Spherical Rolling Joints

MYOSTAT MOTION CONTROL INC.

Precision and Rigidity for Prismatic Joints and Parallel Manipulators.

Manufactured by Hephaist Seiko in Japan under ISO 9001: 2015 certification, the Spherical Rolling Joint provides a highly precise and rigid ball joint for demanding parallel robotics and photonics applications.

The center globe is assembled under preload conditions to achieve zero backlash and run-out as low as 1 micron while providing motion with extremely low frictional resistance. The SR Joint reduces the number of joints by 1/2 to 2/3, reducing the number of failure points and the accumulation of flexibility.

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Model

SRJ 012 C - P

Spherical Rolling Joint Short

Sphere Size
(1/16th inch Multiples)

Precision Class
P: Precision (Run-out: ±2.5 µm)
SP: Super-Precision (Run-out: ±1.0 µm)

Technical Specifications

Model	Basic Load Ratings		Recommended Permissive Loads				Weight	Swing Angle
	C (N)	Co (N)	Compressive (N)	Tensile (N)	Radial (N)	Moment (N)	(kg)	
SRJ004C	128	100	102	38.4	64	0.64	0.015	±15°
SRJ006C	320	280	256	96	160	1.84	0.036	±30°
SRJ008C	490	540	392	147	245	3.92	0.06	±30°
SRJ012C	720	770	576	216	360	7.20	0.18	±30°
SRJ016C	1170	1300	936	351	585	18.7	0.37	±30°
SRJ024C	2840	3920	2272	852	1420	59.6	0.93	±30°
SRJ032C	5800	8820	4640	1740	2900	174	2.30	±30°
SRJ048C	10600	16000	8480	3180	5300	413	6.73	±30°

C(N) BASIC DYNAMIC LOAD RATING
Co(N) BASIC STATIC LOAD RATING

HEPHAIST

Usage Guidelines

Designed for axial loading; do not apply load in any other direction with the shaft inclined for extended periods.

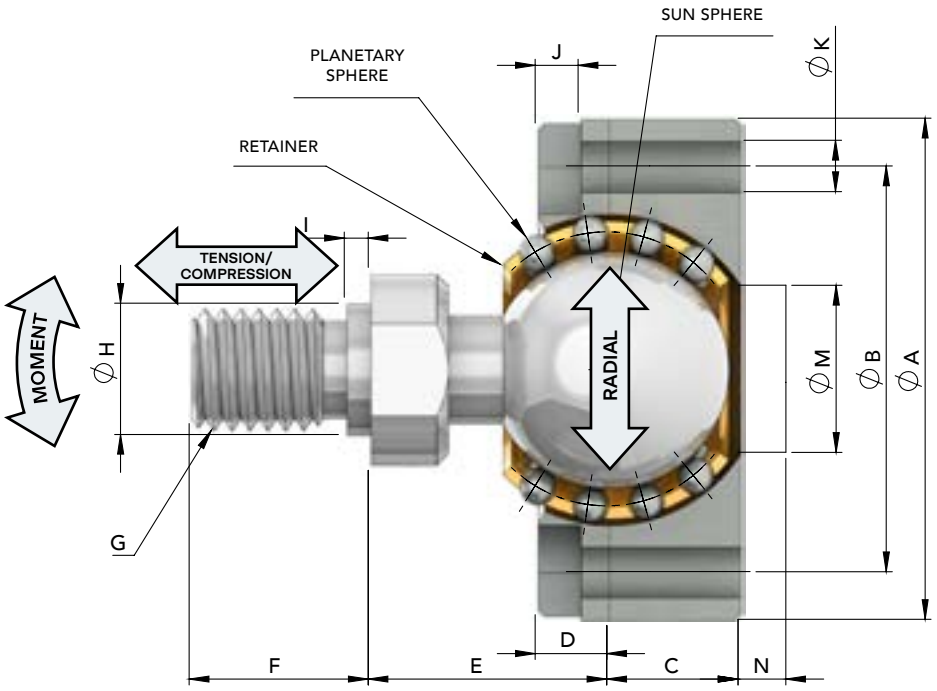
Do not exceed 80% of the load rating for extended periods.

