

ADB Series (Aluminium) Flat Face/Dry Break

Thermal Management Application



Danfoss Hansen Aluminium Flat Face ADB coupling is a flat face/dry break coupling used for cooling systems in electric applications with circulating water and antifreeze fluids. This coupling is providing an enhanced solution for preventing spillage of cooling agent which can cause technical failures, system shutdowns, and difficult clean-ups.

Product Features

- Aluminium construction extends life for safer operations and reduced maintenance.
- Enhances operations in demanding applications with heat and vibration compared to plastic couplings.
- Up to 62% higher flow than ISO 16028 requirements to improve efficiency.
- 4-times safety factor at maximum operating pressure of 25 bar.
- Options are available for railway applications with an enhanced version for vibration resistance tested according to EN 61373.
- Pre-guided system that helps users pre-position the coupling in difficult environments, making connection easy and reducing maintenance time.
- Full range of optional seals, end connections and sizes, helping manufacturers benefit from the design in any type of application.

Physical Characteristics

ADB Model	ISO size	Body size	Nominal Flow Diameter	Max. Operating Pressure	Rated* Flow	Air Inclusion	Fluid Loss	Force to Connect		
-	(mm)	(in)	(mm)	(bar)	(psi)	(lpm)	ml-cc.	N	lbf	
A2DB	6.3	1/4"	5.9	25	360	25	0.002	0.001	77	17
A3DB	10	3/8"	9	25	360	80	0.012	0.03	103	23
A4DB	12.5	1/2"	11.5	25	360	110	0.012	0.025	110	25
A6DB	19	3/4"	15	25	360	150	0.03	0.05	193	43
A8DB	25	1"	18.5	25	360	290	0.15	0.13	180	40

* Indicated values refer to a 1 bar / 14.5 psi pressure drop with water values obtained by projection of pressure drops measured with Oil

Applications & Markets

- Electrical cooling applications
- Renewable energy
- Railway
- Processing industry
- Data centers

Seal Elastomer Data*

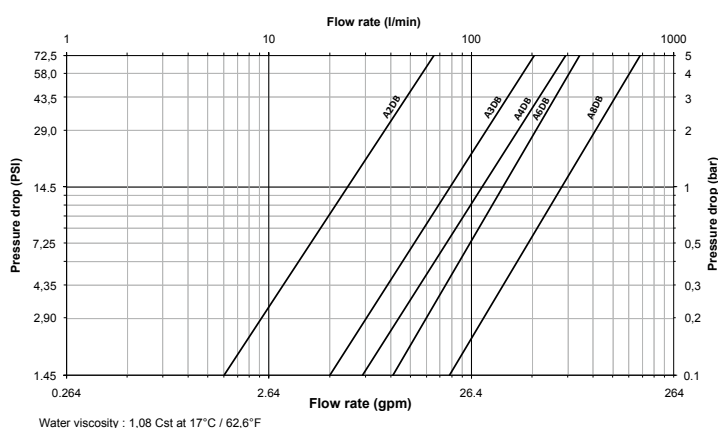
Seal Elastomer	Max. Operation Temperature Range
EPDM (Ethylene-Propylene)	-40°C +150°C / -40°F +302°F

*Other sealing material could be available, contact Danfoss technical support for further information on sealing availability.

**For reference only, based on Danfoss recommended temperatures.

Contact Danfoss technical support for further information on fluid compatibility

Flow Data



Plug (Male) Relive Valve Option*

Part/Order Number	ADB Model	Body Size	Relive Pressure	Thread Size
-	-	(in)	(bar)	BSPP female BSPP male
12027776	A4DBPS52	1/2'	9±3	- 1/2'
12016893	A6DBPS51	3/4'	9±3	3/4' -
12016878	A8DBPS51	1'	9±3	1' -

* On customer request

- Integrated relive valve into the front face of the Plug (Male).
- The valve opens at the given relive pressure in disconnected state.
- Applicable with all standard Sockets (Female).
- Flow rates relive valve < 1l/min.
- Seal Elastomer EPDM.
- Very low relive valve spillage.

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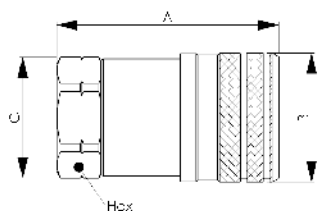


Figure 1

End-connection

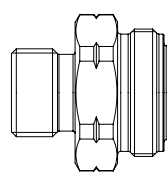


Figure 2

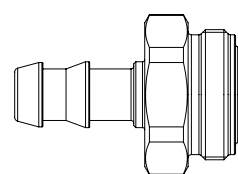


Figure 3

Sockets (Female)

