Data sheet



Hermetic filter drier

DMSC / DMT

Designed for CO_2 with applications requiring the highest moisture capacity.

Description

The filter drier is a vital element of the system's reliability as well as its lifespan. When you choose Danfoss filter driers, you are guaranteed a product that has been developed specifically for the challenges encountered in Air Conditioning and Refrigeration Systems.
All ELIMINATOR® driers have a solid core with binding material held to an absolute minimum.
For CO_2 applications Danfoss offer one type of ELIMINATOR® core.
Type DMSC and DMT driers have a core composition of 100% molecular sieve.
ELIMINATOR® type DMSC and DMT driers are designed for applications requiring the highest moisture capacity.

Features & benefits

- The Core is made of 100% 3Å molecular sieve core
  - High drying capacity minimizing the risk of acid formation (hydrolysis)
  - Recommended for use with R744 (CO_2) refrigerants
  - Will not deplete oil additives
- The Shell has lowest leak rate
  - DMSC for Sub - critical application; supports PS/MWP up to 52 bar/754 psig
  - DMT for Trans - critical application; supports PS/MWP up to 140 bar/2030 psig
  - DMSC, available with solder (copper)
  - DMT, available with solder (copper plated) and flare connections (standard, flare O - ring and NPT)
  - Corrosion resistant powder - painted finish. Special coating for marine applications available upon request
  - Allows installation with any orientation provided the arrow is in the flow direction
  - DMSC, available in sizes from 03 to 08 cubic inches
  - DMT, available in sizes from 08 to 13 cubic inches
- The Filter is manufactured according to IATF 16949:2016
  - 25 µm (0.001 in) filter provides high retention with minimal pressure drop
  - Black paint gives a better look after brazing installation
  - No residual moisture when delivered
  - Thermally stable up to 120 °C (250 °F)

Applications

- Food retail
- Transport refrigeration
- Cold rooms

Ordering

Product code numbers

Type DMSC and DMT

Figure: DMSC

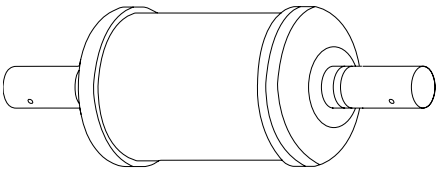
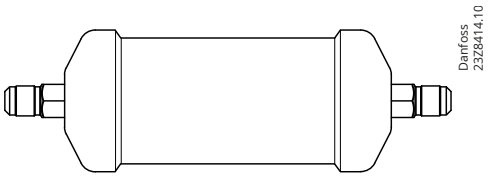


Table: DMSC, Solder

Type	Size	Connection		Multi - pack	
		[in]	[mm]	Qty.	Code no.
DMSC 032s / 6 mm	03 cu.in.	–	6	24	023Z8501
DMSC 032s	03 cu.in.	¼	–	24	023Z8512
DMSC 033s	03 cu.in.	⅜	–	24	023Z8500
DMSC 052s / 6 mm	05 cu.in.	–	6	24	023Z8504
DMSC 053s / 10 mm	05 cu.in.	–	10	24	023Z8502
DMSC 053s	05 cu.in.	⅜	–	24	023Z8503
DMSC 083s / 10 mm	08 cu.in.	–	10	12	023Z8505
DMSC 084s / 12 mm	08 cu.in.	–	12	12	023Z8506
DMSC 084s	08 cu.in.	½	–	12	023Z8513

Figure: DMT



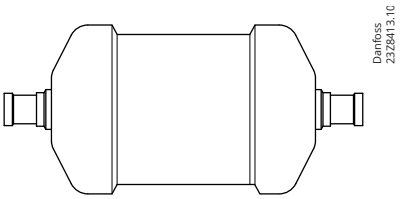


Table: DMT, flare

Type	Connection	Industrial pack	
	[in]	Qty.	Code no.
DMT 082	¼	12	023Z8407
DMT 083	⅜	12	023Z8406
DMT 132 NPT	¼	8	023Z8410
DMT 133	⅜	8	023Z8405

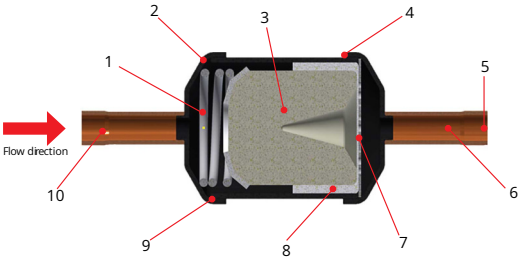
Table: DMT, solder

Type	Connection	Industrial pack		Multi - pack
	[in]	Qty.	Code no.	Code no.
DMT 082s	¼	12	023Z8408	023Z8415
DMT 083s	⅜	12	023Z8409	023Z8416
DMT 084s	½	12	023Z8412	023Z8417
DMT 133s	⅜	8	023Z8402	023Z8418
DMT 134s	½	8	023Z8411	023Z8419

