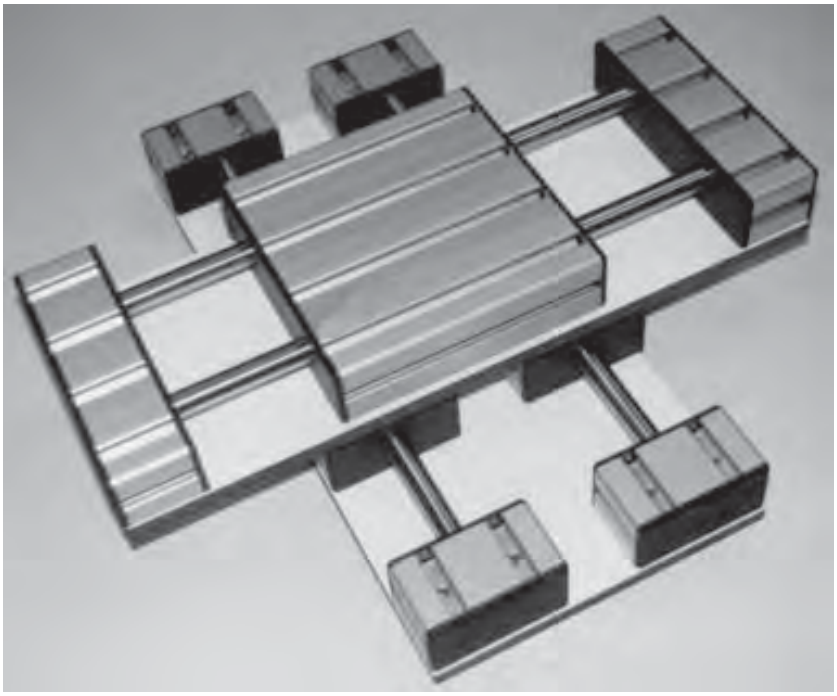
Technical Data
Pad: Delrin; max. continuous surface temperature in air 185ºF (85ºC)
Shim: PET (Polyethylene Terephthalate) .005" thick

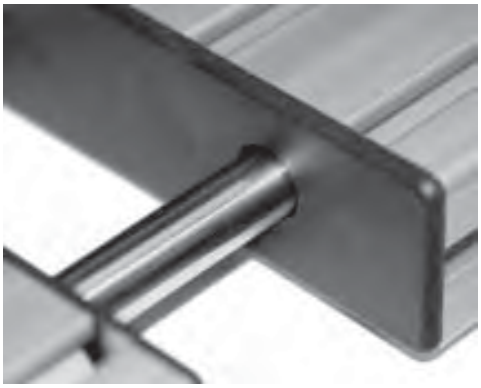
Description	Unit	Part #
Slide Pad 80	1 pc	30-412
Slide Pad 160	1 pc	30-812
Shim 80	pkg of 4	30-412Z2
Shim 160	pkg of 4	30-812Z2

4

Slide Bushing Linear System 14

Delrin glide bushings provide a low cost accurate slide system, running on 14mm hardened and precision ground shafts, to be used for various applications like pick & place units, X-Y tables or pushers. Can be equipped with pneumatic cylinder or electric motor and ball screw. Hard chromed shaft (13-513) for humid environment is also available.





Applications

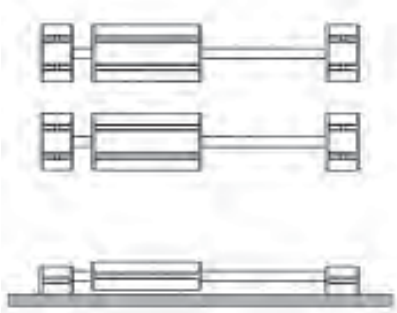
1 Horizontal application of Slide Bushing Linear 80x40-14

2 Horizontal application of Slide Bushing Linear 160x40-14

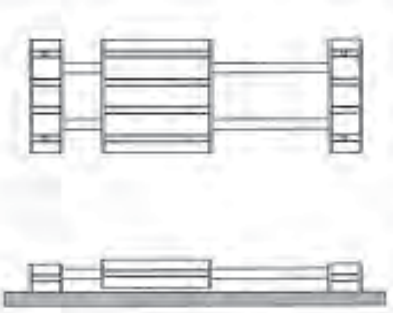
3 Vertical guide with stationary shafts and moving carriage.

4 Vertical guide with stationary carriage and moving shafts.

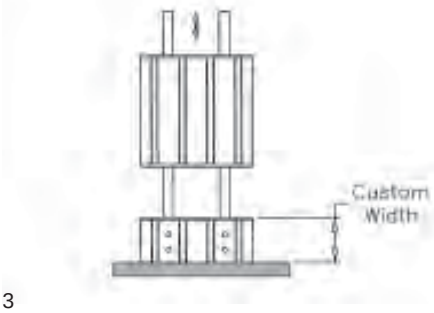
Ask for custom pillow blocks and carriages.



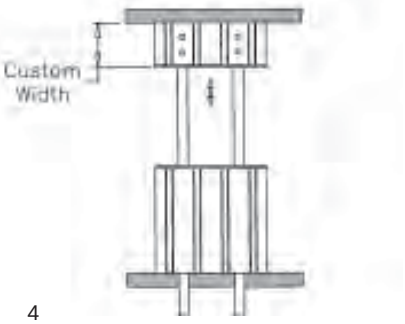
1



2

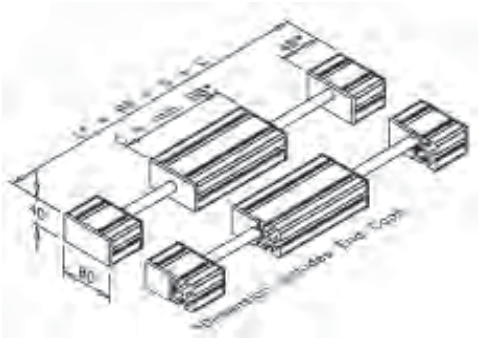


3

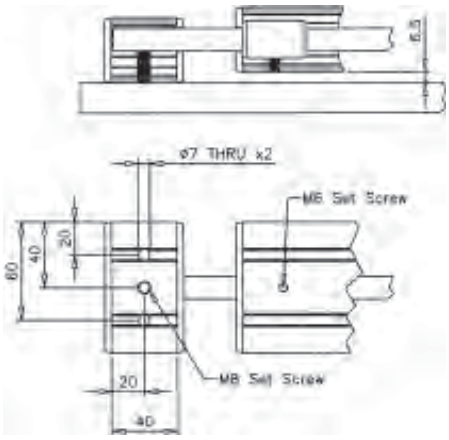


4

Slide Bushing Linear 80x40-14



Application
Complete slide linear 14 made of 80x40 heavy profile with variable carriage and stroke lengths (please indicate when ordering). The slightly shorter shaft length allows for small overall length adjustment during installation.



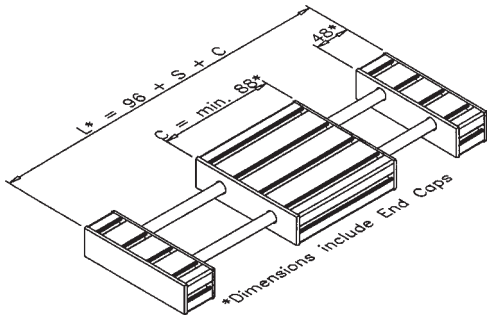
Technical Data
Slide set machined and pre-assembled.
Max. slide length L = 2000mm.
Shaft length R = 80 + S + C
L = Slide Length (including ends caps)
C = Carriage Length (including 2 end caps)
S = Stroke
For proper function Carriages and Pillow Blocks must be ordered as a set.