Part/Order Number	Fig.	Body Size (in)	Thread Size			Dimensions			Hex1 (in)	A (mm)	B (mm)	C (mm)	Hex1 (mm)	Weight (lbs)	Weight (g)
			BSPP female	BSPP male	Hosebarb	A (in)	B (in)	C (in)							
A2DBS25BS192	1	1/4'	1/4'	-	-	1.84	1.06	0.96	0.87	46.7	26.8	24.5	22	0,104	47
A2DBS25MBS192	2	1/4'	-	1/4'	-	1.84	1.06	0.96	0.87	46.7	26.8	24.5	22	0,106	48
A2DBS25HT192	3	1/4'	-	-	1/4'	1.84	1.06	0.96	0.87	46.7	26.8	24.5	22	0,106	48
A2DBS37HT192	3	1/4'	-	-	3/8'	1.84	1.06	0.96	0.87	46.7	26.8	24.5	22	0,106	48
A3DBS37BS192	1	3/8'	3/8'	-	-	2.42	1.26	1.16	1.06	61.5	32	29.5	27	0,192	87
A3DBS37MBS192	2	3/8'	-	3/8'	-	2.42	1.26	1.16	1.06	61.5	32	29.5	27	0,192	87
A3DBS37HT192	3	3/8'	-	-	3/8'	2.42	1.26	1.16	1.06	61.5	32	29.5	27	0,190	86
A3DBS50BS192	1	3/8'	1/2'	-	-	2.42	1.26	1.16	1.06	61.5	32	29.5	27	0,192	87
A3DBS50MBS192	2	3/8'	-	1/2'	-	2.42	1.26	1.16	1.06	61.5	32	29.5	27	0,205	93
A3DBS50HT192	3	3/8'	-	-	1/2'	2.42	1.26	1.16	1.06	61.5	32	29.5	27	0,201	91
A4DBS50BS192	1	1/2'	1/2'	-	-	2.49	1.49	1.4	1.26	63.3	37.9	35.5	32	0,284	129
A6DBS75BS192	1	3/4'	3/4'	-	-	3.48	1.89	1.83	1.61	88.5	48	46.5	41	0,613	278
A8DBS100BS192	1	1'	1'	-	-	3.70	2.26	2.16	1.97	93.9	57.4	54.9	50	0,939	426

*Alternative end connections available upon request.

To obtain connected length of coupling, add dimensions A (Fig. 1) and G (Fig. 4) together.

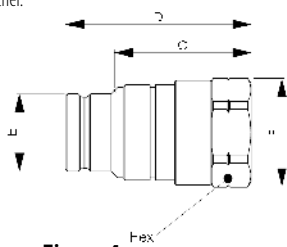


Figure 4

End-connection

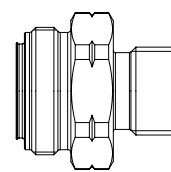


Figure 5

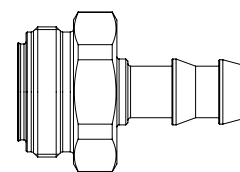


Figure 6

Plugs (Male)

Part/Order Number	Fig.	Body Size (in)	Thread Size			Dimensions				Hex1 (in)	D (mm)	E (mm)	F (mm)	G (mm)	Hex1 (mm)	Weight (lbs)	Weight (g)
			BSPP female	BSPP male	Hosebarb	D (in)	E (in)	F (in)	G (in)								
A2DBP25BS192	4	1/4'	1/4'	-	-	1.71	0.65	0.96	1.26	0.87	43.5	16.5	24.5	32.1	22	0,062	28
A2DBP25MBS192	5	1/4'	-	1/4'	-	1.71	0.65	0.96	1.26	0.87	43.5	16.5	24.5	32.1	22	0,064	29
A2DBP25HT192	6	1/4'	-	-	1/4'	1.71	0.65	0.96	1.26	0.87	43.5	16.5	24.5	32.1	22	0,064	29
A2DBP37HT192	6	1/4'	-	-	3/8'	1.71	0.65	0.96	1.26	0.87	43.5	16.5	24.5	32.1	22	0,064	29
A3DBP37BS192	4	3/8'	3/8'	-	-	2.25	0.77	1.16	1.45	1.06	57.1	19.7	29.5	39.5	27	0,117	53
A3DBP37MBS192	5	3/8'	-	3/8'	-	2.25	0.77	1.16	1.45	1.06	57.1	19.7	29.5	39.5	27	0,117	53
A3DBP37HT192	6	3/8'	-	-	3/8"	2.25	0.77	1.16	1.45	1.06	57.1	19.7	29.5	39.5	27	0,115	52
A3DBP50BS192	4	3/8'	1/2'	-	-	2.25	0.77	1.16	1.45	1.06	57.1	19.7	29.5	39.5	27	0,117	53
A3DBP50MBS192	5	3/8'	-	1/2'	-	2.25	0.77	1.16	1.45	1.06	57.1	19.7	29.5	39.5	27	0,130	59
A3DBP50HT192	6	3/8'	-	-	1/2'	2.25	0.77	1.16	1.45	1.06	57.1	19.7	29.5	39.5	27	0,126	57
A4DBP50BS192	4	1/2'	1/2'	-	-	2.39	0.99	1.4	1.59	1.26	60.6	25.2	35.5	40.4	32	0,194	88
A6DBP75BS192	4	3/4'	3/4'	-	-	3.28	1.29	1.83	2.27	1.61	83.4	32.8	46.5	57.7	41	0,375	170
A8DBP100BS192	4	1'	1'	-	-	3.52	1.59	2.16	2.44	1.97	89.4	40.4	54.9	62	50	0,591	268

*Alternative end connections available upon request.

To obtain connected length of coupling, add dimensions A (Fig. 1) and G (Fig. 4) together.

Color Coding Ring Option*

Body Size (in)	ISO Size (mm)	Size	Socket/Female Ring Part/Order Number**				Plug/Male Ring Part/Order Number**				Tool Part/Order Number	Tool & Rings Kit Part/Order Number***
			Blue	Red	Yellow	Green	Blue	Red	Yellow	Green		
1/2	12.5	12FF	CR12FFSLB	CR12FFSRD	CR12FFSYL	CR12FFSDG	CR12FFPLB	CR12FFPRD	CR12FFPYL	CR12FFPDG	CR12FFSP93	CRKIT12FF

For color coded rings TPE material is used that offers excellent flexibility which allows a very good shock resistance in demanding applications.

Good thermal, chemical and weather resistance provides a great fit on the coupling and a extended life time in toughest conditions.

The color coded rings are easy to install by using the referenced tools. Please refer to the user guide on danfoss/qdc.com

* For requests on alternative colors or installation instructions, please contact your Danfoss sales representative.

** Orders must be in multiples of 10 pcs.

*** The kit consists of a tool plus 10 socket rings and 10 plug rings of each color.