Avoid rotating the shaft.

The retainer may become misaligned gradually during use. If misaligned, release the load and set the retainer such that it is concentric with the shaft when oriented normal to the base. Continuous use of the joint while the retainer is misaligned could damage the retainer.

PLEASE REFERENCE THE SRJ USAGE GUIDELINES DOCUMENT FOR ADDITIONAL INFORMATION.

DOWNLOAD AT SRJOINT.COM



Dimensions

Model	A		B	C	D	E	F	G	H		I	J	K		M	N	Width Across Flats
Unit: mm													Thru	Thread			
SRJ004C	19	0 -0.008	15	3.8	2.5	10	6	M3 x 0.5	3.6	0.004 -0.012	2	1.5	2	NONE	6	1.5	4
SRJ006C	25	0 -0.013	20	5,5	3.8	11.5	8	M4 x 0.5	4.5	0.004 -0.012	2	2.3	3	NONE	10	2	5
SRJ008C	30	0 -0.021	24	7	4	16	12	M5 x 0.5	5.5	0.004 -0.012	4	2	3.2	M4x0.7	11	2	7
SRJ012C	42	0 -0.02	34	11	6	20	15	M10 x 1.5	11	0.006 -0.017	2	3.6	4.1	M5x0.8	14	2	14
SRJ016C	56	0 -0.03	45	12	7	32	18	M12 x 1.75	12.6	0.006 -0.017	3	4.6	4.9	M6x0.75	25	5	14
SRJ024C	74	0 -0.03	62	17	11	42	23	M14 x 2	15	0.006 -0.017	5	5.5	6.6	M8x1.0	35	7	17
SRJ032C	100	0 -0.035	84	22	16	60	30	M16 x 2	16.6	0 -0.011	6	8.6	9	NONE	48	10	22
SRJ048C	136	0 -0.04	114	38	22	78	38	M28 x2	30	0 -0.013	6	10.8	11	NONE	60	10	30

M AND N INDICATE THE REQUIRED CLEARANCE FOR THE RETAINER ON THE MOUNTING SURFACE.

Model

SRJS 012 C - P

Spherical Rolling Joint Short	Sphere Size (1/16th inch Multiples)	Precision Class P: Precision (Run-out: ±2.5 µm) SP: Super-Precision (Run-out: ±1.0 µm)

Technical Specifications

Model	Basic Load Ratings		Recommended Permissive Loads			Weight	Swing Angle
	C (N)	Co (N)	Compressive (N)	Tensile (N)	Radial (N)	(kg)	
SRJ008C	490	540	392	147	245	0.06	±15°
SRJ012C	720	770	576	216	360	0.18	±20°
SRJ016C	1170	1300	936	351	585	0.37	±20°
SRJ024C	2840	3920	2272	852	1420	0.93	±20°

