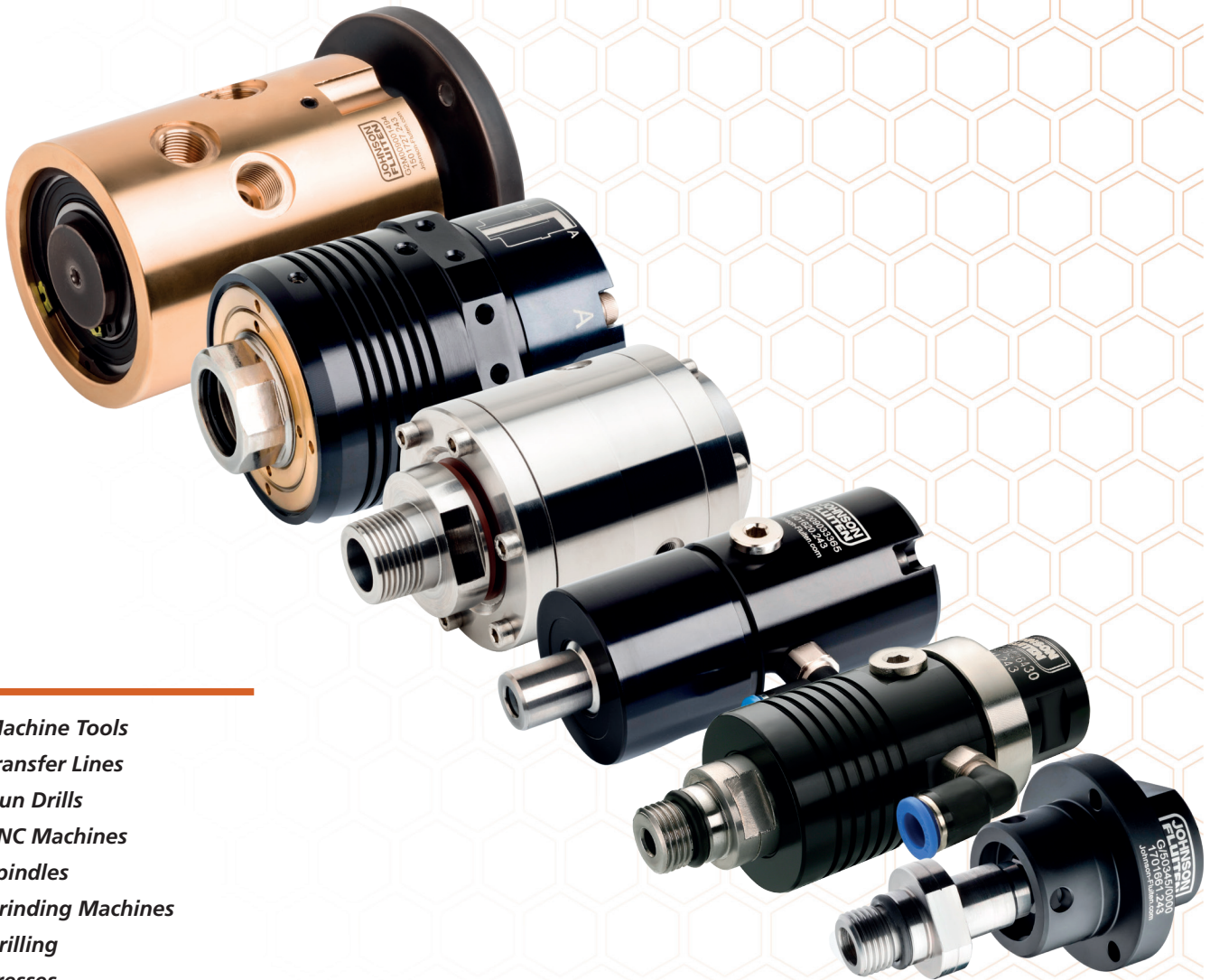


G™ Rotary Unions



- Machine Tools*
- Transfer Lines*
- Gun Drills*
- CNC Machines*
- Spindles*
- Grinding Machines*
- Drilling*
- Presses*
- Milling*
- Clutches*
- Rotary Index Tables*



Coolant



MQL



Hydraulic Oil



Air



Dry Running



G rotary unions are high performance, high precision rotary unions for coolant, air, hydraulic and cutting oil applications. G rotary unions are generally applied to the machine tool industry.

Based on decades of mechanical seal design and application expertise, the G rotary union line is built to perform under the most demanding conditions. A thorough understanding of seal load optimisation, seal wear characteristics, and application knowledge means G rotary unions can provide years of reliable service for coolant, air, and hydraulic oil applications.

Full Range of Standard and Custom Solutions



Up to six passages



Bearingless for high-speed



Bearingless compact design



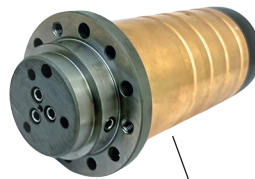
Bearing-supported rotor-mounted



Two passages for high-pressure



High-pressure bearing supported bore-mounted



Multi-passage for high speed



All-in-one axial & radial inlet



Features

- Up to 42,000 RPM and 3,625 psi (250 bar)
- Standard and customised designs
- Full flow area
- Optimised seal balance ratio
- Different seal material combinations
- Mechanical seals in constant contact
- Low operational temperature



Benefits

- Demanding applications
- Versatile applications
- Minimal pressure drop
- Minimal turning friction
- Longer seal life
- No leakage from coolant to dry running
- Increased bearing life

Our Standard & Custom Solutions

G-Type GA	4
G-Type GAI	5
G-Type GFR/GFRA	6
G-Type GFL/GFLA	7
G-Type GFS/GFSA	8
G-Type GFP/GFPA	9
G-Type GHR/GHRA	10
G-Type GHS/GHSA	11
G-Type GHP/GHPA	12
G/50551 Custom Rotary Unions	13
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G/50318 Custom Rotary Unions	14
G/5007 Custom Rotary Unions	14
G/50151 Custom Rotary Unions	15
G/50356 Custom Rotary Unions	15
Multi-Passage Rotary Unions	17

Quick Select Chart

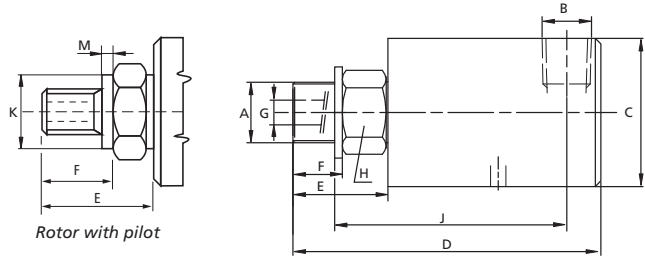
Type	Media				Pressure (Max.)		Temperature (Max.)		Speed (RPM)
	Coolant	Air	Oil	MQL	PSI	BAR	°F	°C	
GA	●	●	●	●	1,500	105	250	120	6,000
GAI	●	●	●	●	1,000	70	250	120	3,500
GFR / GFRA	●	● (1)	●	●	1,160	80	195	90	10,000
GFL / GFLA	●	● (1)	●	●	1,160	80	195	90	15,000
GFS / GFSA	●	●	●	●	1,160	80	195	90	20,000
GFP / GFPA	●	●	●	●	2,175	150	195	90	15,000
GHP / GHPA	●	●	●	●	2,030	140	195	90	32,000
GHR / GHRA	●	●	●	●	1,160	80	195	90	16,000
GHS / GHSA	●	●	●	●	1,160	80	195	90	42,000
G/50151	●	●	●	●	1,500	80	250	120	8,000
G2M/G4M/G5M	●	● (1)	●	●	3,610	250	195	90	100
G5007	●	●	●	●	1,000	70	250	120	1,500
Spindle Mounted	●	● (1)	●	●	1,160	80	250	120	42,000 (1)

- Recommended
- Acceptable
- Contact us for more info

1. Consult the factory for specific details. Depends on application parameters.

NOTE: For specific applications parameters, see catalogue page. Higher speed and pressure available upon request. Do not operate unions at a combination of maximum pressure, temperature, and speed.

