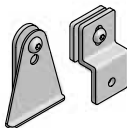
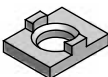
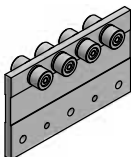
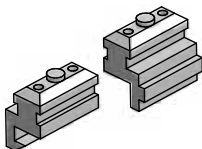


Section 4 Panels & Doors

Panels Wire Mesh	112-114 113		Door Guide System	125	
Panel Mounting Blocks	115-118		Rollers	126	
Mesh Retainers	119-120		Roller Insert 25	127	
Bifold Door Glide	121-122		Rail Carts	128	
Sliding Door Set Sliding Door Guide	123 124		Roller Carts	128	

Panel Selection Guide

Panel Type	Recommended Use					Opacity		Cost		
	Vertical, Non-Structural	Vertical, Structural	Horizontal, Non-Structural	Shelving, No Load	Shelving, Load Supporting	Transparent or See Through	Opaque	Low	Medium	High
Lexan®	✓		✓	✓		✓			✓	
Wire Mesh	✓		✓			✓		✓		
TRESPA®	✓ ¹	✓	✓ ¹	✓ ¹	✓		✓			✓
Expanded PVC	✓		✓				✓	✓		
Aluminum Veneer	✓	✓		✓	✓		✓		✓	

¹ Can be used, but not an economical solution.

Panel Materials

Lexan® High-impact resistant polycarbonate panels provide clarity, safety, security and energy savings. Meets every industry standard for general purpose window glazing. Clear or light grey smoked.

Wire Mesh Wire mesh provides a high level of security and can be used for safety guarding and enclosures. PVC coating provides a smooth, snag-free surface that is extremely rust and corrosion resistant.

TRESPA® TRESPA® is a solid grade decorative building panel, suitable for horizontal surfaces and vertical panels. Resistant to scratches, corrosives and solvents. Can be drilled and tapped.

Expanded PVC Light duty colored panel material, primarily for use vertically. Can also be used as light duty shelving material. Not recommended for temperature over 90°C (194°F).

Aluminum Veneer These panels have a very high strength to weight ratio. The panels have clear anodized aluminum skins on each side with a high density hardboard core. These panels can be used in both horizontal and vertical applications.

Special Items Special panel materials including color selection of stock material are available. IPS capabilities include custom machining of steel and aluminum panels for use in fixtures, machine bases and assemblies. Contact your local representative or an IPS Application Engineer to review special requirements.

Special item availability includes:

- Machined Steel and Aluminum Surfaces
- Welding Curtains
- Decorative Panels
- Glass and Clear Plastic Composites
- Perforated Metal Decking
- Sound Insulating Panels
- Wood and Laminate Panels

Application

High-impact resistant polycarbonate panels provide clarity, safety, security and energy savings. Meets every industry standard for general purpose window glazing.

Technical Data

Lexan®, clear or light smoked
UL Listed
Maximum Size:
1219.2 x 2438.4mm (4' x 8')

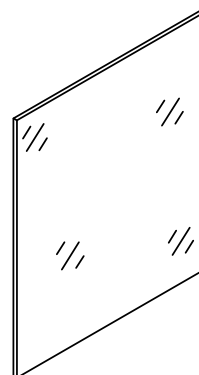
Ordering Information*

Description	Unit	Weight	Part #
3mm Lexan® – Clear	m ²	3.60 kg/m ²	26-790-3P
6mm Lexan® – Clear	m ²	7.62 kg/m ²	26-790-6P
6mm Lexan® – Light Smoked	m ²	7.62 kg/m ²	26-795-6P

* Call for other shades and thicknesses.

* For cut-to-size panels, delete the "P" from the end of the part # and specify panel dimensions. A minimum charge of 1/8 of the standard panel size will apply.

Lexan® Panels



Application

Wire mesh provides a high level of security and can be used for safety guarding and enclosures. Provides a smooth, snag-free surface that is extremely rust and corrosion resistant.

Technical Data

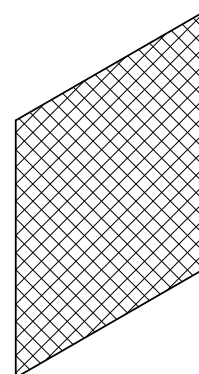
Flat welded steel wire with fuse-bonded PVC coating.
Maximum Size:
1219.2 x 2438.4mm (4' x 8')

Ordering Information*

Description	Wire Gage	Unit	Weight	Part #
1/2" x 1/2" Black	16	m ²	2.89 kg/m ²	26-210-05P
1" x 1" Black	12	m ²	4.17 kg/m ²	26-210-10P
1" x 1" Yellow	12	m ²	4.17 kg/m ²	26-250-10P
1½" x 1½" Black	12	m ²	2.98 kg/m ²	26-210-15P
2" x 2" Black	12	m ²	1.92 kg/m ²	26-210-20P

* For cut-to-size panels, delete the "P" from the end of the part # and specify panel dimensions. A minimum charge of 1/8 of the standard panel size will apply.

Wire Mesh



Application

TRESPA® is a solid grade decorative building panel, suitable for horizontal surfaces and vertical panels. Resistant to scratches, corrosives and solvents. Can be cut, drilled and milled. Suitable for doors, shelves and enclosures.

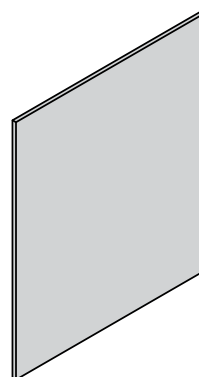
Technical Data

Thermosetting resins, homogeneously reinforced with cellulose fibers.
Non-toxic, asbestos free, has good fire retarding characteristics. Finished on both sides.
Maximum Size:
1828.8 x 2438.4mm (6' x 8')

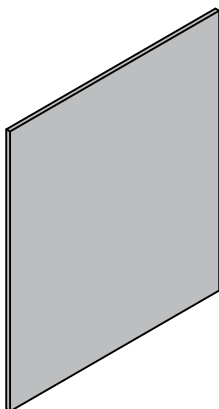
Thickness	Unit	Weight (kg/m ²)	Part #*			
			Black	Grey	Blue	White
6mm	m ²	8.57	26-410-6P	26-420-6P	26-430-6P	26-480-6P
8mm	m ²	11.4	26-410-8P	–	–	–
10mm	m ²	14.3	–	–	26-430-10P	–

* For cut-to-size panels, delete the "P" from the end of the part # and specify panel dimensions. A minimum charge of 1/8 of the standard panel size will apply.

TRESPA® Panels



Expanded PVC



Application

Light duty colored panel material, primarily for use vertically. Can also be used as light duty shelving material.

Technical Data

Rigid expanded foam polyvinyl chloride (PVC)

UL Recognized

Maximum Size:

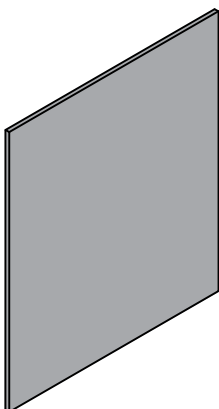
1219.2 x 2438.4 mm (4' x 8')

Ordering Information*

Description	Unit	Weight	Part #
6mm Expanded PVC – Black	m ²	4.19 kg/m ²	26-510-6P
6mm Expanded PVC – Blue	m ²	4.19 kg/m ²	26-530-6P
6mm Expanded PVC - White	m ²	4.19 kg/m ²	26-580-6P

* For cut-to-size panels, delete the "P" from the end of the part # and specify panel dimensions. A minimum charge of 1/8 of the standard panel size will apply.

