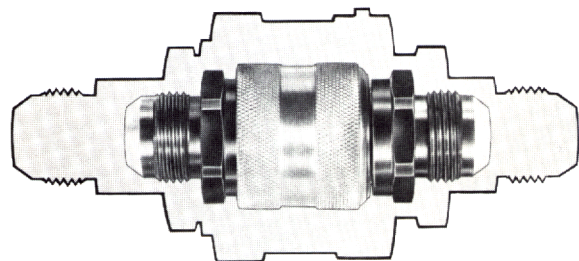
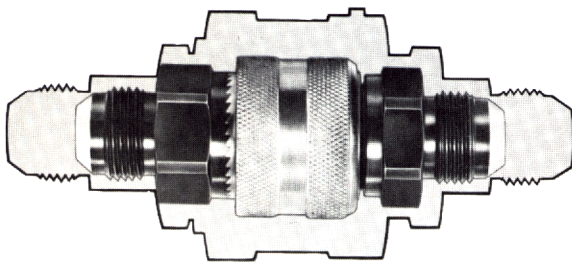




New Light Weight Low Profile Self Sealing Couplings 2000 and 2001 Opposed Poppet Series



Qualified to MIL-C-7413B Type I, Class A and Type II, Class B

Design Data

Application: MIL-C-7413B Type I, Class A—Fuel
MIL-C-7413B Type II, Class B—Lube Oil

Temperature Range: -65°F to +160°F—Type I, Class A
(-54°C to +71°C)
-65°F to +350°F—Type II, Class B
(-54°C to +177°C)

Basic Material: Aluminum

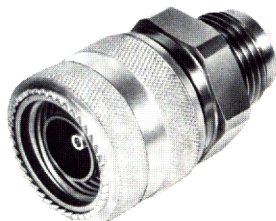
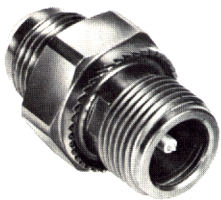
Packings: Fluorocarbon and fluorosilicone

Pressure: Operating—600 psig (41,38 Bar)
Proof—900 psig (62,06 Bar)
Minimum Burst—1800 psig (124,13 Bar)

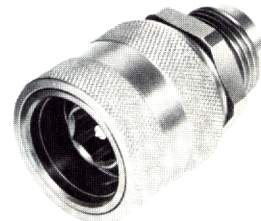
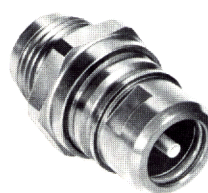
Electrical Resistance: 1 ohm—connected

Aeroquip low profile 2000 and 2001 couplings are used wherever a fast, safe connection is required for fuel and lube oil systems. These new couplings provide lighter weight and smaller envelope size when compared to couplings which meet MIL-C-7413A. The 2000 Series coupling easily connects by rotating the union mechanism and engaging the ratchet teeth. This positive thread action permits connection against line pressures to 60 psi. The opposed poppet valve design provides a smooth,

straight through fluid flow and low pressure drop. The 2001 Series coupling shares the same design characteristics as the 2000 Series coupling. The difference is the connecting mechanism. The 2001 Series is quickly connected and disconnected with a simple push-pull motion. Both Aeroquip low profile coupling series feature electrical continuity and are available with standard MS33656, MS33657, MS33514 and MS33515 fitting end styles.



2000 Series coupling with threaded ratchet lock connection/disconnection.

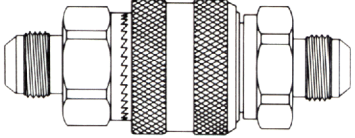


2001 Series coupling with "push-pull" connection/disconnection.

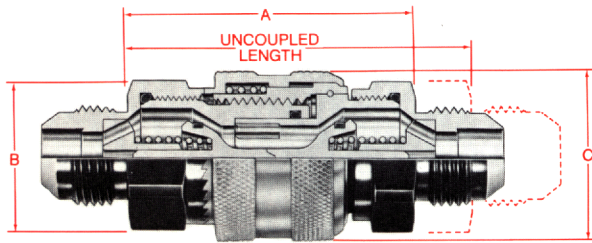
Coupling Styles and Part Numbers

2000 Series

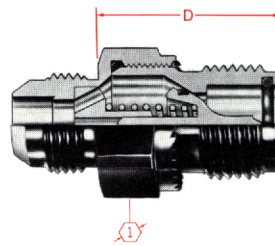
Low profile ratchet lock couplings for fuel and oil applications are available with various end fitting combinations. Select the base part number for coupling halves from the table at right. Complete the part number by adding the letter code (for size) to the base number (example: AE80827E). Couplings for other fluids and end fitting styles are available, write or call for full information. Dust caps and plugs are available for all sizes. Contact Aeroquip when ordering couplings.