Set includes:
2x Carriage 80x40-14, custom Length C
4x Pillow Block 80x40-14
4x Slide Bushing 14 (30-609)
4x Set Screw M6 x 10 (24-510-6C)
4x Set Screw M8 x 19 (24-519-8D)
2x Linear Shaft 14 (13-514)
4x End Cap 80x40 (18-814)
4x Pillow Block Cap 80x40-14 (30-607-1)
4x Carriage Cap 80x40-14 (30-607-2)

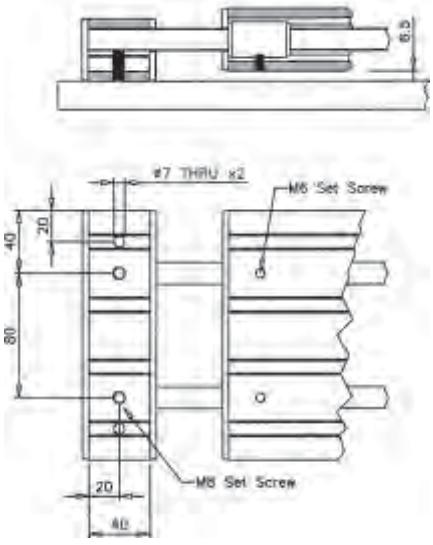
Description	Unit	Part #
Slide Bushing Linear 80x40-14	1 set	30-601 *

*Specify Carriage Length (C) and Stroke (S) when ordering

Slide Bushing Linear 160x40-14



Application
Complete slide linear 14 made of 160x40 heavy profile with variable carriage and stroke lengths (please indicate when ordering). The slightly shorter shaft length allows for small overall length adjustment during installation.



Technical Data
Slide set machined and pre-assembled
Max. Slide Length L = 2000mm.
Shaft length R = 80 + S + C
L = Slide Length (including end caps)
C = Carriage Length (including 2 end caps)
S = Stroke
For proper function Carriage and Pillow Blocks must be ordered as a set.

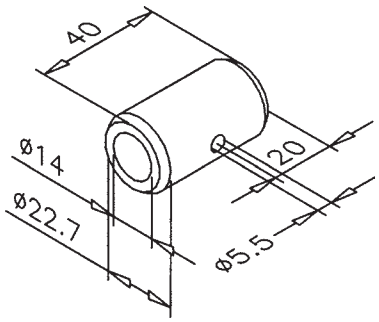
Set includes:
1x Carriage 160x40-14, custom length C
2x Pillow Block 160x40-14
4x Slide Bushing 14 (30-609)
4x Set Screw M6 x 10 (24-510-6C)
4x Set Screw M8 x 19 (24-519-8D)
2x Linear Shaft 14 (13-514)
2x End Cap 160x40 (18-817)
2x Pillow Block Cap 160x40-14 (30-607-3)
2x Carriage Cap 160x40-14 (30-607-4)

Description	Unit	Part #
Slide Bushing Linear 160x40-14	1 set	30-602 *

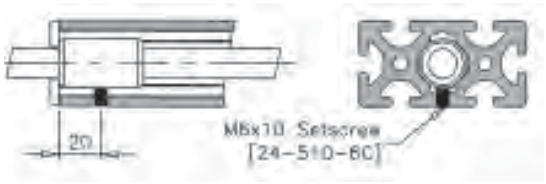
*Specify Carriage Length (C) and Stroke (S) when ordering

4

Slide Bushing 14



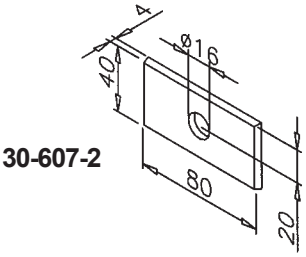
Application
Maintenance free bushing ready for assembly in 80x40 heavy or 160x40 heavy profile.



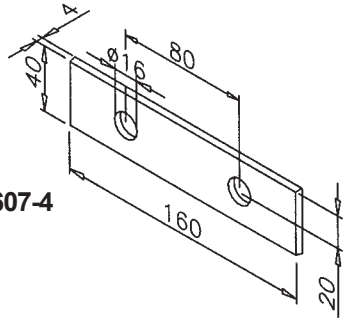
Technical Data
Delrin, black
For harsh environments lubricating is recommended
Load 200 N per bushing at 0.5 m/s

Description	Unit	Part #
Slide Bushing 14	1 pc	30-609

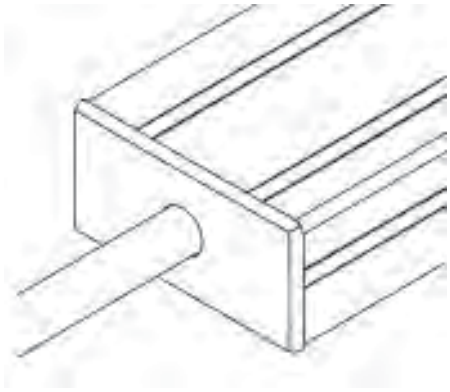
Carriage Cap



30-607-2



30-607-4

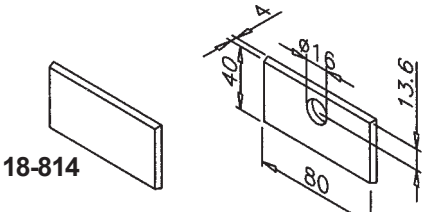


Application
Covering for profile end of Carriage 80x40-14 or 160x40-14.

Technical Data
Glass-filled nylon, black

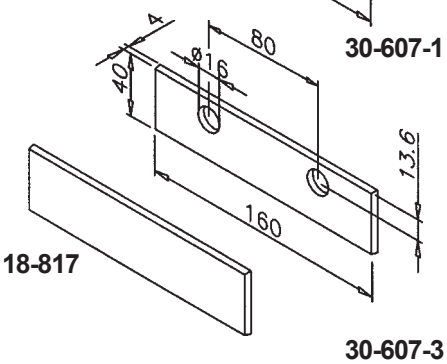
Description	Unit	Weight	Part #
Carriage Cap 80x40-14	1 pc	14 g	30-607-2
Carriage Cap 160x40-14	1 pc	26 g	30-607-4

Pillow Block Cap



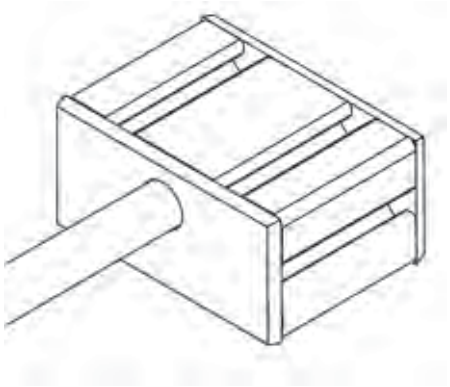
18-814

30-607-1



18-817

30-607-3



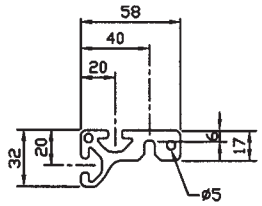
Application
Covering for profile end of Pillow Block 80x40-14 or 160x40-14.

Technical Data
Glass-filled nylon, black

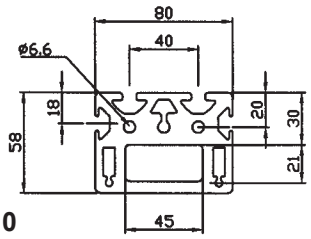
Description	Unit	Weight	Part #
Pillow Block Cap 80x40-14	1 pc	14 g	30-607-1
Pillow Block Cap 160x40-14	1 pc	26 g	30-607-3
End Cap 80x40	1 pc	15 g	18-814
End Cap 160x40	1 pc	28 g	18-817

Linear Rail and Conveyor Profile

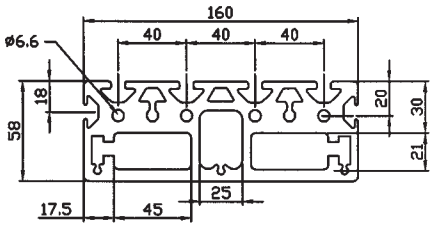
Bearing Unit Profiles



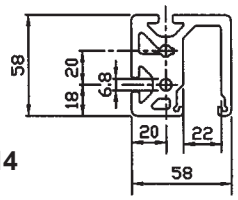
13-406



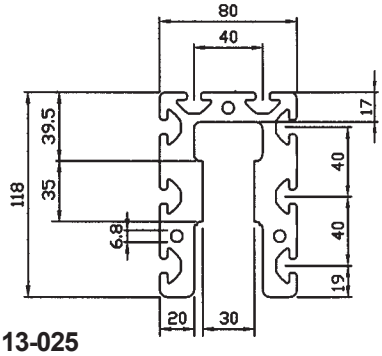
13-010



13-011



13-014



13-025

Application
For mounting IPS track rollers forming custom bearing units for 6, 10, 14 and 25 mm linear shafts.

