Product Presentation Bases

Optical Base

Catalog Code	Part Number / Product Name	Products image	Feature	Size, Material etc.
6032	OBC Optical Baseplates (With attached grips)		*Flatness: 0.2mm *With attached grips	300x450 - 450x600mm Tapped Holes on Top Surface : M4, M6, 1/4-20UNC Aluminum, Black Anodized
6019	OBA-LH Large Optical Rails		*X-shaped Cross Section *Rail Carriers (CAA-L) Available for System Construction *Custom Lengths and Scale Installation Available	Length: 500 - 2000mm Aluminum, Black Anodized
6020	OBT-LH/LUU Large Low-Profile Optical Rails		*Lightweight, Low axis, width 100mm *Custom Lengths and Scale Installation Available	Length: 500 - 2000mm Aluminum, Black Anodized
6021	CAA-L Carriers for Large Optical Rails		*Easy to be Slid on OBA-LH or OBT-LH/LUU and Secured at Arbitrary Position	Aluminum, Black Anodized
6022	OBA-SH Medium Optical Rails		*X-shaped cross section with fins extending radially in four directions. *Rail Carriers (CAA-LS) Available for System Construction *Custom Lengths and Scale Installation Available	Length: 300 - 2000mm Aluminum, Black Anodized
6023	OBT-SH/SUU Large Low-Profile Optical Rails		*Lightweight, Low axis, width 50mm *Custom Lengths and Scale Installation Available	Length: 300 - 2000mm Aluminum, Black Anodized
6024	CAA-LS/MB Carriers for Medium Optical Rails		*Carriers mount on a medium optical rail, slide freely and can be locked in place at any location	Aluminum, Black Anodized
6027	MB Magnet Base		*Switching the lever ON/OFF *Holding Force 49N - 490N	

OptoSigma Europe Head Office
3 rue de la Terre de Feu,
91940, Les Ulis, France

TEL : +33-1-6918-1700
E-mail : sales@optosigma-europe.com

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www.optosigma.com

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Optical Base / Spacers

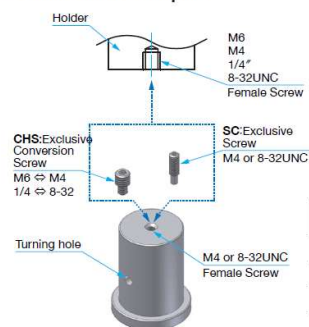| Catalog Code	Part Number / Product Name	Products image	Feature	Size, Material etc.
6034 6035 6036	MSP-25/40/60 Aluminum Spacers		*Allow Adjustment of Stage Height *Available in 1mm Increments (Except 25 x 25mm Size)	25x25, 40x40, 60x60mm Aluminum, Black Anodized
6037	SP/UP Adjustable Adapter Kits		*Lightweight, High rigidity *Posts are made to desired length in 1mm increments	Strut Length: $11 \leqq A \leqq 100$ (101mm or longer will be quoted separately) Plate material: Aluminum, Black Anodized Strut: Stainless steel
6058~ 6092	SP-***/BSP Adapters Base Plate		*A Variety of Adapter Plates Available (see below the table)	Customized Shapes or Sizes Available Aluminum, Black Anodized