Type GA



Type	A	B	C	D	E	F	G	H	J	K	M	Weight Lb (Kg)
GA003002503	M10 X 1 RH	1/8" NPT	31	72	22	11	3.2	17	54	-	-	0.3 (0.15)
GA003002505	M10 X 1 RH	1/8" NPT	31	72	22	11	3.2	17	54	11 ⁰ _{-0,011}	3	0.3 (0.15)
GA003002504	G 1/4" (BSP) RH	1/8" NPT	31	72	22	13	3.2	17	52	-	-	0.3 (0.15)
GA006015830	1/4" NPT RH	1/4" NPT	39	85	29	17	6.5	22	58	-	-	1.1 (0.5)
GA006000594	5/8" - 18 UNF RH	1/4" NPT	39	81	25	13	6.5	22	61	-	-	1.1 (0.5)
GA006003592	5/8" - 18 UNF LH	1/4" NPT	39	81	25	13	6.5	22	61	-	-	1.1 (0.5)
GA006002506	G 1/4" (BSP) RH	1/4" NPT	39	81	25	13	6.5	22	61	-	-	1.1 (0.5)
GA006002507	G 1/4" (BSP) LH	1/4" NPT	39	81	25	13	6.5	22	61	-	-	1.1 (0.5)
GA009015831	3/8" NPT RH	3/8" NPT	44	101	27	17	8.5	22	70.5	-	-	1.1 (0.5)
GA009002510	5/8" - 18 UNF RH	3/8" NPT	44	100	26	16	8.5	22	72.5	-	-	1.1 (0.5)
GA009003594	5/8" - 18 UNF LH	3/8" NPT	44	100	26	16	8.5	22	72.5	-	-	1.1 (0.5)
GA009000601	G 3/8" (BSP) RH	3/8" NPT	44	100	26	16	8.5	22	72.5	-	-	1.1 (0.5)
GA009003593	G 3/8" (BSP) LH	3/8" NPT	44	100	26	16	8.5	22	72.5	-	-	1.1 (0.5)
GA009001590	M16 X 2 RH	3/8" NPT	44	100	26	16	8.5	22	72.5	-	-	1.1 (0.5)
GA012015832	1/2" NPT RH	1/2" NPT	59	118	37	2	13	36	83	-	-	1.5 (0.7)
GA012001248	3/4" - 16 UNF RH	1/2" NPT	59	115	34	19	13	36	86	-	-	1.5 (0.7)
GA012003596	3/4" - 16 UNF LH	1/2" NPT	59	115	34	19	13	36	86	-	-	1.5 (0.7)
GA012002217	G 1/2" (BSP) RH	1/2" NPT	59	115	34	19	13	36	86	-	-	1.5 (0.7)
GA012003597	G 1/2" (BSP) LH	1/2" NPT	59	115	34	19	13	36	86	-	-	1.5 (0.7)
GA012002316	G 3/4" (BSP) RH	1/2" NPT	59	115	34	19	13	36	86	-	-	1.5 (0.7)
GA012003598	G 3/4" (BSP) LH	1/2" NPT	59	115	34	19	13	36	86	-	-	1.5 (0.7)
GA012003595	M20 X 1.5 RH	1/2" NPT	59	115	34	24	13	36	83	22 ^{-0,007} _{-0,020}	5	1.5 (0.7)
GA012003599	M20 X 1.5 LH	1/2" NPT	59	115	34	24	13	36	83	22 ^{-0,007} _{-0,020}	5	1.5 (0.7)
GA012002431	M22 X 1.5 RH	1/2" NPT	59	115	34	19	13	36	83	27 ^{-0,007} _{-0,020}	3	1.5 (0.7)
GA012003600	M22 X 1.5 LH	1/2" NPT	59	115	34	19	13	36	83	27 ^{-0,007} _{-0,020}	3	1.5 (0.7)

Consult factory for additional thread type, dimensions in millimeters. For reference only and subject to change.

Fluid	PSI (BAR)	Temperature °F (°C)	RPM	RPM (with pilot)
Air	150 (10)	250 (120)	1,500	1,500
Coolant	1,000 (70)	250 (120)	3,500	6,000
Hydraulic Oil	1,500 (105)	250 (120)	3,500	6,000

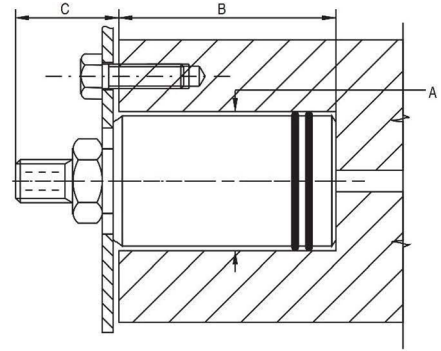
INSTALLATION INSTRUCTIONS



Overview

- Precision ball bearings lubricated for life
- Hardened stainless steel rotor
- Optimised seal balance ratio for minimal friction
- Smooth running, no vibration
- Body available in anodised aluminium or brass
- Stationary seal face available in carbon graphite, bronze seal face for hydraulic oil above 1,000 psi (70) bar
- Possibility of customised tests on customer's parameters
- No leakage during tool change

Type GAI



Type	Rotor		A+	B	C	Weight Lb (Kg)
GAI003002516	M10 X 1	RH	31	48	24	0.3 (0.15)
GAI003002515	G 1/4" (BSP)	RH	31	48	24	0.3 (0.15)
GAI006001215	5/8" - 18 UNF	RH	39	54	27	1.1 (0.5)
GAI006003601	5/8" - 18 UNF	LH	39	54	27	1.1 (0.5)
GAI006002372	G 1/4" (BSP)	RH	39	54	27	1.1 (0.5)
GAI006003602	G 1/4" (BSP)	LH	39	54	27	1.1 (0.5)
GAI009002780	5/8" - 18 UNF	RH	44	72	28	1.1 (0.5)
GAI009003604	5/8" - 18 UNF	LH	44	72	28	1.1 (0.5)
GAI009000824	G 3/8" (BSP)	RH	44	72	28	1.1 (0.5)
GAI009003603	G 3/8" (BSP)	LH	44	72	28	1.1 (0.5)
GAI009001380	M16 X 2	RH	44	72	28	1.1 (0.5)
GAI012000640	3/4" - 16 UNF	RH	59	78	37	1.5 (0.7)
GAI012003605	3/4" - 16 UNF	LH	59	78	37	1.5 (0.7)
GAI012003477	G 1/2" (BSP)	RH	59	78	37	1.5 (0.7)
GAI012003607	G 1/2" (BSP)	LH	59	78	37	1.5 (0.7)
GAI012001419	G 3/4" (BSP)	RH	59	78	37	1.5 (0.7)
GAI012003606	G 3/4" (BSP)	LH	59	78	37	1.5 (0.7)

+ Dimension tolerance is +0.31 +0.4, dimensions in millimeters. For reference only and subject to change.

Fluid	PSI (BAR)	Temperature °F (°C)	RPM	RPM (with pilot)
Air	150 (10)	250 (120)	1,500	1,500
Coolant	1,000 (70)	250 (120)	3,500	6,000
Hydraulic Oil	1,000 (70)	250 (120)	3,500	6,000

INSTALLATION INSTRUCTIONS

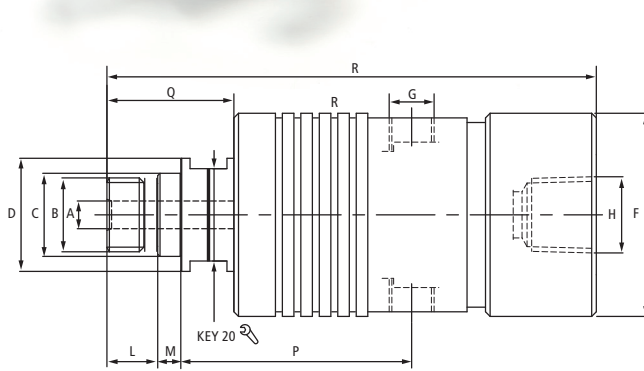
Overview

- Compact design mounted inside shaft
- Hardened stainless steel rotor
- Optimised seal balance ratio for minimal friction
- Available with non-contracting seal ring with hydrodynamic grooves
- Anodised aluminium body

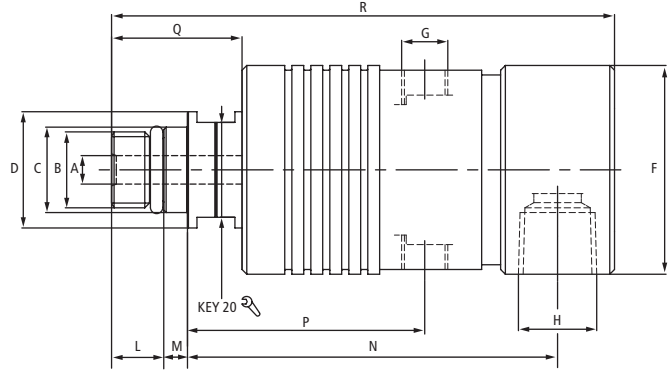
Type GFR/GFRA



Fluid	PSI (BAR)	Temperature °F (°C)	RPM
Coolant	1160 (80)	195 (90)	10,000
MQL	145 (10)	195 (90)	10,000
Air	116 (8)	122 (50)	10,000
Dry Run	-	-	10,000



AXIAL INLET

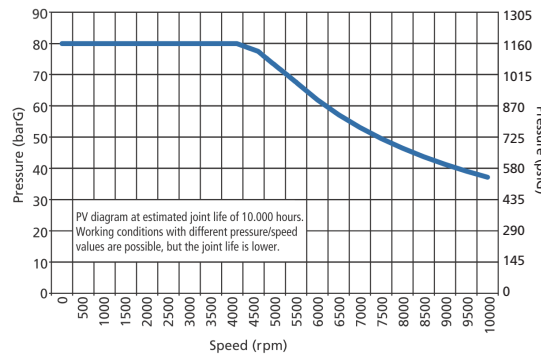


RADIAL INLET

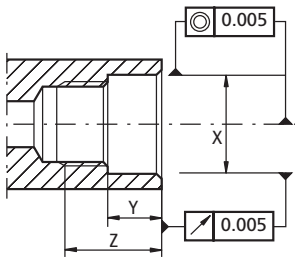
Type	A	B	C	D	E	F	G	H	L	M	N	P	Q	R	S	T	Weight Lb (Kg)
GFRO09030110	6	M16X1.5 LH	18 g6	24.5	-	44	1/8" NPT	3/8" NPT	11	5	-	50.0	27.5	106	-	-	1.1 (0.5)
GFRO09030111	6	5/8" 18 UNF LH	16.65 h4	24.5	-	44	1/8" NPT	3/8" NPT	14	5	-	50.0	30	109	-	-	1.1 (0.5)
GFRO09033369	6	M16X1.5 RH	18 g6	24.5	-	44	4 x 1/8" NPT	3/8" NPT	11	5	-	50.0	27.5	106	-	-	1.1 (0.5)
GFRO09041492	6	M16X1.5 LH	16 g6	24.5	-	44	4 x 1/8" NPT	3/8" NPT	11	5	-	50.0	27.5	106	-	-	1.1 (0.5)