Notes:
All T-slots are 40 series, except 28 T-slots on side of 13-010 and 13-011.
Profiles 13-010 and 13-011 available in mill finish. Anodizing on request.
Profile 13-025 is available in 100 and 300 mm lengths.

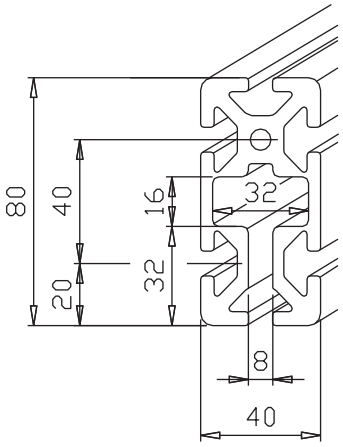
Technical Data
Al, clear anodized

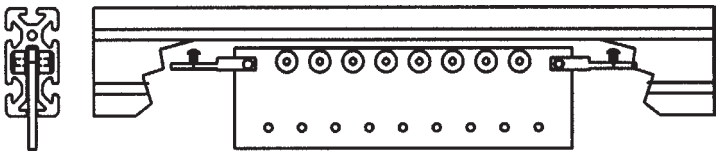
Part #	I_x [cm^4]	I_Y [cm^4]	W_x [cm^3]	W_Y [cm^3]	Section [cm^2]	Weight [kg/m]
13-406	24.59	4.57	8.25	2.15	7.73	2.09
13-010	83.72	159.11	28.30	39.80	26.85	7.25
13-011	161.14	1131.00	53.40	141.40	48.35	13.06
13-014	48.78	28.52	16.26	8.15	16.02	4.32
13-025	548.24	370.46	92.61	81.74	44.36	11.98

Description	Unit	Part #
Roller Profile 6	cut off max. 6M	13-406
Saw cut necessary for cut to length		19-001
Roller Profile 10/14 HD, Single	custom	13-010
Roller Profile 10/14 HD, Double	custom	13-011
Roller Profile 14	cut off max. 6M	13-014
Saw cut necessary for cut to length		19-001
Roller Profile 25, 100 mm long	1 pc	900.32Z1
Roller Profile 25, 300 mm long	1 pc	900.33Z1

4

Profile 80x40 Rail Transport





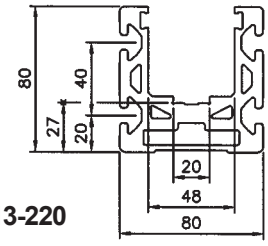
Application
Overhead or inverted transport rail. Used for Linear Module 3000 and Rail Cart 8 and 4 Roller for sliding door applications.

Technical Data
Al, clear anodized

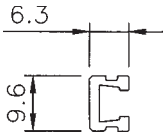
Part #	I_x [cm⁴]	I_Y [cm⁴]	W_x [cm³]	W_Y [cm³]	Section [cm²]	Weight [kg/m]
14-248	99.31		24.25		15.17	4.19

Description	Unit	Part #
Profile 80x40 Rail Transport	cut off max. 6M	14-248
Saw cut necessary for cut to length		19-001
End Cap 80x40	1 pc	18-814

Linear Profiles



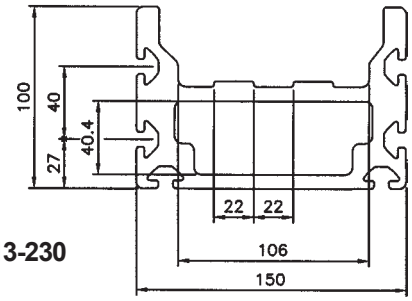
13-220



Wear Guide
[13-220Z1]

Application
Mounting structures for Linear applications or general engineering with heavy loads or wide spans.

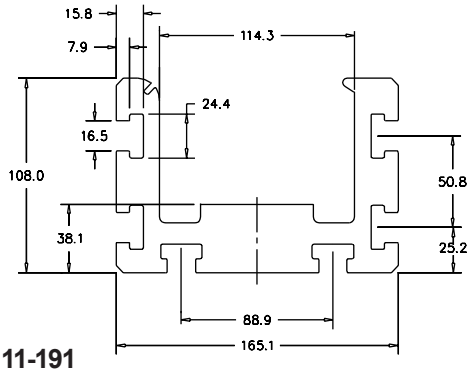
Technical Data
13-220 and 13-230: Al, clear anodized
11-191: Al, mill finish (anodizing on request)
Wear Guide: Polyeurethane, black



13-230

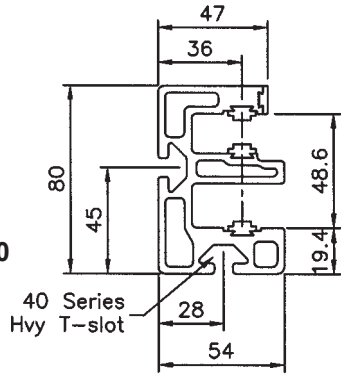
Part #	I_x [cm⁴]	I_Y [cm⁴]	W_x [cm³]	W_Y [cm³]	Section [cm²]	Weight [kg/m]
13-220	127.0	189.0	26.6	47.2	24.6	6.63
13-230	373.0	1449.0	62.9	190.0	49.7	13.40
11-191	697.5	2209	101.4	265.2	73.65	19.9

Description	Unit	Part #
Linear Module Profile 80	cut off max. of 3M	13-220
Saw cut necessary for cut to length		19-002
LDPE Wear Guide for 13-220	per meter	13-220Z1
Linear Module Profile 150	cut off max. of 3M	13-230
Conveyor Rail Profile	cut off max. of 4M	11-191
Saw cut necessary for cut to length		19-003

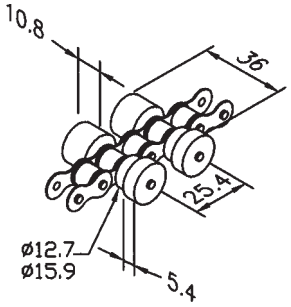


11-191

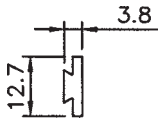
54x80 Conveyor Profile



14-450



14-454



14-452

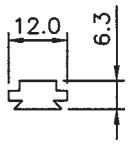
Application
Conveyor systems for large circuit boards, chassis or pallet fixture assemblies. For use with IPS Roller Chain 14-454. Use IPS 50x80 and 50x50 profiles for construction of support frame.

NOTE: Order all Wear Strips and Wear Guides separately. We recommend securing ends with a dowel pin or an end plate.

Technical Data
Al, clear anodized
Weight = 4.24 kg/m

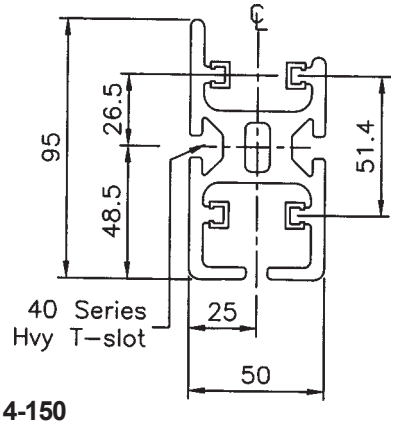
Wear Strips: UHMW, antistatic black
Chain: St, ANSI No. 40 w/ extended pins at double pitch
Rollers: Delrin, anti-static black
Bushings: Brass

Description	Unit	Part #
54x80 Chain Conveyor Profile	cut off max. 6M	14-450
Saw cut necessary for cut to length		19-001
Wear Strip for 14-450 (1 req.)	cut off max. 6M	14-452
Wear Guide for 14-450 (3 req.)	cut off max. 6M	14-453
Roller Chain w/ Outboard Rollers	per meter	14-454
Pin for Roller Chain 14-454	1 pc	14-454Z7

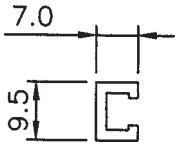


14-453

50x95 Chain Conveyor Profile



14-150



14-152

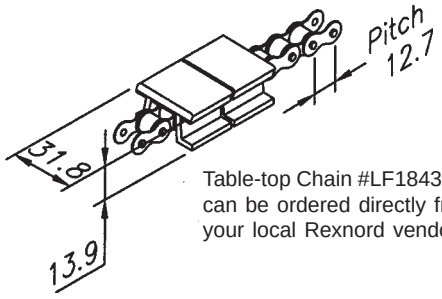


Table-top Chain #LF1843-K1¼ can be ordered directly from your local Rexnord vendor.