Aluminum Veneer



Application

These panels have a very high strength to weight ratio. The panels have clear anodized aluminum skins on each side with a high density hardboard core. These panels can be used in both horizontal and vertical applications.

Technical Data

Veneer - Anodized Aluminum

Core - High Density Hardboard**

Maximum Size:

1219.2 x 2438.4 mm (4' x 8')

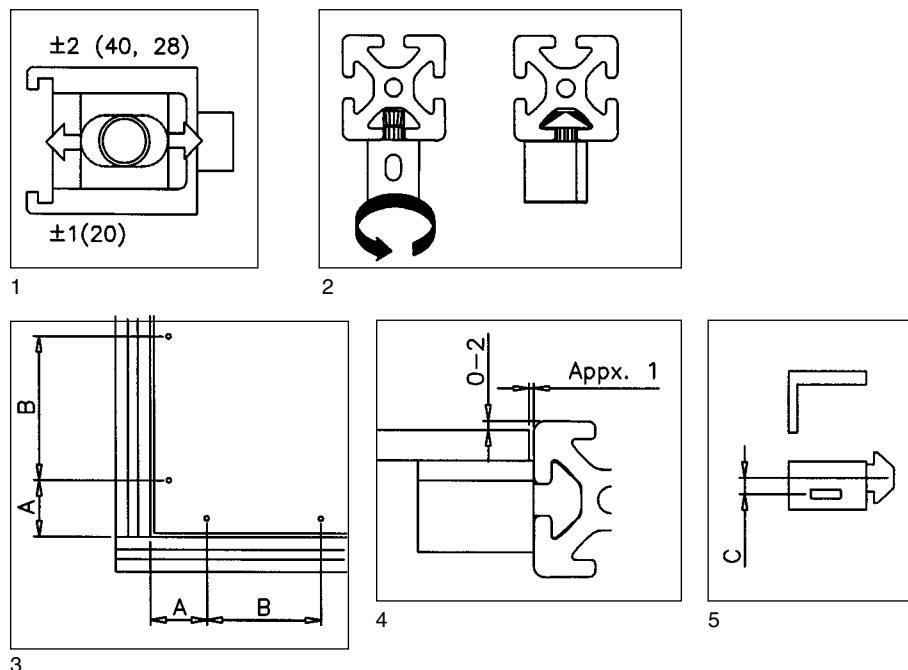
Ordering Information*

Description	Unit	Weight	Part #
6mm Aluminum Veneer - Black**	m ²	5.32 kg/m ²	26-110-6P
6mm Aluminum Veneer - Clear	m ²	5.32 kg/m ²	26-170-6P
6mm Aluminum veneer - White**	m ²	5.32 kg/m ²	26-180-6P

* For cut-to-size panels, delete the "P" from the end of the part # and specify panel dimensions. A minimum charge of 1/8 of the standard panel size will apply.

** PVC core

Multiblock PA and Uniblock PA



- 1 Floating square nut secured within the multiblock by flat spring provides for alignment flexibility
- 2 Insertion of Multiblock PA in the T-slot
- 3-4 Recommended gaps for assembling Multiblocks PA
- 5 Distance between Multiblock center and floating nut

Application

Versatile block for mounting panels and screens. The block locks into the T-slot at a 90° position with an offset design to suit various panel thicknesses. Movable captive nut provides larger alignment range for locating through holes in panels.

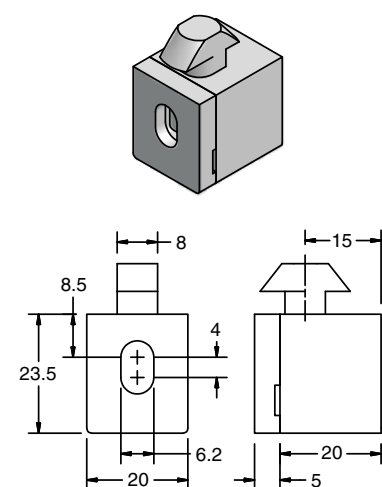
Technical Data

Glass Filled Nylon, Black
 Square Steel Nut, M6 or M4

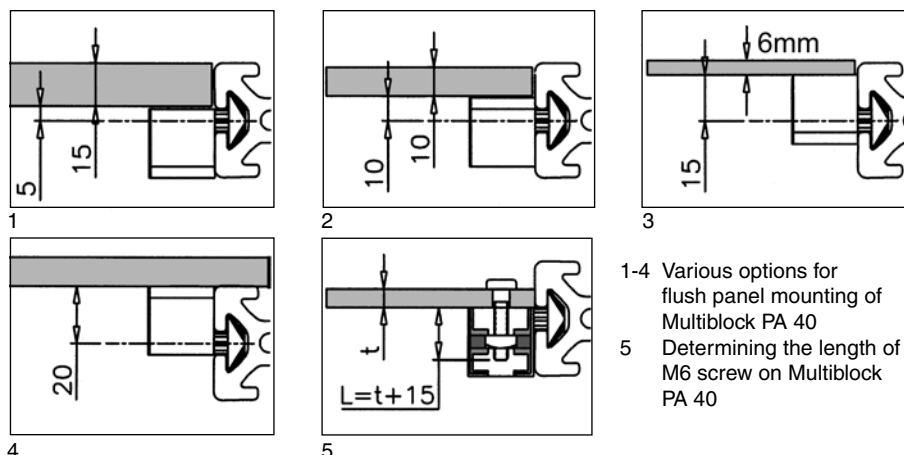
Spacing Table

Profile Series	Max Load N (lbs)	Dimensions		
		A	B	C
40	250 (56)	80	400-600	5
30, 28	210 (47)	70	400-500	2.8
20	100 (22)	60	300-400	2
1.5"	250 (56)	5.0"	20" - 40"	0.20"
1"	100 (22)	2.5"	10" - 15"	0.08"

Multiblock PA 40



22-100

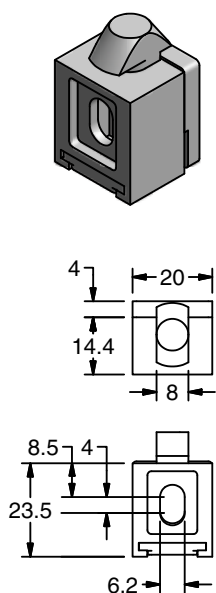


- 1-4 Various options for flush panel mounting of Multiblock PA 40
5 Determining the length of M6 screw on Multiblock PA 40

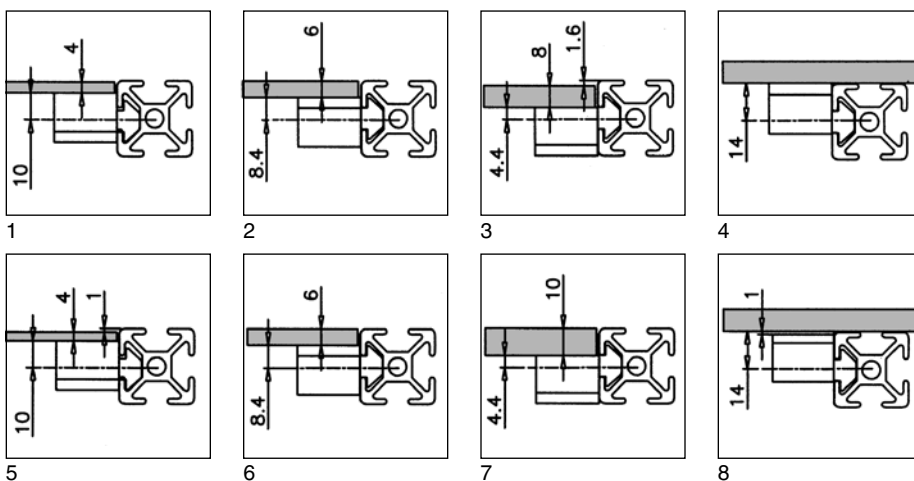
Ordering Information

Series	Description	Unit	Weight	Part #
40	Multiblock PA 40 with M6 Nut	Each	13 g	22-100
40/1.5"	Multiblock PA 40 with 1/4-20 Nut	Each	13 g	22-115

