



System Protectors and Moisture Indicators

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 specially 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 for common refrigerants.

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

For selection of other operating condition, please use Controls Navigator selection program.

Water Capacity

The water capacity for R22 refers to ARI 710-86 and DIN 8948 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)
R134a, R407C, R404A, R507C, R410A, R32, R1234ze, R1234yf, R744	50
R450A, R513A, R448A, R449A, R452B, R454B, R454C, R454A, R455A	60



Selection Table for Filter and Filter Driers


Selection Criteria	Series										
	BFK	ADK	FDB	ADKS/FDH with Core		FDS-24 with Core		ASF	ASD	BTAS with Core	
				H/S/ W48	F48	S24	F24			AF	AF-D
Hermetic Design	+	+	+					+	+		
For Exchangeable Cores				+	+	+	+			+	+
Quick Cap Fange						+	+				
Filter					+		+	+		+	
Filter Drier	+	+	+	+		+			+		+
For Liquid Service	+	+	+	+		+					
For Suction Service					+	+	+	+	+	+	+
For Heat Pumps (Bi-Flow)	+										
Shell Material	Steel	Steel	Steel	Steel		Steel		Steel	Steel	Brass	
Max. Allowable Pressure PS	45 bar	45 bar	45 Bbar	34.5*/46.0* bar		34.5* bar		27.5 bar		24 bar	

Note: *) Dependent on Medium Temperature

Bi-flow Filter Driers Series BFK Hermetic Design for Liquid Refrigerants

Features

- Solid block style
- Integrated check valves ensure Bi-flow capability, eliminate the need for external check valves and reduce the external piping
- ODF Copper fittings for easy brazing
- Pattern flow for non-turbulent performance
- High water, acid adsorption capacity
- Filtration down to 40 microns
- Temperature range TS: -45°C...+65°C
- Max. allowable pressure PS: 45 bar
- CE marking not required acc. PED

 Underwriter Laboratories



BFK

Selection Table - A1 Refrigerants

Type	Part No.	Connection ODF*/SAE*	Flow Capacity (kW) Pressure Drop 0.07 bar**					
			R134a	R407C	R404A R507	R410A	R450A	R513A
BFK 052	007343	1/4"(6mm) SAE	5.2	5.4	3.7	5.6	4.8	4.6
BFK 052S	007344	1/4" ODF	6.7	7.0	4.8	7.2	6.1	5.9
BFK 083	007345	3/8"(10mm) SAE	10.6	11.0	7.5	11.4	9.7	9.2
BFK 083S	007346	3/8" ODF	12.0	12.5	8.5	12.9	11.0	10.5
BFK 084	007347	1/2"(12mm) SAE	15.2	15.8	10.8	16.4	13.9	13.3
BFK 084S	007348	1/2" ODF	15.6	16.2	11.1	16.8	14.3	13.6
BFK 163	007349	3/8"(10mm) SAE	13.6	14.2	9.7	14.7	12.5	11.9
BFK 163S	007350	3/8" ODF	15.5	16.1	11.0	16.7	14.2	13.5
BFK 164	007351	1/2"(12mm) SAE	20.3	21.1	14.4	21.9	18.6	17.7
BFK 164S	007352	1/2" ODF	24.3	25.3	17.3	26.1	22.2	21.2
BFK 165	007353	5/8"(16mm) SAE	25.1	26.2	17.9	27.1	23.0	21.9
BFK 165S	007354	5/8" ODF	25.6	26.7	18.3	27.6	23.5	22.4
BFK 305S	007356	5/8" (16mm) ODF	34.1	35.6	24.3	36.8	31.3	29.8
BFK 307S	007357	7/8" (22mm) ODF	40.6	42.3	28.9	43.7	37.2	35.5
BFK 309S	007358	1 1/8" ODF	47.0	49.0	33.5	50.7	43.1	41.1

Selection Table - A2L Refrigerants

Type	Part No.	Connection ODF*/SAE*	Flow capacity (kW) pressure drop 0.07 bar**					
			R32	R452B	R454B	R454C	R1234ze	R1234yf
BFK 052	007343	1/4"(6mm) SAE	8.1	6.3	6.4	4.2	4.6	3.8
BFK 052S	007344	1/4" ODF	10.4	8.1	8.2	5.4	5.9	4.8
BFK 083	007345	3/8"(10mm) SAE	16.3	12.8	12.8	8.5	9.2	7.6
BFK 083S	007346	3/8" ODF	18.5	14.5	14.6	9.7	10.5	8.6
BFK 084	007347	1/2"(12mm) SAE	23.5	18.4	18.5	12.3	13.3	10.9
BFK 084S	007348	1/2" ODF	24.1	18.8	18.9	12.6	13.6	11.2
BFK 163	007349	3/8"(10mm) SAE	21.1	16.5	16.6	11.0	11.9	9.8
BFK 163S	007350	3/8" ODF	23.9	18.7	18.8	12.5	13.6	11.1
BFK 164	007351	1/2"(12mm) SAE	31.3	24.5	24.7	16.4	17.8	14.6
BFK 164S	007352	1/2" ODF	37.5	29.3	29.5	19.6	21.3	17.5
BFK 165	007353	5/8"(16mm) SAE	38.8	30.4	30.6	20.3	22.0	18.1
BFK 165S	007354	5/8" ODF	39.7	31.0	31.2	20.7	22.5	18.5
BFK 305S	007356	5/8" (16mm) ODF	52.8	41.3	41.5	27.6	29.9	24.6
BFK 307S	007357	7/8" (22mm) ODF	62.8	49.1	49.4	32.8	35.6	29.2
BFK 309S	007358	1 1/8" ODF	72.7	56.9	57.2	38.0	41.2	33.8