Application
Table-top conveyor transport rail to accommodate Rexnord table-top side-flexing chain #LF1843-K1¼. Use IPS 50x80 and 50x50 profiles for construction of supporting frame.

NOTE: Order Wear Strips separately. We recommend securing ends with a dowel pin or an end plate.

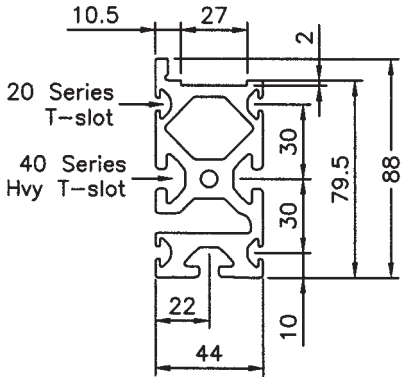
Technical Data
Al, clear anodized
Weight = 5.0 kg/m

Wear strip: Tivar 1000, anti-static black

Description	Unit	Part #
50x95 Chain Conveyor Profile	cut off max. 6M	14-150
Saw cut necessary for cut to length		19-001
Wear Strip for 14-150	cut off max. 6M	14-152

4

Belt Conveyor Profile

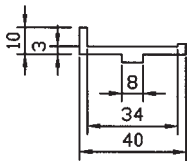


Application
Profile for belt conveyor tracks. Groove to accomodate steel wear strip for Timing Belt 25T5, Rim guides the pallets. T-slots can be used to mount switches, stops or other structures to the conveyor system.

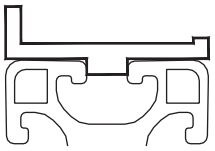
Technical Data
Al, clear anodized
Weight = 4.7 kg/m

Description	Unit	Part #
Belt Conveyor Profile	cut off max. 6M	14-160
Saw cut necessary for cut to length		19-001

Conveyor Belt Guide



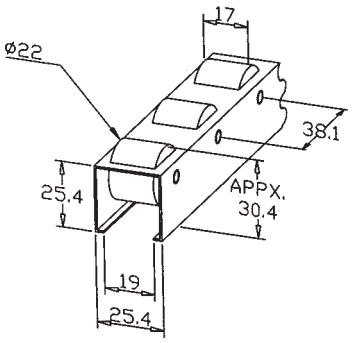
Application
To guide conveyor belts. Can be attached to any 40 Series profiles with flat head screws and T-slot nuts.

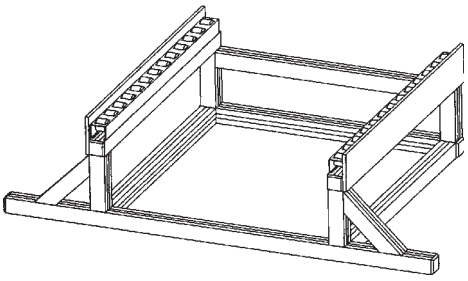


Technical Data
UHMW: antistatic black

Description	Unit	Part #
Conveyor Belt Guide	cut off max. 3M	14-348
Saw cut necessary for cut to length		19-001

Roller Track



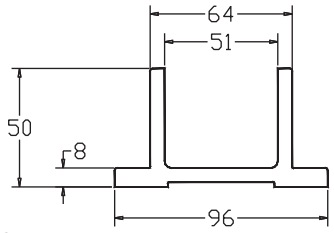


Application
Economical track for flow rack system. Usually use two tracks per runway but three of four may be used with heavy or wide loads. Can be attached to 40, 30 or 28 Series profiles.

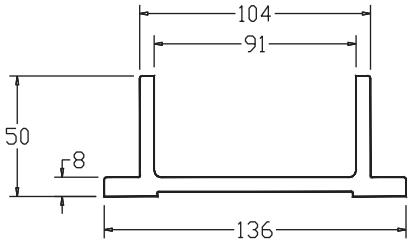
Technical Data
Channel: rolled steel, galvanized (0.028")
Roller: PE, white
Load: 22 N (5 lbs) per roller

Description	Unit	Part #
Roller Track	per meter, max. 3M	14-100
Saw cut necessary for cut to length		19-007

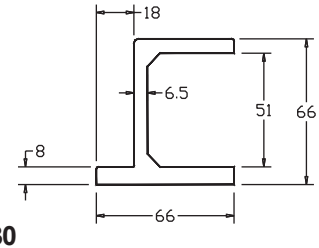
Slide Profile



13-410



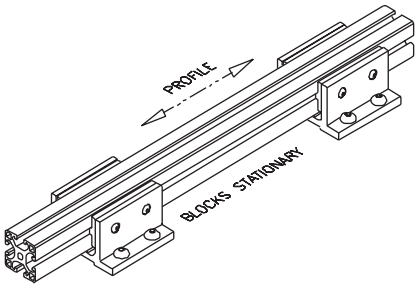
13-810

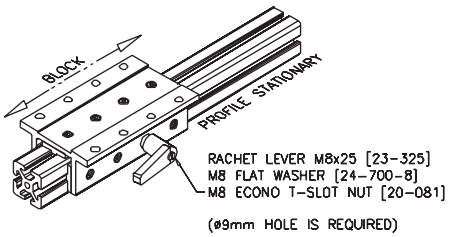


13-430

Application
Profiles for making custom slide blocks using slide pads.
(see pages 162, 163)

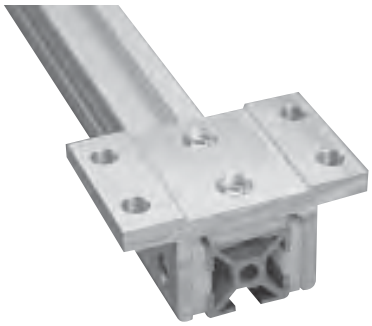
Technical Data
Al, anodized





Description	Unit	Weight	Part #
Slide Profile 40	cut off max. 6M	3.46 kg/m	13-410
Saw cut necessary for cut to length			19-001
Slide Profile 40 SF	cut off max. 6M	3.32 kg/m	13-430
Saw cut necessary for cut to length			19-001
Slide Profile 80	cut off max. 6M	4.19 kg/m	13-810
Saw cut necessary for cut to lenght			19-002

4



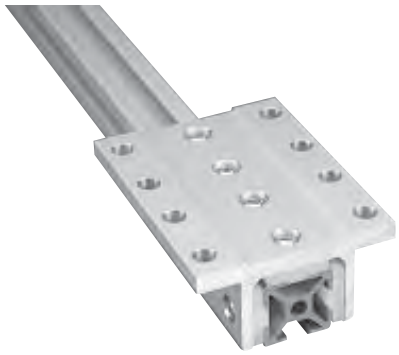
These 28 mm double flange units offer low cost linear guidance. They utilize glide pads oriented within T-slots. You make your own guidance device. You provide the power – pneumatic, electro-mechanical or manual.

Shims are available to provide a more precise fit.

Optional clamping mechanism can be added as required. Each clamp requires a machined hole. Refer to page 195 for details.

Material: Aluminum, Clear Anodized
UHMW glide pads

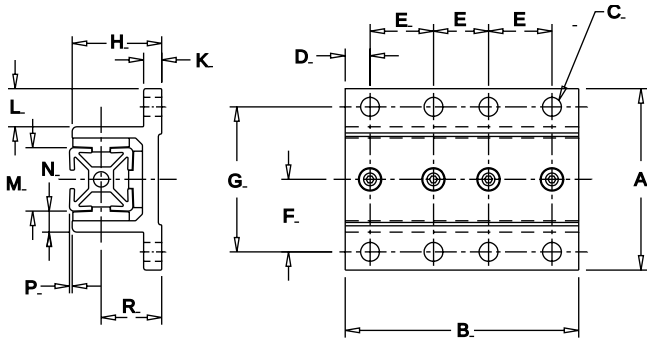
30-2801



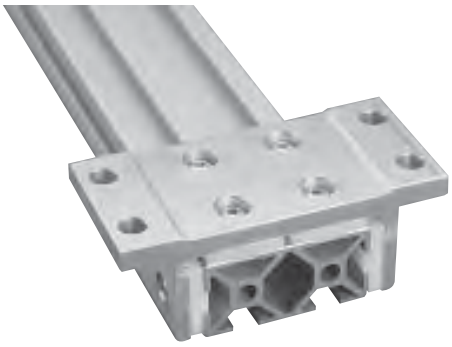
30-2808

Part No.	A	B	C	D	E	F	G
30-2801	80 (3.15)	50 (1.97)	4xØ8.3 (Ø.328)	11 (.433)	28 (1.102)	32 (1.260)	64 (2.519)
30-2808	80 (3.15)	103 (4.06)	4xØ8.3 (Ø.328)	9.5 (.374)	28 (1.102)	32 (1.260)	64 (2.519)
Part No.	**H**	**K**	**L**	**M**	**N**	**P***	**R**
30-2801	39.5 (1.56)	8 (.315)	16.75 (.659)	28 (1.102)	9.25 (.364)	1.1 (.043)	26.9 (1.058)
30-2808	39.5 (1.56)	8 (.315)	16.75 (.659)	28 (1.102)	9.25 (.364)	1.1 (.043)	26.9 (1.058)

* Add 28mm (1.102") when using 12-248 extrusion.