Multiblock PA 30/28



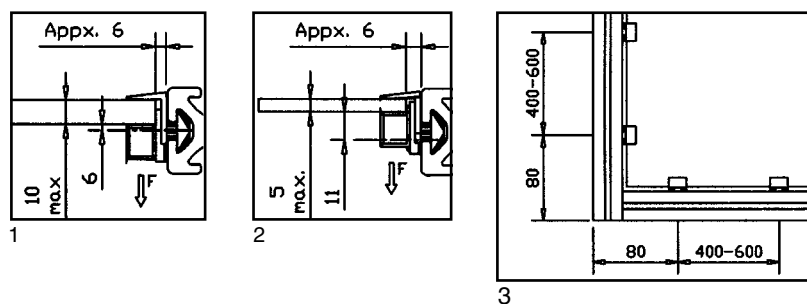
22-103



- 1-4 Mounting options for Multiblock PA 30/28 on 28 series profiles
5-6 Mounting options for Multiblock PA 30/28 on 30 series profiles

Ordering Information

Series	Description	Unit	Weight	Part #
28/30	Multiblock PA 30/28 with M6 Nut	Each	10 g	22-103



- 1 Mounting position for panels up to 10mm thick to clamp Multiblock 40.
- 2 Mounting position for panels up to 5mm thick Multiblock rotated 180°
- 3 Edge distance between panel element and profile

Application

Mounting element for attaching panels to 40, 30 and 28 Series profiles without using additional fasteners or machining the panel. Insert multiblock into T-Slot at any location and lock in position by turning 90° clockwise. Slide locking clip to secure the panel. To remove panel, loosen locking clip with a flat screwdriver.

Technical Data

Glass Filled Nylon (Black)

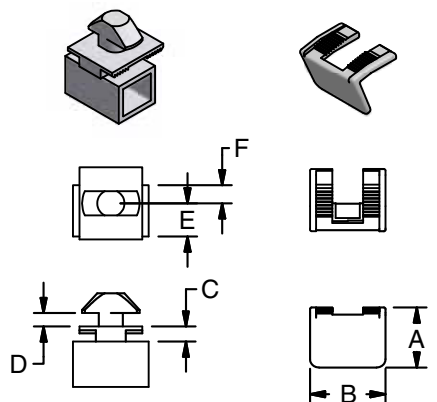
For 22-112: Max load in direction F per drawings above is 250N (56lbs); in opposite direction: 50N (11lbs)

Max Panel Thicknesses

22-112: 10mm (3/8")

22-113: 8mm (5/16")

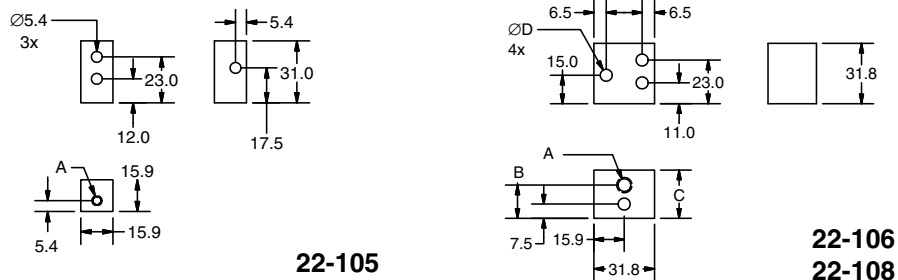
Clamp Multiblock



22-112
22-113

Ordering Information

Series	Dimensions (mm)						Weight (g)	Part #
	A	B	C	D	E	F		
40/1.5"	20	25	5	5	11	6	10	22-112
30/28	20	22	5	2	7	—	7	22-113



22-105

22-106
22-108

Multiblock AI

Application

Mounting element for panels and accessories. Various mounting dimensions are obtained by rotating the block.

Order hardware separately.

Technical Data

Al, clear anodized

Max. load at 90° angle to T-slot:

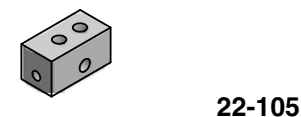
22-105: 500 N (112 lbs)

22-106: 750 N (169 lbs)

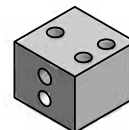
22-108: 1000 N (225 lbs)

Ordering Information

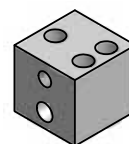
Series	Dimensions (mm)				Weight	Part #
	A	B	C	ØD		
40, 30, 28	M5	—	—	—	18 g	22-105
	M6	17.5	25.4	6.3	58 g	22-106
	M8	22.5	30	8.3	60 g	22-108



22-105

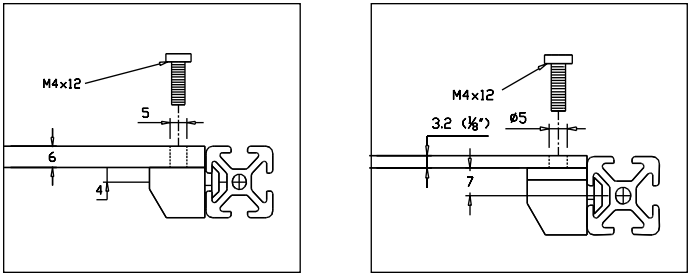
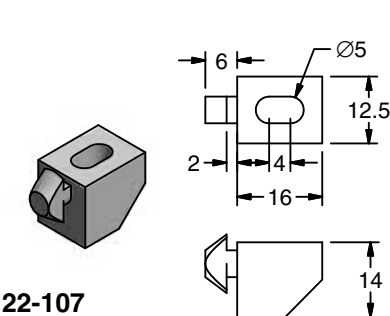


22-106



22-108

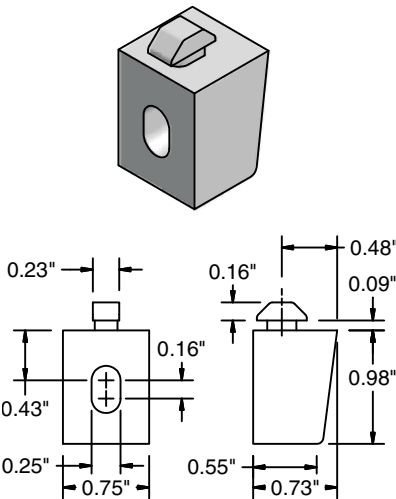
Uniblock PA 20



Mounting options for Uniblock PA 20

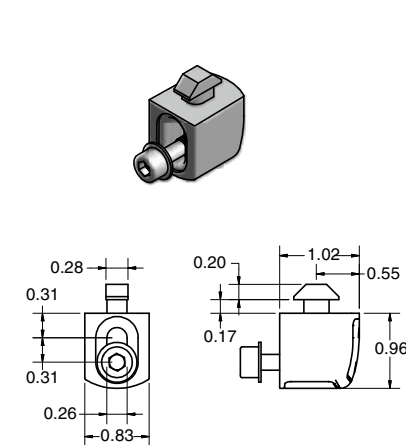
Ordering Information

Profile Series	Description	Unit	Weight	Part #
20	Uniblock PA 20 with M4 Nut	Each	3 g	22-107
	Multiblock PA 20 with M4 Nut	Each	3 g	22-104
1"	Multiblock PA 1", 1/4-20	Each	3g	22-116