C(N) BASIC DYNAMIC LOAD RATING
Co(N) BASIC STATIC LOAD RATING

Revised Mounting

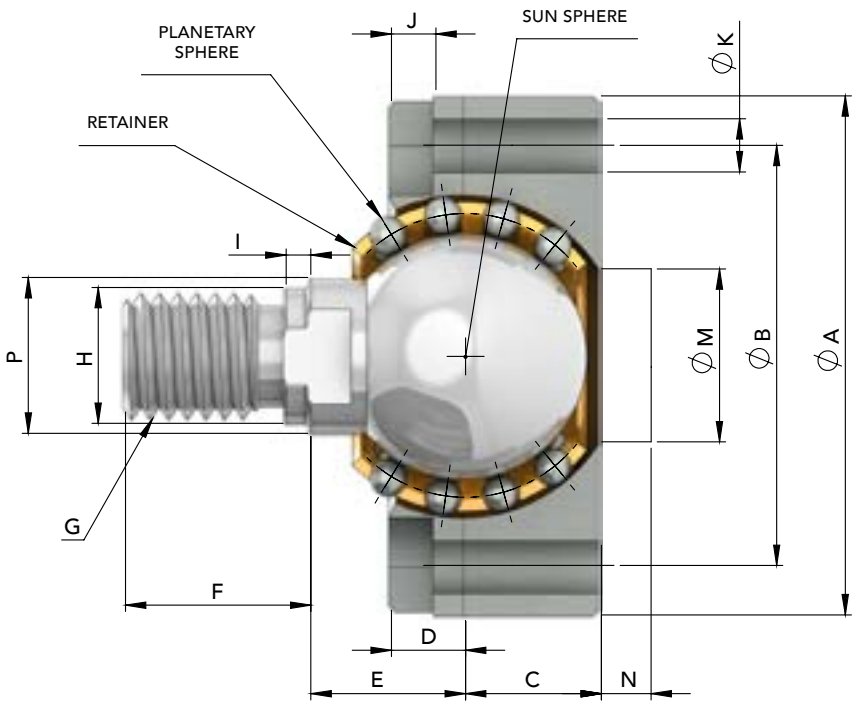
Tapped threads in mounting holes adds flexibility and retains backwards compatibility to the SRJ and the SRJS.

A- Bolt in through hole from top
B- Bolt threaded in from bottom

SRJS Highlights

Height has been reduced up to 35%.

Additional surface treatments and grease options.
Reduced Swing angle due to addition width.



SRJ vs. SRJS Height Variation

Size	SRJ	SRJS	Suggested Wrench
	C+E	C+E	Thin-jaw Wrench (TRUSCO)
#008	23	16.5	Product No. TSS-5507
#012	31	24.5	Product No. TSS-1012
#016	44	29.5	Product No. TSS-1417
#024	59	40.5	Product No. TSS-1417

Dimensions

Model	A		B	C	D	E	F	G	H		J	K		M	N	P	Width Across Flats
Unit: mm												Thru	Thread				
SRJS008C	30	0 -0.021	24	7	4	9.5	10	M5x0.5	5.5	-0.004 -0.012	2	3.2	M4x0.7	11	2	8.6	7
SRJ012C	42	0 -0.020	34	11	6	-	15	M10	11	-0.006 -0.017	3.6	4.1	M5x0.8	14	2	12.6	10
SRJ016C	56	0 -0.030	45	12	7	-	18	M12	12.6	-0.005 -0.017	4.6	4.9	M6x0.75	25	5	16	14
SRJ024C	74	0 -0.030	62	17	11	-	23	M14	15	-0.006 -0.017	5.5	6.6	M8x1.0	35	7	21	17

Model

SSJ 200

Spherical Sliding Joint

Sphere Size

Technical Specifications

Model	Max. Axial Pull Load (N)	Max. Axial Pull Load (N) (Reference Value)	Weight (kg)	Max. Swing Angle	Material	Hardness
SSJ200	100	(1000)	0.2	±35°	S45C	HRC45-55
SSJ240	280	(1800)	0.3			
SSJ360	540	(5000)	1.0			

