

EAT•N

Aerospace

Aeroquip® Brand 3,000 psi Teflon® Hose
and Hose Assemblies

- **Lightweight**
- **Meets performance requirements of AS1339**
- **50% tighter bend radius**
- **Improved flexing characteristics**
- **Weight savings**



Table of Contents

3	AE246 PTFE High Pressure, Lightweight Hose
4	“super-C” Crimp Fittings
5	Protective Sleeves
6	AE246 “super C” Hose Assemblies Part Numbering System — Straight and Single Elbow Assemblies
7	AE246 Hose Assemblies Part Numbering System — Double Elbow Assemblies
8	Aeroquip Brand Teflon Hose Assemblies with Integral Silicone Firesleeve — Performance Data
9	Fittings/Hose Assemblies
10	Aeroquip Brand Teflon Hose Assemblies with Integral Polyester Chafe Guard
11	Fittings/Hose Assemblies
12	Aeroquip Brand Teflon Hose Assemblies with Integral Silicone — How To Order
13	AE246 High Pressure Teflon Hose and “super gem” Reusable Fittings — General Characteristics
14	AE246 “super gem” Reusable Fittings & Hose Information
15 - 16	Features of “super gem” Fittings
17	AE246 “super gem” Reusable Hose Assemblies Part Numbering System — Straight and Single Elbow Assemblies
17	AE246 “super gem” Reusable Hose Assemblies Part Numbering System — Double Elbow Assemblies

AE246 PTFE High Pressure, Lightweight Hose

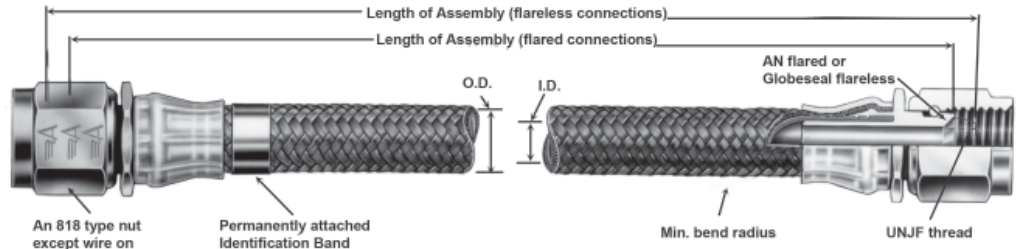
AS1339 (Formerly Mil-H-38360)

Eaton's Aeroquip brand AE246 Teflon hoses with advanced technology HI-Pac™ braid reinforcement offer:

- Up to 50% lighter in weight
- Considerably smaller envelope size
- 50% tighter bend radius
- Improved flexing characteristics
- Proven high performance
- Sizes: -4, -6, -8, -10, -12
- Proven "super-C" crimped fittings

In addition, the HI-Pac™ braid-densely packed small diameter wires absorb stress more uniformly resulting in a stronger wire braid with less metal.

Eaton's Aeroquip brand "super-C" fittings provide permanent protection against leakage, even after high temperature aging and impulsing to 250,000 cycles or more. Their reliable performance is due to the independence of the sealing function from the retention function. The service proved "super-C" fittings also feature corrosion resistant materials and reduced envelope dimensions. Its weight saving construction makes it the lightest fitting available in most sizes.



Standard and Special Styles

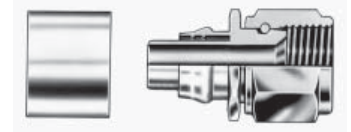
"super-C" fittings are available in both flared and flareless types to mate with MS33656 and MS33514 end connections. In addition, elbow fittings are available in standard 45° and 90° styles. Special elbows, can be supplied for custom installations.

"super-C" Fitting Standard Material Specifications	
Nut — Cres., QQ-S-763 (304)	
Wire — Cres., AMS5685 (305)	
Nipple — Cres., QQ-S-763 (304)	
Socket — Cres., QQ-S-763 (304)	

Two-Piece Fittings

Aeroquip brand "super-C" permanently attached fittings consist of a nipple assembly and a socket, which become an integral assembly when attached to AE246 hose.

"super-C" standard elbow fittings for AE246 hose are made using the one-piece elbow concept. This simplifies the production process and results in a high quality elbow.



Dash Size	O.D. Tube Size	Hose I.D. (Min.)	Hose O.D. (Max.)	Operating Pressure (psi)	Proof Pressure (psi)	Min. High Temperature Burst Pressure (psi)	Min. Room Temperature Burst Pressure (psi)	Min. Bend Radius	Weight Per Foot (lbs.)
AE246-4	1/4	.212	.385	3000	6000	12,000	16,000	1.50	.108
AE246-6	3/8	.298	.480	3000	6000	10,500	14,000	2.50	.147
AE246-8	1/2	.391	.610	3000	6000	10,500	14,000	2.88	.240
AE246-10	5/8	.485	.715	3000	6000	9,000	12,000	3.25	.320
AE246-12*	3/4	.602	.888	3000	6000	9,000	12,000	3.88	.509

All Dimensions in inches.

*AE246 - 12 meets the performance requirements of AS1339 but not the O.D. dimension of AS1339 (The O.D. is dimensionally smaller).

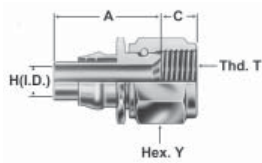
"super-C" Crimp Fittings

Hose Dash Size	-4	-6	-8	-10	-12
Letter Size Code	E	G	H	J	K



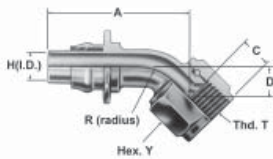
Socket
AE18444 - Code

Flared 37°



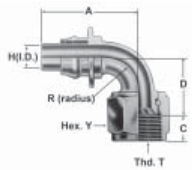
Hose Size	Nipple* Assembly	Max A	C	Nominal D	R	Min. H	Thread T	Hex Y	Weight lbs.
AE246-4	AE18442E	1.16	.37	—	—	.141	.4375-20UNJF-3B	.56	.057
AE246-6	AE18442G	1.24	.38	—	—	.250	.5625-18UNJF-3B	.69	.077
AE246-8	AE18442H	1.40	.43	—	—	.360	.7500-16UNJF-3B	.88	.143
AE246-10	AE18442J	1.72	.50	—	—	.455	.8750-14UNJF-3B	1.00	.209
AE246-12	AE18442K	1.88	.57	—	—	.568	1.0625-12UNJ-3B	1.25	.263

