Bi-flow filter driers type DB

Introduction

Bi-flow filter driers, type DB, are used in liquid lines on reversible A/C units, heat pumps and refrigeration systems.
DB have built-in check valves wich ensure that refrigerant liquid always flows through the filter driers from the outer side of the filter core towards the centre. Thus all dirt particles are retained irrespective of flow direction.

DB filter driers contain a filter core consisting of 3 Å molecular sieves, and activated aluminium oxide.
DB filter driers can be used in refrigeration systems irrespective of whether the refrigerant is HFC or HCFC, and irrespective of whether the oil is polyolester or mineral.
DB filter driers ensure fast and effective adsorption of moisture as well as organic and inorganic acids.
When building up heat pumps or A/C systems for alternate winter and summer operation, the use of biflow filters can - depending on the type of system - save up to ten solder connections. This reduces production costs and the number of potential leakage points.

Features

- *Optimum flow characteristics and dirt retention*
- *The check valves are not sensitive to dirt and give minimum restriction, irrespective of flow direction*
- *Effective dirt removal to 20 µm*
- *No dirt released by reversing the flow direction*

Approvals

UL file no. SA 6398.
CSA certificate no. 51840.
HP marked in accordance with German requirement on pressure vessels TRB 521/522.

Technical data

Refrigerants
R 22, R 134a, R 404A, R 12, R 502 and other fluorinated refrigerants.

Temperature of medium
–40 to +70°C

Max. working pressure
PB = 35 bar

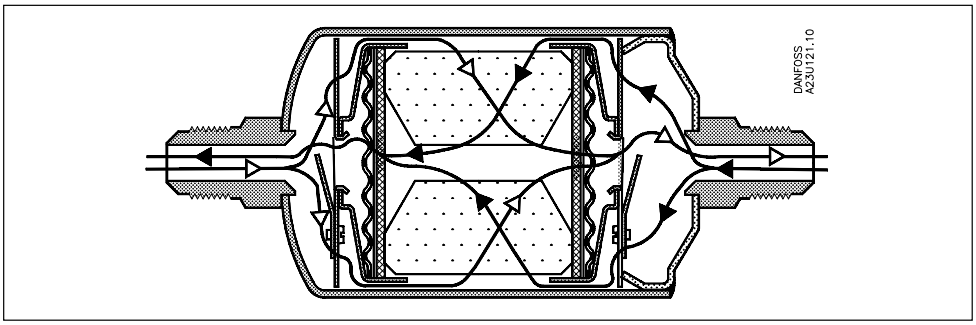
Dirt retention
Particles > 20 µm

Core
Surface
DB 100 = 100 cm^2
DB 200 = 250 cm^2

Volume
DB 100 = 145 cm^3
DB 200 = 365 cm^3

Filter volume
DB 100 = 0.30 litre
DB 200 = 0.49 litre

Construction



Capacity

Liquid capacity

Type	Liquid capacity in kW at pressure drop Δp = 0.07 bar [1])		
	R 22	R 134a	R 404A
DB 102	8.8	7.6	5.3
DB 103	20	18	13
DB 104	32	28	20
DB 105	40	37	29
DB 203	21	19	15
DB 204	31	28	20
DB 205	42	38	28

[1]) Capacity given in accordance with ARI 710-86
(t_e = –15°C, t_c = +30°C)

Acid adsorption
DB 100 = 1.29 g (TAN [1]) = 0.05)
DB 200 = 3.16 g (TAN [1]) = 0.05)

[1]) TAN = Total Acid Number, oleic acid

Drying capacity

Type	Drying capacity in kg of refrigerant					
	R 22		R 134a		R 404A	
	24°C	52°C	24°C	52°C	24°C	52°C
DB 102	7.6	5.8	8.7	7.4	9.5	7.5
DB 103	7.6	5.8	8.7	7.4	9.5	7.5
DB 104	7.6	5.8	8.7	7.4	9.5	7.5
DB 105	7.6	5.8	8.7	7.4	9.5	7.5
DB 203	18.7	14.3	21.5	18.2	23.4	18.6
DB 204	18.7	14.3	21.5	18.2	23.4	18.6
DB 205	18.7	14.3	21.5	18.2	23.4	18.6

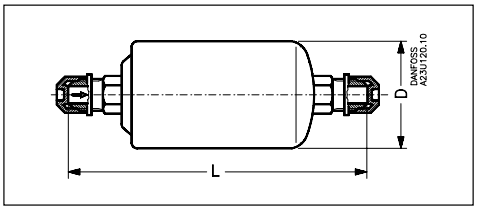
Drying capacities are based on the following moisture content, before and after dehydration:
R 22: 1050 ppm W to 60 ppm W, in acc. with ARI 710-86
R 134a: 1050 ppm W to 75 ppm W
R 404A: 1020 ppm W to 30 ppm W
With less quantity of refrigerant a higher degree of drying is obtained.

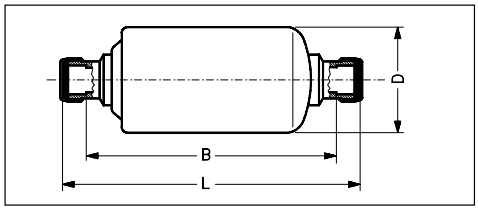
Ordering

Type	Flare connection			Type	Solder connection ODF			
	in.	mm	**Code no.**		in.	**Code no.**	mm	**Code no.**
DB 102	1/4	6	**023U5000**	DB 102s	1/4	**023U5003**	6	**023U5004**
DB 103	3/8	10	**023U5001**	DB 103s	3/8	**023U5005**	10	**023U5006**
DB 104	1/2	12	**023U5002**	DB 104s	1/2	**023U5007**	12	**023U5008**
DB 105	5/8	16	**023U5018**	DB 105s	5/8	**023U5017**	16	**023U5017**
DB 203	3/8	10	**023U5009**	DB 203s	3/8	**023U5012**	10	**023U5013**
DB 204	1/2	12	**023U5010**	DB 204s	1/2	**023U5014**	12	**023U5015**
DB 205	5/8	16	**023U5011**	DB 205s	5/8	**023U5016**	16	**023U5016**

All types are availabe in industrial packs.

Dimensions and weights





Type	Flare connection		L	∅ D	Weight
	in.	mm	mm	mm	kg
DB 102	1/4	6	154	74	0.8
DB 103	3/8	10	167	74	0.8
DB 104	1/2	12	175	74	0.9
DB 105	5/8	16	184	74	0.9
DB 203	3/8	10	243	74	1.1
DB 204	1/2	12	251	74	1.1
DB 205	5/8	16	260	74	1.1

Type	Solder connection[1])		L	B	∅ D	Weight
	in.	mm	mm	mm	mm	kg
DB 102s	1/4	6	142	128	74	0.8
DB 103s	3/8	10	148	130	74	0.8
DB 104s	1/2	12	152	132	74	0.8
DB 105s	5/8	16	160	136	74	0.8
DB 203s	3/8	10	224	206	74	1.1
DB 204s	1/2	12	228	208	74	1.1
DB 205s	5/8	16	236	212	74	1.1

[1]) ODF