Functions

DMSC filter

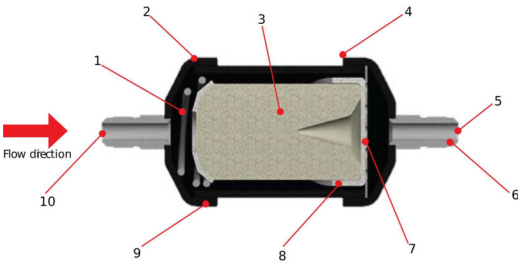
Figure: Solder connection (Copper)



1	Spring to keep core in fixed position
2	Powder painted surface supports corrosion classification C5, 1440 hrs
3	ELIMINATOR® core for highest possible drying capacity
4	Steel housing supports more pressure, high steel thickness on the shell, MWP = 52 bar
5	Easy to remove pull - off cap for sweat
6	Solder connector sizes available for inches and millimetric versions
7	Perforated plate to keep internal parts in position
8	High dirt retention, down to 25 µm particles, with minimal pressure drop
9	Black, high quality and durable coating offers a cleaner appearance after brazing
10	Pure copper connector with high thickness and extended length

DMT filter

Figure: Flare connection (Steel)



1	Spring to keep core in fixed position
2	Corrosion resistant powder - painted finish. Special coating for marine applications available upon request
3	ELIMINATOR® core for highest possible drying capacity
4	Steel housing supports more pressure, high steel thickness on the shell, MWP = 140 bar
5	Easy to remove pull - off cap for sweat or twist-off cap for flare, NPT, FO connectors
6	Solder connector sizes available for inches and millimetric versions
7	Perforated plate to keep internal parts in position
8	High dirt retention, down to 25 µm particles, with minimal pressure drop
9	Black, high quality and durable coating offers a cleaner appearance after brazing
10	Available designs for Steel version (Flare, FO, NPT) and Solder Cu - plated connector

Product details

General data

Table: DMSC and DMT

Characteristic	DMSC	DMT
Compatible refrigerant	CO_2 (R744)	
Refrigerant oil	POE, PVE, all mineral oils, ester oils and supports oil free	
Application	Sub-critical	Trans - critical
Complies with PED	Fluid Group II, Category Art 4, par. 3	
Max. working pressure PS/MWP	52 bar/754 psig	140 bar/2030 psig
Temperature range	-30 – 17 °C/-22 – 63 °F	-40 – 100 °C/-40 – 212 °F
Environmental transport/storage temperature and humidity	Max. 70 °C/160 °F, Humidity: <100% RH	
Material of construction	Body: steel Connector: copper	Body: steel Connector: steel
Core type	DM (100% molecular sieve)	
Drier capacities	03, 05 and 08 cu.in.	08 and 13 cu.in.
Connection size	¼, ⅜, ½ 6 mm, 10 mm, 12 mm	¼, ⅜, ½
Connection type	ODF Extended, extra wall thickness	ODF, Flare, Flare O - ring, NPT
Connectors material	Copper	Steel, Cu - plated
Country of origin	Mexico	

Dimensions

Figure: DMSC Solder Straight Connector

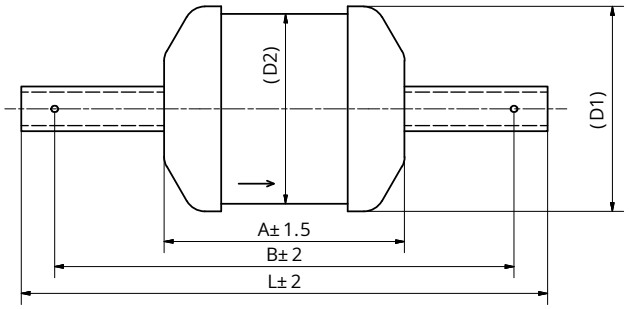


Figure: DMSC Solder Expanded Connector

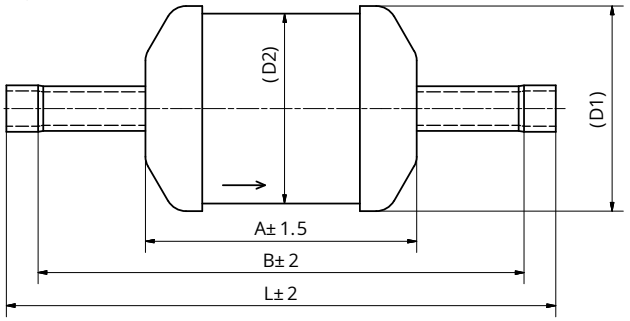


Table: DMSC Solder Expanded Connector

Code no.	Description	Size	L	B	A	D1	D2	Connector	DWG	Net weight [kg]
023Z8500	DMSC 033s	03 cu.in.	149	87	68	58	54	inch	1	0.4
023Z8501	DMSC 032s / 6 mm	03 cu.in.	145	84	68	58	54	mm	1	0.4
023Z8512	DMSC 032s	03 cu.in.	147	84	68	58	54	inch	1	0.4
023Z8502	DMSC 053s / 10 mm	05 cu.in.	156	96	77	58	54	mm	2	0.5
023Z8503	DMSC 053s	05 cu.in.	158	96	77	58	54	inch	1	0.5
023Z8504	DMSC 052s / 6 mm	05 cu.in.	154	93	77	58	54	mm	1	0.5
023Z8505	DMSC 083s / 10 mm	08 cu.in.	182	122	103	58	54	mm	2	0.6
023Z8506	DMSC 084s / 12 mm	08 cu.in.	182	124	103	58	54	mm	1	0.6
023Z8513	DMSC 084s	08 cu.in.	182	124	103	58	54	inch	1	0.6

