PISCO

Push-In Fitting for Ultra High Speed Swiveling application

High Rotary Joint

Package :1 pc. in a bag

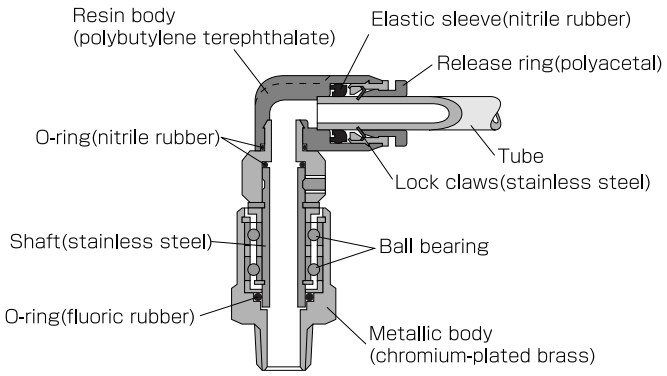
■ High Rotary Joint with two bearings incorporated is ideal for ultra high speed swinging and rotating applications. Compare the r.p.m. with those of Rotary Joint and select the right model for the application.

Specifications

Fluid admitted	Air,Vacuum	
Service pressure range	0~150psi	0~0.9MPa(0~9.9kgf/cm²)
Working vacuum	-29.5in.Hg	-750mmHg(10Torr)
Service temperature range	32~140°F	0~60°C

Notes:Use the high rotary joint with air only, Never use them with water or other liquids, or with gases other than air.

Construction



*The gasket material of M or UNF thread is SUS304 + NBR

Allowable No. of revolutions of High Rotary Joint

● RHC and RHL

Tube dia.	φ5/32, φ4	φ3/16,φ1/4,φ6	φ5/16, φ8	φ3/8, φ10	φ1/2, φ12
r.p.m	1,500 min⁻¹	1,200 min⁻¹	1,200 min⁻¹	1,000 min⁻¹	1,000 min⁻¹

● RHF and RHS

Thread size	N1U, N2U , 01, 02	N3U, N4U, 03, 04
r.p.m	1,200 min⁻¹	900 min⁻¹

※. min⁻¹ : rotation per minute

Model Designation(Example)

RHL ① 3/8 ② – N3 ③ U ④

①Type : **C -** Swiveling Straight or **L -** Swiveling Elbow

②Tube Dia.(φD)

	mm size				
Code	4	6	8	10	12
Size.	φ4mm	φ6mm	φ8mm	φ10mm	φ12mm
	in. size				
Code	5/32	3/16	1/4	5/16	3/8	1/2
Size.	φ5/32	φ3/16	φ1/4	φ5/16	φ3/8	φ1/2

③Thread size - NPT or R (BSPT) , Rc (BSPT female)

	Unified fine thread		American standard taper pipe thread			
Code	U10		N1	N2	N3	N4
Size	10-32UNF		NPT1/8	NPT1/4	NPT3/8	NPT1/2
	Metric thread		BSPT – Taper pipe thread			
Code	M5	M6	01	02	03	04
Size	M5×0.8	M6×1.0	R1/8	R1/4	R3/8	R1/2

④U:Hexagon flat-to-flat inch spec. (UNF, NPT)

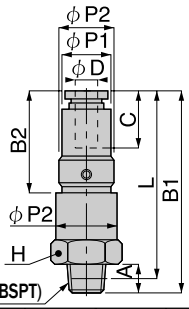
No Code: Hexagon flat-to-flat metric spec. (M. R)

⚠Caution

1. High Rotary Joint series can bear a certain amount of radial load. However, It may shorten the lifetime. Contact us if the load is such heavy.

2. Use polyurethane tubing for the high rotation applications. Stiff tubings like a nylon tubing may cause radial load to the fitting.

