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

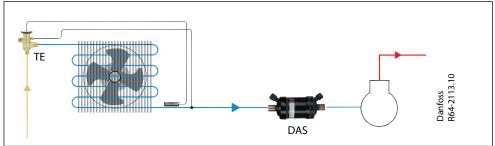
• 120 mesh wire mesh provides solid particle retention with minimal pressure drop

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.

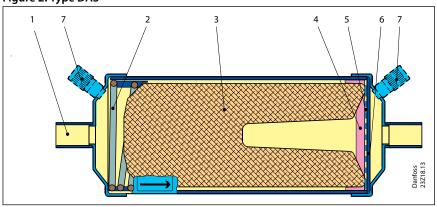
Figure 1: Functional diagram



Product specification

Design

Figure 2: Type DAS





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

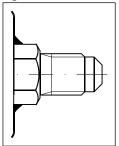


Figure 4: Solder connection (pure copper)

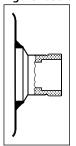


Table 1: Type DAS

| | | Rated capacity, Q _n (1) | Acid capacity ⁽²⁾ | Max.Working Pressure | | |
|---------|-----------------|------------------------------------|------------------------------|----------------------|-------|--|
| Туре | R22/R407C/R410A | R134a | R404A/R507 | Acid Capacity | PS | |
| | [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 | |



| | | Rated capacity, Q _n (1) | | Acid capacity ⁽²⁾ | Max.Working Pressure | |
|---------|-----------------|------------------------------------|------------|------------------------------|----------------------|--|
| Туре | R22/R407C/R410A | R134a | R404A/R507 | Acid capacity | PS | |
| | [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

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

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

| Туре | Codes | Description |
|--|---------|--|
| Filter drier | D | Drier |
| Solid core | Α | Burn-out, 70% activated alumina / 30% Molecular Sieves |
| Application | S | Suction line |
| | 8 | 8 in ³ |
| | 16 | 16 in ³ |
| Size (volume) | 30 | 30 in ³ |
| | 41 | 41 in ³ |
| | 60 | 60 in ³ |
| | 3 | % in. / 10 mm |
| | 4 | ½ in. / 12 mm |
| Connection (filter connection in 1/8 of an | 5 | % in. / 16 mm |
| inch increments) | 6 | ³ / ₄ in. / 18 (19) mm |
| | 7 | ⁷ ⁄₂ in. / 22 mm |
| | 9 | 11/8 in. / 28 mm |
| Connection type | (blank) | Flare connection |
| Connection type | S | Solder connection (pure copper) |

⁽²⁾ Adsorption capacity of oleic acid at 0.05 TAN (Total Acid Number).



| Туре | 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

Α Solid core

S Application

08 Size (volume)

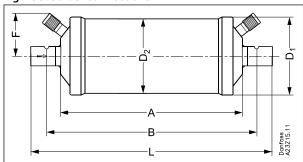
3 Connection (filter connection in 1/8 of an inch increments)

Connection type

vv Access valves

Dimensions and weights

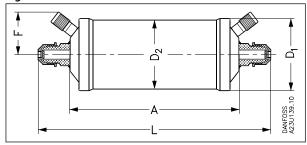
Figure 5: Solder connections



| Tuno | A | В | L | D1 | D2 | F | Net weight |
|------------|------|------|------|------|------|------|------------|
| Туре | [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



| Туре | 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

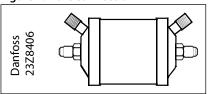


Table 4: Flare

| T | Connection | Multi | pack |
|-----------|------------|-------|----------|
| Type | [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

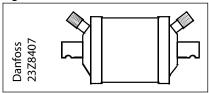


Table 5: Solder

| Tuna | Connection | Multi pack | | |
|------------|------------|------------|----------|--|
| Туре | [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 | 11/8 | 8 | 023Z1016 | |
| DAS 417sVV | 7/8 | 8 | 023Z1017 | |

Hermetic burn-out filter drier, type DAS

| Tuna | Connection | Multi | pack |
|------------|------------|-------|----------|
| Туре | [in.] | Qty. | Code no. |
| DAS 419sVV | 11/8 | 8 | 023Z1018 |
| DAS 607sVV | 7/8 | 12 | 023Z1019 |
| DAS 609sVV | 11/8 | 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.В.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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