ENGINEERING
TOMORROW

Data Sheet

Hermetic burn-out filter drier
Type **DAS**

Used in the suction line to clean up refrigeration and air conditioning systems

Hermetic burn-out filter driers type DAS are used in the suction line to clean up refrigeration and air conditioning systems after a compressor motor burn-out.

The solid core, which is composed of 70% activated alumina and 30% Molecular Sieve, adsorbs harmful acids as well as moisture.

Available with flare and solder (pure copper) connections.

Features

The Core type DAS

- Solid core with 70% activated alumina and 30% Molecular Sieve for adsorption of acid and moisture
- Recommended for use with HFO, HC, HFC and HCFC refrigerants

The Shell

- PED approved for PS 35 bar
- Available with flare and solder (pure copper) connections
- Corrosion resistant powder-painted finish
- Allows installation with any orientation provided the flow is in the arrow direction
- 2 Schrader access valves to measure pressure drop across the drier
- Available in sizes 8 – 60 cubic inches

The Filter

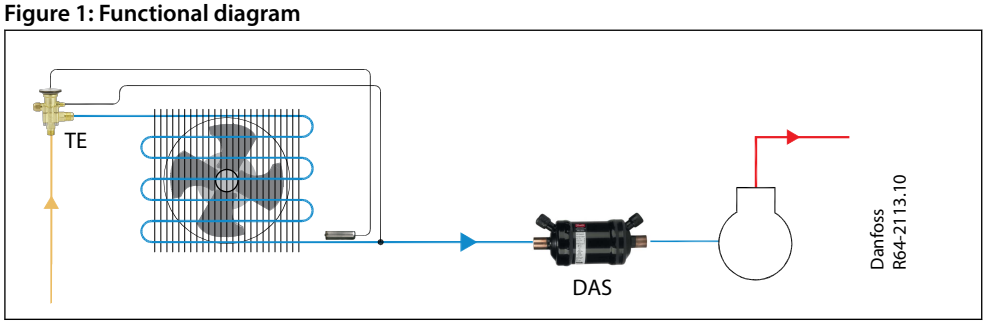
- 120 mesh wire mesh provides solid particle retention with minimal pressure drop

Functions

Hermetic filter driers protect refrigeration and air-conditioning systems from moisture, acids, and solid particles.

By adsorbing harmful acids after a compressor motor damage, the DAS hermetic burn-out filter drier protects the new compressor against premature failure.

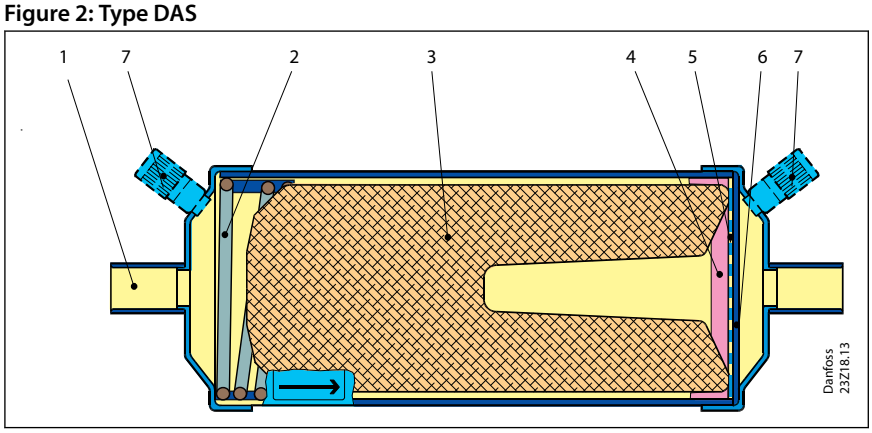
Figure 1: Functional diagram



Product specification

Design

Figure 2: Type DAS



1	Inlet
2	Spring
3	Solid core
4	Polyester ma
5	Metal mesh
6	Perforated plate
7	Schrader valve

The large diameter of the hermetic burn-out filter drier means that flow velocity is suitably low and the pressure drop minimal.

Powder formation is eliminated because the solid core grains are bonded and cannot move against each other.

