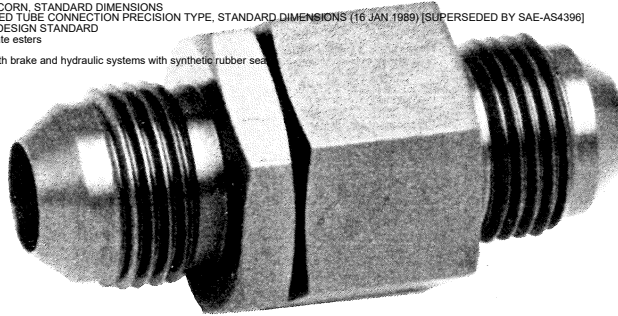




PREECE INC.
ENGINEERING
BULLETIN

STRAIGHT SWIVEL
SERIES 4823
8000 OPERATING PRESSURE
PEB-27

MIL-DTL-5513D, DETAIL SPECIFICATION: JOINTS, HYDRAULIC SWIVEL
 MIL-J-5513C, MILITARY SPECIFICATION: JOINTS, HYDRAULIC SWIVEL (16-APR-1976)
 AS4395: Fitting End, Flared, Tube Connection, Design Standard
 AS33514 FITTING END, STANDARD DIMENSIONS FOR FLARELESS TUBE CONNECTION AND GASKET SEAL
 AS4207 FITTING END, EXTERNAL THREAD, BEAM SEAL, DESIGN STANDARD
 NAS1760, Revision 7, March 31, 2022 - FITTING END, FLARELESS ACORN, STANDARD DIMENSIONS
 NS4389G, MILITARY STANDARD: FITTING END, BULKHEAD FLARED TUBE CONNECTION PRECISION TYPE, STANDARD DIMENSIONS (16 JAN 1989) [SUPERSEDED BY SAE-AS4396]
 AS4396 FITTING END - BULKHEAD, FLARED TUBE CONNECTION, DESIGN STANDARD
 Skydrol 500B-4 Fire Resistant Aviation Hydraulic Fluid aviation phosphate esters
 aircraft hydraulic fluids like Royco, Eastman, Castrol, 5006, 83282
 Hydraulic Fluid MIL-H-5606A Mineral oil based hydraulic fluid for use with brake and hydraulic systems with synthetic rubber seals
 MIL-PRF-83282D red-colored synthetic, fire-resistant hydraulic fluid



STRAIGHT (In Line) SWIVEL

APPLICATIONS AND ENGINEERING DATA

Swivel rotates 360° with low torque valves at 8000 PSIG. For lower pressure see PEB 28. For 90° and 45° configurations see PEB 29 and 31. Swivels may be ordered with jump size threads. Low pressure thermoplastic swivels are manufactured for coolants, water, and other low pressure applications (200 PSIG). Swivels with misalignment capabilities are also available.

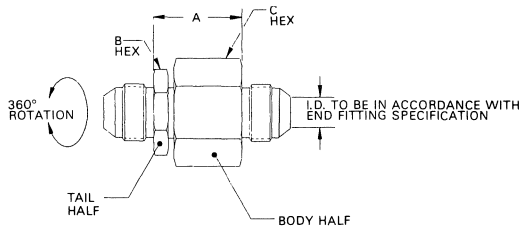
CONSTRUCTION

Standard materials are stainless steel and aluminum. Stainless swivel assemblies are electropolished to ordnance specification OD 52533. Aluminum will be anodized to military specification Mil-A-8625 Type II CL 2 (Blue).