HEPHAIST

Spherical Sliding Joint

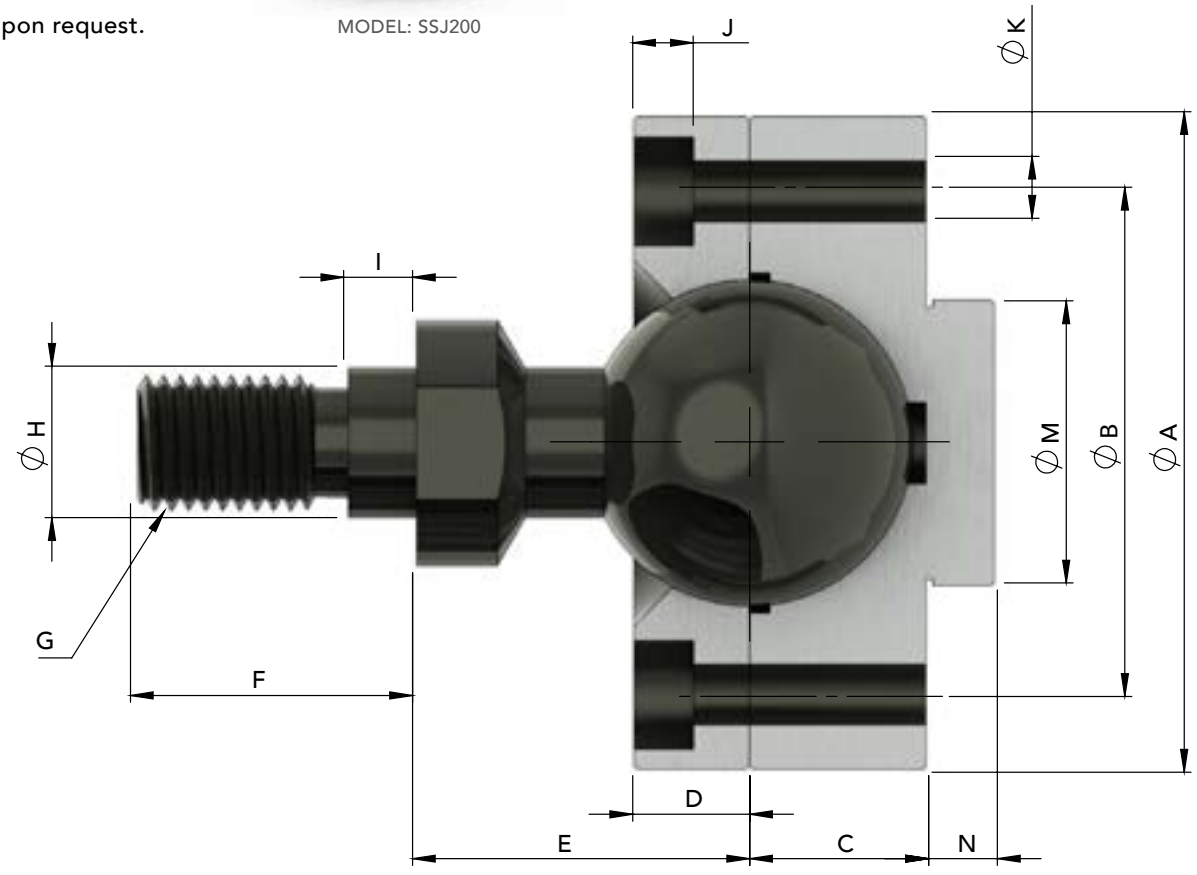
Designed for applications requiring high loading forces such as hydraulic cylinders.

Multiple material options available upon request.

Advanced surface treatment for oxidizing prevention and reduced friction.

Customizations available upon request.

MODEL: SSJ200



Dimensions

Model Unit: mm	A	B	C	D	E	F	G	H		I	Width Across Flats	L	M		N	P	Q		J	Sphere
SSJ200	40	30	15	6.5	15	12	M8x1.25	10h7	0 -0.015	15	4.5	0.5	12h7	0 -0.018	5	(10) *1	8	0 -0.2	4.4	20
SSJ240	48	37	13	8.5	24.5	20.5	M10x1.25	11h7	0 0.018	5	4.5	0.5	21h7	0 0.021	5	18	16	0 -0.2	4.4	24
SSJ360	70	54	19	12.5	38	29.5	M16x1.5	17h7	0 0.018	5	6.5	0.5	32h7	0 0.025	5	26	24	0 -0.2	6.5	36