Type	A	B	C	D	E	F	G	H	L	M	N	P	Q	R	S	T	Weight Lb (Kg)
GFRA009030120	6	M16X1.5 LH	18 g6	24.5	-	44	1/8" NPT	3/8" NPT	11	5	78	50.0	27.5	106	-	-	1.1 (0.5)
GFRA009030121	6	5/8" 18 UNF LH	16.65 h4	24.5	-	44	1/8" NPT	3/8" NPT	14	5	78	50.0	30.0	109	-	-	1.1 (0.5)
GFRA009049004	6	M14X1.5 LH	15 g6	24.5	-	44	1/8" NPT	3/8" NPT	11	5	78	50.0	27.5	106	-	-	1.1 (0.5)
GFRA009029898	6	M12X1.25 LH	14 g6	24.5	-	44	1/8" NPT	3/8" NPT	11	5	78	50.0	27.5	106	-	-	1.1 (0.5)
GFRA009038688	6	M16X1.5 RH	18 g6	24.5	-	44	4 x 1/8" NPT	3/8" NPT	11	5	78	50.0	27.5	106	-	-	1.1 (0.5)

Rotary Union Type GFR-GFRA PV Diagram



Dimensions in millimeters.
For reference only and subject to change.



See page 18
for spindle detail

INSTALLATION INSTRUCTIONS

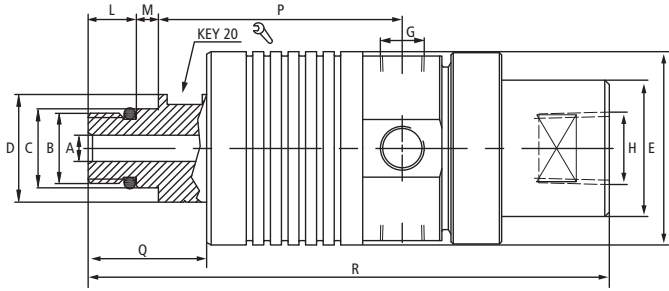
Overview

- Labyrinth seal and drain holes protect bearings
- Optimised seal balance ratio
- Silicon carbide seal faces resist wear and thermal shock
- Precision ball bearings eliminate vibration
- Anodised aluminium body
- Full flow area, minimal pressure drop
- Stainless steel spring located outside the flow
- Stainless steel rotor resists corrosion
- No leakage during tool change

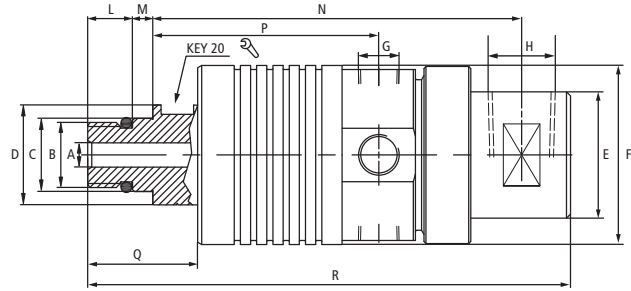
Type GFL/GFLA



Fluid	PSI (BAR)	Temperature °F (°C)	RPM
Coolant	1,160 (80)	195 (90)	15,000
MQL	145 (10)	195 (90)	15,000
Air	116 (8)	122 (50)	15,000
Dry Run	-	-	15,000



AXIAL INLET



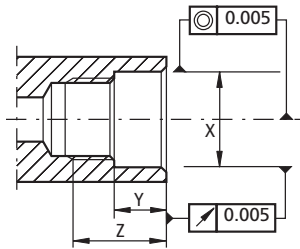
RADIAL INLET

Type	A	B	C	D	E	F	G	H	L	M	N	P	Q	R	S	T	Weight Lb (Kg)
GFL009028400	6	M16X1.5 LH	18 g6	24.5	31	44	1/8" NPT	3/8" NPT	11	5	-	55.5	27	118.6	-	-	1.1 (0.5)
GFL009028401	6	5/8" UNF LH	16.65 h4	24.5	31	44	1/8" NPT	3/8" NPT	14	5	-	55.5	30	121.6	-	-	1.1 (0.5)
GFL009028402	6	M10X1.0 LH	11 h6	24.5	31	44	1/8" NPT	3/8" NPT	13	3	-	55.5	27	118.6	-	-	1.1 (0.5)
GFL009031846	6	M16X1.5 LH	16 g6	24.5	31	44	4 x 1/8" NPT	3/8" BSP	11	5	-	44.5	27	118.6	-	-	1.1 (0.5)
GFL009047324	6	M16X1.5 RH	18 g6	24.5	31	44	4 x 1/8" NPT	3/8" BSP	11	5	-	44.5	27	118.6	-	-	1.1 (0.5)

Type	A	B	C	D	E	F	G	H	L	M	N	P	Q	R	S	T	Weight Lb (Kg)
GFLA009028405	6	M16X1.5 LH	18 g6	24.5	31	44	1/8" NPT	3/8" NPT	11	5	90.6	55.5	27	118.6	-	-	1.1 (0.5)
GFLA009028406	6	5/8" UNF LH	16.65 h4	24.5	31	44	1/8" NPT	3/8" NPT	14	5	90.6	55.5	30	121.6	-	-	1.1 (0.5)
GFLA009028408	6	M16X1.5 LH	18 g6	24.5	31	44	1/8" NPT	3/8" NPT	11	5	90.6	55.0	27	118.6	-	-	1.1 (0.5)
GFLA009036875	6	M16X1.5 LH	16 g6	24.5	-	44	4 x 1/8" NPT	3/8" BSP	11	5	90.6	44.5	27	118.6	-	-	1.1 (0.5)
GFLA009028408	6	M16X1.5 RH	18 g6	24.5	-	44	4 x 1/8" NPT	3/8" BSP	11	5	90.6	44.5	27	118.6	-	-	1.1 (0.5)

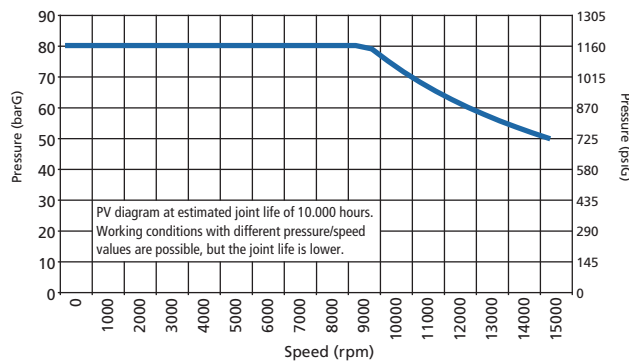
Dimensions in millimeters.

For reference only and subject to change.



See page 18 for spindle detail

Rotary Union Type GFL-GFLA PV Diagram



INSTALLATION INSTRUCTIONS

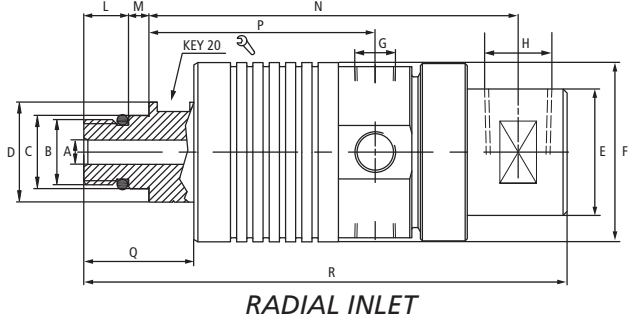
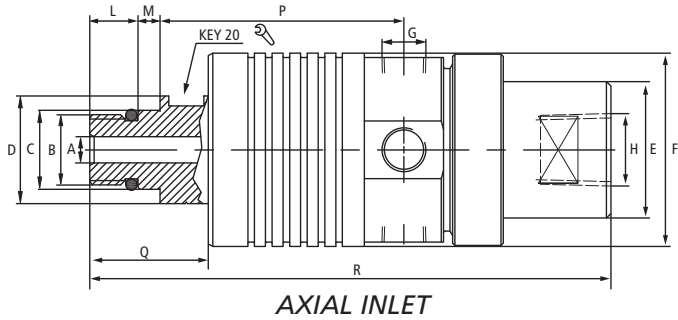
Overview

