



**Aerospace**  
**Fluid Conveyance**

Blind-Mate Quick  
Disconnect Couplings  
for Electronics Liquid Cooling



# Blind-Mate Quick Disconnect Couplings for Electronics Liquid Cooling

---

## Eaton's Aeroquip® Brand Technologies Respond to Emerging Avionics Technology

Eaton Aerospace blind-mate quick disconnect couplings are utilized in advanced liquid cooled electronics and avionics thermal management systems. These couplings are used between removeable cold plates and fixed manifolds to allow for quick leak free removal and replacement of both evaporative and liquid flow-through systems. Eaton's miniature blind mate couplings provide unequalled performance in pressure drop, radial misalignment and envelope. In addition, these couplings incorporate a patented integral thermal relief feature that increases the reliability of the system by only being able to operate when the liquid cooling module is disconnected. Eaton's blind mate couplings have been in service for over 20 years on demanding applications like the F-22, ship board radars and has been selected for use on the latest Boeing 787.

## Design Features

- Ultra-low spillage during disconnection
- Minimal air inclusion during connection
- Integral thermal relief valve
- Small envelope
- Lightweight
- Accommodates large radial misalignment
- Optional end configurations available upon request. Contact Eaton Aerospace for information



Eaton Aerospace Blind-Mate Quick Disconnect couplings were chosen for the Lockheed Martin F-22 and F-35's avionics.



Eaton Aerospace Blind-Mate Quick Disconnect couplings were chosen for the Boeing 787's power equipment cooling system.

# Blind-Mate Quick Disconnect Couplings for Electronics Liquid Cooling

## Rack Half

Letter Code	Dash Size	Standard Part Number*	A	B	E
A	2	AE75748A	0.599"	0.436"	0.481"
B	3	AE75748B	0.630"	0.669"	0.688"
E	4	AE75748E	1.125"	0.876"	0.745"
G	6	AE75748G	1.289"	0.981"	1.031"
H	8	AE75748H	1.758"	1.441"	1.238"

\* For PAO Coolant

## Board Half

Letter Code	Dash Size	Standard Part Number*	A	C	D	Allowable Radial Misalignment
A	2	AE75747A	0.599"	0.344"	0.481"	+/- 0.025"
B	3	AE75747B	0.630"	0.346"	0.688"	+/- 0.025"
E	4	AE75747E	1.125"	0.655"	0.745"	+/- 0.025"
G	6	AE75747G	1.289"	0.816"	1.031"	+/- 0.025"
H	8	AE75747H	1.758"	0.827"	1.238"	+/- 0.025"

\* For PAO Coolant

## Temperature Range

-65°F - 160°F (-54°C - 71°C)

## Applicable Fluid

Ethylene Glycol Water

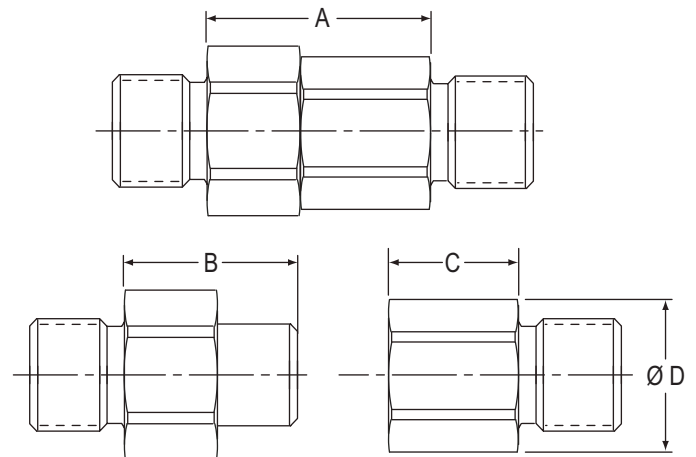
Propylene Glycol Water

Polyalphaolefin (PAO) per MIL-C-87252

3M™ Novec™ Engineered Fluid HFE-7100

3M™ PF-5060

A SIZE  
(TYPICAL DIMENSIONS)



**Eaton Aviation Products Corporation  
Fluid Conveyance**  
3020 Empire Ave.  
Burbank, California 91504  
Phone: (818) 842-2131  
Fax: (818) 842-6042  
www.aerospace.eaton.com

**Eaton Aviation Corporation  
Fluid Conveyance**  
2501 Dallas St.  
Aurora, Colorado 80010  
Phone: (303) 240-5200  
Fax: (303) 360-8965

**Eaton Aerospace  
Fluid Conveyance**  
305 Fentress Blvd.  
Daytona Beach, Florida 32114  
Phone: (386) 253-0628

**Eaton Corporation  
Fluid Conveyance**  
Rt. 2, Box 361  
Meadowbrook Road  
Eastanollee, Georgia 30538  
Phone: (706) 779-3351  
Fax: (706) 779-2638

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

**Eaton Corporation  
Fluid Conveyance**  
2500 W. Argyle St.  
P.O. Box 1845  
Jackson, Michigan 49202-1845  
Phone: (517) 787-8121  
Fax: (517) 789-4716

**Eaton Aerospace  
Fluid Conveyance**  
11642 Old Baltimore Pike  
Beltsville, Maryland 20705  
Phone: (301) 937-4010

**Eaton Aerospace  
Fluid Conveyance**  
1920 Route 96  
Phelps, New York 15432  
Phone: (315) 548-9501

**Eaton Aerospace  
Fluid Conveyance**  
15 Pioneer Ave.  
Warwick, RI 02888  
Phone: (401) 781-4700

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

**Eaton Aviation SAS  
Fluid Conveyance**  
30 bix, rue du Vieil Abreuveoir  
78100 Germain-en-laye  
France  
Phone: +33 (130) 87 04 04  
Fax: +33 (130) 87 03 84

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

**Eaton Aerospace  
Fluid Conveyance**  
2 Rue Lavoistier BP 54 78310  
Coignieres, France  
Phone: +33 1-30-69-3000

**Eaton Aerospace  
Fluid Conveyance**  
Lot 512, Jalan Delima, Batamindo  
Industrial Park  
Batam 29433, Indonesia  
Phone: (62) 611823

**Eaton LTD  
Fluid Conveyance**  
Posttack 1026  
Carl -Benz-Strasse 9  
D-82205 Gilching  
Germany  
Phone: (49) 810-575-0  
Fax: (49) 810-575-27

**Eaton Aerospace  
Fluid Conveyance**  
28 Ayer Rajah Crescent, # 08-01  
Singapore 139959  
Phone: (65) 68749110



©2006 Eaton Corporation  
All Rights Reserved  
Patent Number 5, 215, 122  
3M™ Novec™ and 3M™ are registered trademarks  
of 3M Company  
Printed In USA  
Copying or Editing is Forbidden  
Specifications subject to change without notice  
Form No. TF100-33A (supersedes AA120A)  
February 2006