Note: All dimensions in mm (in)



30-5601

These 56 mm double flange units offer low cost linear guidance. They utilize glide pads oriented within T-slots. You make your own guidance device. You provide the power – pneumatic, electro-mechanical, or manual.

Shims are available to provide a more precise fit.

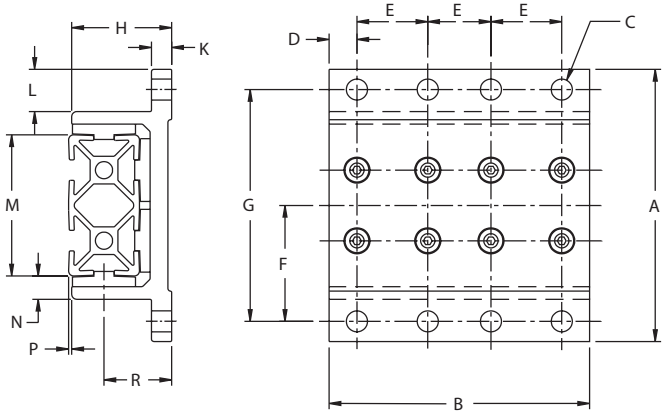
Optional clamping mechanism can be added as required. Each clamp requires a machined hole. Refer to page 195 for details.

Material: Aluminum, Clear Anodized
UHMW glide pads

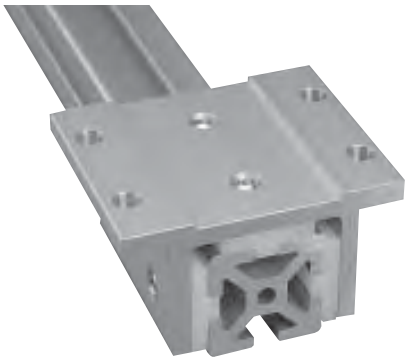
30-5608

Part No.	A	B	C	D	E	F	G
30-5601	108 (4.25)	50 (1.97)	4xØ8.3 (Ø.328)	11 (.433)	28 (1.102)	46 (1.811)	92 (3.662)
30-5608	108 (4.25)	103 (4.06)	8xØ8.3 (Ø.328)	11 (.433)	28 (1.102)	46 (1.811)	92 (3.662)
Part No.	**H**	**K**	**L**	**M**	**N**	**P***	**R**
30-5601	39.5 (1.56)	8 (.315)	16.75 (.659)	56 (2.204)	9.25 (.364)	1.125 (.049)	26.75 (1.053)
30-5608	39.5 (1.56)	8 (.315)	16.75 (.659)	56 (2.204)	9.25 (.364)	1.125 (.049)	26.75 (1.053)

* Add 28mm (1.102") when using 10-056 extrusion.



Note: All dimensions in mm (in)



30-4001

These 40 mm double flange units offer low cost linear guidance. They utilize glide pads oriented within T-slots. You make your own guidance device. You provide the power – pneumatic, electro-mechanical or manual.

Shims are available to provide a more precise fit.

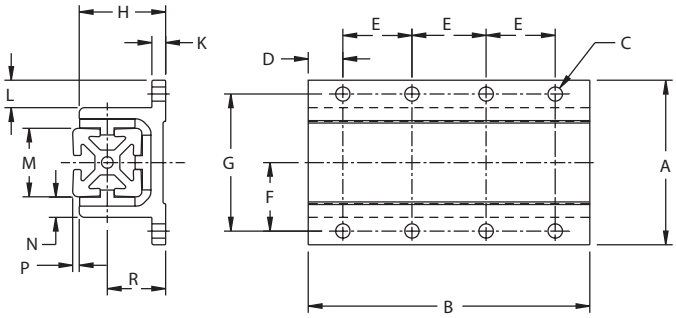
Optional clamping mechanism can be added as required. Each clamp requires a machined hole. Refer to page 195 for details.

Material: Aluminum, Clear Anodized
UHMW glide pads

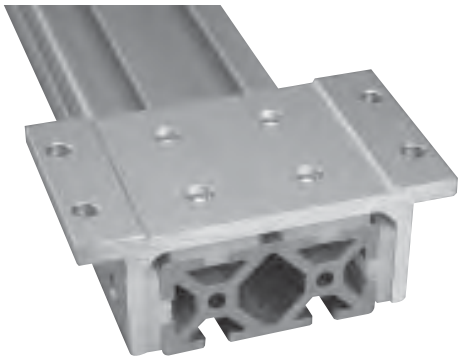
30-4008

Part No.	A	B	C	D	E	F	G
30-4001	96 (3.78)	80 (3.15)	4xØ8.3 (Ø.328)	20 (.787)	40 (1.575)	40 (1.575)	80 (3.15)
30-4008	96 (3.78)	163 (6.42)	8xØ8.3 (Ø.328)	20 (.787)	40 (1.575)	40 (1.575)	80 (3.15)
Part No.	**H**	**K**	**L**	**M**	**N**	**P***	**R**
30-4001	50 (1.97)	8 (.315)	16 (.63)	40 (1.575)	12 (.472)	4 (.157)	34 (1.34)
30-4008	50 (1.97)	8 (.315)	16 (.63)	40 (1.575)	12 (.472)	4 (.157)	34 (1.34)

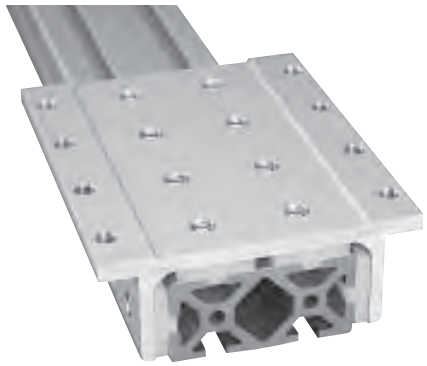
* Add 40mm (1.575") when using 10-080, 10-680, 11-080 extrusion.



Note: All dimensions in mm (in)



30-8001



30-8008

These 80 mm double flange units offer low cost linear guidance. They utilize glide pads oriented within T-slots. You make your own guidance device. You provide the power – pneumatic, electro-mechanical, or manual.

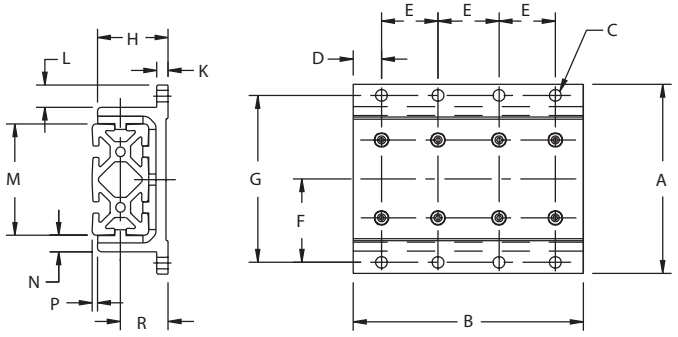
Shims are available to provide a more precise fit.

Optional clamping mechanism can be added as required. Each clamp requires a machined hole. Refer to page 195 for details.