One Piece, No-Weld Elbow



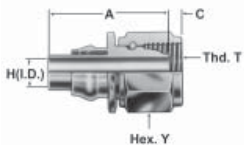
AE246-4	AE18844E	2.08	.37	.416	.375	.141	.4375-20UNJF-3B	.56	.065
AE246-6	AE18844G	2.29	.38	.528	.500	.250	.5625-18UNJF-3B	.69	.100
AE246-8	AE18844H	2.61	.43	.610	.500	.360	.7500-16UNJF-3B	.88	.190
AE246-10	AE18844J	3.09	.50	.573	.625	.455	.8750-14UNJF-3B	1.00	.284
AE246-12	AE18844K	3.44	.57	.625	.875	.568	1.0625-12UNJ-3B	1.25	.390

One Piece, No-Weld Elbow



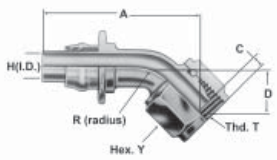
AE246-4	AE18845E	1.71	.37	.705	.375	.141	.4375-20UNJF-3B	.56	.065
AE246-6	AE18845G	1.85	.38	.878	.500	.250	.5625-18UNJF-3B	.69	.100
AE246-8	AE18845H	2.10	.43	.980	.500	.360	.7500-16UNJF-3B	.88	.190
AE246-10	AE18845J	2.42	.50	1.176	.625	.455	.8750-14UNJF-3B	1.00	.284
AE246-12	AE18845K	2.79	.57	1.378	.875	.568	1.0625-12UNJ-3B	1.25	.390

Globeseal™ Flareless Per NAS 1760



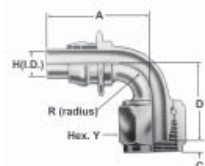
AE246-4	AE18446E	1.45	.15	—	—	.141	.4375-20UNJF-3B	.56	.060
AE246-6	AE18446G	1.55	.16	—	—	.250	.5625-18UNJF-3B	.69	.083
AE246-8	AE18446H	1.74	.14	—	—	.360	.7500-16UNJF-3B	.88	.154
AE246-10	AE18446J	2.11	.22	—	—	.455	.8750-14UNJF-3B	1.00	.227
AE246-12	AE18446K	2.17	.15	—	—	.568	1.0625-12UNJ-3B	1.25	.310

One Piece, No-Weld Elbow



AE246-4	AE18846E	2.26	.15	.593	.375	.141	.4375-20UNJF-3B	.56	.068
AE246-6	AE18846G	2.50	.16	.738	.500	.250	.5625-18UNJF-3B	.69	.106
AE246-8	AE18846H	2.84	.14	.845	.500	.360	.7500-16UNJF-3B	.88	.200
AE246-10	AE18846J	3.36	.22	.843	.625	.455	.8750-14UNJF-3B	1.00	.302
AE246-12	AE18846K	3.73	.15	.911	.875	.568	1.0625-12UNJ-3B	1.25	.420

One Piece, No-Weld Elbow



AE246-4	AE18847E	1.71	.15	.994	.375	.141	.4375-20UNJF-3B	.56	.068
AE246-6	AE18847G	1.85	.16	1.174	.500	.250	.5625-18UNJF-3B	.69	.106
AE246-8	AE18847H	2.10	.14	1.312	.500	.360	.7500-16UNJF-3B	.88	.200
AE246-10	AE18847J	2.42	.22	1.557	.625	.455	.8750-14UNJF-3B	1.00	.302
AE246-12	AE18847K	2.79	.15	1.802	.875	.568	1.0625-12UNJ-3B	1.25	.429

All dimensions in inches.

*Socket must be ordered separately under Eaton Part Number AE18444 (Letter size code same as nipple assembly).

To use sleeves shown on this page with AE246 Hose assemblies, see pages 6-7 to determine assembly numbers.

AE102/624 (AS1072)



Silicone Coated (Fibreglass) Firesleeve
-65°F to +450°F -53°C to +232°C)

AE251 (900961) (AS1073-B)



Heat Shrinkable Polyolefin Abrasion Sleeve
-65°F to +275°F (-53°C to +135°C)

AE208 (900005) (AS1294)



Nylon Spiral Wrap Abrasion Sleeve
-65°F to +200°F (-53°C to +93°C)

AE506 (900179) (AS1291-C)



FEP100 Teflon Abrasion Sleeve
-65°F to +400°F -53°C to +204°C)

AE138 (646) (AS1295)



Neoprene Tubing Abrasion Sleeve
-65°F to +250°F (-53°C to +121°C)

Hose Size	Sleeve Size	Sleeve I.D.	Sleeve Gauge	Weight (lbs.)
AE246-4	-8	.50	.125	.0093
AE246-6	-11	.69	.125	.0131
AE246-8	-13	.81	.125	.0145
AE246-10	-14	.88	.125	.0155
AE246-12	-16	1.12	.125	.0200
AE246-4	-2	.375	.030	.0018
AE246-6	-1	.375	.030	.0018
AE246-8	-3	.500	.035	.0028
AE246-10	-4	.500	.035	.0028
AE246-12	-5	.750	.040	.0046
AE246-4	-4	.204	.023	.0007
AE246-6	-4	.204	.023	.0007
AE246-8	-10	.436	.032	.0020
AE246-10	-10	.436	.032	.0020
AE246-12	-10	.436	.032	.0020
AE246-4	-9	.421	.018	.0017
AE246-6	-11	.484	.018	.0019
AE246-8	-13	.600	.018	.0024
AE246-10	-14	.702	.018	.0028
AE246-12	-17	.945	.018	.0037
AE246-4	-4	.328	.035	.0020
AE246-6	-8	.453	.035	.0029
AE246-8	-12	.562	.040	.0039
AE246-10	-16	.671	.040	.0046
AE246-12	-22	.843	.050	.0072

All dimensions in inches.

NOTE: Use an abrasion sleeve with AE246 Teflon hose in any application where the braid is subject to possible abrasion. Eaton offers two sleeve styles: AE546 hose with integral polyester chafeguard and AE446 hose with integral silicone firesleeve. See pages 10-11 on the integral polyester chafeguard and pages 8-9 for the integral silicone firesleeve. For more information on these advanced hose styles, contact your nearest Eaton distributor or Eaton sales representative.