Note 1: Flow capacities are in accordance with ARI710-86 and DIN 8949

Note 2: **) for 0.14 bar pressure drop, multiple values by 1.4

Note 3: *) SAE = Flare ODF = Brazing female

Note 4: Product label update is pending!

Nominal Operating Capacities Based on Following Conditions:

Refrigerant	Evaporating Temperature	Liquid Temperature	Flow Rate (kg/kW/sec.)	Refrigerant	Evaporating Temperature	Liquid Temperature	Flow rate (kg/kW/sec.)
R134a	-15°C	+30°C	0.0068	R32	-15°C	+30°C	0.0039
R407C			0.0063	R452B			0.0043
R404A/R507			0.0088	R454B			0.0047
R410A			0.0059	R454C			0.0058
R450A			0.0074	R1234ze			0.0076
R513A			0.0079	R1234yf			0.0089

Note: For selection of other operating conditions please use Control Navigator Software. Product label update is pending!

Water and Acid Adsorption Capacity

A1 Refrigerants

Type / Size	Water Adsorption Capacity (gram)												Acid Adsorption Capacity (gram)
	Liquid Temperature 24°C						Liquid Temperature 52°C						
	R134a	R404A/R507	R407C	R410A	R450A	R513A	R134a	R404A/R507	R407C	R410A	R450A	R513A	
BFK-05...	4.4	4.5	3.4	2.8	6.0	6.0	4.1	4.3	2.8	2.2	5.4	5.4	0.3
BFK-08...	9.6	9.9	7.5	6.2	10.2	10.1	8.9	9.4	6.0	4.7	9.2	9.2	0.6
BFK-16...	18.9	19.5	14.8	12.2	14.1	14.1	17.5	18.5	11.9	9.3	15.5	15.5	1.2
BFK-30...	34.5	35.6	27.1	22.4	28.8	28.8	31.9	33.7	21.7	17.0	31.7	31.7	2.0

A2L Refrigerants

Type / Size	Water Adsorption Capacity (gram)										Acid Adsorption Capacity (gram)
	Liquid Temperature 24°C					Liquid Temperature 52°C					
	R32	R452B	R454B/R454C	R1234ze	R1234yf	R32	R452B/R454C	R454B	R1234ze	R1234yf	
BFK-05...	3.4	3.4	3.4	6.0	6.0	2.7	2.6	2.6	5.4	5.4	0.3
BFK-08...	5.7	5.7	5.7	10.2	10.2	4.5	4.4	4.4	9.2	9.2	0.6
BFK-16...	11.5	10.8	10.8	19.1	14.1	9.1	8.3	8.3	17.4	17.4	1.2
BFK-30...	23.2	21.9	21.9	39.1	28.8	18.4	17.0	17.0	35.5	35.5	2.0

Technical Data


Max. Allowable Pressure PS	45 bar
Test Pressure PT	47.3 bar
Liquid Temperature Refrigerant	-45...+65 °C
Fluid Group	I + II
List of Released Refrigerants Fluid Group II (A1):	R134a, R404A, R407C, R410A, R450A, R507, R513A
Fluid Group I (A2L):	R32, R452B, R454B, R454C, R1234ze, R1234yf
Note: Fluid group classification according to PED 2014/68/EU.	

Material Shell	Steel
Paint	Epoxy Powder paint
Connections	Solder Flare Copper, ODF Burnished, SAE
Protection	
Package	Individual packaged
Marking	cUL US LISTED (A2L pending)
	CE (acc. PED, V > 1 liter),
	ERL

Filter Driers Series ADK

Hermetic Design for Liquid Refrigerants

Features

- Robust block with optimum blend of molecular sieve and activated alumina
- ODF Copper fittings for easy brazing
- High water and acid adsorption capacity
- Filtration down to 20 microns
- Temperature range TS: -45°C...+65°C
- Max. allowable pressure PS: 45 bar
- CE marking not required acc. PED
-  Underwriter Laboratories