Technical data and capacities

Figure 3: Flare connection

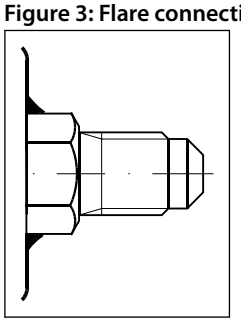


Figure 4: Solder connection (pure copper)

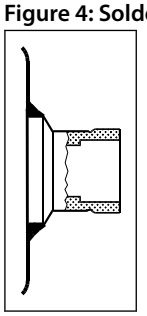


Table 1: Type DAS

Type	Rated capacity, Q_n [1]			Acid capacity[2]	Max.Working Pressure PS
	R22/R407C/R410A	R134a	R404A/R507		
	[kW]	[kW]	[kW]	[g]	[bar]
DAS 083	6	3.5	4.5	3.8	35
DAS 084	10	5.5	8	3.8	35
DAS 085	14.5	9	12.5	3.8	35
DAS 086	19	11.5	16.5	3.8	35
DAS 164	10.5	6	8.5	8.6	35
DAS 165	15	9.5	13	8.6	35
DAS 166	20	12	17	8.6	35
DAS 167	22	13.5	19	8.6	35
DAS 305	18	11	15	18.2	35
DAS 306	22	14	19	18.2	35
DAS 307	26	16	22	18.2	35
DAS 309	31	20	27	18.2	35

Type	Rated capacity, Q_n [1]			Acid capacity[2]	Max.Working Pressure PS
	R22/R407C/R410A	R134a	R404A/R507		
	[kW]	[kW]	[kW]	[g]	[bar]
DAS 417	30	18	25	24.3	35
DAS 419	35	22	30	24.3	35
DAS 607	20	12	17	36.5	35

[1] Rated capacity is stated at: evaporating temperature t_e = 4 °C pressure drop Δp = 0.21 bar
[2] Adsorption capacity of oleic acid at 0.05 TAN (Total Acid Number).

Temperature range: -40 – 70 °C

Selection

Capacities for other temperatures than 4 °C are calculated by use of correction factors. Divide your actual evaporator capacity with the correction factor given for your actual evaporating temperature.

Look up the capacity table for the necessary rated capacity:

Q_e/F_e	Q_N
Q_e	Actual evaporator capacity
Q_n	Nominal capacity
F_e	Correction factor

Table 2: Correction factors F_e for evaporating temperatures [°C]

[°C]	4	0	-5	-10	-15	-20	-25	-30	-35	-40
F_e	1	0.9	0.75	0.6	0.5	0.4	0.35	0.25	0.2	0.15

Example

To select a hermetic burn-out filter drier for a R22 plant with an evaporator capacity at 8.5 kW at -20 °C you may use a burn-out
filter drier with a rated capacity of 8.5/0.4 = 21.25 kW or bigger.
For example DAS 306.

Identification

Table 3: Type codes

Type	Codes	Description
Filter drier	D	Drier
Solid core	A	Burn-out, 70% activated alumina / 30% Molecular Sieves
Application	S	Suction line
Size (volume)	8	8 in^3
	16	16 in^3
	30	30 in^3
	41	41 in^3
	60	60 in^3
Connection (filter connection in ⅛ of an inch increments)	3	⅜ in. / 10 mm
	4	½ in. / 12 mm
	5	⅝ in. / 16 mm
	6	¾ in. / 18 (19) mm
	7	⅞ in. / 22 mm
	9	1⅛ in. / 28 mm
Connection type	(blank)	Flare connection
	s	Solder connection (pure copper)

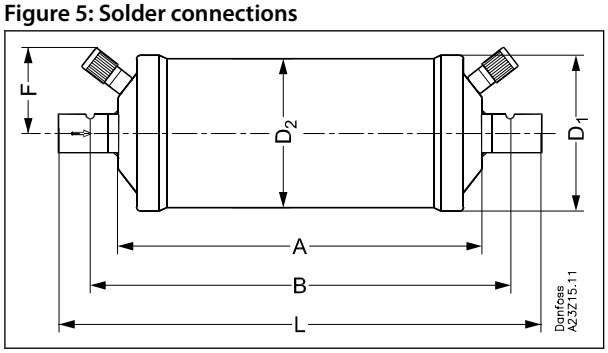
Type	Codes	Description	
Access valves		Inlet:	Outlet:
	(blank)	No access valves	No access valves
	V	Schrader valve	No access valves
	VV	Schrader valve	Schrader valve

Example for type codes

D	Filter drier
A	Solid core
S	Application
08	Size (volume)
3	Connection (filter connection in ⅛ of an inch increments)
s	Connection type
vv	Access valves