Aeroquip Brand AE246 "super-C" Hose Assemblies Part Numbering System

Straight and Single Elbow Assemblies

In order to properly specify the correct hose assembly needed, please use the simple numbering system shown on the following pages. Straight and single elbow assemblies are identified by the number on this page beginning with AE246, and double elbow assemblies are identified by a number beginning with a number AE4XXX as shown on the right hand page.

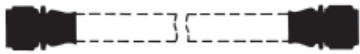
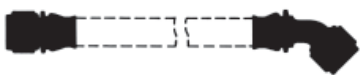
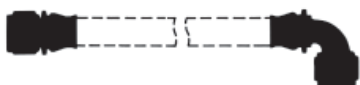
AE2460000E0184

Base number for all straight and single elbow assemblies

Assembly length in inches always four digits, last digit indicates fractional length in 1/8's of an inch

Size Code

Hose Dash Size	-4	-6	-8	-10	-12
Letter Code	E	G	H	J	K

Fitting Configuration	Lockwire Holes *	Fitting Ends	No Sleeve	Sleeving (see page 5)				
				AE102/624	AE251	AE208	AE506	AE138
Flared 	0	37° Flared	0000	0001	0002	0003	0004	0005
	0	Flareless Globeseal	0010	0011	0012	0013	0014	0015
	2	37° Flared	0050	0051	0052	0053	0054	0055
Flareless Straight to Straight	2	Flareless Globeseal	0060	0061	0062	0063	0064	0065
	<hr/>							
Flared 	0	37° Flared	0100	0101	0102	0103	0104	0105
	0	Flareless Globeseal	0110	0111	0112	0113	0114	0115
	2	37° Flared	0150	0151	0152	0153	0154	0155
Flareless Straight to 45° Elbow	2	Flareless Globeseal	0160	0161	0162	0163	0164	0165
	<hr/>							
Flared 	0	37° Flared	0200	0201	0202	0203	0204	0205
	0	Flareless Globeseal	0210	0211	0212	0213	0214	0215
	2	37° Flared	0250	0251	0252	0253	0254	0255
Flareless Straight to 90° Elbow	2	Flareless Globeseal	0260	0261	0262	0263	0264	0265

* Per AS1043

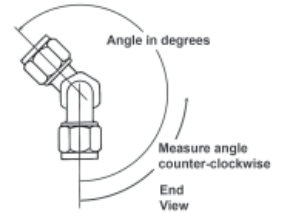
Aeroquip Brand AE246 Hose Assemblies Part Numbering System

Double Elbow Assemblies

AE4000E0184-225

Base number for all straight and single elbow assemblies

Elbow position angle expressed in three digits



Assembly length in inches always four digits, last digit indicates fractional length in 1/8's of an inch

Size Code

Hose Dash Size	-4	-6	-8	-10	-12
Letter Code	E	G	H	J	K

Fitting Configuration	Lockwire Holes *	Fitting Ends	No Sleeve	Sleeving (see page 5)				
				AE102/624	AE251	AE208	AE506	AE138
Flared 	0	37° Flared	4000	4001	4002	4003	4004	4005
	0	Flareless Globeseal	4006	4007	4008	4009	4010	4011
	2	37° Flared	4018	4019	4020	4021	4022	4023
Flareless 45° Elbow to 45° Elbow	2	Flareless Globeseal	4024	4025	4026	4027	4028	4029
Flared 	0	37° Flared	4036	4037	4038	4039	4040	4041
	0	Flareless Globeseal	4042	4043	4044	4045	4046	4047
	2	37° Flared	4054	4055	4056	4057	4058	4059
Flareless 45° Elbow to 90° Elbow	2	Flareless Globeseal	4060	4061	4062	4063	4064	4065
Flared 	0	37° Flared	4072	4073	4074	4075	4076	4077
	0	Flareless Globeseal	4078	4079	4080	4081	4082	4083
	2	37° Flared	4090	4091	4092	4093	4094	4095
Flareless 90° Elbow to 90° Elbow	2	Flareless Globeseal	4096	4097	4098	4099	4100	4101

* Per AS1043

Aeroquip Brand Teflon Hose Assemblies with Integral Silicone Firesleeve

Performance Data

AS1339 3000 psi Hydraulic Service



AE446 High Pressure Teflon Hose



AE846 High Pressure Teflon Hose is lighter than AE446 with the same fire protection rating.

Eaton's Aeroquip brand integral silicone firesleeve on Teflon hose assemblies meets the fire test requirements of TSO-C53A Type D and TSO-C75 Type III A and III B.

Available on high pressure Aeroquip brand Teflon hose assemblies, the silicone fire-sleeve is applied directly onto the metal braid and fittings to form a smooth, tight bond.

Advantages of Integral Silicone Firesleeve

- Silicone sleeve is asbestos free
- Adheres directly to hose
- Smaller envelope for neater appearance
- Hose flexibility is not impaired
- Non-age sensitive for extra-long service life
- Lightweight
- Eliminates the use of band clamps
- Eliminates fluid "wicking"
- Temperature range, -65°F to +450°F (-54°C to +232°C). Matches temperature range of Teflon hose


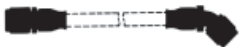
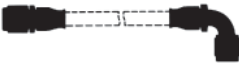
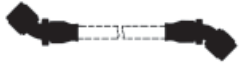
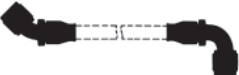

Performance Data

AE446 and AE846 Hose (AE246 Hose with Integral Silicone Firesleeve)

Dash Size	O.D. Tube Size	Hose I.D. (Min.)	Hose O.D. (Max.)	Operating Pressure (psi)	Proof Pressure (psi)	Min. Burst Pressure (psi)	Min. Bend Radius	Weight Per Foot (lbs.)
AE446-4	1/4	.212	.640	3000	6000	16000	1.50	.242
AE446-6	3/8	.298	.725	3000	6000	14000	2.50	.308
AE446-8	1/2	.391	.865	3000	6000	14000	2.88	.440
AE446-10	5/8	.485	.975	3000	6000	12000	3.25	.528
AE446-12	3/4	.602	1.134	3000	6000	12000	3.88	.781
AE846-4	1/4	.212	.581	3000	6000	16000	1.50	.198
AE846-6	3/8	.298	.676	3000	6000	14000	2.50	.246
AE846-8	1/2	.391	.803	3000	6000	14000	2.88	.375
AE846-10	5/8	.485	.911	3000	6000	12000	3.25	.450
AE846-12	3/4	.602	1.086	3000	6000	12000	3.88	.679

All Dimensions in inches.