ADK

Selection Table - A1 Refrigerants

Type	Part No.	Connection ODF*/SAE*	Flow capacity (kW) pressure drop 0.07 bar **									
			R134a	R407C	R404A R507	R410A	R448A	R449A	R450A	R513A	R452A	R744
ADK-032	003 595	1/4"(6 mm) SAE	6.7	7	4.8	7.2	6.4	6.2	6.1	5.9	4.8	8.1
ADK-032S	003 596	1/4" ODF	8.1	8.4	5.7	8.7	7.7	7.5	7.4	7.0	5.8	9.7
ADK-036MMS	003 597	6 mm ODF	7.3	7.6	5.2	7.9	7.0	6.8	6.7	6.4	5.3	8.8
ADK-052	003 598	1/4"(6 mm) SAE	6.9	7.2	4.9	7.5	6.6	6.5	6.4	6.1	5.0	8.3
ADK-052S	003 599	1/4" ODF	9.9	10.3	7	10.7	9.4	9.2	9.1	8.6	7.1	11.9
ADK-056MMS	003 600	6 mm ODF	9.2	9.5	6.5	9.9	8.7	8.5	8.4	8.0	6.6	11.0
ADK-053	003 601	3/8"(10 mm) SAE	13	13.5	9.2	14	12.3	12.1	11.9	11.3	9.4	15.6
ADK-053S	003 602	3/8" ODF	15	15.6	10.7	16.1	14.3	14.0	13.7	13.1	10.8	18.0
ADK-0510MMS	003 603	10 mm ODF	15	15.6	10.7	16.1	14.3	14.0	13.7	13.1	10.8	18.0
ADK-082	003 604	1/4"(6 mm) SAE	7.1	7.4	5.1	7.7	6.8	6.7	6.5	6.2	5.2	8.6
ADK-082S	003 605	1/4" ODF	10.9	11.4	7.8	11.8	10.4	10.2	10.0	9.6	7.9	13.2
ADK-086MMS	003 606	6 mm ODF	9.8	10.2	7	10.5	9.3	9.1	9.0	8.5	7.1	11.7
ADK-083	003 607	3/8"(10 mm) SAE	15	15.6	10.7	16.2	14.3	14.0	13.8	13.1	10.8	18.1
ADK-083S	003 608	3/8" ODF	15	15.7	10.7	16.2	14.3	14.0	13.8	13.1	10.9	18.1
ADK-0810MMS	003 609	10 mm ODF	15	15.6	10.7	16.2	14.3	14.0	13.8	13.1	10.8	18.1
ADK-084	003 610	1/2"(12 mm) SAE	23.5	24.5	16.7	25.3	22.4	21.9	21.5	20.5	17.0	28.3
ADK-084S	003 611	1/2" ODF	24.5	25.6	17.5	26.4	23.3	22.9	22.5	21.4	17.7	29.5
ADK-0812MMS	003 612	12 mm ODF	24.1	25.1	17.2	26	22.9	22.5	22.1	21.1	17.4	29.0
ADK-162	003 613	1/4"(6 mm) SAE	7.3	7.6	5.2	7.8	6.9	6.8	6.7	6.4	5.3	8.8
ADK-163	003 614	3/8"(10 mm) SAE	15.4	16	10.9	16.5	14.6	14.3	14.1	13.4	11.1	18.5
ADK-163S	003 615	3/8" ODF	17.2	17.9	12.2	18.5	16.3	16.0	15.7	15.0	12.4	20.6
ADK-1610MMS	003 616	10 mm ODF	17.1	17.8	12.2	18.5	16.3	16.0	15.7	15.0	12.4	20.6
ADK-164	003 617	1/2"(12 mm) SAE	28.7	29.9	20.4	30.9	27.3	26.7	26.3	25.1	20.7	34.5
ADK-164S	003 618	1/2" ODF	33	34.3	23.5	35.5	31.4	30.7	30.2	28.8	23.8	39.6
ADK-1612MMS	003 619	12 mm ODF	29.6	30.8	21.1	31.9	28.2	27.6	27.1	25.9	21.4	35.6
ADK-165	003 620	5/8"(16 mm) SAE	41.1	42.8	29.2	44.3	39.1	38.3	37.7	35.9	29.7	49.4
ADK-165S	003 621	5/8"(16 mm) ODF	45.6	47.4	32.4	49.1	43.3	42.5	41.8	39.8	32.9	54.8
ADK-303	003 622	3/8"(10 mm) SAE	16.2	16.9	11.5	17.5	15.4	15.1	14.9	14.2	11.7	19.5
ADK-304	003 623	1/2"(12 mm) SAE	28.7	29.9	20.4	30.9	27.3	26.7	26.3	25.1	20.7	34.5
ADK-304S	003 624	1/2" ODF	33	34.4	23.5	35.6	31.4	30.8	30.3	28.8	23.8	39.7
ADK-305	003 626	5/8"(16 mm) SAE	48.2	50.2	34.3	52	45.9	45.0	44.2	42.1	34.8	58.0
ADK-305S	003 627	5/8"(16 mm) ODF	48.4	50.4	34.4	52.1	46.0	45.1	44.3	42.2	34.9	58.1
ADK-307S	003 628	7/8"(22 mm) ODF	60.7	63.2	43.2	65.4	57.8	56.6	55.7	53.0	43.9	73.0
ADK-414	003 629	1/2"(12 mm) SAE	33.7	35.1	24	36.3	32.1	31.4	30.9	29.4	24.3	40.5
ADK-415	003 632	5/8"(16 mm) SAE	53.7	55.9	38.2	57.8	51.1	50.0	49.2	46.9	38.8	64.5
ADK-415S	003 633	5/8"(16 mm) ODF	57.7	60.1	41.1	62.2	54.9	53.8	52.9	50.4	41.7	69.4
ADK-417S	003 634	7/8"(22 mm) ODF	71.4	74.3	50.8	76.9	67.9	66.6	65.4	62.4	51.5	85.8
ADK-757S	003 635	7/8"(22 mm) ODF	96.7	100.7	68.8	104.2	92.0	90.1	88.6	84.4	69.8	116.2
ADK-759S	003 636	1-1/8" ODF	107.4	111.8	76.4	115.7	102.1	100.1	98.4	93.8	77.5	129.0

Note 1: Flow capacities are in accordance with ARI710-86 and DIN8949. R744 is not specified by standard.