RHC Straight



❖ NPT, UNF thread

Unit : inch

Model	Tube dia. ϕD	NPT	A	B1	B2	L	ΦP1	ΦP2	ΦP3	C	H	※1 r.p.m	※2 g-cm less than	Weight (OZ)	Orifice ϕMM	Eff.a. mm2	CV
RHC 5/32-U10U	5/32	10-32UNF	0.14	1.69	0.91	1.56	0.43	-	0.47	0.59	1/2	1500	150	0.85	1.80	2.20	0.12
RHC 5/32-N1U	5/32	1/8	0.31	1.89	0.91	1.73	0.43	-	0.47	0.59	1/2	1500	150	1.03	3.00	3.40	0.18
RHC 3/16-N1U	3/16	1/8	0.31	2.15	1.08	1.99	0.51	0.59	0.67	0.65	11/16	1200	150	1.79	5.50	6.60	0.36
RHC 3/16-N2U	3/16	1/4	0.43	2.26	1.08	2.03	0.51	0.59	0.67	0.65	11/16	1200	150	2.02	5.50	6.50	0.35
RHC 1/4-N1U	1/4	1/8	0.31	2.15	1.08	1.99	0.51	0.59	0.67	0.65	11/16	1200	150	1.77	5.50	15.40	0.83
RHC 1/4-N2U	1/4	1/4	0.43	2.26	1.08	2.03	0.51	0.59	0.67	0.65	11/16	1200	150	2.00	5.50	14.90	0.81
RHC 5/16-N1U	5/16	1/8	0.31	2.28	1.18	2.13	0.59	-	0.67	0.69	11/16	1200	150	1.99	5.50	13.60	0.74
RHC 5/16-N2U	5/16	1/4	0.43	2.40	1.18	2.17	0.59	-	0.67	0.69	11/16	1200	150	2.21	5.50	13.70	0.74
RHC 3/8-N3U	3/8	3/8	0.47	2.68	1.24	2.42	0.79	-	0.93	0.79	1	900	250	4.46	9.00	33.00	1.79
RHC 3/8-N4U	3/8	1/2	0.59	2.80	1.24	2.48	0.79	-	0.93	0.79	1	900	250	5.05	9.00	32.90	1.78
RHC 1/2-N3U	1/2	3/8	0.47	2.76	1.40	2.50	0.83	-	0.93	0.91	1	900	250	4.60	9.00	41.90	2.27
RHC 1/2-N4U	1/2	1/2	0.59	2.89	1.40	2.58	0.83	-	0.93	0.91	1	900	250	5.19	9.00	41.40	2.24