Aeroquip Brand Teflon Hose Assemblies with Integral Silicone Fittings/Hose Assemblies

Configuration		Hose Size	Fitting A Part No.	Fitting B Part No.	AE446 Silicone Covered Hose	AE846 Lightweight Silicone Covered Hose
Fitting A	Fitting B					
 Straight to Straight	-4 thru -12	Flared AE18442	Flared AE18442	AE2463530	AE2464495	
		Flareless AE18446	Flareless AE18446	AE2463533	AE2464498	
 Straight to 45°	-4 thru -12	Flared AE18442	Flared AE18444	AE2463531	AE2464496	
		Flareless AE18446	Flareless AE18846	AE2463534	AE2464499	
 Straight to 90°	-4 thru -12	Flared AE18442	Flared AE18445	AE2463532	AE2464497	
		Flareless AE18446	Flareless AE18847	AE2463535	AE2464500	
 45° to 45°	-4 thru -12	Flared AE18844	Flared AE18844	AE4703	AE6940	
		Flareless AE18846	Flareless AE18846	AE4706	AE6943	
 45° to 90°	-4 thru -12	Flared AE18844	Flared AE18845	AE4704	AE6941	
		Flareless AE18846	Flareless AE18847	AE4707	AE6944	
 90° to 90°	-4 thru -12	Flared AE18845	Flared AE18845	AE4705	AE6942	
		Flareless AE18847	Flareless AE18847	AE4708	AE6945	

Teflon Hose Assemblies With Integral Polyester Chafe Guard

Eaton's Aeroquip brand hose assemblies with integral braided polyester chafe guard provide the ultimate in chafe-resistant hose assemblies.

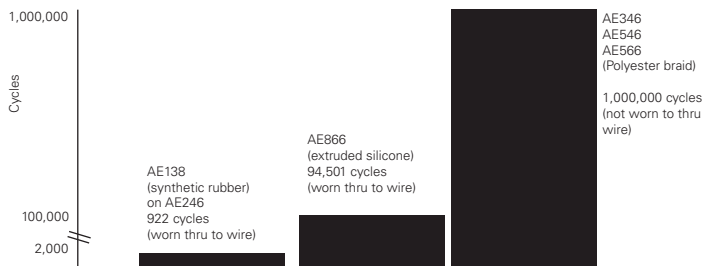
Eaton's Aeroquip brand braided polyester chafe resistant hose is manufactured by braiding polyester yarn onto existing hose styles. The part number chart on this page shows the basic hose style and appropriate specifications as well as the identification information for the braided hose.

Advantages of Aeroquip brand polyester chafe-resistant hose:

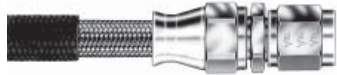
- Superior chafe-resistance (see comparison chart)
- Compatible with aerospace associated fluids
- Reduces overall weight
- Minimal increase in O.D. – 100" for all sizes
- Flexibility is not impaired
- Temperature range – 65°F to +300°F (-54°C to +149°C)

Abrasion Comparison

Eaton's Aeroquip brand Teflon hose with polyester chafe guard has been tested for abrasion resistance and compared with synthetic rubber sleeves and extruded silicone sleeves with the results on the graph below.



AS1339 — 3000 psi Hydraulic Service



AE546 High Pressure Teflon Hose with "super gem" Fitting



AE546 High Pressure Teflon Hose with "super-C" Fitting

AE546 Hose Data

(AE246 Hose with Polyester Braid Chafe Guard per AS1339)

Dash Size	O.D. Tube Size	Hose I.D. (Min.)	Hose O.D. (Max.)	Operating Pressure (psi)	Proof Pressure (psi)	Min. Burst Pressure (psi)	Min. Bend Radius	Weight Per Foot (lbs.)
-4	1/4	.212	.490	3000	6000	16000	1.50	.137
-6	3/8	.298	.570	3000	6000	14000	2.50	.187
-8	1/2	.391	.680	3000	6000	14000	2.88	.308
-10	5/8	.485	.800	3000	6000	12000	3.25	.374
-12	3/4	.602	.965	3000	6000	12000	3.88	.605

All Dimensions in inches.

NOTE: For additional information on AE246 hose, see pages 6-7.

Weight Comparison

The following figures show the weight comparison between Aeroquip brand Teflon hose with polyester chafe guard and other commonly used sleeving materials (based on -8 six medium pressure hose)


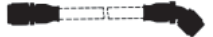
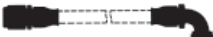
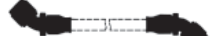
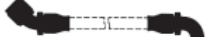

Material	Lbs./Wt. Per Foot (Includes Hose)
Braided Polyester	.175
Neoprene Rubber	.186
Extrude Silicone	.215
Polyolifin	.167
Teflon	.196
Spiral Nylon	.153

Compatibility

Eaton's Aeroquip brand Teflon hose with polyester chafe guard has been tested and shown to be compatible with the following fluids:

- LD4
- Highjet Chevron
- Skydrol 500B4
- JP-4 (MIL-T-5624)
- AvGas Grade 100/130 (MIL-C-5572)
- MIL-L-7808 Lube Oil
- Varsol (Cleaning Solvent)