- Special seal design permits dry running
- Optimised seal balance ratio for minimal friction
- Precision angular contact bearings widely spaced to eliminate wobble and vibration
- Labyrinth seal and drain holes protect bearings
- Anodised aluminium body
- Reduced coolant misting for improved air quality
- Low heat generation in bearings and mechanical seal
- No leakage during tool change commutation
- Low vibration for precise machining
- Also available for rotation with compressed air
- Supplied with bearings run-in upon request
- Closing ring suitable for proximity sensing draw bar position

Type GFS/GFSA



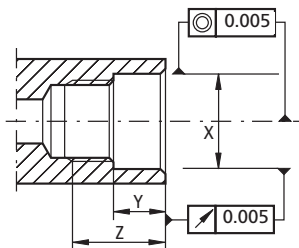
Fluid	PSI (BAR)	Temperature °F (°C)	RPM
Coolant	1,160 (80)	195 (90)	20,000
MQL	145 (10)	195 (90)	20,000
Air	116 (8)	122 (50)	20,000
Dry Run	-	-	20,000



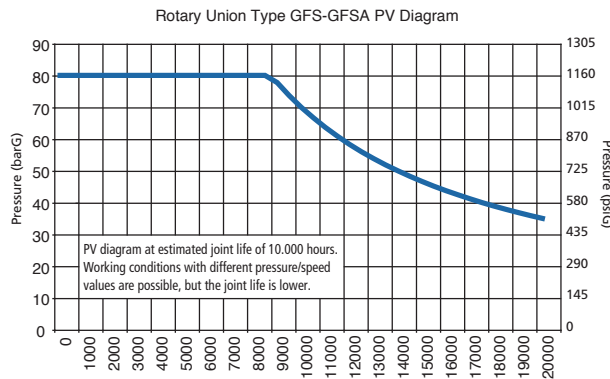
Type	A	B	C	D	E	F	G	H	L	M	P	Q	R	Weight Lb (Kg)
GFS009028410	6	M16 X 1.5 LH	18 g6	24.5	31	44	1/8" NPT	3/8" BSP	11	5	55.5	27	118.6	1.1 (0.50)
GFS009028411	6	5/8" - UNF LH	16.65 h4	24.5	31	44	1/8" NPT	3/8" BSP	14	5	55.5	30	121.1	1.1 (0.50)

Type	A	B	C	D	E	F	G	H	L	M	N	P	Q	R	Weight Lb (Kg)
GFSA009028415	6	M16 X 1.5 LH	18 g6	24.5	31	44	1/8" NPT	3/8" BSP	11	5	90.1	55.5	27	118.6	1.1 (0.50)
GFSA009028416	6	5/8" - UNF LH	16.65 h4	24.5	31	44	1/8" NPT	3/8" BSP	14	5	90.1	55.5	30	121.1	1.1 (0.50)

Dimensions in millimeters. For reference only and subject to change.



See page 18 for spindle detail



INSTALLATION INSTRUCTIONS

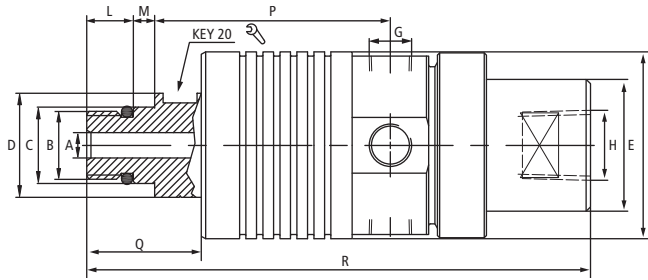
Overview

- Special seal design permits dry running
- Optimised seal balance ratio for minimal friction
- High precision angular contact bearings eliminate wobble and vibration
- Labyrinth seal and drain holes protect bearings
- Anodised aluminium body
- High-speed, dry run applications
- Reduced coolant misting for improved air quality
- Low heat generation in bearings and mechanical seal
- No leakage during tool change commutation
- Low vibration for precise machining
- Also available for rotation with compressed air
- Supplied with bearings run-in upon request
- Closing ring suitable for proximity sensing draw bar position

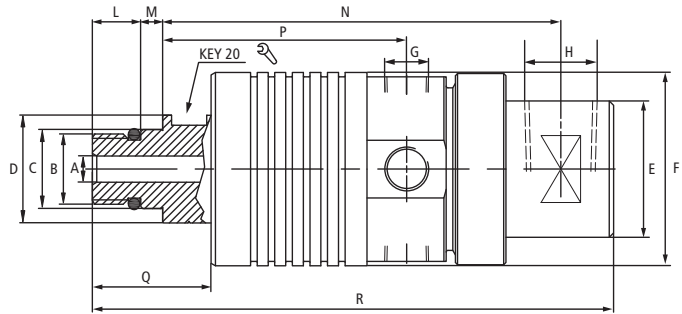
Type GFP/GFPA



Fluid	PSI (BAR)	Temperature °F (°C)	RPM
Coolant	2,175 (150)	195 (90)	15,000
MQL	145 (10)	195 (90)	15,000
Air	116 (8)	122 (50)	15,000
Dry Run	-	-	15,000



AXIAL INLET

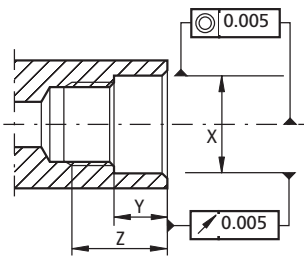


RADIAL INLET

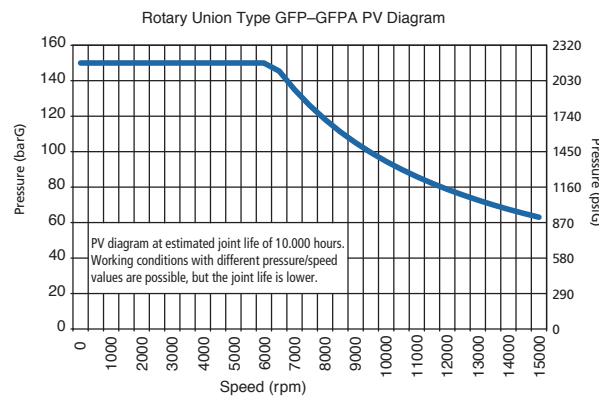
Type	A	B	C	D	E	F	G	H	L	M	P	Q	R	Weight Lb (Kg)
GFP009	6	M16 X 1.5 LH	18 g6	24.5	31	44	1/8" NPT	3/8" BSP	11	5	55.5	27	118.6	1.1 (0.50)
GFP009047310	6	5/8" - UNF LH	16.65 h4	24.5	31	44	1/8" NPT	3/8" BSP	14	5	55.5	30	121.6	1.1 (0.50)

Type	A	B	C	D	E	F	G	H	L	M	N	P	Q	R	Weight Lb (Kg)
GFPA009033396	6	M16 X 1.5 LH	18 g6	24.5	31	44	1/8" NPT	3/8" BSP	11	5	90.6	55.5	27	118.6	1.1 (0.50)
GFPA009031188	6	5/8" - UNF LH	16.65 h4	24.5	31	44	1/8" NPT	3/8" BSP	14	5	90.6	55.5	30	121.6	1.1 (0.50)

Dimensions in millimeters. For reference only and subject to change.



See page 18 for spindle detail



INSTALLATION INSTRUCTIONS

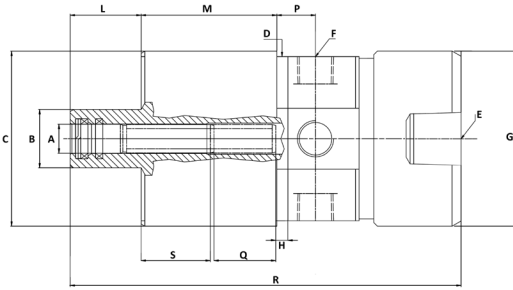
Overview

- Labyrinth seal and drain holes protect bearing
- Optimised seal balance ratio
- Silicon carbide seal faces resist wear and thermal shock
- Angular ball bearing design resists side loading
- Low vibration for precise machining
- Anodised aluminium body
- Full flow area, minimal pressure drop
- Multiple stainless steel springs located outside the flow
- Stainless steel rotor resists corrosion
- Closing ring suitable for proximity sensing draw bar position

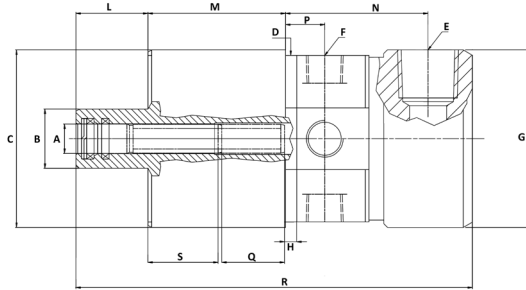
Type GHR/GHRA



Fluid	PSI (BAR)	Temperature °F (°C)	RPM
Coolant	1,160 (80)	90	16,000
MQL	145 (10)	90	16,000
Air	116 (8)	50	16,000
Dry Run	-	-	16,000