Note 2: **) for 0.14 bar pressure drop, multiple values by 1.4

Note 3: *) SAE = Flare. ODF = Brazing female

Note 4: Product label update is pending!

Nominal Flow Capacities bases on following operating conditions:

Refrigerant	Evaporating Temperature	Liquid Temperature	Flow rate (kg/kW/sec.)	Refrigerant	Evaporating Temperature	Liquid Temperature	Flow rate (kg/kW/sec.)
R134a	-15°C	+30°C	0.0068	R448A	-15°C	+30°C	0.0061
R407C			0.0063	R449A			0.0061
R404A/R50			0.0088	R450A			0.0074
R410A			0.0059	R452A			0.0086
R744	-40°C	-10°C	0.0039	R513A			0.0079

Note: For selection of other operating conditions please use Control Navigator Software.

Selection Table - A2L Refrigerants

Type	Part No.	Connection ODF*/SAE*	Flow capacity (kW) pressure drop 0.07 bar **							
			R32	R452B	R454B	R454A	R454C	R455A	R1234ze	R1234yf
ADK-032	003 595	1/4"(6 mm) SAE	10.4	8.1	8.1	6.2	5.4	5.7	5.9	4.8
ADK-032S	003 596	1/4" ODF	12.4	9.7	9.8	7.4	6.5	6.9	7.1	5.8
ADK-036MMS	003 597	6 mm ODF	11.3	8.9	8.9	6.8	5.9	6.3	6.4	5.3
ADK-052	003 598	1/4"(6 mm) SAE	10.7	8.4	8.4	6.4	5.6	5.9	6.1	5.0
ADK-052S	003 599	1/4" ODF	15.3	12.0	12.0	9.1	8.0	8.5	8.7	7.1
ADK-056MMS	003 600	6 mm ODF	14.2	11.1	11.1	8.5	7.4	7.8	8.0	6.6
ADK-053	003 601	3/8"(10 mm) SAE	20.1	15.7	15.8	12.0	10.5	11.1	11.4	9.3
ADK-053S	003 602	3/8" ODF	23.2	18.1	18.2	13.8	12.1	12.8	13.1	10.8
ADK-0510MMS	003 603	10 mm ODF	23.2	18.1	18.2	13.8	12.1	12.8	13.1	10.8
ADK-082	003 604	1/4"(6 mm) SAE	11.0	8.6	8.7	6.6	5.8	6.1	6.2	5.1
ADK-082S	003 605	1/4" ODF	16.9	13.2	13.3	10.1	8.8	9.4	9.6	7.9
ADK-086MMS	003 606	6 mm ODF	15.1	11.8	11.9	9.0	7.9	8.4	8.6	7.0
ADK-083	003 607	3/8"(10 mm) SAE	23.2	18.2	18.3	13.9	12.1	12.8	13.2	10.8
ADK-083S	003 608	3/8" ODF	23.2	18.2	18.3	13.9	12.1	12.9	13.2	10.8
ADK-0810MMS	003 609	10 mm ODF	23.2	18.2	18.3	13.9	12.1	12.8	13.2	10.8
ADK-084	003 610	1/2"(12 mm) SAE	36.3	28.4	28.6	21.7	19.0	20.1	20.6	16.9
ADK-084S	003 611	1/2" ODF	37.9	29.7	29.9	22.6	19.8	21.0	21.5	17.7
ADK-0812MMS	003 612	12 mm ODF	37.3	29.2	29.3	22.3	19.5	20.6	21.1	17.4
ADK-162	003 613	1/4"(6 mm) SAE	11.3	8.8	8.9	6.7	5.9	6.2	6.4	5.2
ADK-163	003 614	3/8"(10 mm) SAE	23.7	18.6	18.7	14.2	12.4	13.1	13.4	11.0
ADK-163S	003 615	3/8" ODF	26.5	20.7	20.9	15.8	13.8	14.7	15.0	12.3
ADK-1610MMS	003 616	10 mm ODF	26.5	20.7	20.8	15.8	13.8	14.7	15.0	12.3
ADK-164	003 617	1/2"(12 mm) SAE	44.4	34.7	34.9	26.5	23.2	24.5	25.1	20.6
ADK-164S	003 618	1/2" ODF	51.0	39.9	40.1	30.4	26.6	28.2	28.9	23.7
ADK-1612MMS	003 619	12 mm ODF	45.8	35.8	36.0	27.3	23.9	25.3	25.9	21.3
ADK-165	003 620	5/8"(16 mm) SAE	63.5	49.7	50.0	37.9	33.2	35.1	36.0	29.6
ADK-165S	003 621	5/8"(16 mm) ODF	70.4	55.1	55.4	42.0	36.8	39.0	39.9	32.8
ADK-303	003 622	3/8"(10 mm) SAE	25.0	19.6	19.7	15.0	13.1	13.9	14.2	11.7
ADK-304	003 623	1/2"(12 mm) SAE	44.4	34.7	34.9	26.5	23.2	24.5	25.1	20.6
ADK-304S	003 624	1/2" ODF	51.0	39.9	40.1	30.5	26.7	28.2	28.9	23.7
ADK-305	003 626	5/8"(16 mm) SAE	74.5	58.3	58.7	44.5	38.9	41.2	42.2	34.7
ADK-305S	003 627	5/8"(16 mm) ODF	74.8	58.5	58.8	44.6	39.0	41.4	42.4	34.8
ADK-307S	003 628	7/8"(22 mm) ODF	93.9	73.4	73.9	56.0	49.0	51.9	53.2	43.7
ADK-414	003 629	1/2"(12 mm) SAE	52.1	40.8	41.0	31.1	27.2	28.8	29.5	24.3
ADK-415	003 632	5/8"(16 mm) SAE	83.0	64.9	65.3	49.5	43.3	45.9	47.0	38.6
ADK-415S	003 633	5/8"(16 mm) ODF	89.2	69.8	70.2	53.3	46.6	49.4	50.5	41.5
ADK-417S	003 634	7/8"(22 mm) ODF	110.4	86.3	86.8	65.9	57.6	61.1	62.5	51.4
ADK-757S	003 635	7/8"(22 mm) ODF	149.4	116.9	117.6	89.2	78.1	82.7	84.7	69.5
ADK-759S	003 636	1-1/8" ODF	166.0	129.8	130.6	99.1	86.7	91.8	94.0	77.2