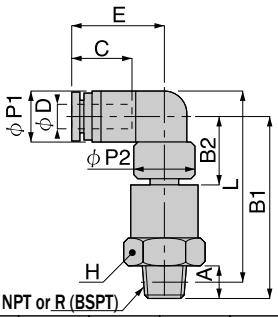
Unit : inch

Model	Tube dia. ϕD(mm)	R	A	B1	B2	L	ΦP1	ΦP2	ΦP3	C	H	※1 r.p.m	※2 g-cm less than	Weight (OZ)	Orifice ϕMM	Eff.a. mm2	CV
RHC 4-M5	4	M5	0.14	1.69	0.91	1.55	0.43	-	0.47	0.59	0.47	1500	150	0.92	1.80	2.20	0.12
RHC 4-M6	4	M6	0.18	1.73	0.91	1.55	0.43	-	0.47	0.59	0.47	1500	150	0.95	3.00	3.00	0.16
RHC 4-01	4	R1/8	0.31	1.89	0.91	1.73	0.43	-	0.47	0.59	0.47	1500	150	1.02	3.00	3.40	0.18
RHC 6-01	6	R1/8	0.31	2.15	1.08	1.99	0.51	0.59	0.67	0.65	0.67	1200	150	1.76	4.60	12.80	0.69
RHC 6-02	6	R1/4	0.43	2.26	1.08	2.03	0.51	0.59	0.67	0.65	0.67	1200	150	2.01	4.60	12.20	0.66
RHC 8-01	8	R1/8	0.31	2.28	1.18	2.13	0.59	-	0.67	0.69	0.67	1200	150	1.94	5.00	10.70	0.58
RHC 8-02	8	R1/4	0.43	2.40	1.18	2.16	0.59	-	0.67	0.69	0.67	1200	150	2.11	5.00	11.50	0.62
RHC 10-03	10	R3/8	0.47	2.68	1.24	2.42	0.79	-	0.92	0.79	0.94	900	250	4.29	7.50	41.50	2.25
RHC 10-04	10	R1/2	0.59	2.79	1.24	2.48	0.79	-	0.92	0.79	0.94	900	250	4.86	7.50	42.90	2.33
RHC 12-03	12	R3/8	0.47	2.76	1.40	2.50	0.83	-	0.92	0.91	0.94	900	250	4.44	9.00	51.20	2.78
RHC 12-04	12	R1/2	0.59	2.89	1.40	2.58	0.83	-	0.92	0.91	0.94	900	250	5.00	9.00	49.60	2.69
RHC 1/4-01	1/4	R1/8	0.31	2.18	1.08	2.03	0.51	0.59	0.67	0.65	0.67	1200	150	1.76	4.60	13.00	0.70
RHC 1/4-02	1/4	R1/4	0.43	2.30	1.08	2.07	0.51	0.59	0.67	0.65	0.67	1200	150	2.01	4.60	12.60	0.68
RHC 5/16-01	5/16	R1/8	0.31	2.28	1.18	2.13	0.59	-	0.67	0.69	0.67	1200	150	1.94	5.00	10.70	0.58
RHC 5/16-02	5/16	R1/4	0.43	2.40	1.18	2.16	0.59	-	0.67	0.69	0.67	1200	150	2.11	5.00	11.50	0.62
RHC 3/8-03	3/8	R3/8	0.47	2.64	1.24	2.38	0.79	-	0.92	0.79	0.94	900	250	4.29	7.50	42.90	2.33
RHC 3/8-04	3/8	R1/2	0.59	2.76	1.24	2.44	0.79	-	0.92	0.79	0.94	900	250	4.86	7.50	43.90	2.38

※1 Allowable revolutions ※2 Idling torque

❖ R is same as BSPT

RHL Elbow



❖ NPT, UNF thread

Unit : inch

Model	Tube dia. ϕD	NPT	A	B1	B2	L	ΦP1	ΦP2	C	E	H	※1 r.p.m	※2 g-cm less than	Weight (OZ)	Orifice ϕMM	Eff.a. mm2	CV
RHL5/32-U10U	5/32	10-32UNF	0.14	1.38	0.51	1.24	0.39	0.45	0.59	0.77	1/2	1500	150	0.75	1.80	2.20	0.12
RHL5/32-N1U	5/32	1/8	0.31	1.50	0.51	1.34	0.39	0.45	0.59	0.77	1/2	1500	150	0.93	3.00	4.10	0.22
RHL3/16-N1U	3/16	1/8	0.31	1.77	0.67	1.61	0.51	0.65	0.65	0.89	11/16	1200	150	1.67	5.50	6.20	0.34
RHL3/16-N2U	3/16	1/4	0.43	1.89	0.67	1.65	0.51	0.65	0.65	0.89	11/16	1200	150	1.89	5.50	6.00	0.33
RHL1/4-N1U	1/4	1/8	0.31	1.77	0.67	1.61	0.51	0.65	0.65	0.89	11/16	1200	150	1.69	5.50	11.00	0.60
RHL1/4-N2U	1/4	1/4	0.43	1.89	0.67	1.65	0.51	0.65	0.65	0.89	11/16	1200	150	1.89	5.50	11.10	0.60
RHL5/16-N1U	5/16	1/8	0.31	1.81	0.71	1.65	0.59	0.65	0.69	0.89	11/16	1200	150	1.77	5.50	12.90	0.70
RHL5/16-N2U	5/16	1/4	0.43	1.93	0.71	1.69	0.59	0.65	0.69	0.98	11/16	1200	150	2.00	5.50	13.30	0.72
RHL3/8-N3U	3/8	3/8	0.47	2.22	0.83	1.91	0.71	0.93	0.79	1.12	1	900	250	4.01	9.00	25.70	1.39
RHL3/8-N4U	3/8	1/2	0.59	2.34	0.83	2.03	0.71	0.93	0.79	1.12	1	900	250	4.60	9.00	26.10	1.41
RHL1/2-N3U	1/2	3/8	0.47	2.30	0.91	2.03	0.85	0.93	0.91	1.26	1	900	250	4.19	9.00	38.90	2.11
RHL1/2-N4U	1/2	1/2	0.59	2.42	0.91	2.09	0.85	0.93	0.91	1.26	1	900	250	4.78	9.00	39.20	2.12