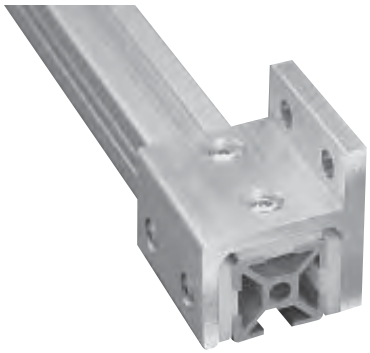
Material: Aluminum, Clear Anodized
UHMW glide pads

Part No.	A	B	C	D	E	F	G
30-8001	136 (5.35)	80 (3.15)	4xØ8.8 (Ø.328)	20 (.787)	40 (1.575)	60 (2.362)	120 (4.724)
30-8008	136 (5.35)	163 (3.15)	8xØ8.3 (Ø.328)	20 (.787)	40 (1.575)	60 (2.362)	120 (4.724)
Part No.	**H**	**K**	**L**	**M**	**N**	**P***	**R**
30-8001	50 (1.97)	8 (.315)	16 (.63)	80 (3.15)	12 (.46)	3.7 (.145)	34 (1.339)
30-8008	50 (1.97)	8 (.315)	16 (.63)	80 (3.15)	12 (.46)	3.7 (.145)	34 (1.339)

* Add 40mm (1.575") when using 10-088, 11-088 extrusions.



Note: All dimensions in mm (in)



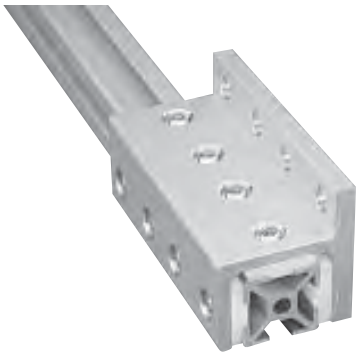
30-2821

These 28 mm single flange, side mount units offer low cost linear guidance. They utilize glide pads oriented within T-slots. You make your own guidance device. You provide the power – pneumatic, electro-mechanical or manual.

Shims are available to provide a more precise fit.

Optional clamping mechanism can be added as required. Each clamp requires a machined hole. Refer to page 195 for details.

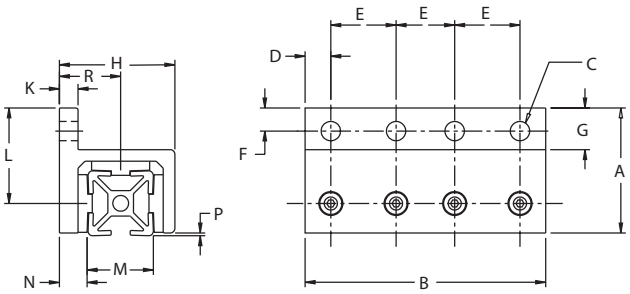
Material: Aluminum, Clear Anodized
UHMW glide pads



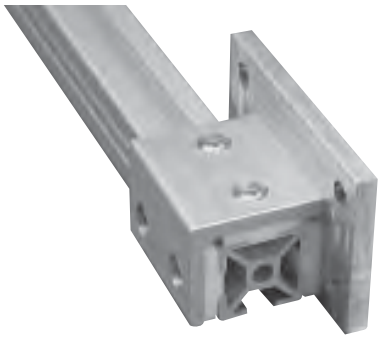
30-2828

Part No.	A	B	C	D	E	F	G
30-2821	54 (2.13)	50 (1.97)	2xØ8.3 (Ø.328)	11 (.433)	28 (1.102)	10 (.394)	18 (.79)
30-2828	54 (2.13)	103 (4.06)	4xØ8.3 (Ø.328)	9.5 (.374)	28 (1.102)	10 (.394)	18 (.79)
Part No.	**H**	**K**	**L**	**M**	**N**	**P***	**R**
30-2821	49.5 (1.95)	8 (.315)	41 (1.62)	28 (1.102)	11.9 (.47)	1.2 (.046)	26.3 (1.034)
30-2828	49.5 (1.95)	8 (.315)	41 (1.62)	28 (1.102)	11.9 (.47)	1.2 (.046)	26.3 (1.034)

* Add 28mm (1.102") when using 12-428 extrusion.



Note: All dimensions in mm (in)



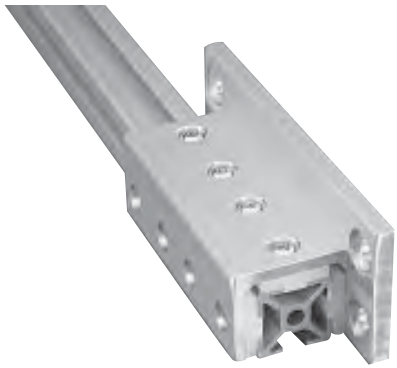
30-2822

These 28 mm single flange, easy-mount units offer low cost linear guidance. They utilize glide pads oriented within T-slots. You make your own guidance device. You provide the power – pneumatic, electro-mechanical, or manual.

Shims are available to provide a more precise fit.

Optional clamping mechanism can be added as required. Each clamp requires a machined hole. Refer to page 195 for details.

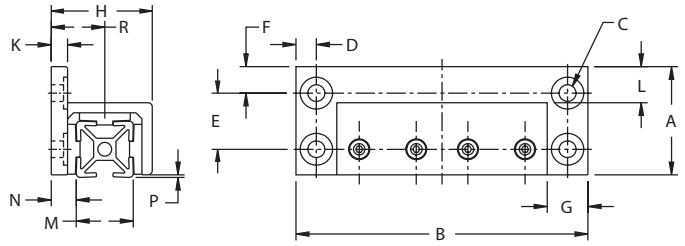
Material: Aluminum, Clear Anodized
UHMW glide pads



30-2829

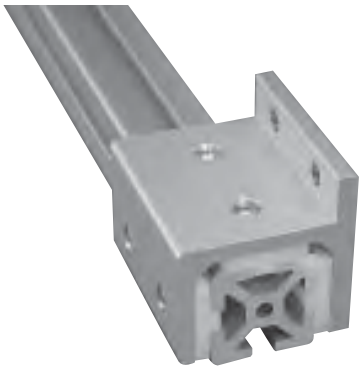
Part No.	A	B	C	D	E	F	G
30-2822	54 (2.13)	90 (3.54)	4xØ8.3 (Ø.328)	10 (.394)	28 (1.102)	13.2 (.521)	20 (.787)
30-2829	54 (2.13)	143 (5.630)	4xØ8.3 (Ø.328)	10 (.394)	28 (1.102)	13.2 (.521)	20 (.787)
Part No.	**H**	**K**	**L**	**M**	**N**	**P***	**R**
30-2822	49.5 (1.97)	8 (.315)	18 (.71)	28 (1.102)	12 (.47)	11.9 (.048)	26.3 (1.034)
30-2829	49.5 (1.97)	8 (.315)	18 (.71)	28 (1.102)	12 (.47)	11.9 (.048)	26.3 (1.034)

* Add 28mm (1.102") when using 12-428 extrusion.



4

Note: All dimensions in mm (in)



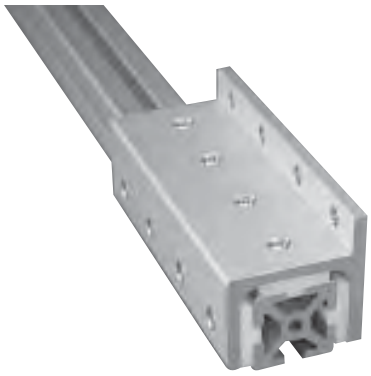
30-4021

These 40 mm single flange, side mount units offer low cost linear guidance. They utilize glide pads oriented within T-slots. You make your own guidance device. You provide the power – pneumatic, electro-mechanical or manual.

Shims are available to provide a more precise fit.

Optional clamping mechanism can be added as required. See page 194 Each clamp requires a machined hole. Refer to page 195 for details.