MILITARY SPECIFICATIONS

Mil-J-5513A
 Mil-E-5272

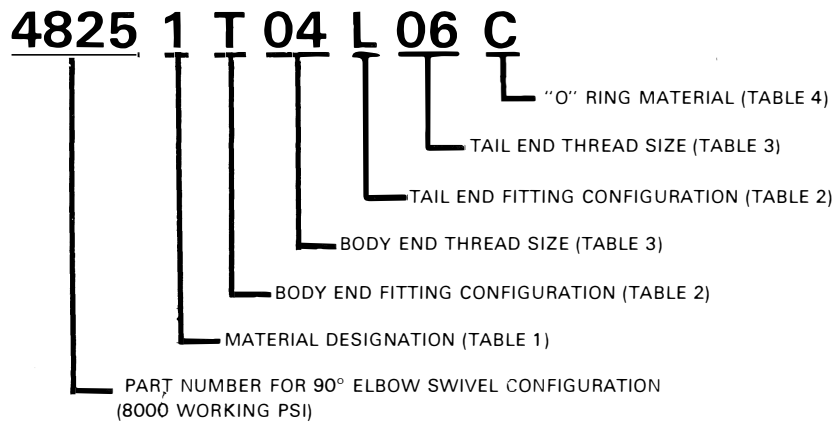
ENGINEERING DIMENSIONS



DASH SIZE	A MAX		B HEX		C HEX		TORQUE AT		OPERATING PRESSURE		MINIMUM BURST		WEIGHTS (1)			
	in/mm		in/mm		in/mm		8000 psi	552 bar	psi/bar		psi/bar		ALUM. oz / grams	CRES oz / grams		
- 4	.95	24.1	.687	17.4	.812	20.6	6 in/lb	.07 kg/m	8,000	552	34,000	2344	.9	26	2.5	71
- 6	1.00	25.4	.812	20.6	1.000	25.4	7 in/lb	.08 kg/m	8,000	552	27,000	1861	1.5	43	4.5	127
- 8	1.20	30.5	1.000	25.4	1.250	31.8	11 in/lb	.13 kg/m	8,000	552	29,000	2000	2.5	71	7.5	213
-10	1.30	33.0	1.125	28.6	1.250	31.8	15 in/lb	.17 kg/m	8,000	552	28,000	1931	2.9	82	8.0	227
-12	1.40	35.6	1.375	34.9	1.500	38.1	18 in/lb	.21 kg/m	8,000	552	25,000	1724	4.4	125	12.5	354
-16	1.54	39.1	1.625	41.3	1.750	44.5	30 in/lb	.35 kg/m	8,000	552	22,000	1517	6.5	184	18.5	524
-20	1.80	45.7	1.875	47.6	2.000	50.8	47 in/lb	.54 kg/m	8,000	552	24,000	1655	10.0	284	28.5	808
-24	1.95	49.5	2.125	53.9	2.250	57.2	71 in/lb	.82 kg/m	8,000	552	21,000	1448	13.5	383	39.0	1105

(1) Weights will vary according to end fitting configuration

PART NUMBERING SYSTEM (EXAMPLE)



NOTE: SWIVEL MAY BE ORDERED WITH JUMP SIZE THREADS

TABLE 1

FITTING MATERIAL	
Numerical Code	Description
1	CRES 304
2	CRES 316
3	Alum 7075-T6
4	INCONNEL®
5	MONEL®

TABLE 2

FITTING CONFIGURATION		
Letter Code	Military Specification No.	Description
A	MS 33649	Female Port
F	MS 33514	Male - Flareless
G	MS 33515	Male Bulkhead - Flareless
L	MS 33657	Male Bulkhead - 37° Flare
N	AND 10053	Female Pipe Port
P	MS 33677	Male Pipe
T	MS 33656	Male - 37° Flare

TABLE 3

THREAD DASH SIZE (1)	THREAD MIL-SPEC
- 02	5/16 - 24
- 03	3/8 - 24
- 04	7/16 - 20
- 05	1/2 - 20
- 06	9/16 - 18
- 08	3/4 - 16
- 10	7/8 - 14
- 12	1 1/16 - 12
- 16	1 5/16 - 12
- 20	1 5/8 - 12
- 24	1 7/8 - 12
- 32	2 1/2 - 12