22-116

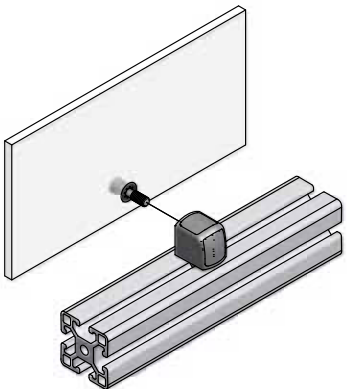
Uniblock 25 CS



22-117

Application

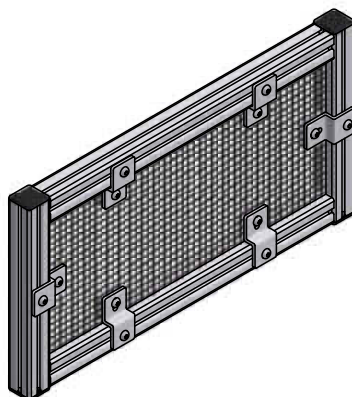
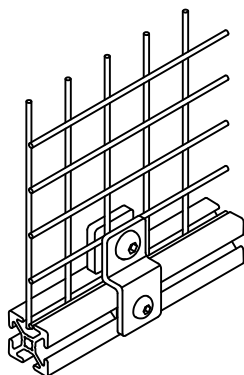
The Uniblock 25 CS includes a captive screw to prevent the loss of hardware when working behind a removable panel. The block locks at a 90° position with an offset for 6-8mm panel thicknesses on 40 and 1.5" Series extrusions.



Ordering Information

Description	Unit	Weight	Part #
Uniblock 25 CS	Each	39 g	22-117

Deluxe



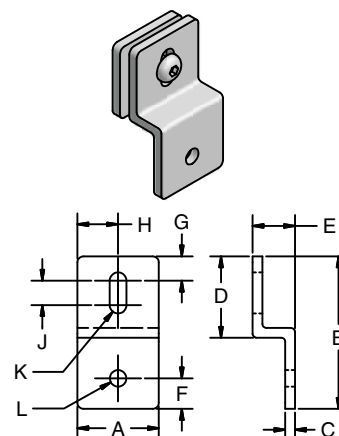
Application

Deluxe retainers are used to securely fasten wire mesh within the T-slot of profiles. This accessory requires screws and T-nuts to mount to profile; order these items separately.

Technical Data

Aluminum

5/16-18 BHCS included to secure back plate to retainer.



Back Plate included but not shown on dimension drawings.

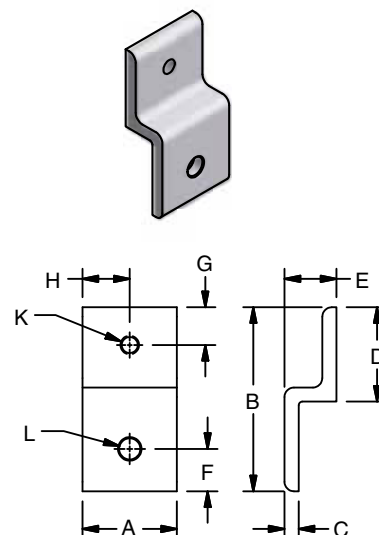
20-200
20-202

Recommended Fastening Hardware (Order Separately)

Series	Screws	T-Nuts
40	24-116-8	20-058
20	24-108-5	20-045
1.5"	25-110-5	25-002, 20-082 or 20-182

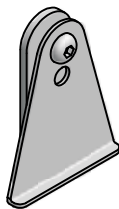
Ordering Information

Style	A	B	C	D	E	F	G	H	J	K	L	Wt.	Part #
Mesh	40	75	4.8	39	20.8	15	12	20	12	8.1	9	80 g	20-202
	20	39	2	20	9	9	4	10	6	5.5	5.5	14 g	20-200
Panel	40	75	4.8	39	20.8	15	15	20	—	M8	9	60 g	20-202P
	20	39	2	20	9	9	7	10	—	M6	5.5	10 g	20-200P

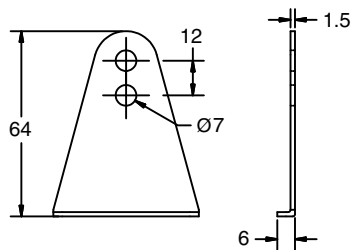


20-200P
20-202P

Economy



Back Plate included but not shown on dimension drawings.



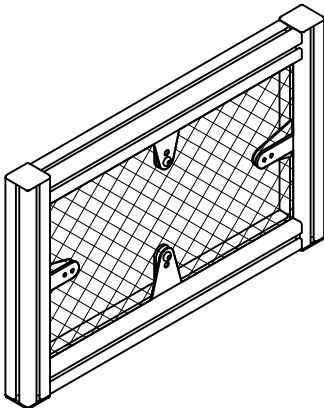
22-110
22-111

Application

Economical solution for securely fastening wire mesh to 40 and 1.5" Series profiles.

Technical Data

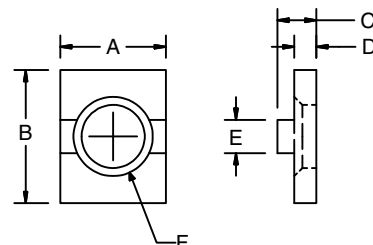
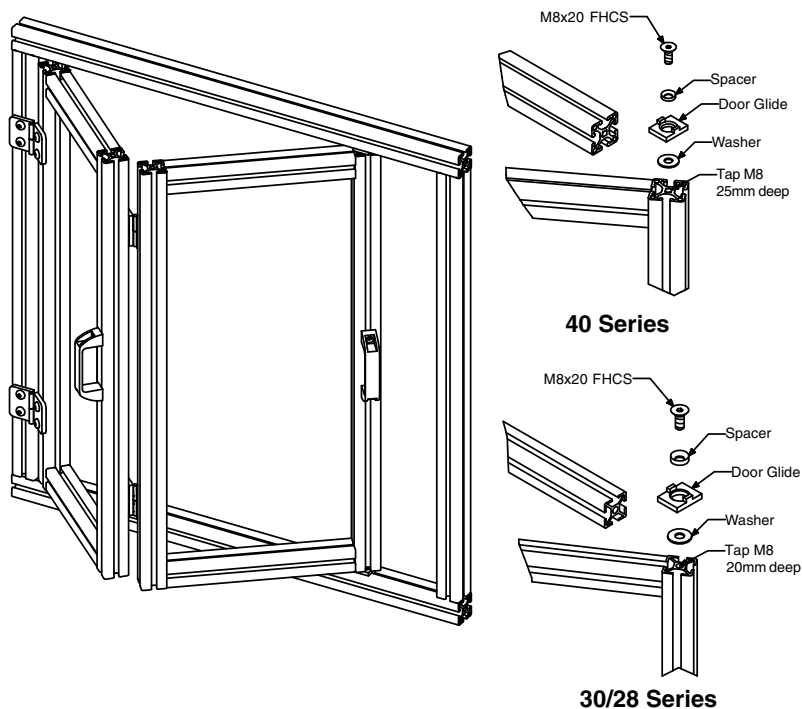
Steel, Zinc Plated
BHCS included to secure back plate to retainer.



Ordering Information

Unit	Weight	Part #
Economy Wire Mesh Retainer – M6	Each	59 g 22-110
Economy Wire Mesh Retainer – 1/4-20	Each	59 g 22-111

Bifold Door Glides



21-080
21-081
25-080
25-082

Application

Bifold doors are used in very confined areas. Door glides allow rotational and sliding motion at the top and bottom of a vertical member within a permitted bifold door frame. Two glides (one top and one bottom) are required per door.