Figure: Flare connections

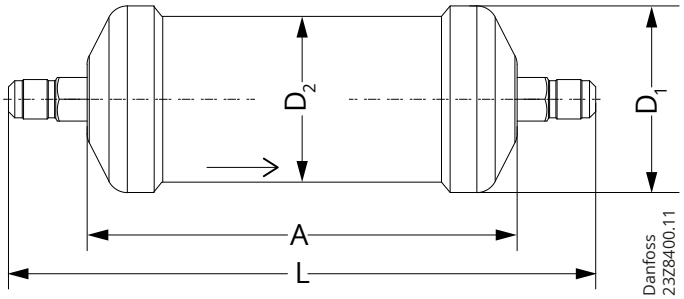


Table: Flare connections

Type	A	L	D_1	D_2	Net weight [kg]
DMT 082	106.0	150.0	68.0	60.0	0.8
DMT 083	106.0	163.0	68.0	60.0	0.9
DMT 132 NPT	156.0	212.0	68.0	60.0	1.2
DMT 133	156.0	213.0	68.0	60.0	1.3

Figure: Solder connection (cu - plated steel)

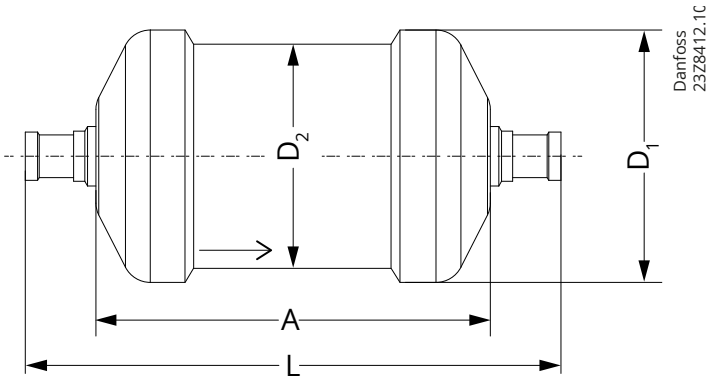


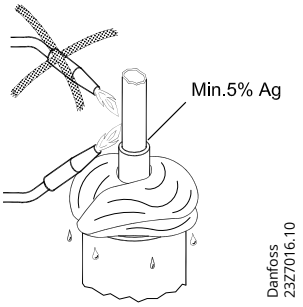
Table: Solder connection (cu - plated steel)

Type	A	L	D_1	D_2	Net weight [kg]
DMT 082s	106.0	138.0	68.0	60.0	0.8
DMT 083s	106.0	144.0	68.0	60.0	0.8
DMT 084s	106.0	148.0	68.0	60.0	0.9
DMT 133s	156.0	194.0	68.0	60.0	1.2
DMT 134s	156.0	198.0	68.0	60.0	1.3

Installation

Filter Driers – Installation Warning

Figure: Installation Warning



NOTE:

Keep flames away from body

- When soldering, only apply heat to the connection with the flame pointed away from the filter drier
- Excess heating of the paint may damage it
- When soldering is important to use a wet rag
- Use wet wrap when installing
- Braze the joints
- Let them cool down
- Clean the welding area after the installation (remove remaining flux with a brush)
- This is an important operation and needs to be done with great care to remove all remaining flux
- Paint / Anti - corrosive needs to cover all open steel parts, areas where the black original paint has been burnt due to brazing and at least 3 cm approx of the copper tube
- Paint the joints twice

Certificates, declarations and approvals

The list contains all certificates, declarations, and approvals for this product type. Individual code number may have some or all of these approvals, and certain local approvals may not appear on the list.

When you click on the link you will be directed to the latest version of the 'Declaration of Conformity'. Products developed and sold before this date of issue conform to the directives/standards in force at the time of their sale.

Approval type	Title	Certification body	Approval topic
Pressure Safety Certificate	LLC CDC EURO-TYSK UA.TR.089.1015.07-22	LLC CDC EURO TYSK - Ukraine	Pressure
UA Declaration	Danfoss UA 2023-01-10 Filters PL01	Danfoss	Pressure
Mechanical Safety Certificate	UL SA6398 19980330 US-CA	UL - Underwriters Laboratories inc.	
Mechanical Safety Certificate	UL 6398 20141101	UL - Underwriters Laboratories inc.	
Manufacturer's Declaration	Danfoss MD 023U9601.AI	Danfoss	Pressure
Export Control Declaration	Filter Driers 023U and 023Z	Danfoss	

Contact details

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