TABLE 4

"O" RING MATERIAL CODE		
Letter Code	Description	Oper. Temp.
C	Neoprene AMS3209	-40°F to +225°F
E	Ethylene Propylene NAS 1611	-65°F to +160°F
L	Fluorosilicone Mil-R-25988	-90°F to +400°F
N	Nitrile (Buna-N) Mil-P-25732	-65°F to +275°F
V	Fluorcarbon (Viton)® Mil-R-83248	-20°F to +400°F

(1) Note thread size on body half designates swivel size

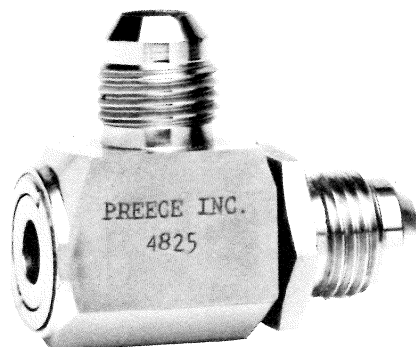
Inquiry Stock Prescription : Sébastien Maredj, Technical Sales Engineer France
 ORKAL Industries LLC – Authorized Distributor for Adel Wiggins : Preece
 A Leading Stocking/Distributor of Tube Connection & Fluid Fitting Products
 M : +33 (0)6.51.19.11.67 | smaredj@orkal.com | www.orkal.com

INCONNEL and MONEL are registered trademarks for Huntington Alloys Inc.
 Viton is a registered trademark for E.I. duPont de Nemours Co.



PREECE INC.
ENGINEERING
BULLETIN

90° ELBOW SWIVEL
SERIES 4825
8000 OPERATING PRESSURE
PEB-29



90° ELBOW SWIVEL

APPLICATIONS
AND ENGINEERING
DATA

Swivel rotates 360° with low torque values at 8000 PSIG. For lower operating pressure see PEB 30. For straight and 45° configurations see PEB 27 and 31. Swivels may be ordered with jump size threads. Low pressure thermoplastic swivels are manufactured for coolants, water, and other low pressure applications (200 PSIG). Swivels with misalignment capabilities are also available.

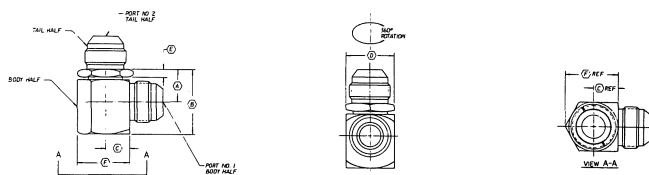
CONSTRUCTION

Standard materials are stainless steel and aluminum. Stainless swivel assemblies are electropolished to ordnance specification OD 52533. Aluminum will be anodized to military specification Mil-A-8625 Type II CL 2 (Blue). Design eliminates external snap rings. Back up rings and dust seals incorporated in this swivel.