Note 1: Flow capacities are in accordance with ARI710-86 and DIN8949.

Note 2: *) SAE = Flare, ODF = Brazing female

Note 3: **) for 0.14 bar pressure drop, multiple values by 1.4

Note 4: Product label update is pending!

Nominal Flow Capacities bases on following operating conditions:

Refrigerant	Evaporating Temperature	Liquid Temperature	Flow rate (kg/kW/sec.)	Refrigerant	Evaporating Temperature	Liquid Temperature	Flow rate (kg/kW/sec.)
R32	-15°C	+30°C	0.0039	R454C	-15°C	+30°C	0.0058
R452B			0.0043	R455A			0.0072
R454B			0.0047	R1234ze			0.0076
R454A			0.0061	R1234yf			0.0089

Note: For selection of other operating conditions please use Control Navigator Software.

Water and Acid Adsorption Capacity

A1 Refrigerants / CO₂

Type / Size	Water Adsorption Capacity (gram)										Acid Adsorption Capacity (gram)
	Liquid Temperature 24°C					Liquid Temperature 52°C					
	R134a	R404A/ R507	R407C	R410A	R744	R134a	R404A/ R507	R407C	R410A	R744	
ADK-03	4.9	4.9	3.4	2.8	4.6	4.4	4.6	2.9	2.4	4.2	0.8
ADK-05	11.8	11.8	8.2	6.8	8.7	10.6	10.9	7	5.8	7.9	2.3
ADK-08	17.9	18	12.4	10.3	13.2	16.2	16.6	10.7	8.8	12.0	3.3
ADK-16	23	23.1	16	13.2	17.0	20.8	21.3	13.8	11.4	15.4	4.5
ADK-30	51.8	53.5	36.9	30.6	41.0	47.4	49.3	31.8	26.3	38.1	11.3
ADK-41	81.7	84.3	58.2	48.3	54.3	74.8	77.8	50.2	41.4	50.5	16.8
ADK-75	143.5	148.1	102.1	84.8	96.3	131.4	136.6	88.1	72.8	89.5	29.9




Type / Size	Water Adsorption Capacity (gram)										Acid Adsorption Capacity (gram)
	Liquid Temperature 25°C					Liquid Temperature 52°C					
	R448A	R449A	R450A	R513A	R452A	R448A	R449A	R450A	R513A	R452A	
ADK-03	4.7	4.7	6.0	6.0	3.4	4.3	4.3	5.5	5.4	2.7	0.8
ADK-05	9.0	9.0	11.4	11.3	6.5	8.2	8.2	10.3	10.3	5.0	2.3
ADK-08	13.7	13.7	17.3	17.2	9.8	12.4	12.4	15.7	15.7	7.7	3.3
ADK-16	17.5	17.5	22.2	22.1	12.6	16.0	16.0	20.2	20.1	9.9	4.5
ADK-30	39.9	39.9	52.0	51.7	32.8	37.5	36.3	46.1	45.9	25.6	11.3
ADK-41	52.8	52.8	68.8	68.4	43.4	49.7	48.1	61.0	60.7	33.9	16.8
ADK-75	93.8	93.8	122.1	121.4	77.1	88.2	85.3	108.4	107.8	60.1	29.9

