ENGINEERING
TOMORROW

Data sheet

ELIMINATOR® Hermetic filter drier
Types DCL and DML

All ELIMINATOR® driers have a solid core with binding material held to an absolute minimum.

There are two types of ELIMINATOR® cores. Type DML driers have a core composition of 100% Molecular Sieve, while type DCL contain 80% Molecular Sieve with 20% activated alumina.

ELIMINATOR® type DML driers are designed for applications requiring the highest moisture capacity.

ELIMINATOR® type DCL driers are designed for applications requiring high moisture capacity and acid adsorption capacity.

Available with flare and solder (pure copper) connections.

For other connections please contact your Danfoss Sales Representative.

Features

The Core type DML
- 100% 3Å Molecular Sieve core
- High drying capacity minimizing the risk of acid formation (hydrolysis)
- Recommended for use with R134a, R404A, R32,R410A, R407C, R23, R600, R600a,R1234yf, R1234ze, R407f, R290, R452A,R444B, R449A, R448A and R450A refrigerants
- Will not deplete oil additives

The Core type DCL
- 80% 3Å Molecular Sieve with 20% activated alumina
- Perfect core blend for systems that operate at high condensing temperatures and require high drying capacity
- Recommended for use with applicable to R22,R134a, R404A, R32,R410A, R407C, R23, R600, R600a,R1234yf, R1234ze, R407f, R290, R452A,R444B, R449A, R448A and R450A refrigerants

The Shell
- PED approved for PS 46 bar
- Available with flare and solder (pure copper) connections
- Corrosion resistant powder-painted finish Special coating for marine applications available upon request
- Allows installation with any orientation provided the arrow is in the flow direction
- Available in sizes 1.5 – 75 cubic inches

The Filter
- 25 µm (0.001 in.) filter provides high retention with minimal pressure drop
- Thermally stable up to 120 °C

Approvals

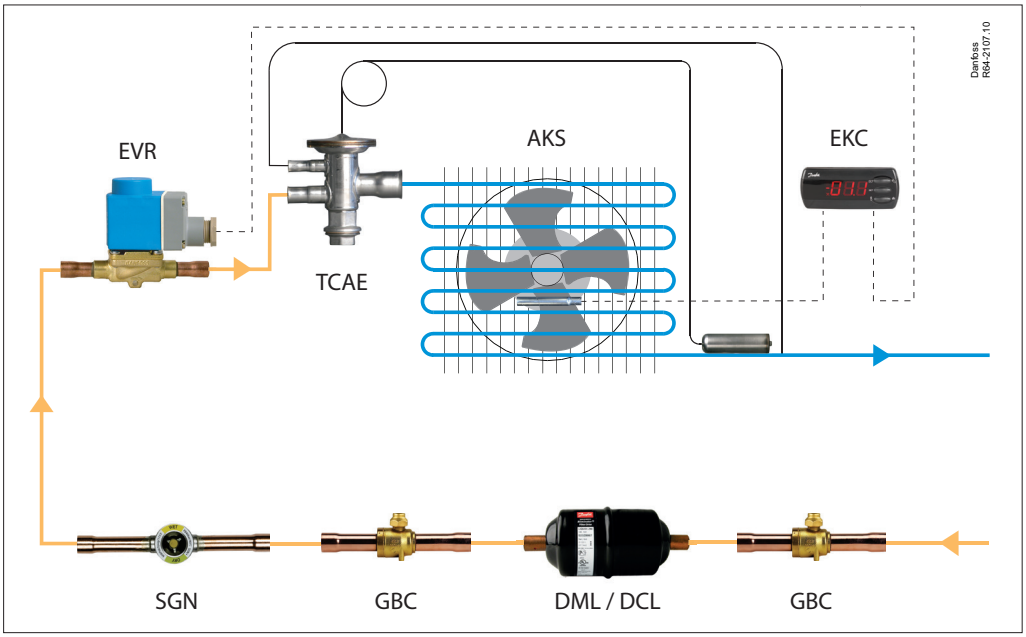
UL file no. SA 6398
PED 2014/68/EU -a4p3
Compliant with ATEX hazard zone 2

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

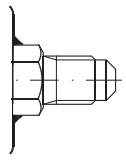
Introduction

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

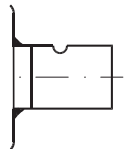
With these contaminants eliminated, systems are safer from harmful chemical reactions and from abrasive impurities.



Technical data



Flare connection



Solder connection (pure copper)

Surface and volume

Filter	Solid core surface	Solid core volume	Filter drier volume (shell volume)	Filter drier volume (net volume)
	[cm²]	[cm³]	[l]	[l]
DML / DCL 1.5	46	16	0.05	0.034
DML / DCL 03	82	29	0.08	0.051
DML / DCL 05	95	35	0.12	0.085
DML / DCL 08	131	56	0.17	0.114
DML / DCL 16	220	134	0.36	0.226
DML / DCL 30	378	256	0.72	0.464
DML / DCL 41	510	350	0.97	0.620
DML / DCL 60	756	513	1.34	0.827
DML / DCL 75	1019	702	1.81	1.108

Acid capacity

Filter	Acid capacity [1)]
	[g]
DCL 1.5	0.3
DCL 03	0.5
DCL 05	0.8
DCL 08	1.3
DCL 16	2.9
DCL 30	6.1
DCL 41	8.3
DCL 60	12.2
DCL 75	16.6