COUPLING HALF		Style I	
		MS33656	MS33656
			
Application		Fuel	Lube Oil
Specification		MIL-C-7413B Type I Class A	MIL-C-7413B Type II Class B
PART NUMBER	Coupling Half Bulkhead Mounting	AE80825	AE80831
	Coupling Half Hose Attaching	AE80826	AE80832

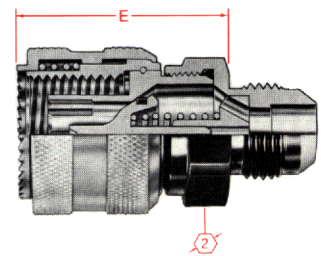
Dimensional Data / 2000 Series



Coupling Assembly

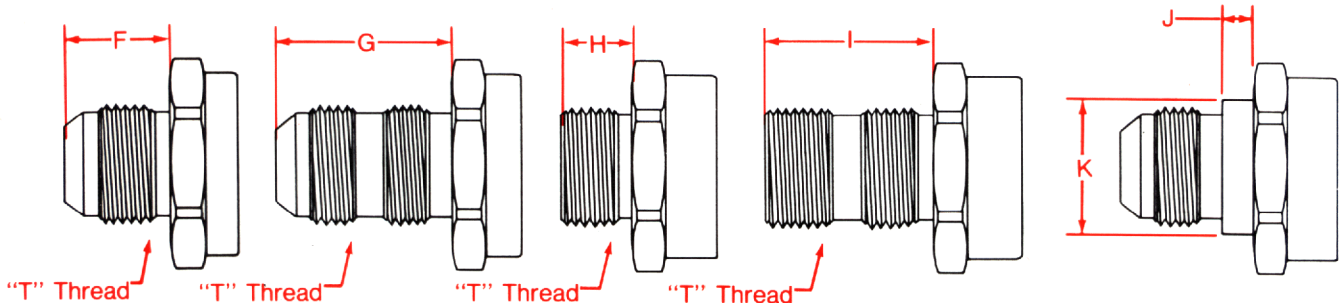


Coupling Half, Bulkhead Mounting



Coupling Half, Hose Attaching

End Fitting Dimensions / 2000 Series



MS33656
AN Flared

MS33657
AN Flared Bulkhead

MS33514
MS Flareless

MS33515
MS Flareless Bulkhead

Alternate detail—Dimensions J and K typical in size code adapter only. Dimension J is included in dimensions A, "uncoupled length", E and D.

Style II		Style III		Style IV	
MS33657	MS33656	MS33514	MS33514	MS33515	MS33514
Fuel	Lube Oil	Fuel	Lube Oil	Fuel	Lube Oil
MIL-C-7413B Type I Class A	MIL-C-7413B Type II Class B	MIL-C-7413B Type I Class A	MIL-C-7413B Type II Class B	MIL-C-7413B Type I Class A	MIL-C-7413B Type II Class B
AE80824	AE80830	AE80828	AE80834	AE80827	AE80833
AE80826	AE80832	AE80829	AE80835	AE80829	AE80835

To determine overall length add the end fitting dimension for each end (dimension F, G, H, or I from below) to the base assembly length (A or "uncoupled" dimension) for

the desired coupling style. For coupling half length, add end fitting dimensions to the basic length (dimension D or E).