MILITARY
SPECIFICATIONS

Mil-J-5513A
Mil-E-5272

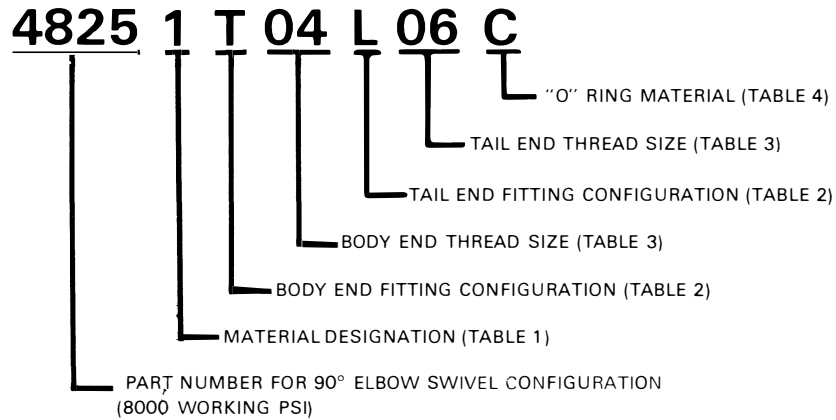
ENGINEERING
DIMENSIONS



DASH SIZE	A		B		C		D HEX		E		F		TORQUE AT 8000 552 psi/bar		OPERATING PRESSURE psi/bar		MINIMUM BURST psi/bar		WEIGHTS(1)	
	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	oz / grams	CRES
-04	.60	15.2	1.09	27.7	.38	9.7	.56	14.2	.18	4.6	.70	17.8	7 in/lb	.08 kg/m	8000	552	34,000	2344	1.8	51
-06	.66	16.8	1.24	31.5	.44	11.2	.75	19.1	.18	4.6	.87	22.1	8 in/lb	.09 kg/m	8000	552	27,000	1861	3.4	97
-08	.70	17.8	1.34	34.0	.50	12.7	1.00	25.4	.18	4.6	1.08	27.4	10 in/lb	.12 kg/m	8000	552	29,000	2000	6.0	170
-10	.75	19.1	1.47	37.3	.57	14.5	1.13	28.7	.20	5.1	1.22	31.0	15 in/lb	.17 kg/m	8000	552	28,000	1931	8.3	235
-12	.85	21.6	1.68	42.7	.63	16.0	1.25	31.8	.22	5.6	1.35	34.3	17 in/lb	.19 kg/m	8000	552	25,000	1724	11.7	332
-16	1.00	25.4	1.95	49.5	.81	20.6	1.63	41.4	.25	6.4	1.75	44.5	26 in/lb	.30 kg/m	8000	552	22,000	1517	22.8	646
-20	1.11	28.2	2.16	54.9	.94	23.9	1.75	44.5	.25	6.4	1.95	49.5	43 in/lb	.49 kg/m	8000	552	24,000	1655	30.3	859
-24	1.28	32.5	2.56	65.0	1.19	30.2	2.13	54.1	.25	6.4	2.45	62.2	64 in/lb	.74 kg/m	8000	552	21,000	1448	51.5	1460

(1) Weights will vary according to end fitting configuration

PART NUMBERING SYSTEM (EXAMPLE)



NOTE: SWIVEL MAY BE ORDERED WITH JUMP SIZE THREADS

TABLE 1

FITTING MATERIAL	
Numerical Code	Description
1	CRES 304
2	CRES 316
3	Alum 7075-T6
4	INCONNEL®
5	MONEL®

TABLE 2

FITTING CONFIGURATION		
Letter Code	Military Specification No.	Description
A	MS 33649	Female Port
F	MS 33514	Male - Flareless
G	MS 33515	Male Bulkhead - Flareless
L	MS 33657	Male Bulkhead - 37° Flare
N	AND 10053	Female Pipe Port
P	MS 33677	Male Pipe
T	MS 33656	Male - 37° Flare

TABLE 3

THREAD DASH SIZE (1)	THREAD MIL-SPEC
- 02	5/16 - 24
- 03	3/8 - 24
- 04	7/16 - 20
- 05	1/2 - 20
- 06	9/16 - 18
- 08	3/4 - 16
- 10	7/8 - 14
- 12	1 1/16 - 12
- 16	1 5/16 - 12
- 20	1 5/8 - 12
- 24	1 7/8 - 12
- 32	2 1/2 - 12

TABLE 4

"O" RING MATERIAL CODE		
Letter Code	Description	Oper. Temp.
C	Neoprene AMS3209	-40°F to +225°F
E	Ethylene Propylene NAS 1611	-65°F to +160°F
L	Fluorosilicone Mil-R-25988	-90°F to +400°F
N	Nitrile (Buna-N) Mil-P-25732	-65°F to +275°F
V	Fluorcarbon (Viton)® Mil-R-83248	-20°F to +400°F