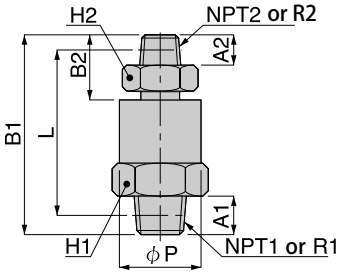
Unit : inch

Model	Tube dia. ϕD(mm)	R	A	B1	B2	L	ΦP1	ΦP2	C	E	H	※1 r.p.m	※2 g-cm less than	Weight (OZ)	Orifice ϕMM	Eff.a. mm2	CV
RHL4-M5	4	M5	0.14	1.38	0.51	1.24	0.39	0.45	0.59	0.77	0.47	1500	150	1.17	1.80	2.20	0.12
RHL4-M6	4	M6	0.18	1.42	0.51	1.24	0.39	0.45	0.59	0.77	0.47	1500	150	1.22	3.00	4.50	0.24
RHL4-01	4	R1/8	0.31	1.50	0.51	1.34	0.39	0.45	0.59	0.77	0.47	1500	150	1.44	3.00	4.10	0.22
RHL6-01	6	R1/8	0.31	1.77	0.67	1.61	0.51	0.65	0.65	0.89	0.67	1200	150	2.55	4.60	10.00	0.54
RHL6-02	6	R1/4	0.43	1.89	0.67	1.65	0.51	0.65	0.65	0.89	0.67	1200	150	2.82	4.60	10.50	0.57
RHL8-01	8	R1/8	0.31	1.81	0.71	1.65	0.59	0.65	0.69	0.98	0.67	1200	150	2.66	5.00	11.50	0.62
RHL8-02	8	R1/4	0.43	1.93	0.71	1.69	0.59	0.65	0.69	0.98	0.67	1200	150	2.98	5.00	13.00	0.70
RHL10-03	10	R3/8	0.47	2.22	0.83	1.91	0.71	0.92	0.79	1.12	0.94	900	250	5.75	7.50	27.20	1.47
RHL10-04	10	R1/2	0.59	2.34	0.83	2.03	0.71	0.92	0.79	1.12	0.94	900	250	6.70	7.50	27.00	1.46
RHL12-03	12	R3/8	0.47	2.30	0.91	2.03	0.85	0.92	0.91	1.26	0.94	900	250	6.01	9.00	42.50	2.30
RHL12-04	12	R1/2	0.59	2.42	0.91	2.09	0.85	0.92	0.91	1.26	0.94	900	250	6.92	9.00	41.60	2.25
RHL1/4-01	1/4	R1/8	0.31	1.75	0.67	1.61	0.51	0.65	0.65	0.89	0.67	1200	150	2.55	4.60	10.50	0.57
RHL1/4-02	1/4	R1/4	0.43	1.89	0.67	1.65	0.51	0.65	0.65	0.89	0.67	1200	150	2.82	4.60	10.80	0.59
RHL5/16-01	5/16	R1/8	0.31	1.81	0.71	1.65	0.59	0.65	0.69	0.98	0.67	1200	150	2.66	5.00	11.50	0.62
RHL5/16-02	5/16	R1/4	0.43	1.93	0.71	1.77	0.59	0.65	0.69	0.98	0.67	1200	150	2.98	5.00	13.00	0.70
RHL3/8-03	3/8	R3/8	0.47	2.22	0.83	1.97	0.71	0.92	0.79	1.12	0.94	900	250	5.75	7.50	24.10	1.31
RHL3/8-04	3/8	R1/2	0.59	2.34	0.83	2.09	0.71	0.92	0.79	1.12	0.94	900	250	6.70	7.50	25.80	1.40