Inches and pounds in bold type

Millimeters and kilograms in light type

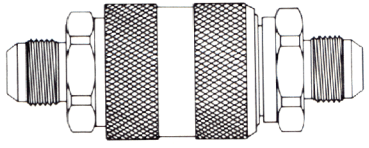
Letter Code:	E	G	H	J	K	M	N	P	
Tube Size:	1/4	3/8	1/2	5/8	3/4	1	1 1/4	1 1/2	
D DIMENSIONS	A	1.60 40,640	1.80 45,720	1.91 48,514	2.275 57,785	2.39 60,706	2.569 65,253	4.070 103,378	3.388 86,055
	Uncoupled Length	2.168 55,067	2.48 62,992	2.637 66,980	3.242 82,347	3.353 85,166	3.856 97,942	5.73 145,542	5.04 128,016
	B	.820 20,828	.970 24,638	1.170 29,718	1.450 36,830	1.520 38,608	1.790 45,466	2.400 60,960	2.400 60,960
	C	.920 23,368	1.000 25,400	1.190 30,226	1.480 37,592	1.640 41,656	1.910 48,514	2.400 60,960	2.400 60,960
	D (Max.)	.985 25,019	1.135 28,829	1.163 29,540	1.468 37,287	1.561 39,649	1.890 48,006	2.663 67,640	2.208 56,083
W EIGHT	Style I	.082 0,037	.114 0,052	.173 0,079	.312 0,142	.414 0,188	.618 0,281	1.195 0,543	1.127 0,512
	Style II	.087 0,039	.122 0,055	.190 0,086	.336 0,153	.450 0,204	.664 0,302	1.234 0,560	1.181 0,536
	Style III	.080 0,036	.110 0,050	.169 0,077	.298 0,135	.394 0,179	.580 0,263	1.146 0,520	1.034 0,469
	Style IV	.085 0,037	.118 0,054	.183 0,083	.318 0,144	.430 0,195	.626 0,284	1.200 0,545	1.120 0,509
D DIMENSIONS	E (Max.)	1.229 31,217	1.397 35,484	1.518 38,557	1.817 46,152	1.835 46,609	2.013 51,130	3.064 77,826	2.609 66,269
	Hex 1	.750 19,050	.875 22,225	1.062 26,975	1.312 33,325	1.375 34,925	1.625 41,275	2.125 53,975	2.125 53,975
	Hex 2	.750 19,050	.875 22,225	1.000 25,400	1.250 31,750	1.375 34,925	1.625 41,275	2.125 53,975	2.125 53,975
	F	.550 13,970	.556 14,122	.657 16,688	.758 19,253	.864 21,946	.911 23,139	.958 24,333	1.083 27,508
	G	1.047 26,594	1.125 28,575	1.281 32,537	1.422 36,119	1.593 40,462	1.593 40,462	1.640 41,656	1.656 42,062
	H	.453 11,506	.469 11,913	.562 14,275	.625 15,875	.688 17,475	.688 17,475	.688 17,475	.688 17,475
	I	.969 24,613	1.015 25,781	1.156 29,362	1.297 32,944	1.406 35,712	1.406 35,712	1.406 35,712	1.406 35,712
	J (Max.)							.465 11,811	.238* 6,045
	K (Max.)							1.880 47,752	2.125* 53,975
	"T" Thread	.4375-20 UNJF-3A	.5625-18 UNJF-3A	.7500-16 UNJF-3A	.8750-14 UNJF-3A	1.0625-12 UNJ-3A	1.3125-12 UNJ-3A	1.6250-12 UNJ-3A	1.8750-12 UNJ-3A

* with MS33514-24 fitting ends only.

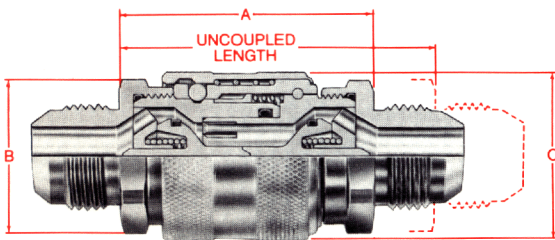
Coupling Styles and Part Numbers

2001 Series

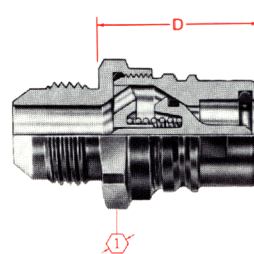
Low profile push-pull couplings for fuel and oil applications are available with various end fitting combinations. Select the base part number for coupling halves from the table at right. Complete part number by adding the letter code (for size) to the base number (example: AE84022E). Couplings for other fluids and end fitting styles are available, write or call for full information. Dust caps and plugs are available for all sizes. Contact Aeroquip when ordering couplings.