Mounting hole pattern and screw shape of products to be mounted on upper surface

	M16 Screw for fastening posts, post holders, etc.	□20M2 Fasten 25×25 stages, etc.	□31.75 6-32UNC Fasten 40×40 (For INCH) stages, etc.	□32M3 Fasten 40×40 stages, etc.	□40M3 Fasten 50×50 stages, etc.	□50M4 Fasten 60×60 stages, etc.	P.C.D.50M4 φ60 rotary stages, etc. (KSP-786 etc.)	□50M6 Fasten 65×65 stages, etc.	□50.8 1/4-20UNC 6Fasten 65×65 (For INCH) stages, etc.	□70M4 Fasten 80×80 stages, etc.	□90M4 Fasten 100×100 stages, etc.	□100M4 Fasten 120×120 stages, etc.	M6 internal thread Fasten mirror holders, etc. in place of posts.
General Adapters													
□32M3 (40×40 stage, etc. upper surface screw pattern)	SP-132	SP-132			SP-132	SP-132	SP-132						
P.C.D.32M3 (φ40 rotary stage, etc. upper surface screw pattern)	SP-129 SP-132	SP-129 SP-132		SP-129	SP-129 SP-132	SP-129 SP-132	SP-132						
□50M4 (60×60 stage, etc. upper surface screw pattern)	SP-117 SP-133	SP-133		SP-133	SP-133		SP-117 SP-133			SP-102-1	SP-102-2	SP-102-3	SP-122
P.C.D.50M4 (φ60 rotary stage, etc. upper surface screw pattern)	SP-129	SP-103 SP-129		SP-103 SP-129	SP-129	SP-103 SP-129							
□31.75 6-32UNC (40×40 (For INCH) stage, etc. upper surface screw pattern)		SP-401EE SP-401UU											
P.D.C.31.75 6-32UNC (φ40 (INCH) rotary stage, etc. upper surface screw pattern)		SP-401EE SP-401UU	SP-401UU	SP-401EE									
□50M6 (65×65 stage, etc. upper surface screw pattern)		SP-402EE	SP-402UU	SP-402EE				SP-402EE	SP-402UU				
P.C.D.50M6 (φ65/φ90 rotary stage, etc. upper surface screw pattern)		SP-402EE	SP-402UU	SP-402EE				SP-402EE	SP-402UU				
□50.8 1/4-20UNC (65×65 (For INCH) stage, etc. upper surface screw pattern)		SP-402EE	SP-402UU	SP-402EE				SP-402EE	SP-402UU				
P.D.C.50.8 1/4-20UNC (φ65/φ90 rotary stage (For INCH), etc. upper surface screw pattern)		SP-402EE	SP-402UU	SP-402EE				SP-402EE	SP-402UU				
Special Adapters													
MB-CB-CB	SP-130	SP-130		SP-130	SP-130	SP-130	SP-130						
P.C.D.30M3	SP-129 SP-132	SP-123 SP-129 SP-132		SP-123 SP-129	SP-123 SP-129	SP-123 SP-129	SP-132						
TAR-34*** TAR-38***D	SP-109-1 SP-109-2 SP-131			SP-131	SP-131	SP-131	SP-131						
TAR-34403L TAR-34805L	SP-131			SP-131	SP-131	SP-131	SP-131						
TAS-2060*	SP-127-1 SP-134	SP-127-1 SP-134		SP-134	SP-134	SP-134	SP-134						

Posts

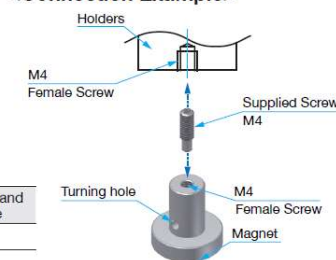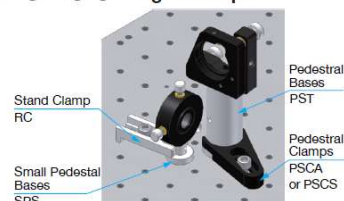| Catalog Code	Part Number / Product Name	Products image	Feature	Size, Material etc.
6039	**PST** Pedestal Bases		*Connectable Design: M4 for Metric Type and 8-32 UNC for Inch Type *Easy to be Secured with Post Clamp	12.5 - 76.2mm Stainless steel, Finish: None
6040	**PSC/PSCA/ PSCS/PSTM** Pedestal Clamps		*Secure PST on Optical Breadboards or Tables *Available in Metric and Inch Types	Aluminum, Black Anodized (only PSCA) Stainless steel, Finish: None
6041	**SP-T** Adapter Plates for Pedestal		*For use with PST	Thickness: 5mm 25x25, 40x40mm Aluminum, Black Anodized
6042	**PS-SP** Pedestal Spacers		*For use with SP-T	Height: 0.5 - 4.3mm Stainless steel, Finish: None
6079	**SPS** Small Pedestal Base		*For use with φ15 Optics Holders *Low axis	Height: 12.5 - 35mm Stainless steel, Finish: None
6080	**SPS-SP** Small Pedestal Adapters		*Spacers for SPS	Thickness: 0.5 - 4mm Stainless steel, Finish: None