Aeroquip Brand Teflon Hose Assemblies with Integral Ployester Chafe Guard

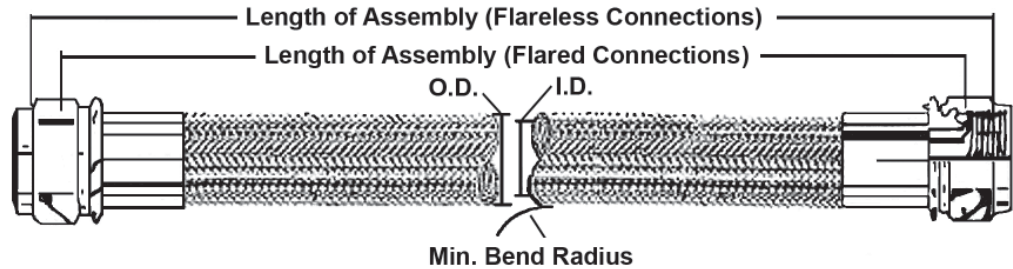
Configuration		Hose Size	Fitting A Part Number	Fitting B Part Number	AE546 Hose with "super-C" Crimp Fittings	Fitting A Part Number	Fitting B Part Number	AE546 Hose with "super gem" Reusable Fittings
Fitting A	Fitting B							
 Straight to Straight		-4 thru -12	Flared AE18442	Flared AE18442	AE2463509	Flared AE18807	Flared AE18807	AE2463542
			Flareless AE18446	Flareless AE18446	AE2463512	Flareless AE18927	Flareless AE18927	AE2463545
 Straight to 45°		-4 thru -12	Flared AE18442	Flared AE18444	AE2463510	Flared AE18807	Flared AE18879	AE2463543
			Flareless AE18446	Flareless AE18846	AE2463513	Flareless AE18927	Flareless AE18883	AE2463546
 Straight to 90°		-4 thru -12	Flared AE18442	Flared AE18445	AE2463511	Flared AE18807	Flared AE18881	AE2463544
			Flareless AE18446	Flareless AE18847	AE2463514	Flareless AE18927	Flareless AE18885	AE2463547
 45° to 45°		-4 thru -12	Flared AE18844	Flared AE18844	AE4695	Flared AE18879	Flared AE18879	AE4715
			Flareless AE18846	Flareless AE18846	AE4698	Flareless AE18883	Flareless AE18883	AE4718
 45° to 90°		-4 thru -12	Flared AE18844	Flared AE18845	AE4696	Flared AE18879	Flared AE18881	AE4716
			Flareless AE18846	Flareless AE18847	AE4699	Flareless AE18883	Flareless AE18885	AE4719
 90° to 90°		-4 thru -12	Flared AE18845	Flared AE18845	AE4697	Flared AE18881	Flared AE18881	AE4717
			Flareless AE18847	Flareless AE18847	AE4700	Flareless AE18885	Flareless AE18885	AE4720

Aeroquip Brand Teflon Hose Assemblies

How To Order

Assembly Length

Assembly length is measured from sealing surface to sealing surface. When defining the part number length, measure the length from gauge point to gauge point of NAS 1780 flareless fittings. The "K" dimensions on page 4 show the difference between overall length and length to gauge point. With elbow fittings, the measuring point is the intersection of the centerline of the elbow with the face of the sealing surface.

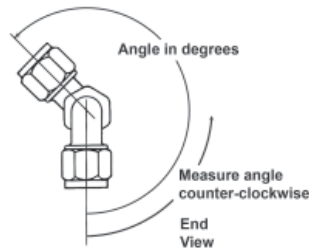


Assembly Length Tolerances

Up to and including 18 inches:	± .125
Above 18 inches, to and including 36 inches:	±.250
Above 36 inches, to and including 50 inches:	±.500
Above 50 inches:	±1% of length

Rotational Angle Measurement

On assemblies with an elbow fitting on each end, measure the rotation angle as shown. The index angle will follow the basic style hose assembly part number indicated (see example for "double elbow" assemblies). In all cases, the angle should be expressed in 3 digits. For example, 35° should be written as 035. If the angle desired is 0°, specify 000.



Double Elbow Hose Assemblies

	<u>AE39XX</u>	<u>G</u>	<u>0184</u>	<u>-035</u>
Base number for all double elbow assemblies	_____	_____	_____	_____
Size code (see below)	_____	_____	_____	_____
Assembly length, in inches, always four digits; last digit indicates fractional length in 1/8's of an inch.	_____	_____	_____	_____
Elbow position angle expressed in three digits	_____	_____	_____	_____

Examples: Straight and Single Elbow Hose Assemblies

	<u>AE101XXXX</u>	<u>G</u>	<u>0184</u>
Base number for all straight and single elbow assemblies	_____	_____	_____
Size code (see below)	_____	_____	_____
Assembly length, in inches, always four digits; last digit indicates fractional length in 1/8's of an inch.	_____	_____	_____

Size Code

Hose Dash Size	-4	-6	-8	-10	-12
Letter Code	E	G	H	J	K

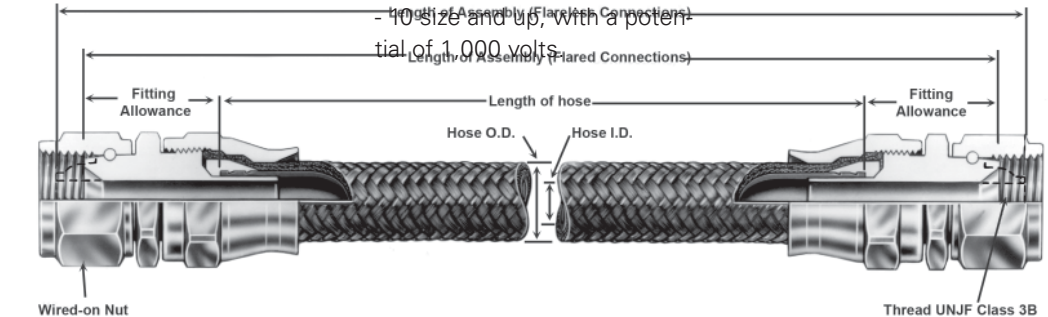
AE246 High Pressure Teflon Hose and "super gem" Resuable Fittings

General Characteristics

Eaton's designed, tested and proved an advanced technology, revolutionary high pressure Teflon hose. Using the most modern methods of wire braiding calculations and hose stress analysis, Eaton developed the Aeroquip brand AE246 Teflon hose with Patented Hi-Pac™ braiding (U.S. Patent # 3,463,197). This wire braid contains densely packed small diameter wires braided over a minimum thickness Teflon tube in such a way that exceptional performance is possible. This hose exceeds all requirements of AS1339. The AE246 hose is recommended for normal 3000 psi hydraulic systems with impulse peaks up to 4500 psi.