AXIAL INLET

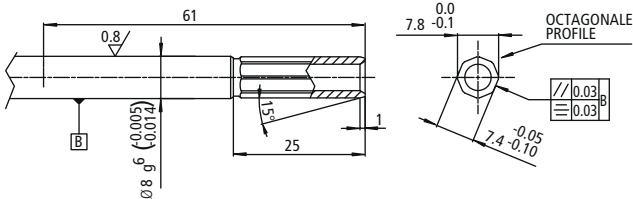


RADIAL INLET

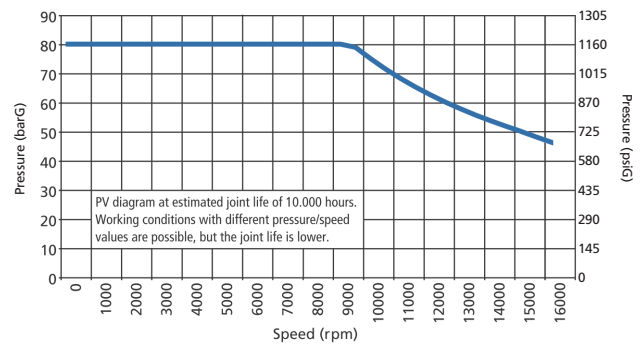
Type	A	B	C	D	E	F	G	H	L	M	P	Q	R	S	Weight Lb (Kg)
GHR009038611	8 g6	16	48/h7	45	3/8" BSP	1/8" NPT	48	3	19.5	37.3	10.9	17	107.4	20	1.3 (0.6)

Type	A	B	C	D	E	F	G	H	L	M	P	Q	R	S	Weight Lb (Kg)
GHRA009036867	8 g6	16	48/h7	45	3/8" NPT	1/8" NPT	48	3	19.5	37.3	10.9	17	107.4	20	1.3 (0.6)

Dimensions in millimeters. For reference only and subject to change.



Rotary Joint Type GHR/GHRA - PV Diagram



INSTALLATION INSTRUCTIONS



Overview

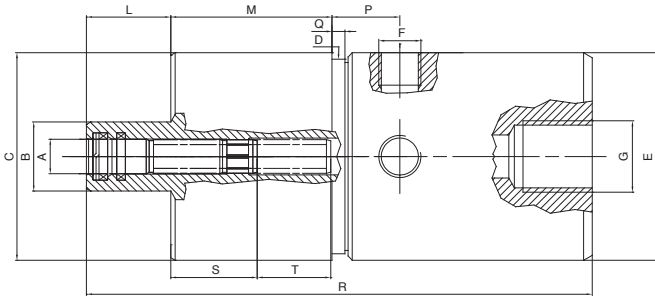
- Special seal design permits dry running
- Labyrinth seal and drain holes protect bearings
- Optimise seal balance ratio for minimal friction
- Anodised aluminium body
- Full flow area, minimal pressure drop
- Stainless steel rotor resist corrosion
- Long drawbar stroke for maximum flexibility
- No leakage during tool change commutation
- Large drain holes to evacuate coolant from the union
- Supplied with bearings run-in upon request
- Stainless steel springs located outside the flow

Type GHS/GHSA

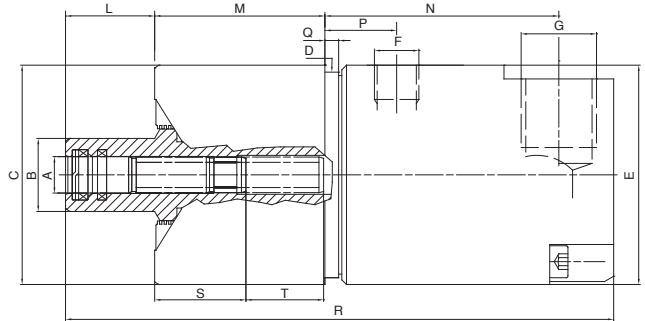


Fluid	PSI (BAR)	Temperature °F (°C)	RPM
Coolant	1,160 (80)	195 (90)	32/42,000*
MQL	145 (10)	195 (90)	32/42,000*
Air	116 (8)	122 (50)	32/42,000*
Dry Run	-	-	32/42,000*

* with Ceramic Bearings



AXIAL INLET

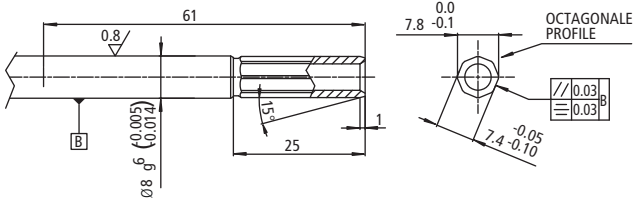


RADIAL INLET

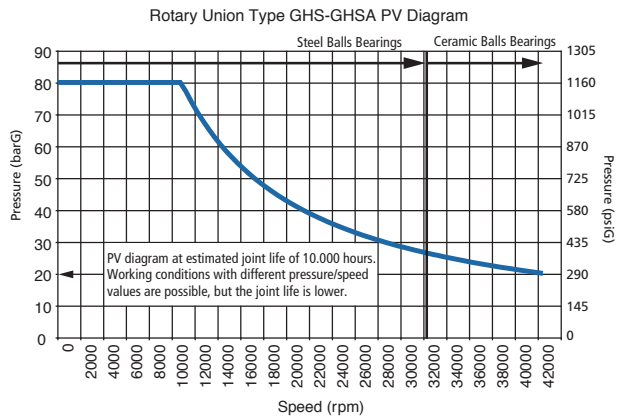
Type	A	B	C	D	E	F	G	L	M	P	Q	R	S	T	Weight Lb (Kg)
GHS009039625	8 g6	16	48/h7	45	48	1/8" BSP	1/4" BSP	19.5	37.3	15.7	3	117	20	17	1.3 (0.60)

Type	A	B	C	D	E	F	G	L	M	P	Q	R	S	T	Weight Lb (Kg)
GHSA009039626	8 g6	16	48/h7	45	48	1/8" BSP	1/4" BSP	19.5	37.3	15.7	3	117	20	17	1.3 (0.60)

Dimensions in millimeters. For reference only and subject to change.



INSTALLATION INSTRUCTIONS



Overview

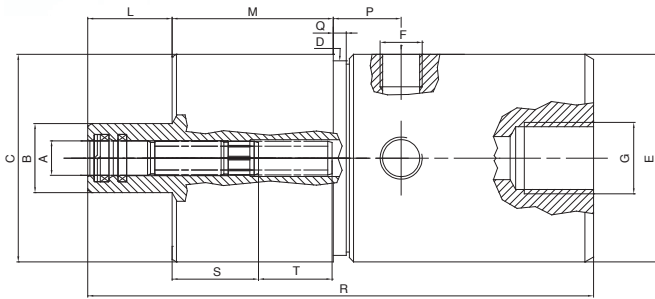
- Special seal design permits dry running
- Labyrinth seal and drain holes protect bearings
- Optimised seal balance ratio
- High precision angular contact bearings for high-speeds
- Anodised aluminium body
- Full flow area, minimal pressure drop
- Long drawbar stroke for maximum flexibility
- Seal to protect bearings for air pressure in rotor area
- Low heat generation in bearings and mechanical seal
- No leakage during tool change commutation
- Large drain holes to evacuate coolant from the union
- Supplied with bearings run-in upon request

Type GHP/GHPA

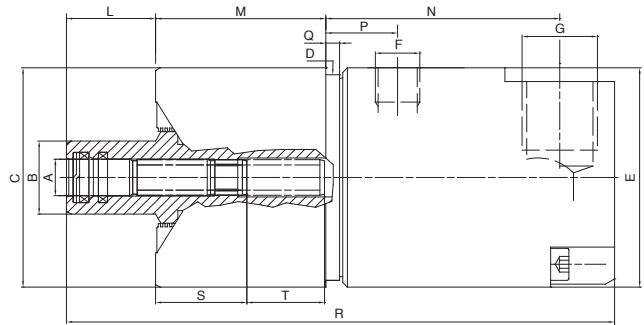


Fluid	PSI (BAR)	Temperature °F (°C)	RPM
Coolant	2,175 (150)	195 (90)	24/32,000*
MQL	145 (10)	195 (90)	24/32,000*
Air	116 (8)	122 (50)	24/32,000*
Dry Run	-	-	24/32,000*

* with Ceramic Bearings



AXIAL INLET

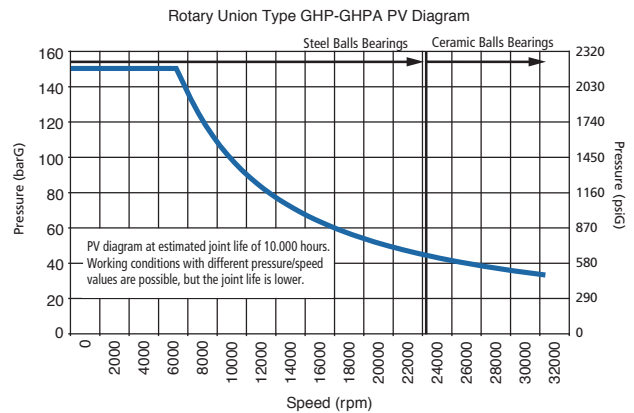
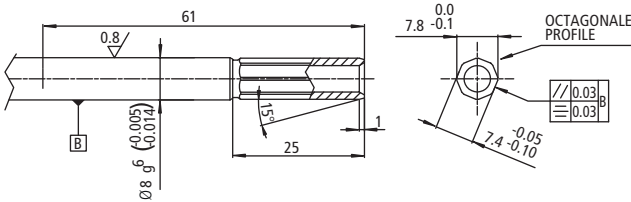