Technical Data

Door Glide – UHMW
 Spacer – Steel, Zinc Plated
 Washer – Steel, Zinc Plated

Note: Hardware and tap are SAE Standard

Use the following chart to help select the correct part for your application.

Frame Series	Door Series	Glide Part #
40 & 80 Series	40 Series	21-081
28 Series	28 Series	21-080
1.5"	1.5"	25-080
1"	1"	25-082

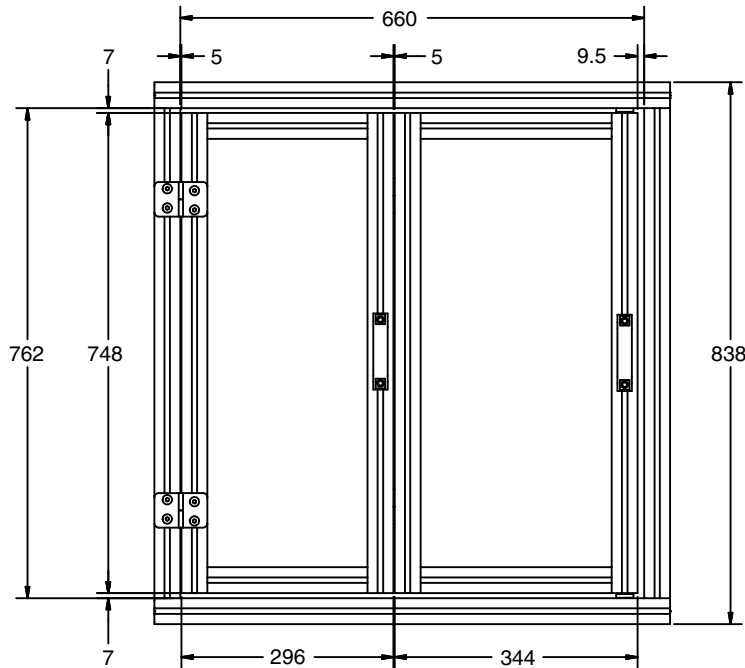
Ordering Information

Ships complete with 2 glides, 2 screws, 2 spacers and 2 washers.

Part #	Dimensions (mm or inch)					
	A	B	C	D	E	F
21-081	36.6	32	9.4	5.3	8	Ø15.2 thru c'sink Ø19 x 90°
21-080	25.4	32	9.4	5.3	8	Ø11.1 thru c'sink Ø14 x 90°
25-080	1.44"	1.26"	0.370"	0.210"	0.315"	Ø0.598" thru c'sink Ø0.750 x 90°
25-082	1.00"	1.00"	0.370"	0.210"	0.250"	Ø0.438" thru c'sink Ø0.563 x 82°

Bifold Door Glides

Design Example for 40 Series Bifold Door



Design Examples

Examples consider the hinges to be medium duty plastic hinges (page 137). Other hinges can be used and dimensions would only be slightly affected.

To determine the width of the narrow door, subtract the sum of the door gaps and 48mm from the frame's inside width dimension, then divide by 2.

Example:

$$660 - (5 + 5 + 9.5 + 48)$$

$$660 - 67.5 = 592.5$$

$$\frac{592.5}{2} = 296$$

To determine the width of the wide door, add 48mm to the width of the narrow door.

Example:

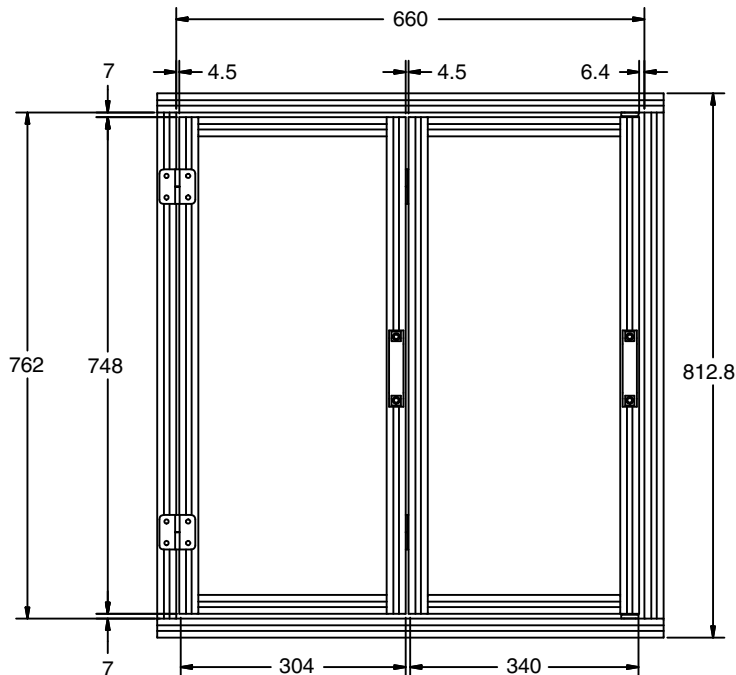
$$296 + 48 = 344$$

To determine vertical door dimension, subtract clearance required for guides and washers (14mm) from the vertical opening dimension.

Example:

$$762 - 14 = 748$$

Design Example for 28 Series Bifold Door



To determine the width of the narrow door, subtract the sum of the door gaps and 36mm from the frame's inside width dimension, then divide by 2.

Example:

$$660 - (4.5 + 4.5 + 6.4 + 36)$$

$$660 - 52 = 608$$

$$\frac{608}{2} = 304$$

To determine the width of the wide door, add 36mm to the width of the narrow door.

Example:

$$304 + 36 = 340$$

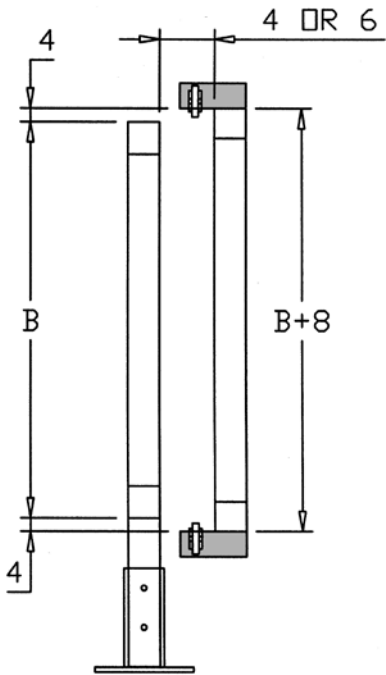
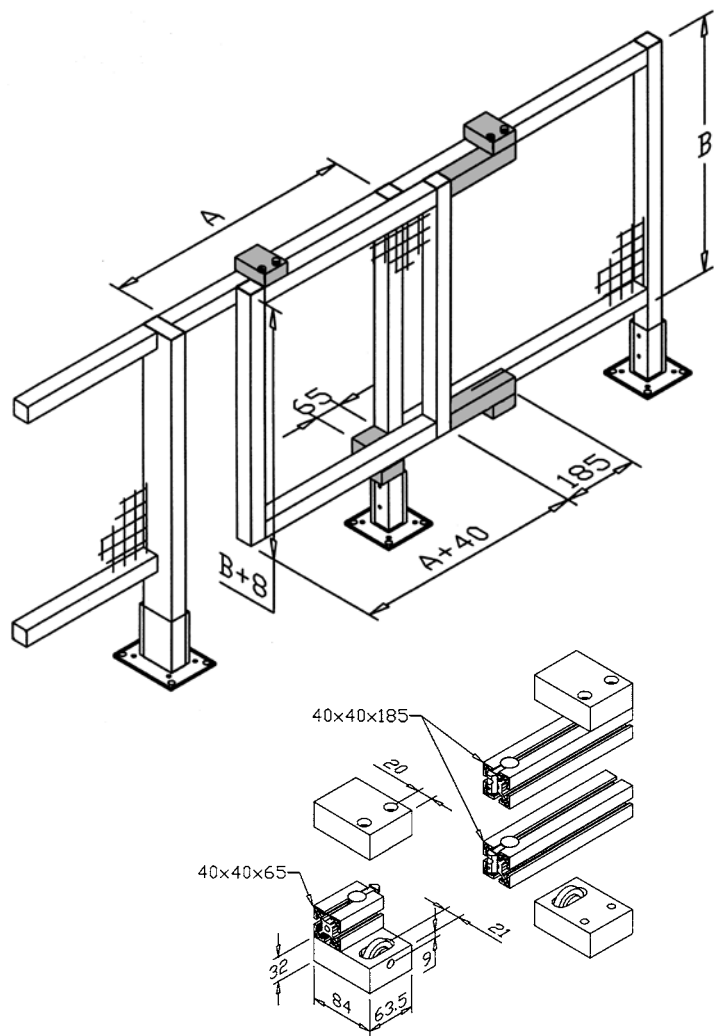
To determine vertical door dimension, subtract clearance required for guides and washers (14mm) from the vertical opening dimension.