A2L Refrigerants

Type / Size	Water Adsorption Capacity (gram)										Acid Adsorption Capacity (gram)
	Liquid Temperature 24°C					Liquid Temperature 52°C					
	R32	R452B	R454A R454B R454C	R455A	R1234ze R1234yf	R32	R452B	R454A R454B R454C	R455A	R1234ze R1234yf	
ADK-03	3.4	3.4	3.4	3.4	6.0	2.7	2.7	2.7	2.7	5.5	0.8
ADK-05	6.5	6.5	6.5	6.5	11.4	5.2	5.0	5.0	5.0	10.3	2.3
ADK-08	9.8	9.8	9.8	9.8	17.3	7.8	7.7	7.7	7.7	15.7	3.3
ADK-16	12.6	12.6	12.6	12.6	22.2	10.1	9.9	9.9	9.9	20.2	4.5
ADK-30	32.8	32.8	32.8	32.8	57.6	26.2	25.6	25.6	25.6	52.5	11.3
ADK-41	43.4	43.4	43.4	43.4	76.2	34.6	33.9	33.9	33.9	69.4	16.8
ADK-75	77.1	77.1	77.1	77.1	135.4	61.5	60.1	60.1	60.1	123.3	29.9

Technical Data


Max. allowable pressure PS	45 bar
Test pressure PT	47.3 bar
Liquid temperature refrigerant	-45...+65°C
Fluid group	I + II
List of released refrigerants Fluid group II (A1):	R134a, R404A, R407C, R410A, R448A, R449A, R450A, R452A, R507, R513A, R744
Fluid group I (A2L):	R32, R452B, R454B, R454A, R454C, R455A, R1234ze, R1234yf
Note: Fluid group classification according to PED 2014/68/EU.	

Material shell	Steel
Paint	Epoxy powder paint
Connections	Solder Flare Copper, ODF Burnished, SAE
Protection	
Package	Individual packaged
Marking	 (A2L pending)  (acc. PED, V > 1 liter) 

Filter Driers Series FDB

Hermetic Design, Bead Style for Liquid Refrigerants

Features

- Compacted bead style (spring loaded)
- Optimum blend of molecular sieve and activated alumina combined with high filtration capacity
- Filtration first for more effective use of surface area of desiccant
- High water and acid capacity
- Cushioned flow for non-turbulent performance
- ODF Copper fittings for easy brazing
- Rugged steel shells
- Corrosion-resistant epoxy paint
- Temperature range TS: -40°C...+65°C
- Max. allowable pressure PS: 45 bar
- CE marking not required acc. PED
-  **US LISTED** Underwriter Laboratories



FDB

Selection Table - A1 Refrigerants

Type	Part No.	Connection ODF* /SAE*	Flow capacity (kW) pressure drop 0.07 bar **								
			R134a	R407C	R404A R507	R410A	R448A	R449A	R450A	R452A	R513A
FDB-032	059305	1/4"(6mm) SAE	6.3	6.6	4.5	6.8	6.0	5.9	5.8	4.6	5.5
FDB-032S	059306	1/4" ODF	9.7	10.1	6.9	10.5	9.2	9.1	8.9	7.0	8.5
FDB-052	059307	1/4"(6mm) SAE	6.5	6.8	4.6	7.0	6.2	6.1	6.0	4.7	5.7
FDB-052S	059309	1/4" ODF	9.7	10.1	6.9	10.5	9.2	9.1	8.9	7.0	8.5
FDB-053	059308	3/8"(10mm) SAE	15.5	16.1	11.0	16.7	6.4	6.3	6.2	4.9	5.9
FDB-053S	059310	3/8" ODF	19.3	20.1	13.8	20.8	9.4	9.2	9.1	7.1	8.6
FDB-082	059311	1/4"(6mm) SAE	6.8	7.1	4.8	7.3	6.4	6.3	6.2	4.9	5.9
FDB-082S	059314	1/4" ODF	9.9	10.3	7.0	10.7	14.7	14.4	14.2	11.2	13.5
FDB-083	059312	3/8"(10mm) SAE	15.8	16.4	11.2	17.0	18.4	18.0	17.7	14.0	16.9
FDB-083S	059315	3/8" ODF	19.8	20.6	14.1	21.3	15.0	14.7	14.4	11.4	13.8
FDB-084	059313	1/2"(12mm) SAE	26.4	27.5	18.8	28.4	18.8	18.4	18.1	14.3	17.3
FDB-084S	059316	1/2" ODF	28.3	29.5	20.1	30.5	15.4	15.1	14.9	11.7	14.2
FDB-162	059317	1/4"(6mm) SAE	6.8	7.1	4.8	7.3	21.9	21.4	21.1	16.6	20.1
FDB-163	059318	3/8"(10mm) SAE	16.2	16.9	11.5	17.5	17.2	16.8	16.5	13.0	15.8
FDB-163S	059321	3/8" ODF	23.0	23.9	16.4	24.8	25.1	24.6	24.2	19.0	23.0
FDB-164	059319	1/2"(12mm) SAE	27.9	29.1	19.9	30.1	26.9	26.4	25.9	20.4	24.7
FDB-164S	059322	1/2" ODF	36.0	37.5	25.6	38.8	26.6	26.0	25.6	20.2	24.4
FDB-165	059320	5/8"(16mm) SAE	36.6	38.2	26.1	39.5	34.2	33.6	33.0	26.0	31.4
FDB-165S	059323	5/8" ODF	48.8	50.8	34.8	52.6	30.2	29.6	29.1	23.0	27.8
FDB-303	059324	3/8"(10mm) SAE	18.0	18.8	12.8	19.4	36.2	35.4	34.8	27.4	33.2
FDB-304	059325	1/2"(12mm) SAE	31.8	33.1	22.6	34.2	34.9	34.2	33.6	26.5	32.0
FDB-304S	003667	1/2" ODF	38.0	39.6	27.1	41.0	46.4	45.5	44.7	35.3	42.6
FDB-305	059326	5/8"(16mm) SAE	40.3	42.0	28.7	43.4	38.3	37.6	36.9	29.1	35.2
FDB-305S	059327	5/8" ODF	53.8	56.0	38.3	57.9	51.2	50.1	49.3	38.8	47.0
FDB-307S	059328	7/8" ODF	60.5	63.1	43.1	65.2	47.3	46.4	45.6	35.9	43.4
FDB-415	059329	5/8"(16mm) SAE	49.7	51.8	35.4	53.6	57.6	56.5	55.5	43.7	52.9
FDB-417S	059330	7/8" ODF	77.2	80.4	55.0	83.2	73.5	72.0	70.8	55.8	67.5