COUPLING HALF		Style I	
		MS33656	MS33656
			
Application		Fuel	Lube Oil
Specification		MIL-C-7413B Type I Class A	MIL-C-7413B Type II Class B
PART NUMBER	Coupling Half Bulkhead Mounting	AE84022	AE84023
	Coupling Half Hose Attaching	AE84030	AE84031

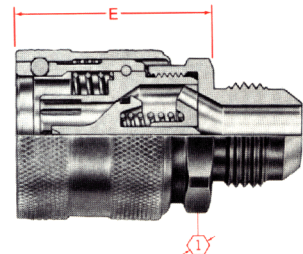
Dimensional Data / 2001 Series



Coupling Assembly

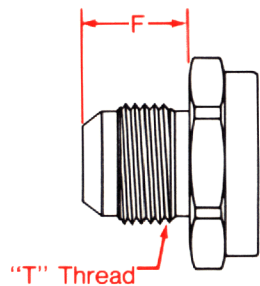


Coupling Half,
Bulkhead Mounting

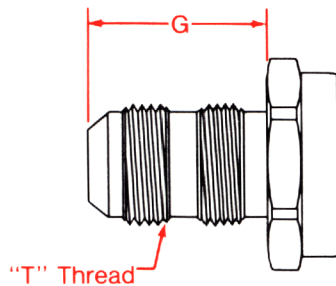


Coupling Half,
Hose Attaching

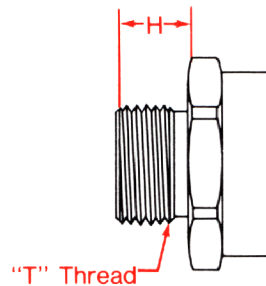
End Fitting Dimensions / 2001 Series



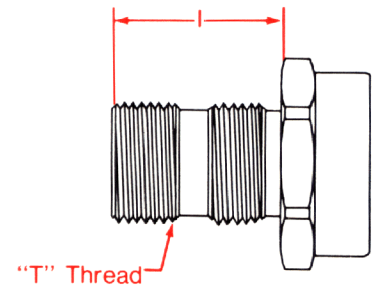
MS33656
AN Flared



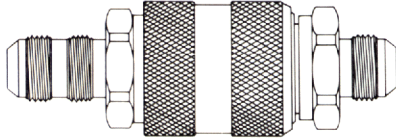
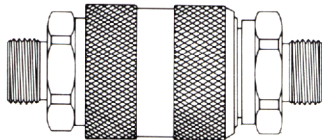
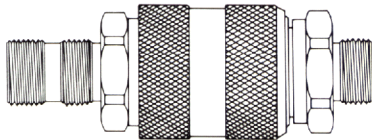
MS33657
AN Flared Bulkhead



MS33514
MS Flareless



MS33515
MS Flareless
Bulkhead

Style II MS33657 MS33656 		Style III MS33514 MS33514 		Style IV MS33515 MS33514 	
Fuel	Lube Oil	Fuel	Lube Oil	Fuel	Lube Oil
MIL-C-7413B Type I Class A	MIL-C-7413B Type II Class B	MIL-C-7413B Type I Class A	MIL-C-7413B Type II Class B	MIL-C-7413B Type I Class A	MIL-C-7413B Type II Class B
AE84024	AE84025	AE84026	AE84027	AE84028	AE84029
AE84030	AE84031	AE84032	AE84033	AE84032	AE84033

To determine overall length add the end fitting dimension for each end (dimension F, G, H, or I from below) to the base assembly length (A or "uncoupled" dimension) for

the desired coupling style. For coupling half length, add end fitting dimensions to the basic length (dimension D or E).