※1 Allowable revolutions ※2 Idling torque ※3 R thread is same as BSPT

PISCO®

RHS Nipple



❖ NPT thread

Unit : inch

Model	NPT1	NPT2	A1	A2	B1	B2	L	ΦP	H1	H2	※1 r.p.m	※2 g-cm less than	Weight (OZ)	Orifice ϕMM	Eff.a. mm2	CV
RHS N1-N1U	1/8	1/8	0.31	0.31	1.17	0.61	1.40	0.65	11/16	9/16	1200	150	1.46	5.00	12.80	0.69
RHS N1-N2U	1/8	1/4	0.31	0.43	1.81	0.71	1.42	0.65	11/16	9/16	1200	150	1.66	5.50	12.20	0.66
RHS N2-N1U	1/4	1/8	0.43	0.31	1.83	0.61	1.44	0.65	11/16	9/16	1200	150	1.69	5.50	11.10	0.60
RHS N2-N2U	1/4	1/4	0.43	0.43	1.93	0.71	1.46	0.65	11/16	9/16	1200	150	1.89	9.00	11.40	0.62
RHS N3-N3U	3/8	3/8	0.47	0.47	2.24	0.85	1.73	0.93	1	9/16	900	250	4.09	9.00	48.80	2.64
RHS N3-N4U	3/8	1/2	0.47	0.59	2.36	0.96	1.79	0.93	1	7/8	900	250	3.98	9.00	47.90	2.60
RHS N4-N3U	1/2	3/8	0.59	0.47	2.36	0.85	1.79	0.93	1	7/8	900	250	4.68	9.00	50.50	2.74
RHS N4-N4U	1/2	1/2	0.59	0.59	2.48	0.96	1.85	0.93	1	7/8	900	250	5.28	9.00	47.00	2.55

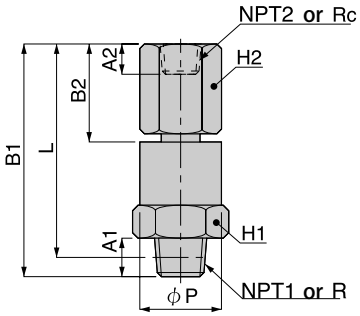
Unit : inch

Model	R1	R2	A1	A2	B1	B2	L	ΦP	H1	H2	※1 r.p.m	※2 g-cm less than	Weight (OZ)	Orifice ϕMM	Eff.a. mm2	CV
RHS01-01	R1/8	R1/8	0.31	0.31	1.71	0.61	1.40	0.65	0.67	0.55	1200	150	1.48	5.00	12.80	0.69
RHS01-02	R1/8	R1/4	0.31	0.43	1.81	0.71	1.42	0.65	0.67	0.55	1200	150	1.65	5.00	12.20	0.66
RHS02-01	R1/4	R1/8	0.43	0.31	1.83	0.61	1.44	0.65	0.67	0.55	1200	150	1.69	5.00	11.10	0.60
RHS02-02	R1/4	R1/4	0.43	0.43	1.93	0.71	1.46	0.65	0.67	0.55	1200	150	1.87	5.00	11.40	0.62
RHS03-03	R3/8	R3/8	0.47	0.47	2.24	0.85	1.73	0.92	0.94	0.87	900	250	3.94	9.00	48.80	2.64
RHS03-04	R3/8	R1/2	0.47	0.59	2.36	0.96	1.79	0.92	0.94	0.87	900	250	4.54	9.00	47.90	2.60
RHS04-03	R1/2	R3/8	0.59	0.47	2.36	0.85	1.79	0.92	0.94	0.87	900	250	4.58	9.00	50.50	2.74
RHS04-04	R1/2	R1/2	0.59	0.59	2.48	0.96	1.85	0.92	0.94	0.87	900	250	5.17	9.00	47.00	2.55