Note 1: Flow capacities are in accordance with ARI710-86 and DIN8949.

Note 2: **) for 0.14 bar pressure drop, multiple values by 1.4

Note 3: *) SAE = Flare, ODF = Brazing female

Note 4: Product label update is pending!

Nominal Flow Capacities bases on following operating conditions:

Refrigerant	Evaporating Temperature	Liquid Temperature	Flow rate (kg/kW/sec)	Refrigerant	Evaporating Temperature	Liquid Temperature	Flow rate (kg/kW/sec)
R134a	-15°C	+30°C	0.0068	R448A	-15°C	+30°C	0.0061
R407C			0.0063	R449A			0.0061
R404A/R50			0.0088	R450A			0.0074
R410A			0.0059	R452A			0.0086
				R513A			0.0079

Note: For selection of other operating conditions please use Control Navigator Software.

Selection Table - A2L Refrigerants

Type	Part No.	Connection ODF*/SAE*	Flow capacity (kW) pressure drop 0.07 bar **							
			R32	R452B	R454B	R454A	R454C	R455A	R1234ze	R1234yf
FDB-032	059305	1/4"(6mm) SAE	9.8	7.6	7.7	5.8	5.1	5.4	4.5	5.5
FDB-032S	059306	1/4" ODF	15.0	11.7	11.8	9.0	7.8	8.3	7.0	8.5
FDB-052	059307	1/4"(6mm) SAE	10.1	7.9	7.9	6.0	5.3	5.6	4.7	5.7
FDB-052S	059309	1/4" ODF	15.0	11.7	11.8	9.0	7.8	8.3	7.0	8.5
FDB-053	059308	3/8"(10mm) SAE	23.9	18.7	18.8	14.3	12.5	13.2	11.1	13.6
FDB-053S	059310	3/8" ODF	29.9	23.4	23.5	17.8	15.6	16.5	13.9	16.9
FDB-082	059311	1/4"(6mm) SAE	10.5	8.2	8.2	6.3	5.5	5.8	4.9	5.9
FDB-082S	059314	1/4" ODF	15.3	12.0	12.0	9.1	8.0	8.5	7.1	8.7
FDB-083	059312	3/8"(10mm) SAE	24.4	19.1	19.2	14.5	12.7	13.5	11.3	13.8
FDB-083S	059315	3/8" ODF	30.6	23.9	24.1	18.3	16.0	16.9	14.2	17.3
FDB-084	059313	1/2"(12mm) SAE	40.8	31.9	32.1	24.3	21.3	22.6	19.0	23.1
FDB-084S	059316	1/2" ODF	43.8	34.2	34.4	26.1	22.9	24.2	20.4	24.8
FDB-162	059317	1/4"(6mm) SAE	10.5	8.2	8.2	6.3	5.5	5.8	4.9	5.9
FDB-163	059318	3/8"(10mm) SAE	25.1	19.6	19.7	15.0	13.1	13.9	11.7	14.2
FDB-163S	059321	3/8" ODF	35.5	27.8	28.0	21.2	18.6	19.7	16.5	20.1
FDB-164	059319	1/2"(12mm) SAE	43.2	33.8	34.0	25.8	22.6	23.9	20.1	24.5
FDB-164S	059322	1/2" ODF	55.7	43.5	43.8	33.2	29.1	30.8	25.9	31.5
FDB-165	059320	5/8"(16mm) SAE	56.6	44.3	44.6	33.8	29.6	31.3	26.4	32.1
FDB-165S	059323	5/8" ODF	75.5	59.0	59.4	45.1	39.4	41.8	35.1	42.8
FDB-303	059324	3/8"(10mm) SAE	27.9	21.8	21.9	16.7	14.6	15.4	13.0	15.8
FDB-304	059325	1/2"(12mm) SAE	49.1	38.4	38.7	29.3	25.7	27.2	22.9	27.8
FDB-304S	003667	1/2" ODF	58.8	46.0	46.2	35.1	30.7	32.5	27.3	33.3
FDB-305	059326	5/8"(16mm) SAE	62.3	48.7	49.0	37.2	32.5	34.5	29.0	35.3
FDB-305S	059327	5/8" ODF	83.1	65.0	65.4	49.6	43.4	46.0	38.7	47.1
FDB-307S	059328	7/8" ODF	93.6	73.2	73.6	55.9	48.9	51.8	43.6	53.0
FDB-415	059329	5/8"(16mm) SAE	76.9	60.1	60.5	45.9	40.2	51.8	35.8	43.6
FDB-417S	059330	7/8" ODF	119.4	93.4	93.9	71.3	62.3	66.0	55.6	67.6