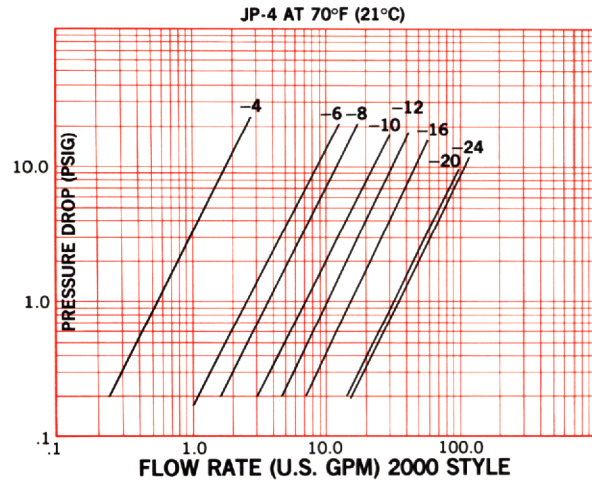
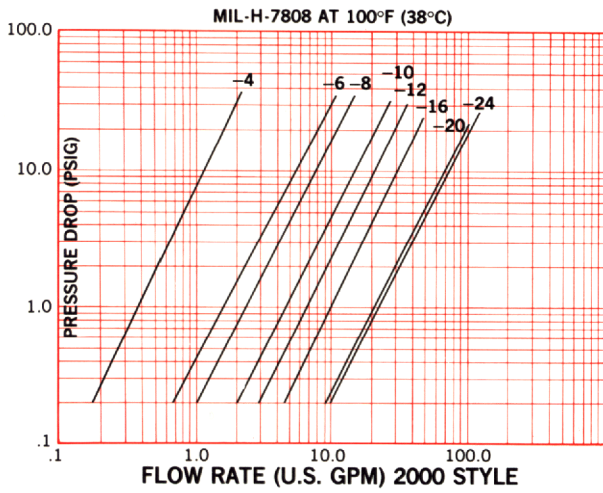
Inches and pounds in bold type

Millimeters and kilograms in light type

Letter Code:	E	G	H	J	K	M	
Tube Size:	1/4	3/8	1/2	5/8	3/4	1	
D I M E N S I O N S	A	1.626 41,300	1.828 46,431	1.936 49,174	2.300 58,420	2.416 61,366	2.592 65,837
	Uncoupled Length	2.26 57,40	2.47 62,74	2.66 67,56	3.30 83,82	3.46 87,88	3.73 94,74
	B (Max.)	.820 20,828	.970 24,638	1.105 28,067	1.380 35,052	1.517 38,532	1.825 46,355
	C (Max.)	1.000 25,4	1.100 27,94	1.320 33,528	1.575 40,005	1.690 42,926	2.000 50,8
	D (Max.)	.983 24,968	1.133 28,778	1.163 29,540	1.468 37,287	1.560 39,624	1.689 42,900
W E I G H T	Style I	.119 0,054	.132 0,060	.210 0,095	.353 0,160	.376 0,170	.814 0,369
	Style II	.130 0,059	.147 0,066	.238 0,108	.394 0,178	.431 0,195	.899 0,408
	Style III	.123 0,055	.136 0,061	.216 0,098	.356 0,161	.375 0,170	.817 0,370
	Style IV	.128 0,058	.144 0,065	.231 0,105	.378 0,172	.413 0,188	.866 0,393
D I M E N S I O N S	E (Max.)	1.271 32,283	1.334 33,884	1.493 37,922	1.823 46,304	1.895 48,133	2.040 51,816
	Hex 1	.750 19,050	.875 22,225	1.000 25,400	1.250 31,750	1.375 34,925	1.625 41,275
	Hex 2	.750 19,050	.875 22,225	1.000 25,400	1.250 31,750	1.375 34,925	1.625 41,275
	F	.550 13,970	.556 14,122	.657 16,688	.758 19,253	.864 21,947	.911 23,139
	G	1.047 26,594	1.125 28,575	1.281 32,537	1.422 36,119	1.593 40,462	1.593 40,462
	H	.453 11,506	.469 11,913	.562 14,275	.625 15,875	.688 17,475	.688 17,475
	I	.969 24,613	1.015 25,781	1.156 29,362	1.297 32,944	1.406 35,712	1.406 35,712
	"T" Thread	.4375-20 UNJF-3A	.5625-18 UNJF-3A	.7500-16 UNJF-3A	.8750-14 UNJF-3A	1.0625-12 UNJ-3A	1.3125-12 UNJ-3A