RADIAL INLET

Type	A	B	C	D	E	F	G	L	M	P	Q	R	S	T	Weight Lb (Kg)
GHP009033365	8 g6	16	48/h7	45	48	1/8" BSP	3/8" BSP	19.5	37.3	15.7	3	117	20	17	1.3 (0.60)

Type	A	B	C	D	E	F	G	L	M	P	Q	R	S	T	Weight Lb (Kg)
GHPA009042838	8 g6	16	48/h7	45	48	1/8" BSP	3/8" BSP	19.5	37.3	15.7	3	117	20	17	1.3 (0.60)

Dimensions in millimeters. For reference



INSTALLATION INSTRUCTIONS



Overview

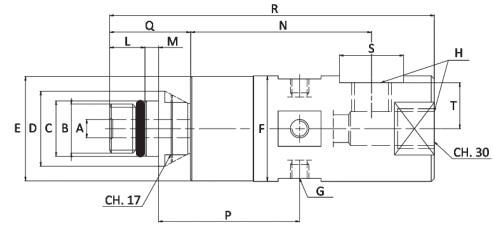
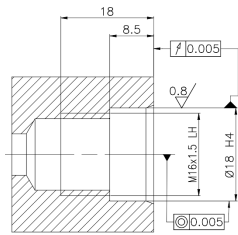
- Special seal design permits dry running
- Labyrinth seal and drain holes protect bearings
- Optimised seal balance ratio
- High-precision angular contact bearings for high-speeds
- Anodised aluminium body
- Full flow area, minimal pressure drop
- Long drawbar stroke for maximum flexibility
- Low heat generation in bearings and mechanical seal
- No leakage during tool change commutation
- Large drain holes to evacuate coolant from the union
- Supplied with bearings run-in upon request

Custom Rotary Joints G/50551



Fluid	PSI (BAR)	Temperature °F (°C)	RPM
Coolant	1,450 (100)	158 (70)	15,000
MQL	145 (10)	158 (70)	15,000
Air	116 (8)	158 (70)	15,000
Dry Run	-	-	15,000

SPINDLE DETAIL



Type	A	B	C	D	E	F	G	H	L	M	N	P	Q	R	S	T	Weight Lb (Kg)
G/50551/0000	6	M16X1.5 LH	18 g6	24.5	34	34.4	M x M6	1/4" BSP	11.5	4.5	69.5	46	26.3	106	21	15	0.9 (0.4)

Dimensions in millimeters. For reference only and subject to change.

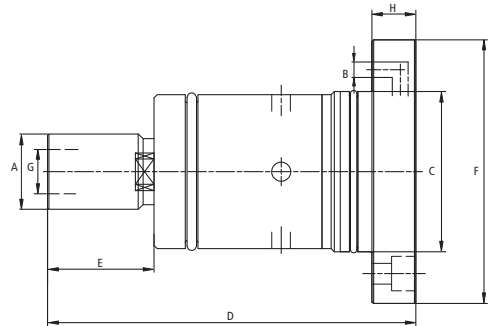
Overview

- Low heat generation in bearings and mechanical seal
- Optimised seal balance ratio to minimise friction
- No losses during tool changeover
- Low vibration for precise machining
- Special seal design enables dry running
- Labyrinth seal and drain holes protect the bearings
- Also available for rotation with compressed air
- Anodised aluminium housing
- Supplied with sealed bearings on request
- Radial and axial input on the same coupling

G/5869 Spindle Mounted

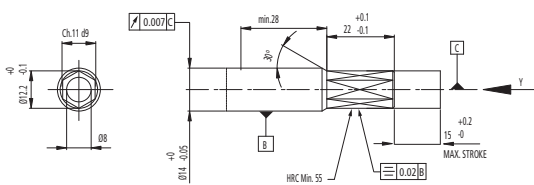


Type	PSI (BAR)	Temperature °F (°C)	RPM
G/5869	1,160 (80)	194 (90)	20,000

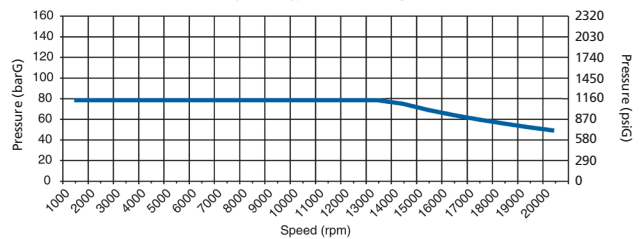


Type	A	B	C	D	E	F	G	H
G/5869	24	5	51 f7	117.5	34	84	14.1 H7	14

Dimensions in millimeters



Rotary Union Type G/5869 PV Diagram



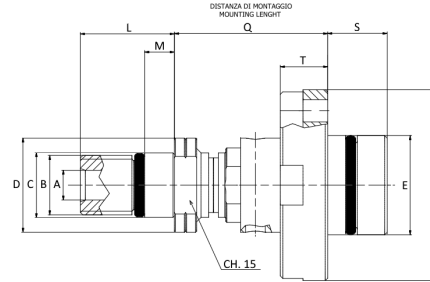
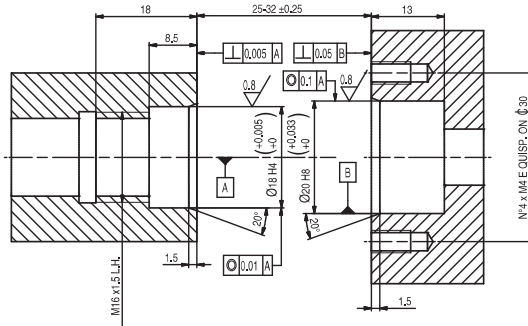
Overview

- Auto-Off™ seal device permits dry running
- Precision bearing for long lifetime
- Tungsten carbide seal faces resist wear and thermal shock
- Drawbar stroke 15 mm
- Coolant connection in flange for reduced hose load
- Anodised aluminium body

Custom Rotary Unions G/50318



Fluid	PSI (BAR)	Temperature °F (°C)	RPM
Coolant	2,175 (150)	195 (90)	15,000
MQL	145 (10)	195 (90)	15,000
Air	116 (8)	122 (50)	15,000
Dry Run	-	-	15,000



Type	A	B	C	D	E	F	G	H	L	M	P	Q	R	S	T	Weight Lb (Kg)
G/50318/0000	6	M16X1.5 LH	18 g4	23	20 e8	38.5	-	-	17.5	5	-	24-31 +0.25/-0.25	-	12	9.6	0.7 (0.3)
G/50317/0000	6	M12X1.25 LH	13 g4	19	20 e8	38.5	-	-	19	6	-	24-31 +0.25/-0.25	-	12	9.6	0.7 (0.3)

Dimensions in millimeters. For reference only and subject to change.

Overview

- High-speed bearingless coolant union
- Laser lift technology
- Silicon carbide/carbon graphite seals
- Stub rotor mounted directly onto the spindle end compact, precision design for installation flexibility
- Seal faces always in contact to avoid leakage during change over, better protects the spindle motor

Custom Rotary Unions G/5007



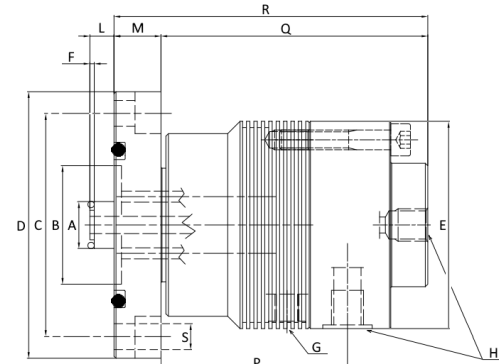
Fluid	PSI (BAR)	Temperature °F (°C)	RPM
Air	145 (10)	248 (120)	1,500
Hydraulic Oil	1,015 (70)	248 (120)	1,500

Type	A	B	C	D	E	F	G	H	L	M	P	Q	R	S	Weight (Kg)
G//5007/0004	19 0/-0.05	48	90.5	108 f8	84	1.8 0/-0.05	3 x 1/8" BSP	2 x 1/4" BSP	9.8 +0.05/0	19	94.5	108	127	4 x 10.5	-

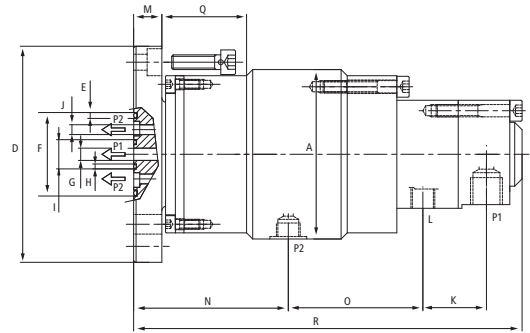
Dimensions in millimeters. For reference only and subject to change.