Note 1: Flow capacities are in accordance with ARI710-86 and DIN8949.

Note 2: *) SAE = Flare, ODF = Brazing female

Note 3: **) for 0.14 bar pressure drop, multiple values by 1.4

Note 4: Product label update is pending!

Nominal Flow Capacities bases on following operating conditions:

Refrigerant	Evaporating Temperature	Liquid Temperature	Flow rate (kg/kW/sec)	Refrigerant	Evaporating Temperature	Liquid Temperature	Flow rate (kg/kW/sec)
R32	-15°C	+30°C	0.0039	R454C	-15°C	+30°C	0.0058
R452B			0.0043	R455A			0.0072
R454B			0.0047	R1234ze			0.0076
R454A			0.0061	R1234yf			0.0089

Note: For selection of other operating conditions please use Control Navigator Software.

Water and Acid Adsorption Capacity

A1 Refrigerants

Type / Size	Water Adsorption Capacity (gram)									
	Liquid Temperature 24°C					Liquid Temperature 52°C				
	R134a	R404A/ R507	R407C	R410A	R452A	R134a	R404A/ R507	R407C	R410A	R452A
FDB-03...	1.9	1.9	1.7	1.6		1.8	1.9	1.6	1.3	
FDB-05...	5.5	5.5	5.0	4.4		5.2	5.3	4.5	3.3	
FDB-08...	8.8	8.8	8.0	7.1		8.4	8.5	7.2	5.4	
FDB-16...	17.7	17.6	15.9	14.2		16.8	17.1	14.5	10.8	
FDB-30...	31.7	31.6	28.5	25.0		30.1	30.5	26.0	19.0	
FDB-41...	44.2	44.1	39.9	35.0		42.1	42.7	36.3	26.6	

Type / Size	Water Adsorption Capacity (gram)							
	Liquid Temperature 25°C				Liquid Temperature 52°C			
	R448A	R449A	R450A	R513A	R448A	R449A	R450A	R513A
FDB-03...	2.5	2.5	2.5	2.5	2.3	2.3	2.3	2.3
FDB-05...	6.8	6.8	6.9	6.9	6.2	6.2	6.3	6.3
FDB-08...	10.9	10.9	11.1	11.1	9.9	9.9	10.1	10.1
FDB-16...	21.6	21.6	22.0	22.0	19.7	19.7	20.0	20.0
FDB-30...	37.9	37.9	38.6	38.6	34.6	34.6	35.2	35.2
FDB-41...	53.2	53.2	54.2	54.2	48.5	48.5	49.4	49.4

A2L Refrigerants

Type / Size	Water Adsorption Capacity (gram)									
	Liquid Temperature 24°C					Liquid Temperature 52°C				
	R32	R452B	R454A R454B R454C	R455A	R1234ze R1234yf	R32	R452B	R454A R454B R454C	R455A	R1234ze R1234yf
FDB-03...	2.3	2.4	2.4	2.4	2.5	2.2	2.0	2.0	2.0	2.3
FDB-05...	6.3	6.5	6.5	6.5	6.9	5.9	5.5	5.5	5.5	6.3
FDB-08...	10.1	10.4	10.4	10.4	11.1	9.5	8.8	8.8	8.8	10.1
FDB-16...	20.1	20.7	20.7	20.7	22.0	18.8	17.5	17.5	17.5	20.0
FDB-30...	35.3	36.3	36.3	36.3	38.6	33.1	30.8	30.8	30.8	35.2
FDB-41...	49.5	50.9	50.9	50.9	54.2	46.4	43.2	43.2	43.2	49.4

Technical Data

Max. allowable pressure PS	45 bar
Test pressure PT	47.3 bar
Liquid temperature refrigerant	-45...+65°C
Fluid Group	I + II
List of released refrigerants	
Fluid group II (A1):	R134a, R404A, R407C, R410A, R448A, R449A, R450A, R452A, R507, R513A
Fluid group I (A2L):	R32, R452B, R454B, R454A, R454C, R455A, R1234ze, R1234yf
<small>Note: Fluid group classification according to PED 2014/68/EU.</small>	

Material shell	Steel
Paint	Epoxy Powder paint
Connections	Solder Flare Copper, ODF Burnished, SAE
Protection	
Package	Individual packaged
Marking	 (A2L pending)  (acc. PED, V > 1 liter) 