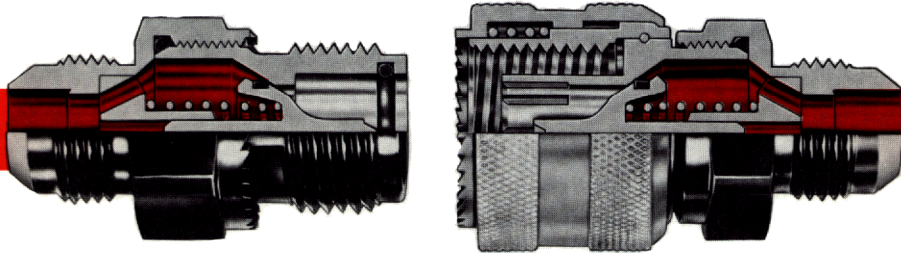
Pressure / Flow Charts

2000 Series Couplings

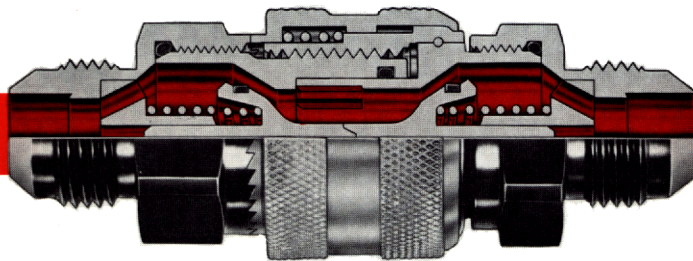


To find the pressure loss (difference between inlet and outlet pressures) for a given coupling size at a given flow rate, 1) find the flow rate at the bottom of

the chart and read up until the line intersects the pressure curve for the coupling size in question, 2) read across to find the pressure loss.



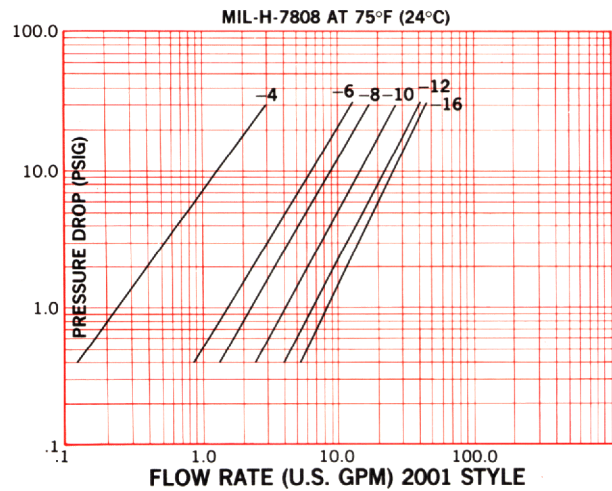
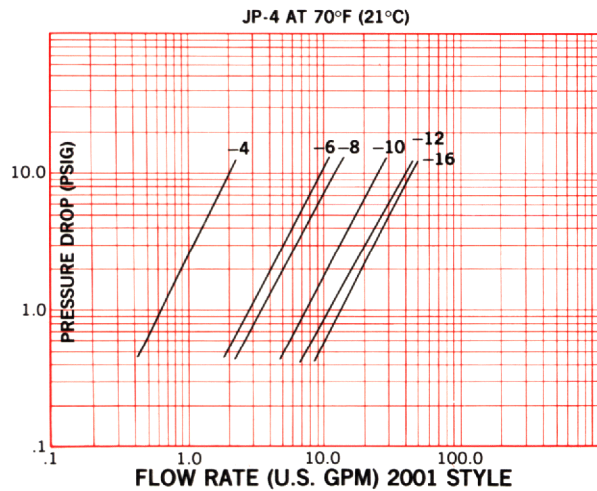
Uncoupled