(1) Note thread size on body half designates swivel size

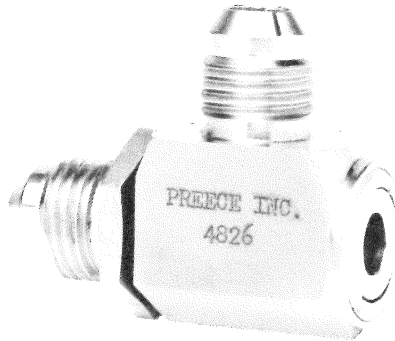
Inquiry Stock Prescription : Sébastien Maredj, Technical Sales Engineer France
 ORKAL Industries LLC – Authorized Distributor for Adel Wiggins : Preece
 A Leading Stocking/Distributor of Tube Connection & Fluid Fitting Products
 M : +33 (0)6.51.19.11.67 | smaredj@orkal.com | www.orkal.com

INCONNEL and MONEL are registered trademarks for Huntington Alloys Inc.
 Viton is a registered trademark for E.I. duPont de Nemours Co.



PREECE INC.
ENGINEERING
BULLETIN

90° ELBOW SWIVEL
SERIES 4826
3000 OPERATING PRESSURE
PEB-30



90° ELBOW SWIVEL

APPLICATIONS
AND ENGINEERING
DATA

Swivel rotates 360° with low torque values at 3000 PSIG. For high operating pressure see PEB 29. For straight and 45° configurations see PEB 28 and 32. Swivels may be ordered with jump size threads. Low pressure thermoplastic swivels are manufactured for coolants, water, and other low pressure applications (200 PSIG). Swivels with misalignment capabilities are also available.

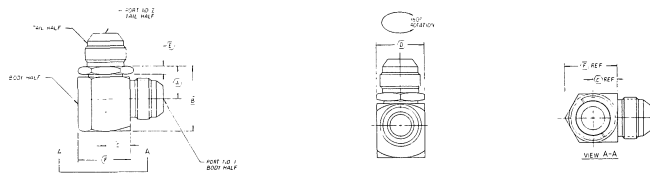
CONSTRUCTION

Standard materials are stainless steel and aluminum. Stainless swivel assemblies are electropolished to ordnance specification OD 52533. Aluminum will be anodized to military specification Mil-A-8625 Type II CL 2 (Blue). Design eliminates external snap rings. Back up rings and dust seals incorporated in this swivel.