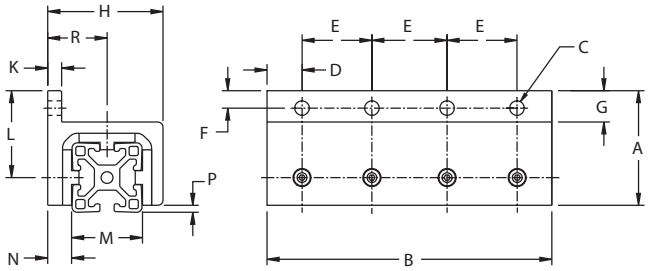
Material: Aluminum, Clear Anodized
UHMW glide pads



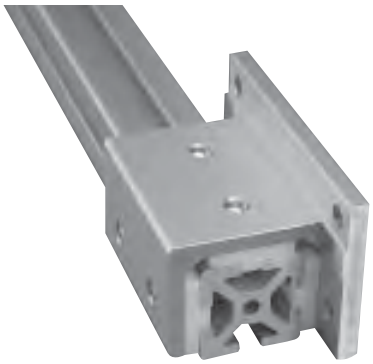
30-4028

Part No.	A	B	C	D	E	F	G
30-4021	66 (2.60)	80 (3.15)	2xØ8.3 (Ø.328)	21.5 (.848)	40 (1.575)	10 (.394)	18 (.71)
30-4028	66 (2.60)	163 (6.42)	4xØ8.3 (Ø.328)	21.5 (.848)	40 (1.575)	10 (.394)	18 (.71)
Part No.	**H**	**K**	**L**	**M**	**N**	**P***	**R**
30-4021	66 (2.60)	8 (.315)	50 (1.97)	40 (1.575)	14 (.551)	4 (.157)	34 (1.339)
30-4028	66 (2.60)	8 (.315)	50 (1.97)	40 (1.575)	14 (.551)	4 (.157)	34 (1.339)

* Add 40mm (1.575") when using 10-080, 10-680, 11-080 extrusion.



Note: All dimensions in mm (in)



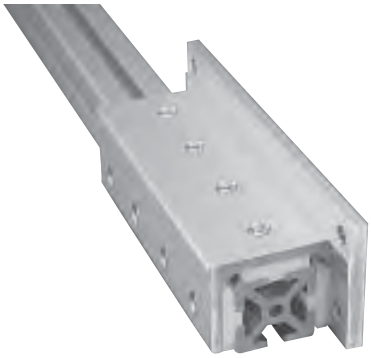
30-4022

These 40 mm single flange, easy-mount units offer low cost linear guidance. They utilize glide pads oriented within T-slots. You make your own guidance device. You provide the power – pneumatic, electro-mechanical or manual.

Shims are available to provide a more precise fit.

Optional clamping mechanism can be added as required. Each clamp requires a machined hole. Refer to page 195 for details.

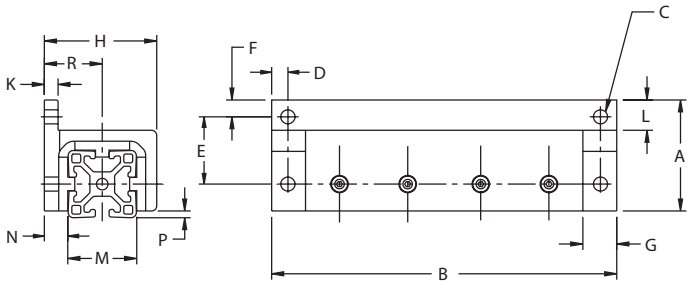
Material: Aluminum, Clear Anodized
UHMW glide pads



30-4029

Part No.	A	B	C	D	E	F	G
30-4022	60 (2.60)	120 (4.72)	2xØ8.3 (Ø.328)	10 (.394)	40 (1.575)	10 (.394)	20 (.79)
30-4029	66 (2.13)	203 (4.06)	4xØ8.3 (Ø.328)	10 (.394)	40 (1.575)	10 (.394)	20 (.79)
Part No.	**H**	**K**	**L**	**M**	**N**	**P***	**R**
30-4022	66 (2.60)	8 (.315)	18 (.709)	40 (1.575)	14 (.551)	4 (.157)	34 (1.339)
30-4029	66 (2.60)	8 (.315)	18 (.709)	40 (1.575)	14 (.551)	4 (.157)	34 (1.339)

* Add 40mm (1.575") when using 10-080, 10-680, 11-080 extrusion.



Note: All dimensions in mm (in)

High Cycle Glide Units

These specially designed glide units are used in high cycle applications where rapid acceleration and deceleration takes place.

High cycle glide utilizes a steel threaded insert to mount the pad to the glide unit.

Shims are available to provide a more precise fit.(30-2805)

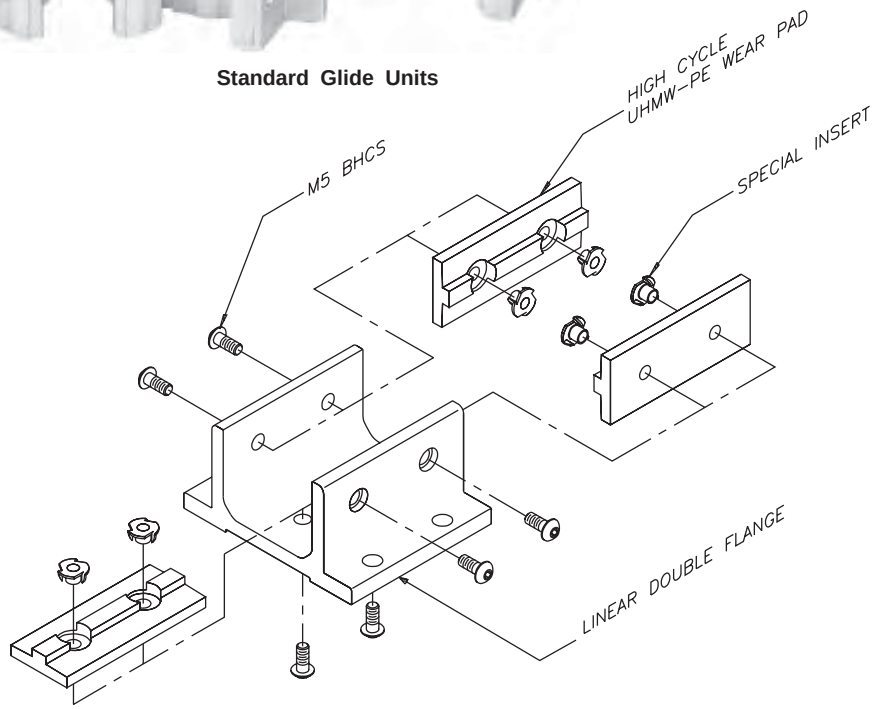
Available for 40 and 80 series only.

Material: Aluminum, Clear Anodized
UHMW Glide Pads

Part No.	Style	Profile	Dimensions
30-4001-HC	Top Mount, Single	40 x 40	see 30-4001
30-4008-HC	Top Mount, Double	40 x 40	see 30-4008
30-4021-HC	Side Mount Flush, Single	40 x 40	see 30-4021
30-4022-HC	Side Mount Ext., Single	40 x 40	see 30-4022
30-4028-HC	Side Mount Flush, Double	40 x 40	see 30-4028
30-4029-HC	Side Mount Ext., Double	40 x 40	see 30-4029
30-8001-HC	Top Mount, Single	40 x 80	see 30-8001
30-8008-HC	Top Mount, Double	40 x 80	see 30-8008

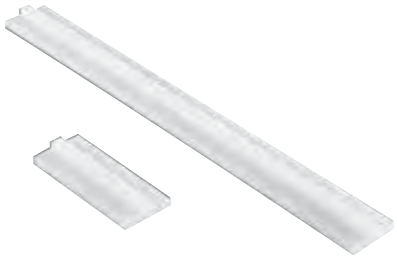
High Cycle Units

Standard Glide Units



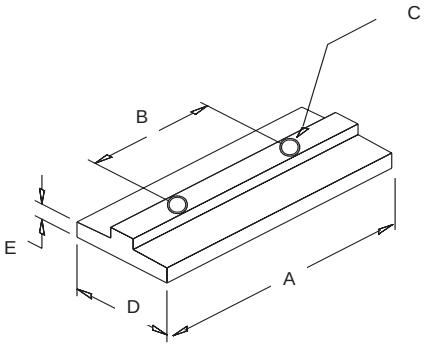
Glide Pads

Glide pads let you custom design a low friction guidance unit.