Example:

$$762 - 14 = 748$$

*** When using 28 Series for the doors and 40 Series for the frame, use the design example for 28 Series.**

Sliding Door Set



23-065

Application

Packaged system for creating a sliding door with 40 and 1.5" Series profiles. The set consists of the necessary supports, rollers and roller housing to mount the movable sliding panel to an assembly.

Hardware will vary based on design and must be ordered separately.

Technical Data

Supports: Aluminum, Clear Anodized, Fully machined for assembly

Rollers: Roller PA 40 (21-069)

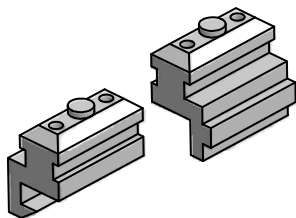
Roller Holders: 10-040

Ordering Information

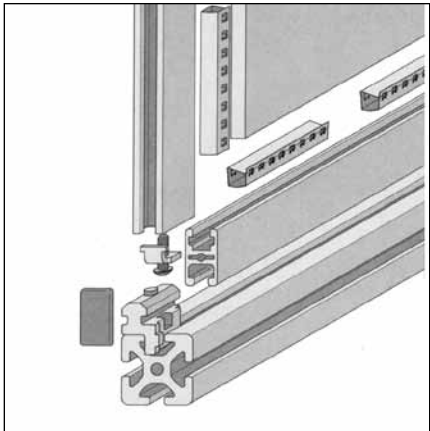
Description	Unit	Weight	Part #
Sliding-Door Set	Set	36 g	23-065



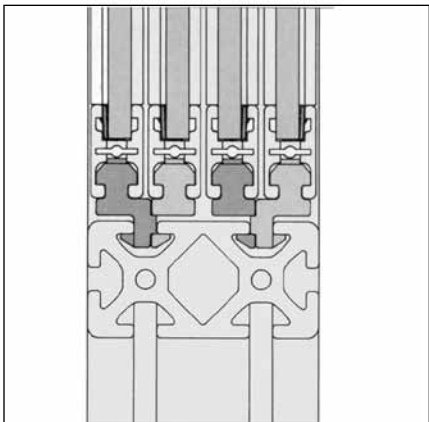
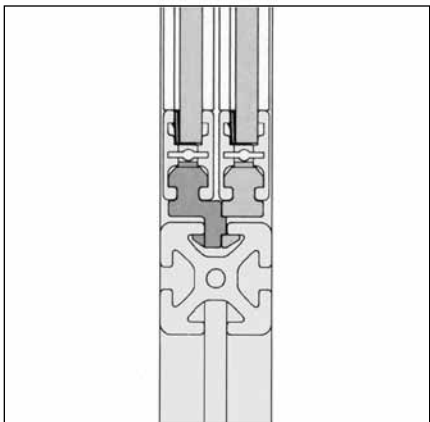
Sliding Door
Guide



23-054

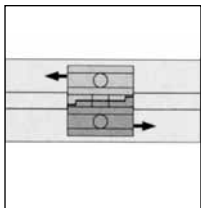
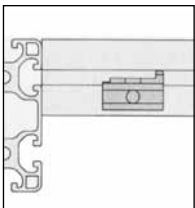
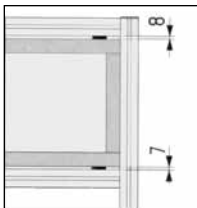


See page 46 for application details



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- 1 Two sliding doors in T-slot of a 40 series profile
- 2 Four sliding doors in T-slots of an 80x40 profile

- 3 Mounting dimensions within a frame
- 4 Slide piece positioning in the T-slot
- 5 Guide pieces function as stops when two doors slide in the same T-slot

Application

Allows a door constructed of 32x18 Bi-Slot profile to slide in the T-Slot of a 40 Series profile. This guide attaches to the door frame through a 7mm mounting hole. Two Guides with opposite offsets are available, allowing 2 panels to be mounted in a single T-Slot.

Technical Data

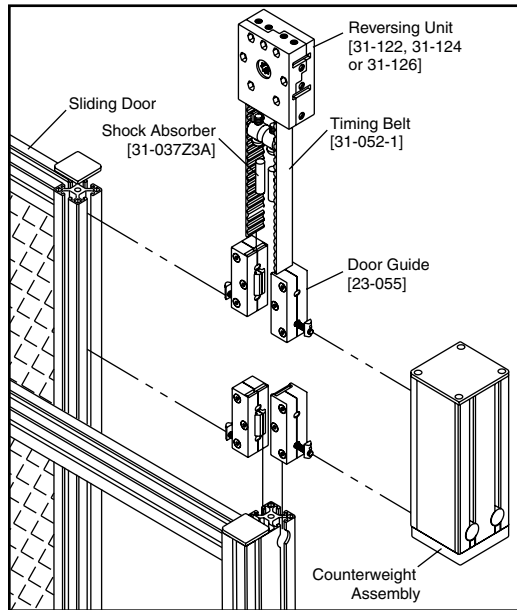
Polyoxymethylene, Black
Spring/Spring Bolt are Steel
Set includes four guides – two of each offset.
Door Sizing – size door 15mm smaller than frame opening. Door gap will be 7mm at bottom and 8mm at top.