※ Allowable revolutions ※ Idling torque

❖ **R thread is same as BSPT**

RHF Bush



❖ NPT thread

Unit : inch

Model	NPT1	NPT2	A1	A2	B1	B2	L	ΦP	H1	H2	※1 r.p.m	※2 g-cm less than	Weight (OZ)	Orifice ϕMM	Eff.a. mm2	CV
RHFN1-N1U	1/8	1/8	0.31	0.31	1.85	0.75	1.69	0.65	11/16	9/16	1200	150	1.76	5.00	13.90	0.75
RHFN1-N2U	1/8	1/4	0.31	0.43	2.01	0.91	1.85	0.65	11/16	11/16	1200	150	2.24	5.50	11.00	0.60
RHFN2-N1U	1/4	1/8	0.43	0.31	1.97	0.75	1.81	0.65	11/16	9/16	1200	150	1.96	5.50	14.80	0.80
RHFN2-N2U	1/4	1/4	0.43	0.43	2.13	0.91	1.97	0.65	11/16	11/16	1200	150	2.46	5.50	11.20	0.61
RHFN3-N3U	3/8	3/8	0.47	0.47	2.44	1.04	2.19	0.93	1	7/8	900	250	4.83	9.00	47.20	2.56
RHFN3-N4U	3/8	1/2	0.47	0.59	2.52	1.10	2.24	0.93	1	1	900	250	5.54	9.00	53.10	2.88
RHFN4-N3U	1/2	3/8	0.59	0.47	2.56	1.04	2.24	0.93	1	7/8	900	250	5.42	9.00	47.50	2.57
RHFN4-N4U	1/2	1/2	0.59	0.59	2.64	1.10	2.30	0.93	1	1	900	250	6.13	9.00	50.20	2.72

Unit : inch

Model	R	RC	A1	B1	B2	L	ΦP	H1	H2	※1 r.p.m	※2 g-cm less than	Weight (OZ)	Orifice ϕMM	Eff.a. mm2	CV
RHF01-01	R1/8	R1/8	0.31	1.85	0.75	1.69	0.65	0.67	0.55	1200	150	1.80	5.00	13.90	0.75
RHF01-02	R1/8	R1/4	0.31	2.01	0.91	1.85	0.65	0.67	0.67	1200	150	2.18	5.00	11.00	0.60
RHF02-01	R1/4	R1/8	0.43	1.97	0.75	1.81	0.65	0.67	0.55	1200	150	1.97	5.00	14.80	0.80
RHF02-02	R1/4	R1/4	0.43	2.13	0.91	1.97	0.65	0.67	0.67	1200	150	2.39	5.00	11.20	0.61
RHF03-03	R3/8	R3/8	0.47	2.44	1.04	2.18	0.92	0.94	0.87	900	250	4.72	9.00	47.20	2.56
RHF03-04	R3/8	R1/2	0.47	2.52	1.10	2.24	0.92	0.94	0.94	900	250	4.93	9.00	53.10	2.88
RHF04-03	R1/2	R3/8	0.59	2.56	1.04	2.24	0.92	0.94	0.87	900	250	5.28	9.00	47.50	2.57
RHF04-04	R1/2	R1/2	0.59	2.64	1.10	2.30	0.92	0.94	0.94	900	250	5.63	9.00	50.20	2.72