Material: UHMW

Part No.	Description	Profiles
30-2800-2	Pretapped	28/56
30-4000-2	Pretapped	40/80
30-4000-3	Untapped	40/80



Part No.	A	B	C	D	E
30-2800-2	49.5 (1.95)	28 (1.102)	M5	25 (.98)	3.9 (.153)
30-4000-2	80 (3.15)	40 (1.575)	M5	32 (1.26)	5.3 (.207)
30-4000-3	300 (11.81)	NA	NA	32 (1.26)	5.3 (.207)

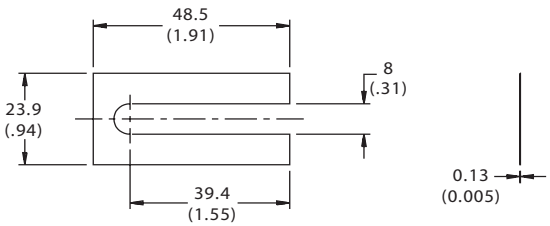
4

Shims for Extrusion Profiles

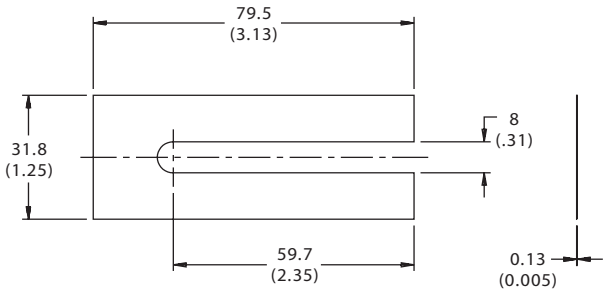
Shims provide a more precise fit for ParGlide. Five shims are supplied in each package.

Material: Steel

30-2805 for 28mm Profiles



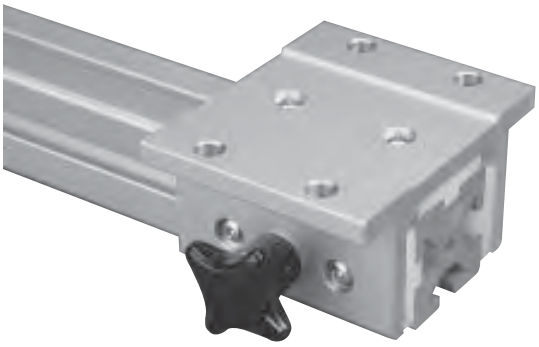
30-4005 for 40mm Profiles



Note: All dimensions in mm (in)

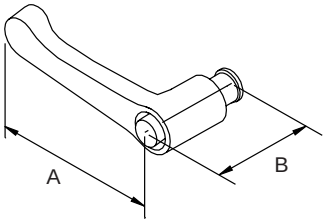
These clamp accessories provide positioning and adjustment for glide units.

Machining Service: Glide extrusions and pads can be drilled to accept clamp accessories. See page 195.

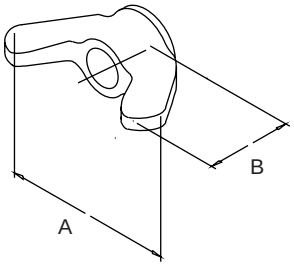


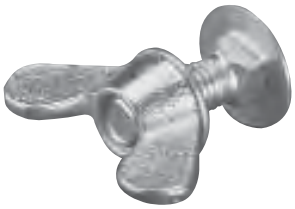
Part No.	Description	Profile
30-0001	Ratcheting L-handle	28 & 56
30-0003	Wing Nut	28 & 56
30-0011	Ratcheting L-handle	40 & 80
30-0013	Wing nut	40 & 80
30-0015	Star handle	40 & 80

Part No.	A	B
30-0001	45 (1.77)	26 (1.02)
30-0011	63 (2.48)	32.8 (1.29)

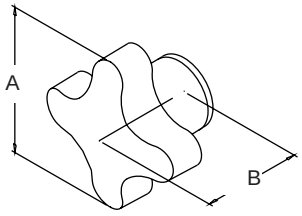


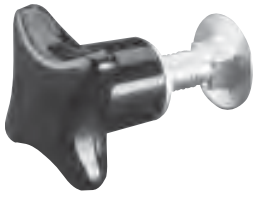
Part No.	A	B
30-0003	32 (1.26)	17.75 (.69)
30-0013	38 (1.50)	20.5 (.81)





Part No.	A	B
30-0015	40 (1.57)	26.7 (1.05)





Note: All dimensions in mm (in)

Glide guides may be pre-drilled for mounting of the clamp. If drilling is desired, specify the machining service number and give the location of the hole(s) to be drilled according to the drawings below.

Profiles	Hole Size	Machining Service No.
28 & 56	∅.250"	19-128
40 & 80	∅.323"	19-140

Ordering Examples:

Guide drilled for one clamp (note the description added to the guide part number):

30-2822 w/19-128 @ LU

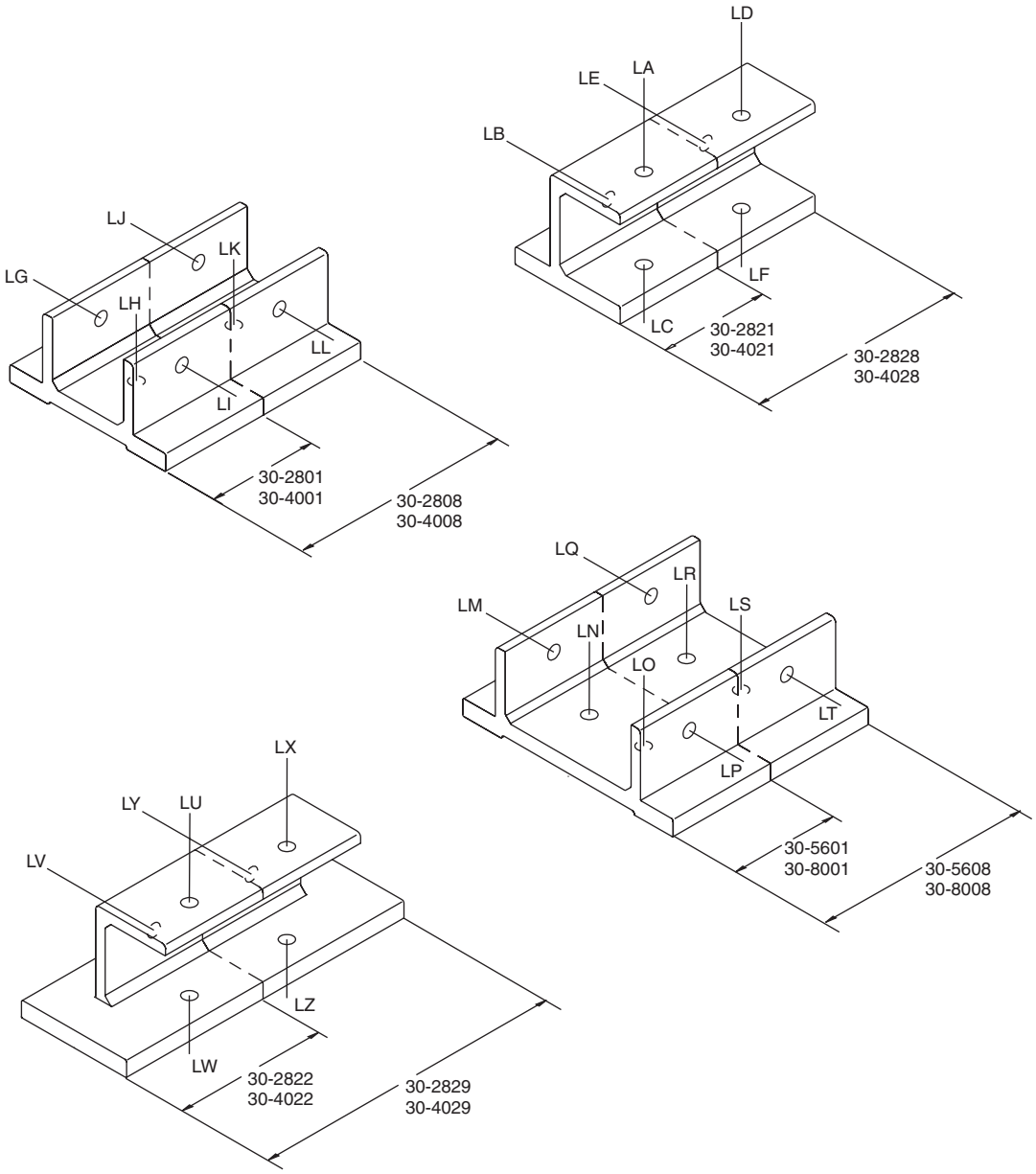
Multiple clamps may be mounted on a guide unit. Each clamp requires a hole to be drilled. Note the description and the number of holes is added to the guide part number and description.

Guide drilled for two clamps:

30-4008 w/19-140 @ LG and LL

Guide drilled for three clamps:

30-8008 w/19-140 @ LP, LT and LM



4