Pedestal Bases │ PST

<Connection Example>

Holder

M6
M4
1/4″
8-32UNC
Female Screw

CHS:Exclusive Conversion Screw
M6 ⇔ M4
1/4 ⇔ 8-32

SC:Exclusive Screw
M4 or 8-32UNC

Turning hole

M4 or 8-32UNC Female Screw

Holder Side	Supplied Screw	Post Stand Side
M6	CHS-M4-M6-9	M4
M4	SC-M4-18EE	M4
1/4″	CHS-1/4-8U-9	8-32UNC
8-32	SC-8U-18UU	8-32UNC

Small Pedestal Bases │ SPS

<Connection Example>

Holders

M4
Female Screw

Supplied Screw
M4

Turning hole

M4
Female Screw

Magnet

<SPT/SPS Usage Example>

Stand Clamp RC

Small Pedestal Bases SPS

Pedestral Bases PST

Pedestral Clamps PSCA or PSCS

OptoSigma Europe Head Office
3 rue de la Terre de Feu,
91940, Les Ulis, France

TEL : +33-1-6918-1700
E-mail : sales@optosigma-europe.com

OptoSigma®
www.optosigma.com

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Posts / Poles

Catalog Code	Part Number / Product Name	Products image	Feature	Size, Material etc.
6052	RO/ROU /ROC Posts		*Stainless steel posts *External Thread on One End: M6 on RO-12/20, 1/4-20UNC on ROU, M4 on RO-6/ROC	φ6 - 20mm Length: 15 - 500mm Stainless steel, Finish: None
6083	RO-EE/UU Posts		*Connectable Design: M4 or M6 for Metric Type, 8-32UNC for Inch Type	φ12.7mm Length: 25.4 - 304.8mm Stainless steel, Finish: None
6053	PO Poles		*External M16P1 Thread on One End	φ12, 20mm Length: 100 - 500mm Stainless steel, Finish: None
6043	BRS High Stability Ball Plunger Post Holders		*High Stability Achieved by Two Lines and One Point Holding Design *Optional Base Available *Slide-Down Prevention Mechanism	φ12, 12.7, 20mm Height: 25.4 - 152.4mm Aluminum, Black Anodized
6044	RS Post Holders		*Value price *M4 or M16P1 External Mounting Thread at Bottom allows Mounting to Various Bases	φ6, 12, 20mm Height: 15 - 130mm Φ6: Aluminum, Black Anodized φ12,20: Brass, Black matte
6081	RCA/RC Stand Base/Stand Clamp		*The base allows for posts to be positioned close together with the magnet of the clamps.	Aluminum, Black Anodized Stainless steel, Finish: None
6048	RSN Helicoidal Post Holders		*Height Adjustment via Rotation Ring *Approximately 5mm Travel per Revolution	φ12, 12.7, 20mm Aluminum, Black Anodized
6055 6054	CRHN/CCHN Cross Clamps		*Rotary and fixed type	φ6, 12, 12.7, 20mm Aluminum, Black Anodized

Vacuum (Bases)

High vacuum compatible products are now available as standard products.
Outgas from the material itself can be a problem in the ultra-high vacuum. Our products have selected the best material by examining the amount and type of outgas.
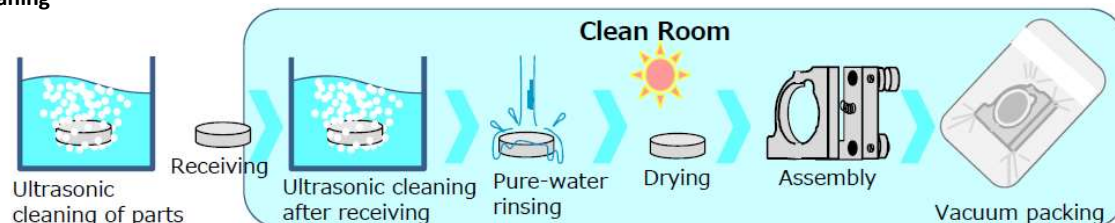◦ <u>Stainless steel (SUS316L)</u>......Strong corrosion resistance when exposed to high temperature baking, and less outgassing.
◦ **Aluminum (A6061)**...............Special surface treatment is used to reduce the degradation of the surface and outgassing.
The other parts also use the material that is suitable in the ultra-high vacuum.