Overview

- Unique seal design prevents "accidental" leakage when both passages are pressurised
- Mechanical seal provides long life and positive sealing
- High precision ball bearings are lubricated for life
- Heat-treated (hardened) stainless steel rotor
- Drain holes can be connected to a drain line



Custom Rotary Unions G/50151



	Maximum RPM	P1			P2		
		Media	PSI (BAR)	Filtering (micron)	Media	PSI (BAR)	Filtering (micron)
G/50151/0000	8,000	Coolant	290 (20)	60	Coolant	290 (20)	60
		Hydraulic Oil	1,160 (80)	10	Hydraulic Oil	1,160 (80)	10
G/50151/0001	8,000	Coolant	290 (20)	60	Air	145 (10)	20
		Hydraulic Oil	1,160 (80)	10			
		Air	145 (10)	20			

A	D	E	F	G	H	I	J	K	L	M	N	O	P1	P2	Q	R
69	88 g6	2.4	34	5	2	11.9	4	25.9	1/8" BSP	11.5	63	54.8	1/4" BSP	1/8" BSP	34.5	161.2

Dimensions in millimeters. For reference only and subject to change.

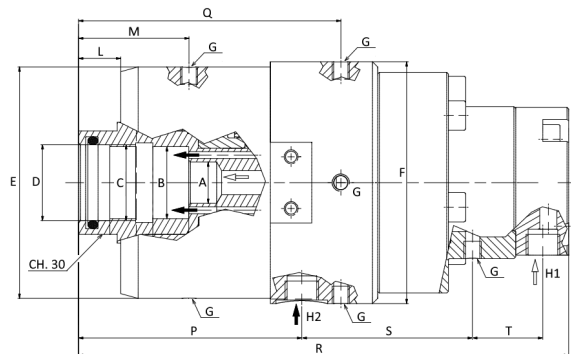
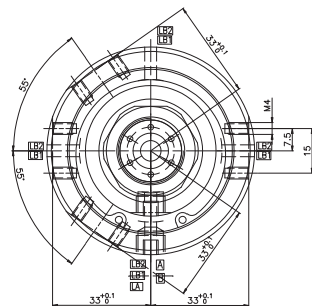
Overview

- Two channel rotary union
- High-speed for specific machine tool applications
- Dry running capable (consult factory)
- Aluminium body, stainless steel rotor
- Flanged connection for stable operation and long life
- Drain connection between passages for separation of media

Custom Rotary Unions G/50356



Fluid	Pressure (BAR)	Temperature (°C)	RPM
Air	73 (5)	158 (70)	8.000
Hydraulic Oil	1,160 (80)	158 (70)	8.000



Type	A	B	C	D	E	F	G	H	L	M	N	P	Q	R	S	T	Weight Lb (Kg)
G/50356/0002	12H7	20.8 H7	M22X1	22H6	67	70	9 x M5	2 x 1/8" BSP	12.2	32	-	64.7	76	142	49.3	21	2.6 (1.2)

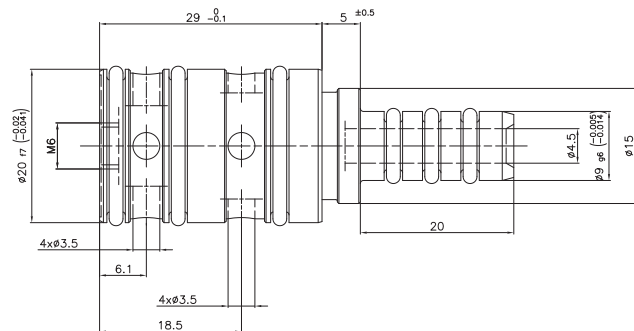
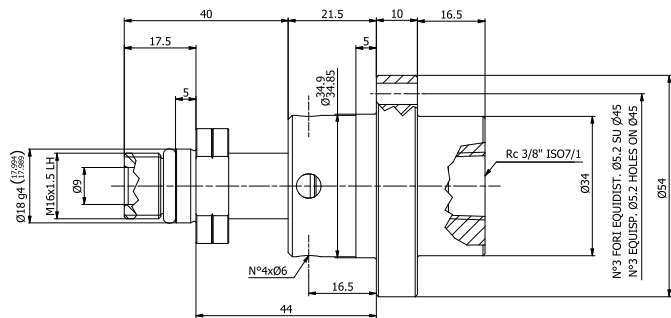
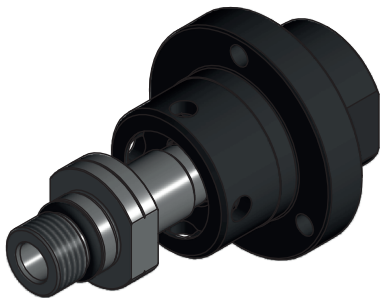
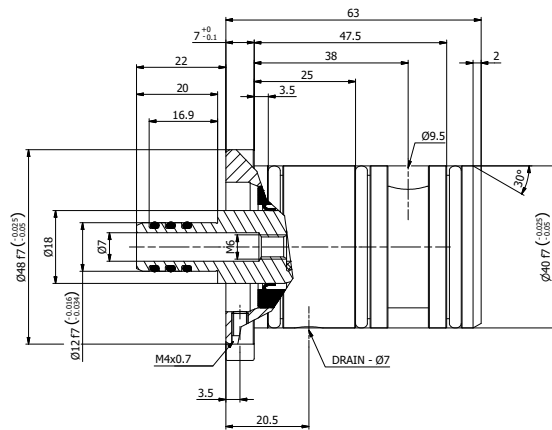
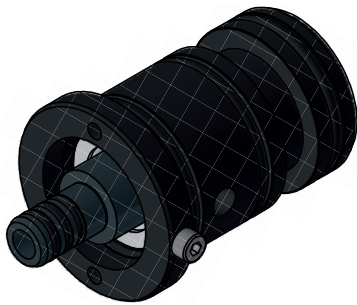
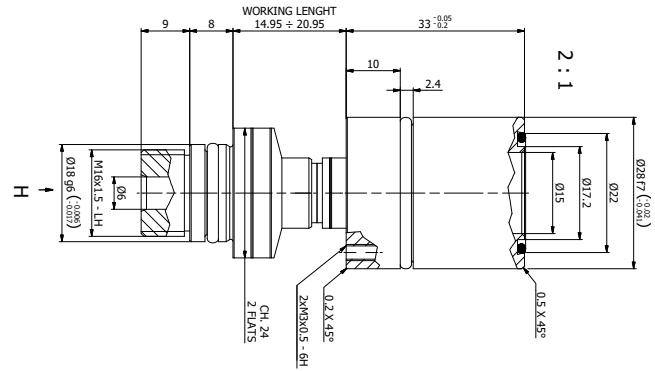
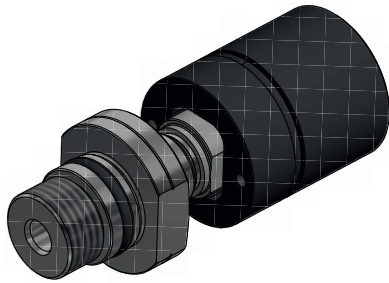
Dimensions in millimeters. For reference only and subject to change.

Overview

- Low heat generation in bearings and mechanical seal
- Optimised seal balance ratio to minimise friction
- Low vibration for precise machining
- Special seal design enables dry running
- Labyrinth seal and drain holes protect the bearings
- Anodised aluminium housing
- Supplied with sealed bearings on request
- Radial and axial input on the same coupling

Discover Our Custom Rotary Unions

Custom designed unions are available in both housing-less and housed versions. When the rotary union you require is not shown in the catalogue, a team of engineers are ready to design and manufacture a custom union for your specific application.