Because it eliminates unneeded metal reinforcement, Eaton's AE246 hose is 40% - 50% lighter in weight than previous high pressure Teflon hose. It also has a much smaller envelope, and has excellent flexing and bend radius characteristics. Eaton's AE246 hose also has low volumetric expansion, assuring maximum response efficiency in hydraulic systems and brake systems. Because the tube is smooth and homogeneous, it is able to withstand the high velocity, sudden pressure surges and extreme temperature rises encountered in these systems.

The rate of gas effusion and resistance to capillary leakage through the hose lines is controlled by a patented extrusion method. Inherent resiliency and toughness are b



uilt into the extruded tube by close control factors affecting crystallinity.

The extruded tube has a tough, smooth, wax-like texture, which resists erosion. No materials of a sticky or viscous nature will stick to its surface. It has essentially zero moisture absorption, and this, together with its chemical inertness and anti-adhesive characteristics, make it ideal for Eaton's fluid systems where maintenance of a low dew point is necessary.

Testing Procedures

Eaton's AE246 hose is thoroughly tested to meet or exceed the requirements of AS1339* and formally MIL-H-38360A (Amendment 1 for conductive hose).

Conductivity

The product line of AE246 hose has a Teflon tube, which is designed to eliminate electrostatically induced hose failures. The tube is capable of conducting a direct current equal to or greater than 6 micro-amps in sizes - 4, - 6, and - 8; 12 micro-amps in

Application In High Pressure and High Temperature Service

Eaton's Teflon hose is unaffected by fuels, lube oils, coolants or solvents commonly used in aircraft applications. Superior vibration resistance, low volumetric expansion and high temperature resistance makes it ideal for hydraulic systems.

Operating Temperature

-67°F to +400°F (-55° C to +204°C), fluid and ambient

Identification

Identification bands show specification numbers, manufacturer's code numbers, operating pressure, assembly date and other required information.

"super gem" Reusable Fittings & Hose Information

Dash Size	O.D. Tube Size	Hose I.D. (Min.)	Hose O.D. (Max.)	Operating Pressure (psi)	Proof Pressure (psi)	Min. High Temperature Burst Pressure (psi)	Min. Room Temperature Burst Pressure (psi)	Min. Bend Radius	Weight Per Foot (lbs.)	National Stock No. 4720-01-
-4	1/4	.212	.385	3000	6000	12,000	16,000	1.50	.108	028-1350
-6	3/8	.298	.480	3000	6000	10,500	14,000	2.50	.147	026-9156
-8	1/2	.391	.610	3000	6000	10,500	14,000	2.88	.240	035-6601
-10	5/8	.485	.715	3000	6000	9,000	12,000	3.25	.320	026-9158
-12*	3/4	.602	.888	3000	6000	9,000	12,000	3.88	.509	026-6161

All Dimensions in inches.

*AE246 - 12 meets the performance requirements of AS1339 but not the O.D. dimension of AS1339 (The O.D. is dimensionally smaller).



Eaton's Aeroquip brand AE246 hose consists of a thin wall Teflon[®] inner tube and a Hi-Pac™ outer braid consisting of densely packed small diameter stainless steel wires braided in a uniform pattern.

3-Piece Fitting

Eaton's Aeroquip brand High Pressure "super gem" Reusable Fitting consists of 3 pieces: a socket, sleeve and nipple assembly.



Sleeve

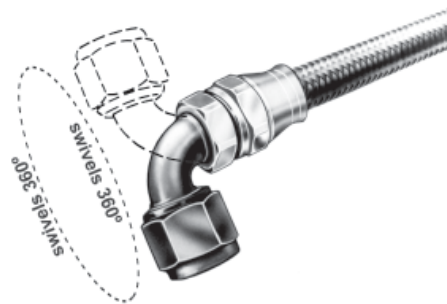
Socket

Nipple Assembly

The service proven "super gem" fitting provides permanent protection against leakage, even after high temperature aging and pressure impinging to 250,000 cycles or more. This performance lies in the separation of the sealing function from the retention function.

A lip seal is formed by the separation of the tube in an annular chamber. This seal is assisted by the high unit loading of the ridges on the sleeve inner diameter against the tube. A positive grip on the wire reinforcement between socket and nipple provides permanent protection against fitting blow-off.

"Super gem" fittings have a dry lube (molybdenum disulfide) coating on the nipple male threads. This is a permanent coating and requires no additional lubrication during assembly. "super gem" fittings are designed for assembly to a specific gap dimension which indicates a proper assembly. "super gem" adjustable elbow fittings are easily positioned through 360° to the desired relative angle between opposite elbow fittings. Mock-up and prototype installation changes are simplified, as the position angle can be determined on the actual installation and adjusted as necessary.



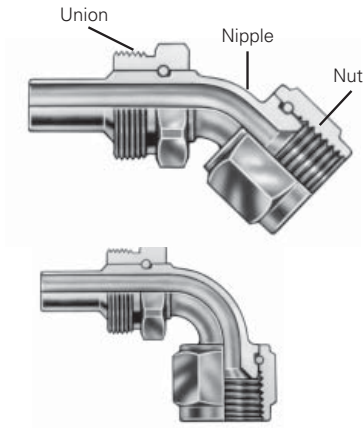
"super gem" Fitting Standard Material Specifications	
Nut — Cres. (304)	
Wire — Cres., AMS5685 (305)	
Nipple — Cres. (304)	
Sleeve — Cres., AMS5643 (17-4 PH)	
Socket — Cres. (304)	

One Piece, No-Weld Elbow Fittings

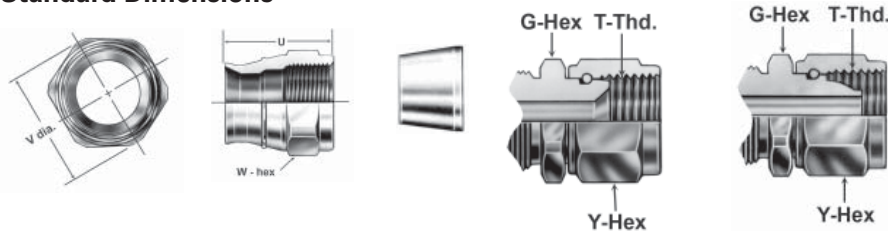
All "super gem" elbow nipples are machined in one piece from bar stock. The straight configuration is then formed into 45° and 90° end fittings. This results in a no-weld fitting.

Flareless Fitting Design

The flareless fitting design, adopted from the Eaton Globeseal™ fitting, is incorporated into the "super gem" fitting and meets the adopted NAS 1760 configuration.