MILITARY
SPECIFICATIONS

Mil-J-5513A
Mil-E-5272

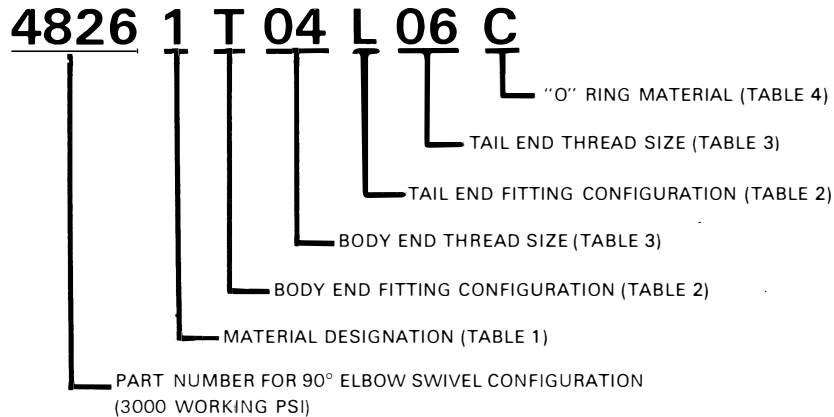
ENGINEERING
DIMENSIONS



DASH SIZE	A		B		C		D HEX		E		F		TORQUE AT 3000 207 psi/bar	OPERATING PRESSURE psi/bar	MINIMUM BURST psi/bar		WEIGHTS (1)			
	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm			oz	grams	ALUM. oz / grams	CRES oz / grams		
-04	.60	15.2	1.09	27.7	.38	9.7	.56	14.2	.18	4.6	.70	17.8	3 in/lb .04 kg/m	3000 207	13,000 1897	.5	14	1.4	40	
-06	.66	16.8	1.24	31.5	.44	11.2	.75	19.1	.18	4.6	.87	22.1	3 in/lb .04 kg/m	3000 207	13,000 1897	1.1	31	2.9	82	
-08	.70	17.8	1.34	34.0	.50	12.7	1.00	25.4	.18	4.6	1.08	27.4	4 in/lb .05 kg/m	3000 207	13,000 1897	2.0	57	5.6	159	
-10	.75	19.1	1.47	37.3	.57	14.5	1.13	28.7	.20	5.1	1.22	31.0	6 in/lb .07 kg/m	3000 207	13,000 1897	2.8	79	7.7	218	
-12	.85	21.6	1.68	42.7	.63	16.0	1.25	31.8	.22	5.6	1.35	34.3	7 in/lb .08 kg/m	3000 207	13,000 1897	4.0	113	11.1	315	
-16	1.00	25.4	1.95	49.5	.81	20.6	1.63	41.4	.25	6.4	1.75	44.5	10 in/lb .12 kg/m	3000 207	13,000 1897	7.7	218	21.5	609	
-20	1.11	28.2	2.16	54.9	.94	23.9	1.75	44.5	.25	6.4	1.95	49.5	16 in/lb .19 kg/m	3000 207	13,000 1897	9.8	278	27.3	774	
-24	1.28	32.5	2.56	65.0	1.19	30.2	2.13	54.1	.25	6.4	2.45	62.2	24 in/lb .28 kg/m	3000 207	13,000 1897	17.4	493	48.6	1378	

(1) Weights will vary according to end fitting configuration

PART NUMBERING SYSTEM (EXAMPLE)



NOTE: SWIVEL MAY BE ORDERED WITH JUMP SIZE THREADS

TABLE 1

FITTING MATERIAL	
Numerical Code	Description
1	CRES 304
2	CRES 316
3	Alum 7075-T6
4	INCONNEL®
5	MONEL®

TABLE 2

FITTING CONFIGURATION		
Letter Code	Military Specification No.	Description
A	MS 33649	Female Port
F	MS 33514	Male - Flareless
G	MS 33515	Male Bulkhead - Flareless
L	MS 33657	Male Bulkhead - 37° Flare
N	AND 10053	Female Pipe Port
P	MS 33677	Male Pipe
T	MS 33656	Male - 37° Flare

TABLE 3

THREAD DASH SIZE (1)	THREAD MIL-SPEC
- 02	5/16 - 24
- 03	3/8 - 24
- 04	7/16 - 20
- 05	1/2 - 20
- 06	9/16 - 18
- 08	3/4 - 16
- 10	7/8 - 14
- 12	1 1/16 - 12
- 16	1 5/16 - 12
- 20	1 5/8 - 12
- 24	1 7/8 - 12
- 32	2 1/2 - 12

TABLE 4

"O" RING MATERIAL CODE		
Letter Code	Description	Oper. Temp.
C	Neoprene AMS3209	-40°F to +225°F
E	Ethylene Propylene NAS 1611	-65°F to +160°F
L	Fluorosilicone Mil-R-25988	-90°F to +400°F
N	Nitrile (Buna-N) Mil-P-25732	-65°F to +275°F
V	Fluorcarbon (Viton)® Mil-R-83248	-20°F to +400°F

(1) Note thread size on body half designates swivel size

INCONNEL and MONEL are registered trademarks for Huntington Alloys Inc.
Viton is a registered trademark for E.I. duPont de Nemours Co.

Inquiry Stock Prescription : Sébastien Maredj, Technical Sales Engineer France
ORKAL Industries LLC – Authorized Distributor for Adel Wiggins : PReece
A Leading Stocking/Distributor of Tube Connection & Fluid Fitting Products
M : +33 (0)6.51.19.11.67 | smaredj@orkal.com | www.orkal.com