※ Allowable revolutions ※ Idling torque

❖ **R is same as BSPT, Rc as BSPT female thread**

■ Standard Size List

Connection: Thread ⇔ Tube

Type	Thread size	Tube O.D. (mm)					
		5/32	3/16	1/4	5/16	3/8	1/2
RC Straight	10-32UNF	●					
	1/8NPT	●	●	●	●		
	1/4NPT		●	●	●		
	3/8NPT					●	●
	1/2NPT					●	●

Type	Thread size	Tube O.D. (mm)					
		5/32	3/16	1/4	5/16	3/8	1/2
RL Elbow	10-32UNF	●					
	1/8NPT	●	●	●	●		
	1/4NPT		●	●	●		
	3/8NPT					●	●
	1/2NPT					●	●

Type	Thread size	Tube O.D. (mm)							
		4	6	8	10	12	1/4	5/16	3/8
RHC Straight	M5×0.8	●							
	M6×1	●							
	R1/8	●	●	●			●	●	
	R1/4		●	●			●	●	
	R3/8				●	●			●
	R1/2				●	●			●

Type	Thread size	Tube O.D. (mm)							
		4	6	8	10	12	1/4	5/16	3/8
RHL Elbow	M5×0.8	●							
	M6×1	●							
	R1/8	●	●	●			●	●	
	R1/4		●	●			●	●	
	R3/8				●	●			●
	R1/2				●	●			●

Connection: Thread ⇔ Thread

Type	Thread size	Thread size (Female screw)			
		1/8NPT	1/4NPT	3/8NPT	1/2NPT
RHF Bush	1/8NPT	●	●		
	1/4NPT	●	●		
	3/8NPT			●	●
	1/2NPT			●	●

Type	Thread size	Thread size			
		1/8NPT	1/4NPT	3/8NPT	1/2NPT
RHS Male Screw Union	1/8NPT	●	●		
	1/4NPT	●	●		
	3/8NPT			●	●
	1/2NPT			●	●

Type	Thread size	Thread size (Female screw)			
		Rc1/8	Rc1/4	Rc3/8	Rc1/2
RHF Bush	R1/8	●	●		
	R1/4	●	●		
	R3/8			●	●
	R1/2			●	●

Type	Thread size	Thread size			
		R1/8	R1/4	R3/8	R1/2
RHS Male Screw Union	R1/8	●	●		
	R1/4	●	●		
	R3/8			●	●
	R1/2			●	●

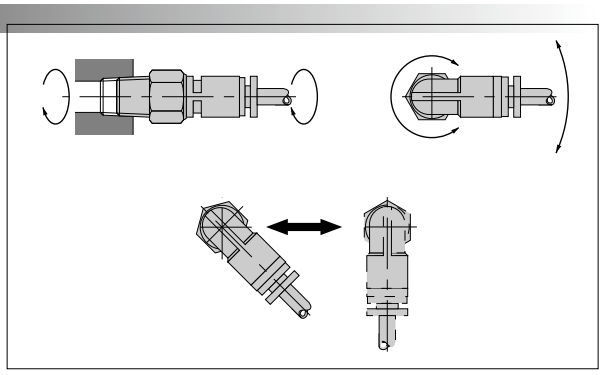
Caution

1. Avoid radial load. It may reduce the lifetime of the products.
2. Use polyurethane tube for the high rotation applications. Hard tubes like nylon base may cause radial load to the fitting.

■ Precautions for use

1.Caution

High Rotary Joint series is designed small and light with the ultra small ball bearing and a shaft holder. Polyurethane Tube is recommended for the high rotation applications.



2.Combination example

3D movements can be achieved by the combination use of straight and elbow types.