Standard Dimensions



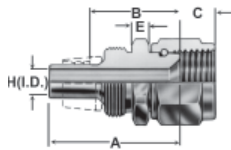
Size	Socket	Sleeve	Socket			Nut		Nipple
			U	Max V	Hex W	Thread T	Hex Y	Hex G
-4	AE18915E	AE18916E	.91	.69	.62	.4375-20 UNJF-3B	.56	.62
-6	AE18915G	AE18916G	.92	.83	.75	.5625-18 UNJF-3B	.69	.75
-8	AE18915H	AE18916H	1.09	.97	.88	.7500-16 UNJF-3B	.88	.88
-10	AE18915J	AE18916J	1.20	1.17	1.06	.8750-14 UNJF-3B	1.00	1.06
-12	AE18915K	AE18916K	1.47	1.45	1.31	1.0625-12 UNJF-3B	1.25	1.31

All dimensions in inches.

"super gem" Reusable Fittings

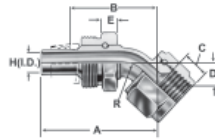
FLARED (Nipple Assembly)

Straight Fittings mate with AS4395 end connection



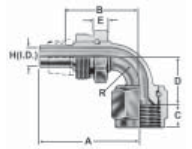
Hose Part Number	Fitting Assembly Part Number	National Stock Numbers	Nipple Assembly Part Number
AE246-4	AE18806E	4730-01-026-9143	AE18807E
AE246-6	AE18806G	4730-01-026-9144	AE18807G
AE246-8	AE18806H	4730-01-027-2652	AE18807H
AE246-10	AE18806J	4730-01-026-9145	AE18807J
AE246-12	AE18806K	4730-01-026-9147	AE18807K

45°
Fittings mate with AS4395 end connection



AE246-4	AE18878E	4730-01-027-2192	AE18879E
AE246-6	AE18878G	4730-01-027-2646	AE18879G
AE246-8	AE18878H	4730-01-027-2647	AE18879H
AE246-10	AE18878J	4730-01-026-9125	AE18879J
AE246-12	AE18878K	4730-01-027-2648	AE18879K

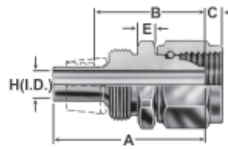
90°
Fittings mate with AS4395 (MS33656) end connection



AE246-4	AE18880E	4730-01-027-2649	AE18881E
AE246-6	AE18880G	4730-01-026-9127	AE18881G
AE246-8	AE18880H	4730-01-026-9128	AE18881H
AE246-10	AE18880J	4730-01-026-9129	AE18881J
AE246-12	AE18880K	4730-01-026-9131	AE18881K

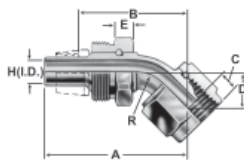
NAS 1760 Flareless (Nipple Assembly)

Straight Fittings mate with AS33514 (MS33514) end connection



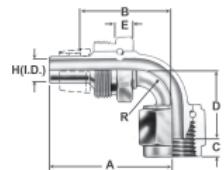
AE246-4	AE18926E	4730-01-026-9149	AE18927E
AE246-6	AE18926G	4730-01-026-9151	AE18927G
AE246-8	AE18926H	4730-01-027-2653	AE18927H
AE246-10	AE28926J	4730-01-026-9152	AE18927J
AE246-12	AE18926K	4730-01-026-9154	AE18927K

45°
Fittings mate with AS33514 (MS33514) end connection



AE246-4	AE18882E	4730-01-027-2650	AE18883E
AE246-6	AE18882G	4730-01-026-9133	AE18883G
AE246-8	AE18882H	4730-01-027-2651	AE18883H
AE246-10	AE18882J	4730-01-026-9134	AE18883J
AE246-12	AE18882K	4730-01-026-9136	AE18883K

90°
Fittings mate with MS33514 end connection



AE246-4	AE18884E	4730-01-040-4287	AE18885E
AE246-6	AE18884G	4730-01-040-5532	AE18885G
AE246-8	AE18884H	4730-01-027-9138	AE18885H
AE246-10	AE18884J	4730-01-026-9139	AE18885J
AE246-12	AE18884K	4730-01-026-9141	AE18885K

*Fitting assembly includes nipple assembly, socket and sleeve.

Distance to Sealing Point

K = gauge point location per NAS 1760



Weight (lbs.)	Max A	Hose Cut-off Factor B	C	Nominal D	E	R	Min. H	K
.097	1.46	.92	.37		.14		.141	
.142	1.57	1.04	.38		.16		.250	
.222	1.85	1.16	.43		.19		.360	
.333	2.06	1.21	.50		.25		.455	
.574	2.26	1.27	.57		.20		.568	
.127	2.66	2.06	.37	.416	.22	.375	.141	
.196	2.97	2.35	.38	.528	.32	.500	.250	
.314	3.35	2.61	.43	.610	.32	.500	.360	
.442	3.63	2.74	.50	.573	.28	.625	.455	
.748	4.10	3.06	.57	.625	.28	.875	.568	
.127	2.29	1.69	.37	.705	.22	.375	.141	
.196	2.54	1.92	.38	.878	.32	.500	.250	
.314	2.84	2.10	.43	.980	.32	.500	.360	
.442	2.95	2.06	.50	1.176	.28	.625	.455	
.748	3.44	2.40	.57	1.378	.28	.875	.568	
.098	1.69	1.15	.16		.14		.141	.155
.146	1.80	1.26	.17		.16		.250	.164
.234	2.14	1.46	.15		.19		.360	.189
.347	2.35	1.50	.22		.25		.455	.201
.610	2.70	1.71	.15		.20		.568	.228
.130	2.79	2.19	.16	.544	.22	.375	.141	.110
.200	3.13	2.50	.17	.681	.32	.500	.250	.116
.323	3.55	2.81	.15	.815	.32	.500	.360	.134
.454	3.83	2.94	.22	.775	.28	.625	.455	.142
.768	4.38	3.35	.15	.911	.28	.875	.568	.161
.130	2.29	1.69	.16	.925	.22	.375	.141	
.200	2.54	1.92	.17	1.093	.32	.500	.250	
.323	2.84	2.10	.15	1.269	.32	.500	.360	
.454	2.95	2.06	.22	1.460	.28	.625	.455	
.768	3.44	2.40	.15	1.802	.28	.875	.568	

All dimensions in inches.