Coupled

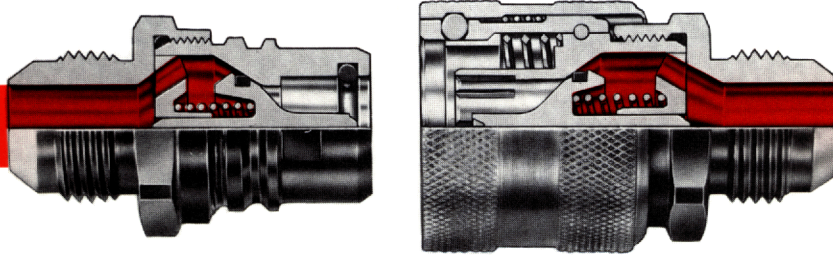
Pressure / Flow Charts

2001 Series Couplings

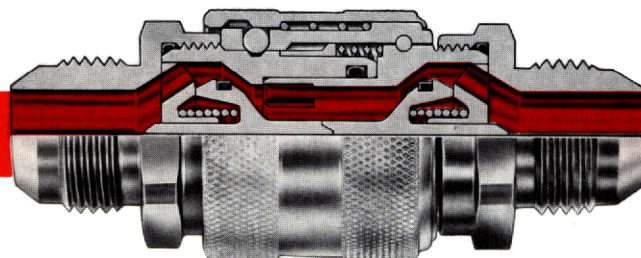


To find the pressure loss (difference between inlet and outlet pressures) for a given coupling size at a given flow rate, 1) find the flow rate at the bottom of

the chart and read up until the line intersects the pressure curve for the coupling size in question, 2) read across to find the pressure loss.

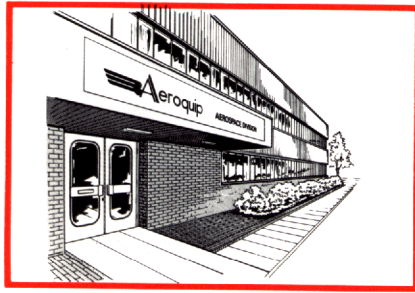


Uncoupled

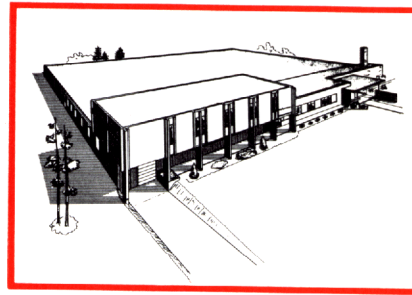


Coupled

Aeroquip Aerospace Division Fluid Conveying Products are manufactured at these worldwide locations:



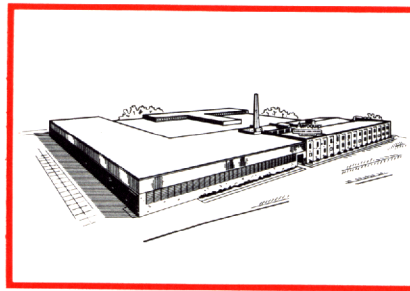
Aeroquip / U.K. Operations
Broadground Road
Lakeside Industrial Estates
Redditch, Worcestershire, England B98 8YS
Telephone: Redditch 527 22555
Telex: 338660



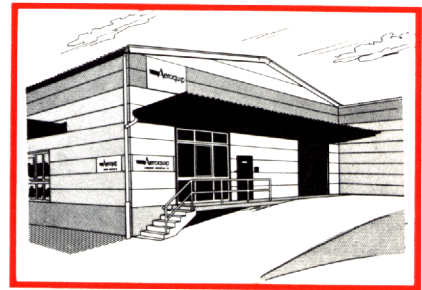
Aeroquip (Canada) Inc.
287 Bridgeland Avenue
Toronto, Ontario M6A 1Z7
Telephone: 416-781-5261
TWX: 610-491-1722, Telex: 06217845
Sub-Plants: Montreal, Quebec; Edmonton,
Alberta; Vancouver, B.C.



Aeroquip S.A. (Aerospace Products)
14, rue du Morvan
SILIC 112-94513
Rungis, Cedex, France
Telephone: 686-22-30 (lignes groupées)
Telex: 200282



AEROQUIP CORPORATION
General Offices
Aerospace Division / Jackson Plant
300 South East Avenue
Jackson, Michigan 49203-1972
Telephone: 517-787-8121
TWX: 810-253-1947, Telex: 223412



Aeroquip G.M.B.H. (Aerospace Division)
Aubinger Weg 49
8039 Puchheim-Bahnhof
Federal Republic of Germany
Telephone: 089-807041
Telex: 05-216777



Aerospace Division
300 S. East Avenue, Jackson, MI 49203-1972
Phone: 517-787-8121, Telex: 223412, Fax: 517-787-5758

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