Ordering Information

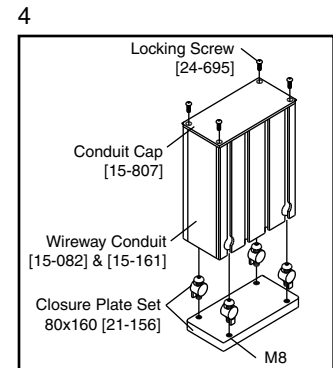
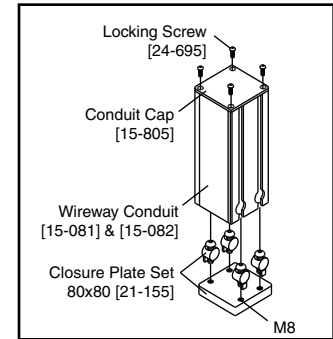
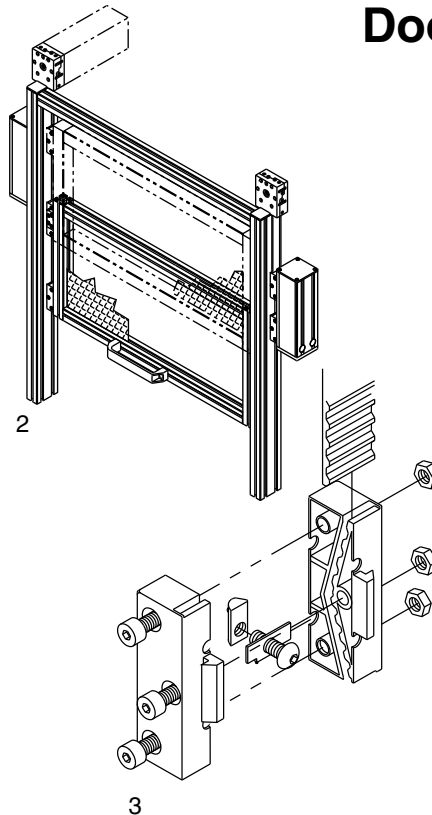
Description
Sliding-Door Guides for 32x18 Bi-Slot

Unit	Weight	Part #
Set	36 g	23-054

Door Guide System



- 1 Assembly of the Door Guide System
2 Sliding Door with two counterweights
3 Assembly of the Door Guide
4-5 Counterweight Assemblies 80x80 and 160x80



Application

Door guides are used to build doors that operate between two vertical 40 series profiles. The weight of the door may be counter-balanced by one or two counterweights that are connected to the door space with door guides, timing belt 25T10 and reversing unit 40.

The size of the counterweight is determined by the weight of the door. The operation of the door may be motorized by attachment of a suitable drive to one of the reversing units.

Door Guides

Four guides are usually attached to the door, and slide in the inside slots of the vertical 40 series profiles. Two guides are attached to each of the counterweights, and slide in the outer slots of the vertical frame profiles.

Ordering Information

Description	Unit	Weight	Part #
Door Guide	1 set	0.12 kg	23-055
Closure Plate 80x80	1 set	0.48 kg	21-155
Closure Plate 160x80	1 set	0.96 kg	21-156

Counterweights

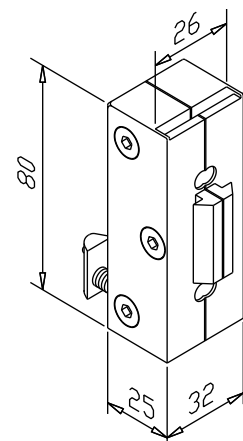
Duct wall support and wall profiles are used to build the counterweight. A closure plate attached with four M6 Profile-to-Wall Fasteners forms the bottom of the counterweight. Heavy metal scrap may be used as filler material. Suitable conduit cap is used to close the top of the counterweight.

Closure Plate

St, black epoxy finish
Complete with fastening set

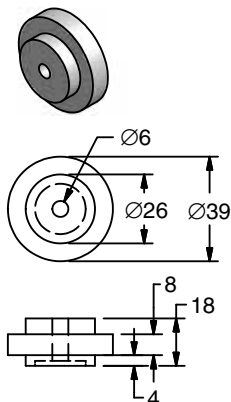
Technical Data

Door Guide: Polyoxymethylen, black
Complete with the following:
Steel plate insert, M6x25 BHCS,
M6 T-slot nut St, three M6x25 SHCS,
and three M6 hex nuts

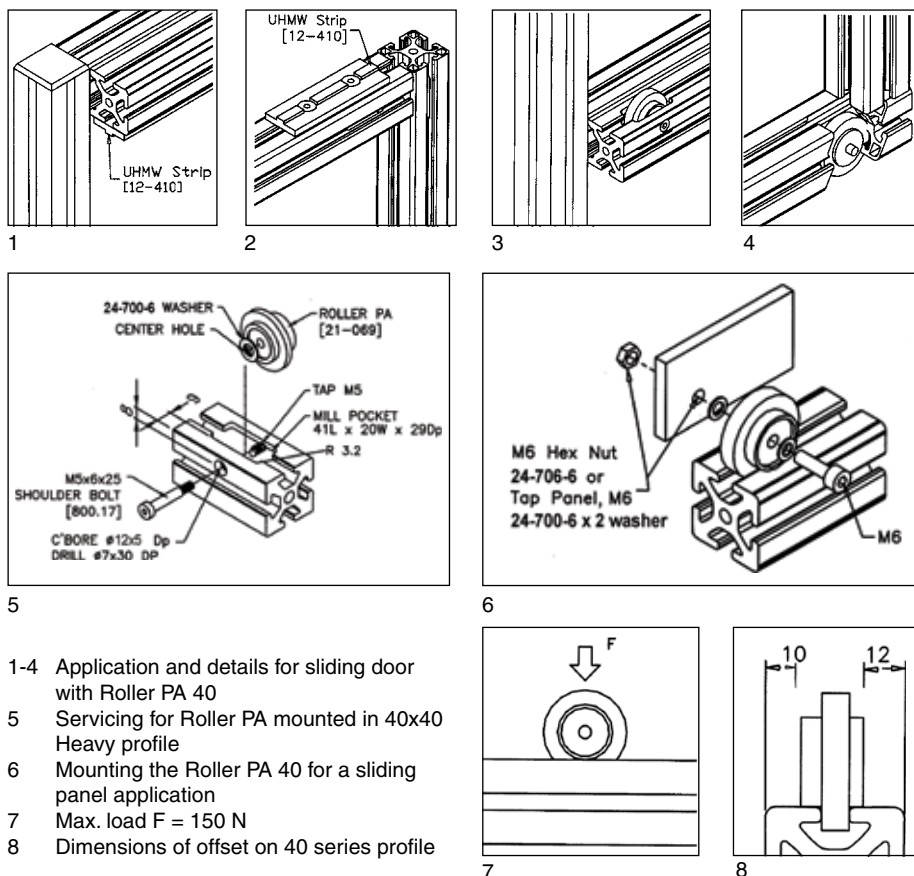


23-055

Roller 40



21-069



- 1-4 Application and details for sliding door with Roller PA 40
- 5 Servicing for Roller PA mounted in 40x40 Heavy profile
- 6 Mounting the Roller PA 40 for a sliding panel application
- 7 Max. load $F = 150 \text{ N}$
- 8 Dimensions of offset on 40 series profile

Application

Versatile ball bearing roller which can be mounted in the T-slot. Roller has asymmetric design for various clearance dimensions such as on sliding doors and panels.

Technical Data

Glass-filled nylon, black complete with two deep groove ball bearings with dust covers.

Max. load 150 N (34 lbs)

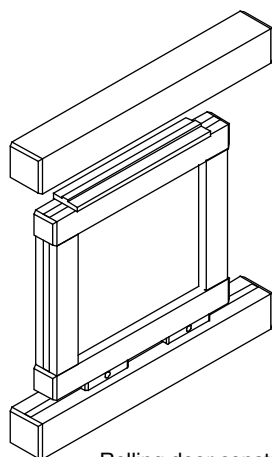
Leave 5mm offset between profiles.

Hardware ordered separately.