Max. A = maximum length of fitting including socket when fitting is assembled on hose

Max. D = nominal drop dimensions - Tolerance is $\pm .035$ "

Nom. R = radius of elbow measured to centerline

AE246 "super gem" Reusable Hose Assemblies Part Numbering System

In order to properly specify the correct hose assembly, use the simple numbering system shown on the following pages. Straight and single elbow assemblies are identified by the number on this page beginning with AE246, and double elbow assemblies are identified by a number beginning with the number AE4XXX as shown on the right hand page. Any assembly specified can be ordered using one of the two numbers on these pages.

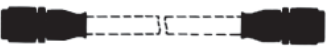
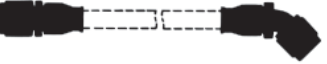
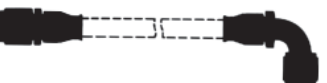
AE2460000E0184

Base number for all straight and single elbow assemblies

Assembly length in inches always four digits, last digit indicates fractional length in 1/8's of an inch

Size Code

Hose Dash Size	-4	-6	-8	-10	-12
Letter Code	E	G	H	J	K

Straight and Single Elbow Assemblies			Sleeving							
Fitting Configuration	Lockwire Holes*	Fitting Ends	None	AE102	AE251	AE208	AE506	AE138	AE546	AE446
Straight to Straight 	0	37° Flared	0500	0501	0502	0503	0504	0505	3542	3536
	0	Flareless	0510	0511	0512	0513	0514	0515	3545	3539
	2	37° Flared	0550	0551	0552	0553	0554	0555		
	2	Flareless	0560	0561	0562	0563	0564	0565		
Straight to 45° Elbow 	0	37° Flared	0600	0601	0602	0603	0604	0605	3543	3537
	0	Flareless	0610	0611	0612	0613	0614	0615	3546	3540
	2	37° Flared	0650	0651	0652	0653	0654	0655		
	2	Flareless	0660	0661	0662	0663	0664	0665		
Straight to 90° Elbow 	0	37° Flared	0700	0701	0702	0703	0704	0705	3544	3538
	0	Flareless	0710	0711	0712	0713	0714	0715	3547	3541
	2	37° Flared	0750	0751	0752	0753	0754	0755		
	2	Flareless	0760	0761	0762	0763	0764	0765		

*Per AS1043

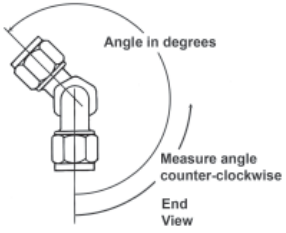
AE246 "super gem" Reusable Hose Assemblies Part Numbering System

Double Elbow Assemblies

AE4XXXE0184-225

Base number for all straight and single elbow assemblies


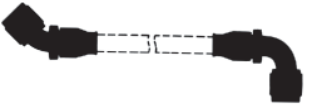

Elbow position angle expressed in three digits



Assembly length in inches always four digits, last digit indicates fractional length in 1/8's of an inch

Size Code

Hose Dash Size	-4	-6	-8	-10	-12
Letter Code	E	G	H	J	K

Double Elbow Assemblies			Sleeving							
Fitting Configuration	Lockwire Holes*	Fitting Ends	None	AE102	AE251	AE208	AE506	AE138	AE546	AE446
45° Elbow to 45° Elbow 	0	37° Flared	4108	4109	4110	4111	4112	4113	4715	4709
	0	Flareless	4114	4115	4116	4117	4118	4119	4718	4712
	2	37° Flared	4126	4127	4128	4129	4130	4131		
	2	Flareless	4132	4133	4134	4135	4136	4137		
45° Elbow to 90° Elbow 	0	37° Flared	4144	4145	4146	4147	4148	4149	4716	4710
	0	Flareless	4150	4151	4152	4153	4154	4155	4719	4713
	2	37° Flared	4162	4163	4164	4165	4166	4167		
	2	Flareless	4168	4169	4170	4171	4172	4173		
90° Elbow to 90° Elbow 	0	37° Flared	4180	4181	4182	4183	4184	4185	4717	4711
	0	Flareless	4186	4187	4188	4189	4190	4191	4720	4714
	2	37° Flared	4198	4199	4200	4201	4202	4203		
	2	Flareless	4204	4205	4206	4207	4208	4209		

*Per AS1043

Eaton Corporation
Conveyance Systems Division
300 South East Avenue
Jackson, Michigan 49203-1972
Phone: (517) 787-8121
Fax: (517) 787-5758

Eaton Corporation
Conveyance Systems Division
Route 2 Box 361
Meadowbrook Road
Eastanollee, Georgia 30538
Phone: (706) 779-3351
Fax: (706) 779-2638

Eaton Corporation
Conveyance Systems Division
11642 Old Baltimore Pike
Beltsville, Maryland 20705
Phone: (301) 937-4010

Eaton Corporation
Conveyance Systems Division
15 Pioneer Ave.
Warwick, Rhode Island 02888
Phone: (401) 781-4700

Eaton Corporation
Conveyance Systems Division
671 W. 17th Street
Costa Mesa, California 92627
Phone: (949) 548-3421
Fax: (949) 752-2997

Eaton LTD
Conveyance Systems Division
Broad Ground Road
Lakeside
Redditch
Worcs B98 8YS
England
Phone: (44) 152-751-7555
Fax: (44) 152-751-7556

Eaton S.A.
Conveyance Systems Division
2 Rue Lavoisier BP 54 78310
Coignieres, France
Phone: (33) 1-30-69-3000

Eaton LTD
Conveyance Systems Division
Chemin De Pau
64121 Serres-Castet
France
Phone: (33) 559-333-864
Fax: (33) 559-333-865

Eaton LTD
Conveyance Systems Division
Posttack 1026
Carl -Benz-Strasse 9
D-82205 Gilching
Germany
Phone: 49 (0) 8105-750
Fax: 49 (0) 8105-7555

Vickers Systems Pte Ltd
Conveyance Systems Division
Lot 512, Jalan Delima, Batamindo
Industrial Park
Batam 29433, Indonesia
Phone: (62) 611823