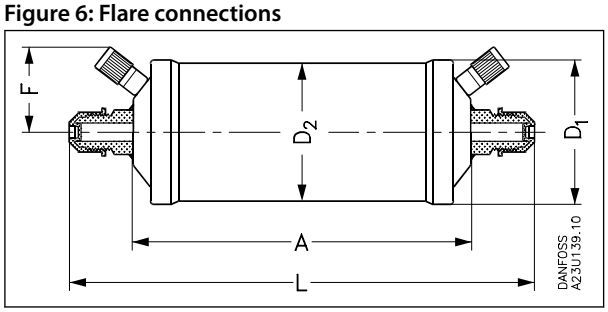
Dimensions and weights

Figure 5: Solder connections



Type	A	B	L	D1	D2	F	Net weight
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[Kg]
DAS 083sVV	101	120	139	58	54	40	0.47
DAS 084sVV	101	122	143	58	54	40	0.5
DAS 085sVV	101	125	149	58	54	40	0.5
DAS 086sVV	101	131	161	58	54	40	0.5
DAS 164sVV	110	131	152	80	76	50	0.83
DAS 165sVV	110	134	158	80	76	50	0.84
DAS 166sVV	110	140	170	80	76	50	0.84
DAS 167sVV	110	141	172	80	76	50	0.84
DAS 169sVV	110	142	173	80	76	50	1.9
DAS 305sVV	186	210	234	80	76	50	1.31
DAS 306sVV	186	216	246	80	76	50	1.31
DAS 307sVV	186	217	248	80	76	50	1.33
DAS 309sVV	186	218	249	80	76	50	1.35
DAS 417sVV	187	218	249	93	89	55	2.08
DAS 419sVV	187	219	250	93	89	55	2.08
DAS 607sVV	337	363	399	80	76	50	2.39
DAS 609sVV	337	358	400	80	76	50	2.4

Figure 6: Flare connections



Type	A	L	D1	D2	F	Net weight
	[mm]	[mm]	[mm]	[mm]	[mm]	[Kg]
DAS 083VV	101	158	58	54	40	0.51
DAS 084VV	101	166	58	54	40	0.62
DAS 164VV	110	175	80	76	40	0.91
DAS 165VV	110	184	80	76	40	0.95

Ordering

Figure 7: Flare connection

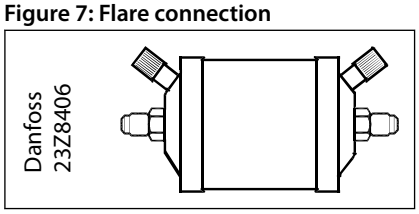


Table 4: Flare

Type	Connection	Multi pack	
	[in.]	Qty.	Code no.
DAS 083VV	3/8	24	023Z1001
DAS 084VV	1/2	24	023Z1002
DAS 164VV	1/2	12	023Z1007
DAS 165VV	5/8	12	023Z1008

Figure 8: Solder connection

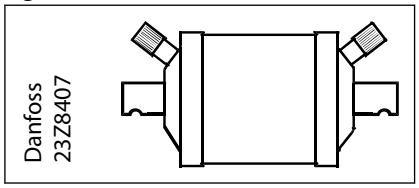


Table 5: Solder

Type	Connection	Multi pack	
	[in.]	Qty.	Code no.
DAS 083sVV	3/8	24	023Z1003
DAS 084sVV	1/2	24	023Z1004
DAS 085sVV	5/8	24	023Z1005
DAS 086sVV	3/4	24	023Z1006
DAS 164sVV	1/2	12	023Z1009
DAS 165sVV	5/8	12	023Z1010
DAS 166sVV	3/4	12	023Z1011
DAS 167sVV	7/8	12	023Z1012
DAS 305sVV	5/8	8	023Z1013
DAS 306sVV	3/4	8	023Z1014
DAS 307sVV	7/8	8	023Z1015
DAS 309sVV	1 1/8	8	023Z1016
DAS 417sVV	7/8	8	023Z1017

Type	Connection	Multi pack	
	[in.]	Qty.	Code no.
DAS 419sVV	1⅛	8	023Z1018
DAS 607sVV	⅞	12	023Z1019
DAS 609sVV	1⅛	12	023Z1020

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.

Some approvals may change over time. You can check the most current status at danfoss.com or contact your local Danfoss representative if you have any questions.

Table 6: Certificates, declarations, and approvals

Document name	Document type	Document topic	Approval authority
SA 6398	UL Certificate	Mechanical Safety Certificate	UL
023Z9601.AF	Manufacturers Declaration	ATEX/PED/RoHS	Danfoss
023Z9610.AA	Manufacturers Declaration	China RoHs	Danfoss
RU Д-DK.БЛ08.B.00828_19	EAC Declaration	Machinery & Equipment	EAC

NOTE:
Only solder versions (cu-plated / pure copper) and connection sizes below 25 mm are approved for flammable refrigerants now.

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