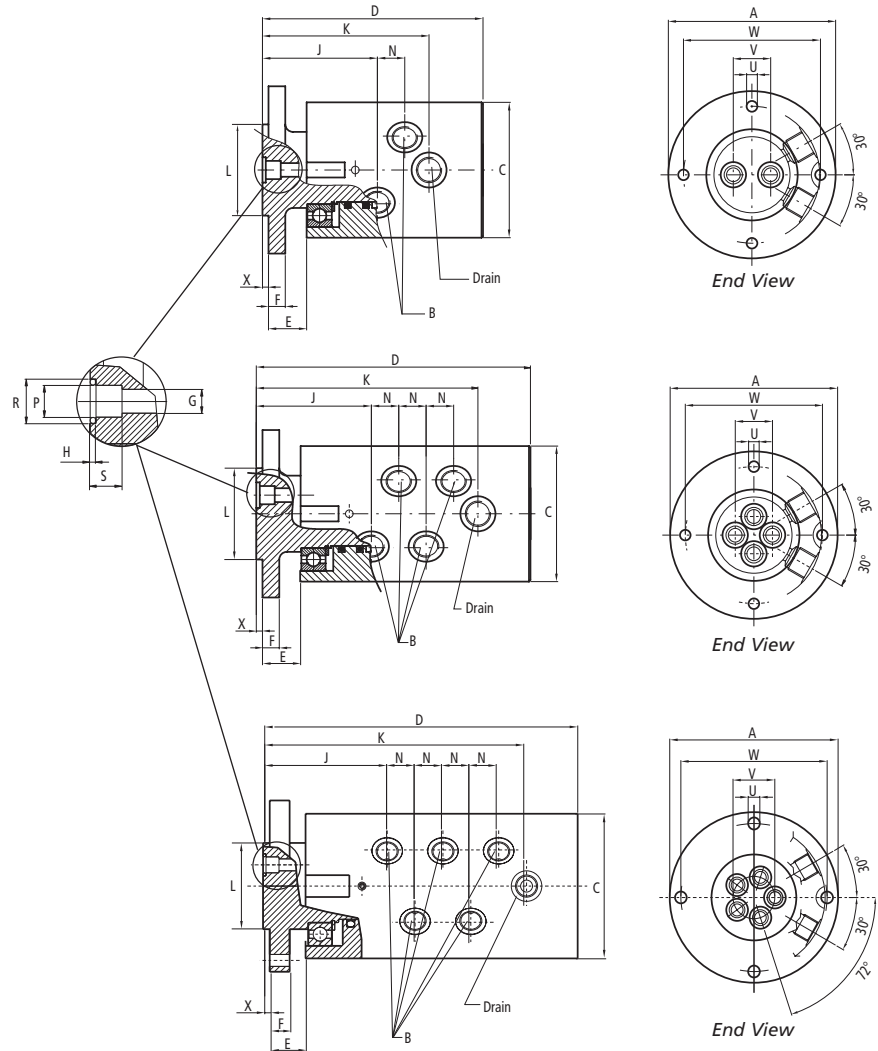


Multi-Passage Rotary Unions

INSTALLATION INSTRUCTIONS



Fluid	PSI (BAR)	Temperature °F (°C)	RPM
Air	145 (10)	194 (90)	100
Hydraulic Oil	870 (60)	194 (90)	100
	3,625 (250)	194 (90)	10



Type	A	B	C	D	E	F	G	H	J	K	L*	N	P	R	S	U	V	W	X
G2M009001494	110	3/8" BSP	89	145	25	11	9	2	76	110	60	18	12	17	12	7	25	90	4
G2M012002385	130	1/2" BSP	108	158	25	14	12	2	81	123	75	23	15	20	15	9	29	110	4
G4M009001454	110	3/8" BSP	89	180	25	11	9	2	76	146	60	18	12	17	12	7	25	90	4
G4M012003608	130	1/2" BSP	108	202	25	14	12	2	81	169	75	23	15	20	15	9	29	110	4
G5M009015044	129	3/8" BSP	109	237	27	15	9	2	94	199	65	21	12	17	12	9	32	112	5

Inter-passage leakage may occur, check compatibility different fluids. *L tolerance = h6

Dimensions in millimeters. For reference only and subject to change.

Overview

- Multi-passage rotary unions for air and oil
- Precision ball bearings are lubricated for life
- Proprietary "slide" seal provides long life and dry-running
- Heat-treated (hardened) stainless steel rotor
- Drain holes can be connected to a drain line
- Designed for multi-station index tables

Recommendations

Installation and operation recommendations

G rotary unions are high-precision components that provide smooth running operation at high speeds. Due to the precise manufacturing tolerances, these unions require care during installation and maintenance.

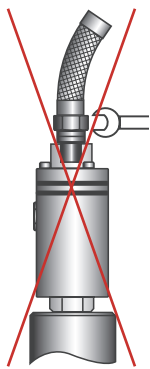
Installation instructions are available online at coolantunion.com or from your local sales office.

Flexible hose

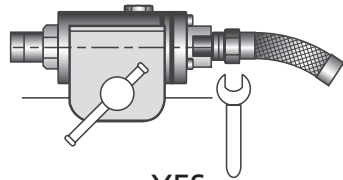
To ensure free movement of the union and elimination of side loading, the proper installation, type, and length of flexible hose should be used. SAE 100R1 Type AT single-braid hose is recommended. The minimum length of hose is 300 mm for a one-piece installation.



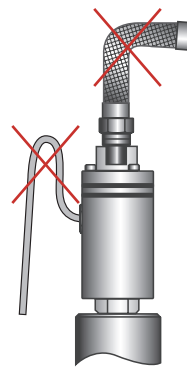
Hose should be a minimum of 300 mm long.



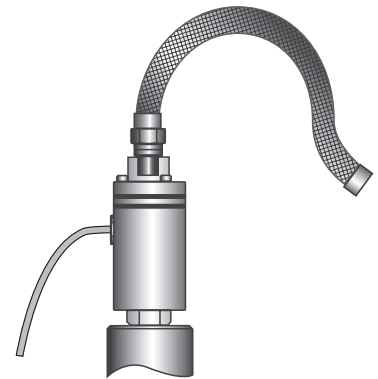
NO



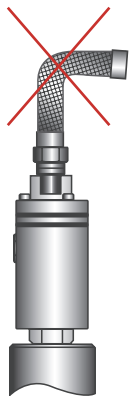
YES



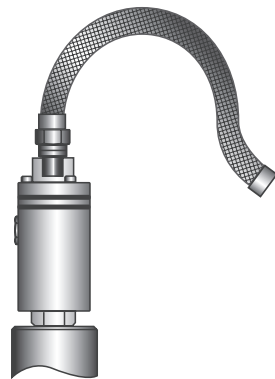
NO



YES



NO



YES

Rotor and Spindle Detail

Rotor dimension			Spindle connection		
Rotor	Pilot	C	X	Y	Z
M16 X 1.5	18	17.994/17.983	18.007/17.997	8.5	17
M16 X 1.5	16	15.994/15.983	16.007/15.997	8.5	17
M14 X 1.5	15	14.994/14.983	15.007/14.997	8.5	23
M12 X 1.25	14	13.994/13.989	14.005/14.000	8.5	17
M10 X 1	11	10.994/10.989	11.008/11.000	5.5	15

Lubrication

The seal faces in all G rotary unions are lubricated by the media (coolant, hydraulic oil, etc.) passing through the union. All ball bearings are lubricated for life and require no additional lubrication.

Filtration

The service life of the seal and the perfect operation of the rotating union is largely determined by filter quality: we recommend a filtering of 50 µm and a media purity of ISO 4406 – 17/15/12.

Guarantee

G unions are tested prior to shipment and are warranted against manufacturing defects for 12 months. A global sales and service network stands behind these products and provides support to more than 150 countries worldwide.

Discover Our Solutions



R/RH ROTARY UNION

The R rotary union connects stationary piping to a rotating device. The fluid is sealed by precision, micro-lapped seals that provide a uniform, full-flow design. The union is supported by two widely-spaced anti-friction bearings and is available with a bearing isolation system for added bearing protection. The R union is capable of intermittent dry running and features a carbon graphite seal inserted in stainless steel and silicon carbide counterseat.

The product utilises corrosion-resistant materials such as stainless steel and brass. The full-flow design allows for maximum flow rates with minimal restrictions.

This line of ball bearing unions is designed for tough applications where other rotary unions fail to perform.

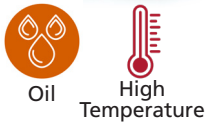
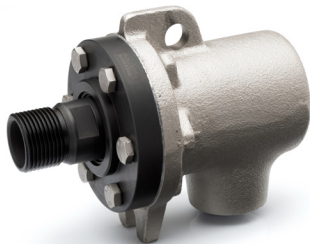


R/RH STAINLESS STEEL ROTARY UNION

R/RH rotary unions can also be made also of stainless steel 316 for specific applications. Many different seal materials are offered to seal fluids with abrasive materials, glycol, fluids with crystallising sugars or materials that require FDA or ATEX approved designs. The unions are supplied in a AISI 316 stainless steel casting or, when required, in machined surfaces for special cleaning requirements.

The R unions are available in sizes from 9 mm to 150 mm in both single and dual flow configurations.

The repair kit can be replaced without dismantling the joint from its application, having faster maintenance operations and possibility to quickly adapt the joint to fluids requiring different sealing materials.



Z ROTARY UNION

Z rotary unions are designed for thermal oil applications. The union is supported by two internal carbon guides (bearings) and can run up to 500 RPM and 300°C.

The proprietary antimony impregnated carbon seal ring is in a compression seal against the stainless steel nipple and seal plate. This seal package combination provides for a long-lasting and low maintenance rotary union. The Z rotary union is available in sizes from 3/4" to 2 1/2" with both flanged and threaded connections.



BCI™ ROTARY UNION

The Bearing Cover Inserted (BCI) rotary union is applied to continuous casting steel segment rolls on water service.

It is self-centering and mounted inside the bearing cover to protect the rotary union from breakouts and eliminates side loading caused by external flexible hoses. The ability to handle misalignment, the large flow area, and simple design make this rotary union a preferred design for new and rebuilt continuous casting roll segments. Field tests have proven the BCI rotary union capable of operating for multiple campaigns without requiring repair.

All materials of the BCI are corrosion-resistant stainless steel or bronze and the internal bearing surface is permanently lubricated. Because of its ability to tolerate dirty water with varying pH levels, the BCI rotary union provides exceptional performance in steel mill applications.



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To assure product availability wherever it's needed, our rotary unions are sold and serviced in Asia, Europe, North America, and South America.

Because knowledgeable advice and prompt service are as important as the products, Johnson-Fluiten has factory-authorised representatives in nearly one hundred and fifty countries. So no matter where you are, Johnson-Fluiten products, services, and assistance are nearby.

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