■ **Factor and product comparison by the degree of vacuum**

Environment	Clean room	Low-medium vacuum	High vacuum	Ultra-high vacuum
Degree of vacuum	10^5Pa	10^{-1}Pa	10^{-5}Pa	10^{-9}Pa
Exhaust system	Fan	Mechanical pump	Diffusion pump	Turbo-molecular pump Ionization pump, etc.
Major factor	Cleanliness	Residual gas	Volatile substance	Surface adsorption
General aluminum parts	○ Need Cleaning	△ Need vent holes	× Outgas from anodizing	× Baking generate contamination
Stainless steel parts	○ Need Cleaning	△ Need vent holes	△ Need vacuum grease	× Baking generate contamination
Vacuum compatible products	◎ Already cleaned	◎ Vent holes pre-designed	◎ Vacuum grease pre-applied	◎ Baking applicable

■ **Cleaning**

Ultrasonic cleaning of parts → Receiving → Ultrasonic cleaning after receiving → Pure-water rinsing → Drying → Assembly → Vacuum packing (Clean Room)

Catalog Code	Part Number / Product Name	Products image	Feature	Size, Material etc.
6108	**VPST/VPSM** Vacuum Pedestal Bases		*High Vacuum Compatible Post Stand *Low Outgassing *VPST : φ2 Vented body, VPSM : With screw holes for degassing	Height: 12.5 - 45mm SUS316L, Finish: None
6109	**VPS-SP** Vacuum Pedestal Spacer		*For use with VPST *Low Outgassing *Groove for Discharging Gas	SUS316L, Finish: None
6104	**VPSCS** Vacuum Pedestal Clamps		*High Vacuum Compatible Pedestal Clamp *Low Outgassing	SUS316L, Finish: None
6107	**VRO** Vacuum Posts		*High Vacuum Compatible Posts *φ2 Vented body	Length: 30 - 100mm SUS316L, Finish: None

OptoSigma Europe Head Office
3 rue de la Terre de Feu,
91940, Les Ulis, France
TEL : +33-1-6918-1700
E-mail : sales@optosigma-europe.com

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Catalog Code	Part Number / Product Name	Products image	Feature	Size, Material etc.
6100	VRS Vacuum Post Holders		*For use with VRO *High Vacuum Compatible *φ2 Vented body	Height: 30 - 100mm SUS316L, Finish: None
6106	VRCA Vacuum Stand Base/Stand Clamp		*For use with VRC *High Vacuum Compatible Post Holder Base *Low Outgassing *Groove for Discharging Gas	Compatible: VRS-12, VRC-10 SUS316L, Finish: None
6105	VRC Vacuum Stand Clamps		*For use with VRC *High Vacuum Compatible Post Holder Base *Low Outgassing *With screw holes for degassing	SUS316L, Finish: None
6101	VBSP Vacuum Base Plate		*High Vacuum Compatible Base Plate *With screw holes for degassing	SUS316L, Finish: None
6102	VOBC Vacuum Optical Baseplates		*Low Outgassing compatible Optical Baseplates *With screw holes for degassing	120x120mm - 200x300mm Aluminum (A6061), Finish: None
6103	VBSC Vacuum Base Clamps		*Used for Fixing VOBC or VBSP *Fixable Thickness up to 10mm	Secured with VPCB/VAGB Aluminum (A6061), Finish: None
6111	VPCB/VAGB SDC® Clean bolt / Hexagon socket head cap screw		*Vacuum bolt with holes for degassing	VPCB：SUS316L, SDC® Plasma surface hardening VAGB：SUS304, Finish: Silver plat
6110	VSC/VCHS Vacuum Dog Point Set Screws / Vacuum Thread Adapters		*For vacuum *Hexagon Socket Set Screw with Dog Point and M4/M6 Thread Adapter Available * Compatible with VPST and VRO	SUS304, Finish: None