Suction Line Filters and Filter Driers Series ASF and ASD

Hermetic design

ASF

ASD

Features

- Filtration down to 10 micron
- Two Schrader valves to measure pressure drop
- Compact size
- Temperature range -45°C to +65°C
- Max. operating pressure: 34,5 bar

Suction Line Filters Type	Order-No.	Connection Solder/ODF mm	Connection Solder/ODF inch	Connection Flare/SAE mm	Connection Flare/SAE inch	Nominal Capacity Q_n kW R 134a	R 22	R 404A	R 407C	R507
ASF 28 S3	056 574		3/8			6,0	8,4	7,7	7,8	7,7
ASF 28 S4	056 575		1/2			9,9	14,4	13,4	13,4	13,4
ASF 35 F5	056 577			16	5/8	11,1	16,5	15,5	15,3	15,5
ASF 35 S5	056 578		5/8			15,9	23,2	21,4	21,6	21,4
ASF 45 S6	056 582		3/4			23,3	34,5	32,0	32,1	32,0
ASF 45 S7	056 580	22	7/8			32,5	42,5	34,5	39,5	34,5
ASF 50 S9	056 579		1-1/8			46,0	67,1	55,5	62,4	55,5
ASF 75 S11	056 581	35	1-3/8			60,2	85,4	70,7	79,4	70,7
ASF 75 S13	056 576		1-5/8			65,4	87,5	73,1	81,4	73,1

Suction Line Filter Driers Type	Order-No.	Connection Solder/ODF mm	Connection Solder/ODF inch	Connection Flare/SAE mm	Connection Flare/SAE inch	Nominal Capacity Q_n kW R 134a	R 22	R 404A	R 407C	R507
ASD 28 S3	056564		3/8			5,5	8,1	7,4	7,5	7,4
ASD 28 S4	056565		1/2			9,1	13,4	12,7	12,5	12,7
ASD 35 F5	056567			16	5/8	10,7	15,5	14,4	14,4	14,4
ASD 35 S5	056569		5/8			14,3	20,4	19,0	19,0	19,0
ASD 45 S6	056570		3/4			19,1	24,6	22,5	22,9	22,5
ASD 45 S7	056571	22	7/8			25,0	32,3	26,4	30,0	26,4
ASD 50 S9	056572		1-1/8			35,3	46,4	38,3	43,2	38,3
ASD 75 S11	056573	35	1-3/8			42,9	56,9	47,8	52,9	47,8
ASD 75 S13	056566		1-5/8			45,2	60,8	51,0	56,5	51,0

Nominal capacity at +4°C evaporating temperature (saturated condition/dew point)) and a pressure drop of 0.21 bar between inlet and outlet of ASF/ASD. Correction factor for other evaporating temperatures than +4°C:

$$Q_n = Q_o \times K_s$$

Q_n: Nominal capacity

K_s: Correction factor for a pressure drop corresponding 1 K saturation temperature

Q_o: Required cooling capacity

Correction Factor K_s Evaporating Temperature (°C)	+4	0	-5	-10	-15	-20	-25	-30	-35	-40	
K_s	1,00	1,12	1,35	1,75	2,00	2,50	3,00	3,75	5,00	6,60	K_s

Filter Driers

Basic terminology and technical information

Function

The purpose of filter driers is to keep the refrigeration circuit clean of water, acid and solid contaminants. In case of contamination, corrosion and ice building can occur as well as malfunction of the compressor.

Property of desiccants

Molecular sieves

This kind of desiccant has a very good drying effect independent of the oil content of the refrigerant. Molecular sieve is a fast acting desiccant and will remove moisture even when the water content of the refrigerant is low and when the temperature of the liquid refrigerant is high.

Activated alumina

Activated alumina incorporate an excellent acid capacity. By selecting a specific mixture of both desiccants an optimum effect can be achieved to cover the requirements of all kinds of applications. Liquid filter driers are especially designed for a high water capacity whereas suction line filter driers feature a high acid and filtration capacity.

Flow capacity

Flow capacity refers to ARI-Standard 710-86 and DIN 8949 and is based on a pressure drop of 0.07 bar, +30°C liquid temperature and -15°C evaporating temperature.

The flow capacities are given at two levels of pressure drop: 0.07 and 0.14 bar.

Filter drier selection for operating conditions other than +30°C / -15°C, use the correction factors.

Water capacity

The water capacity for R 22 refers to ARI 710-86 and DIN8948 is based on a liquid temperature of 24/52°C and an equilibrium point dryness (EPD) of 60 PPM water in refrigerant. The EPD for other refrigerants according to DIN 8949 is as follows:

Refrigerant	EPD (PPM)
R 134a	50
R 407C	50
R 404A	50
R 507	50
R 410A	50

Selection guide for filter and filter driers

Selection criteria	Series									
	ADK-Plus	BFK	ADKS - Plus with core H/S/W 48	FDS-24 with core F24	FDS-24 with core S 24	FDS-48 with core H/S/W 48	ASF-Plus	ASD-Plus	BTAS with core AF	BTAS with core AF - D
Hermetic design	+	+					+	+		
For exchangeable cores			+	+	+	+			+	+
Filter				+			+		+	
Filterdrier	+	+	+		+	+		+		+
For liquid service	+	+	+		+	+				
For suction service				+	+		+	+	+	+
For Heat Pumps (Bi-Flow)		+								
Shell material	Steel	Steel	Steel	Steel		Steel	Steel	Steel	Brass	
Catalogue page	95	*	97	98		99	100	100	101	

* Ask your ALCO wholesaler for datasheet