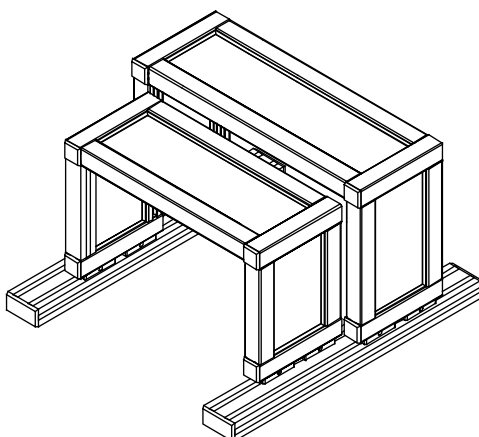
Ordering Information

Description	Unit	Weight	Part #
Roller PA 40	1 pc	32 g	21-069
Shoulder Bolt M5x6x25	1 pc		800.17

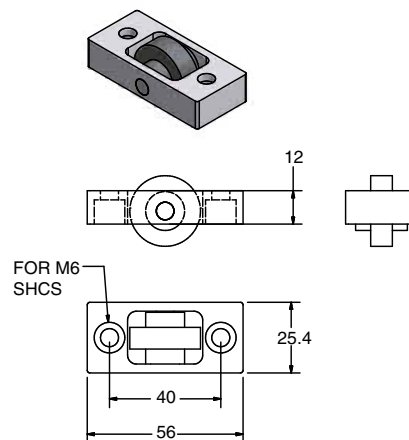
Roller Insert 25



Rolling door constructed with 28 series profiles guided on top with UHMW strip 12-410



Two bypassing covers constructed with 28 series profiles rolling on a pair 30x60 profiles.



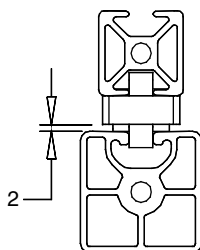
21-065

Application

Versatile roller mounted in a housing. Step roller is available without housing for sliding panel applications.

Technical Data

Roller: Delrin, Black
Housing: Aluminum, Clear Anodized
Pin: Stainless, Steel
Hardware not included



Clearance dimensions

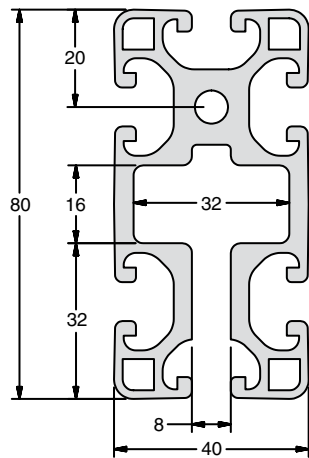
Recommended Hardware

Series	Screws (Order 2)	T-Nut (Order 2)
40	24-314-6	20-190
30	24-312-6	20-190
20	24-310-6	20-190
1.5"	25-108-4	20-193

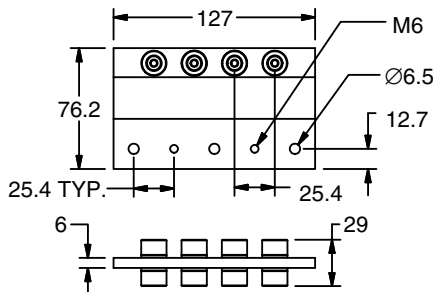
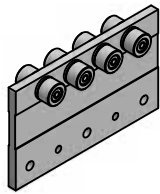
Ordering Information

Description	Unit	Weight	Part #
Roller Insert 25	Each	32 g	21-065

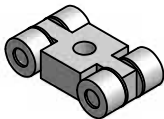
Rail Carts



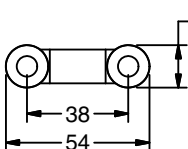
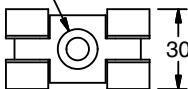
14-248



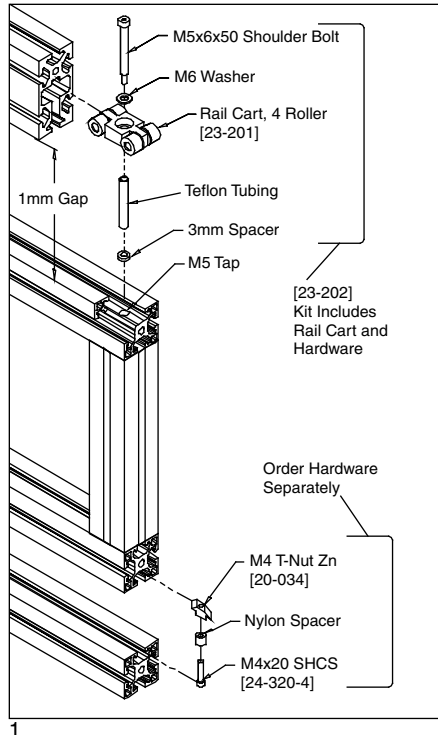
23-200



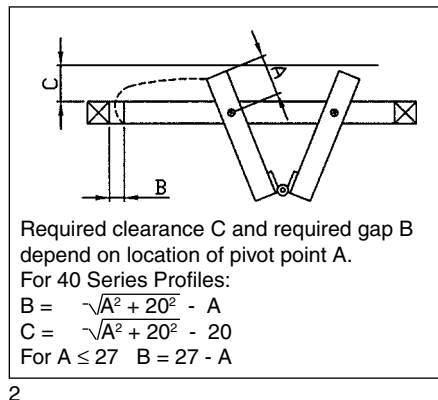
FOR M8 SHCS



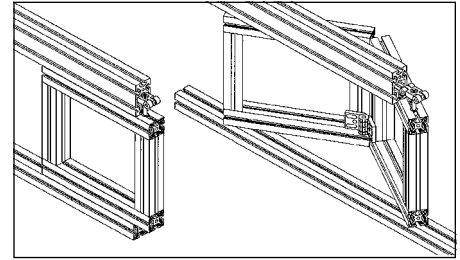
23-202



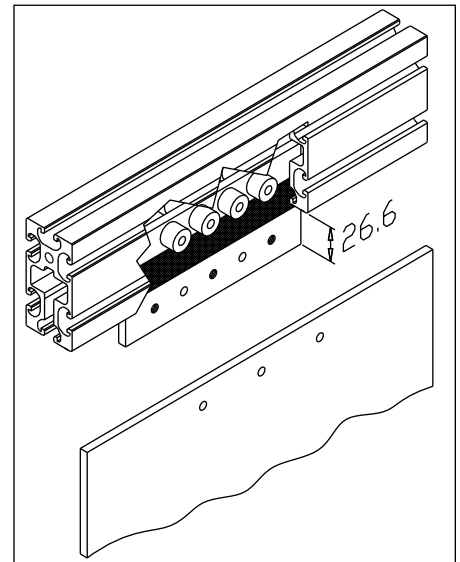
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- 1 Assembling the 4-Roller Rail Cart to a door frame. Apply Loctite™ to M6 screw to prevent loosening. Guide along lower section for sliding door using nylon spacer (8mm long, O.D. 8mm)
- 2 Calculations for Bi-fold sliding doors
- 3 Sliding Door and Bi-fold sliding door assemblies
- 4 8-Roller Rail Cart assembly in 80x40 Rail profile

Application

Designed for use in 80x40 Rail Profile part #14-248 (See Linear Section). Rail carts used for hanging and sliding doors and other hanging components such as moving material on workstations.

Ordering Information

Description	Unit	Weight	Max LoadN (lbs)	Part #
8-Roller Cart	Set	0.20 kg	440 (100)	23-200
4-Roller Cart	Each	45 g	220 (50)	23-201
4-Roller Cart with Fastening Set	Set	64 g	220 (50)	23-202

Profile	Unit	Weight	Part #
Profile 80x40 Rail Transport	Cut off 6m max.	4.19 kg/m	14-248
			19-002

*saw cut needed for cut to length

Technical Data

Housing: Aluminum, Clear Anodized
Wheel: Delrin, needle roller bearings
Washer: Nylon

Hardware included with 23-202: Bolt, washer, Teflon® tubing and 3mm spacer.