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

Maximum working pressure and allowable temperature

Filter size	Connection type	Connection	Max. working pressure PS	Temperature range
[in³]		[in.]	[bar]	[°C]
1.5, 03, 05, 08, 16, 30, 60	Solder pure copper	1/4 – 1 1/8 ODM / ODF	46	-40 – 70
38, 41	Solder pure copper	1/4 – 1 1/8 ODM / ODF	35	
75	Solder pure copper	3/4 – 1 1/8 ODM / ODF	35	
03 – 75	Flare	1/4 – 3/4	46	

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Technical data and capacities

DML - Hermetic filter drier
Drying and liquid capacity (SI units)

Type	Drying capacity [kg] of refrigerant [1]																Liquid capacity [kW] [2]								Max. working pressure PS [bar]
	R134a		R404A		R507		R22		R407C		R410A		R290		R32										
	[°C]																R134a	R404A	R507	R22	R407C	R410A	R290	R32	
	24	52	24	52	24	52	24	52	24	52	24	52	24	52	24	52									
DML 1.52 s	2.9	2.7	3.1	3.0	3.2	2.9	2.9	2.7	2.9	2.7	2.6	2.4	4.34	3.47	2.7	2.5	2.81	1.90	1.85	2.98	2.78	2.73	4.20	4.08	46
DML 032 / 032s	4.58	4.32	4.94	4.67	5.03	4.63	4.64	4.27	4.58	4.21	4.15	3.80	6.85	5.47	4.29	3.88	6.13	4.15	4.05	6.51	6.08	5.96	7.00	8.91	46
DML 032.5s	4.6	4.3	4.9	4.7	5.0	4.6	4.6	4.3	4.6	4.2	4.2	3.8	6.85	5.47	4.3	3.9	9.63	6.53	6.36	10.23	9.56	9.36	11.50	14.01	46
DML 033 / 033s	4.58	4.32	4.94	4.67	5.03	4.63	4.64	4.27	4.58	4.21	4.15	3.80	6.85	5.47	4.29	3.88	11.25	6.68	7.43	10.46	11.17	9.58	13.50	16.37	46
DML 034s	4.6	4.3	4.9	4.7	5.0	4.6	4.6	4.3	4.6	4.2	4.2	3.8	6.85	5.47	4.3	3.9	16.44	11.56	11.21	17.91	16.84	17.10	19.80	25.05	46
DML 052 / 052s	7.49	7.05	8.07	7.63	8.23	7.56	7.59	6.98	7.49	6.89	6.79	6.22	11.19	8.95	7.01	6.35	6.51	4.41	4.30	6.91	6.46	6.33	7.80	9.47	46
DML 052.5s	7.5	7.1	8.1	7.6	8.2	7.6	7.6	7.0	7.5	6.9	6.8	6.2	11.19	8.95	7.0	6.3	12.13	8.21	8.01	12.87	12.03	11.78	14.50	17.64	46
DML 053 / 053s	7.49	7.05	8.07	7.63	8.23	7.56	7.59	6.98	7.49	6.89	6.79	6.22	11.19	8.95	7.01	6.35	16.52	11.19	10.91	17.54	16.39	16.05	19.80	24.02	46
DML 054s	7.5	7.1	8.1	7.6	8.2	7.6	7.6	7.0	7.5	6.9	6.8	6.2	11.19	8.95	7.0	6.3	21.89	14.83	14.45	23.24	21.72	21.27	26.20	31.84	46
DML 055s	7.49	7.05	8.07	7.63	8.23	7.56	7.59	6.98	7.49	6.89	6.79	6.22	11.19	8.95	7.01	6.35	26.84	18.18	17.72	28.50	26.63	26.08	32.10	39.04	46
DML 082 / 082s	12.1	11.4	13.1	12.3	13.3	12.2	12.3	11.3	12.1	11.1	11.0	10.1	18.12	14.48	11.3	10.3	6.46	4.38	4.27	6.86	6.41	6.28	7.70	9.40	46
DML 082.5s	12.13	11.42	13.07	12.35	13.32	12.24	12.29	11.30	12.13	11.15	10.99	10.07	18.12	14.48	11.35	10.28	12.42	8.41	8.20	13.19	12.32	12.07	14.90	18.06	46
DML 083 / 083s	12.1	11.4	13.1	12.3	13.3	12.2	12.3	11.3	12.1	11.1	11.0	10.1	18.12	14.48	11.3	10.3	16.28	11.03	10.75	17.28	16.15	15.82	19.50	23.68	46
DML 084 / 084s	12.13	11.42	13.07	12.35	13.32	12.24	12.29	11.30	12.13	11.15	10.99	10.07	18.12	14.48	11.35	10.28	21.42	14.51	14.14	22.74	21.25	20.82	25.60	31.15	46
DML 085 / 085s	12.1	11.4	13.1	12.3	13.3	12.2	12.3	11.3	12.1	11.1	11.0	10.1	18.12	14.48	11.3	10.3	25.06	16.98	16.55	26.61	24.87	24.36	30.00	36.45	46
DML 162 / 162s	27.09	25.51	29.20	27.58	29.75	27.35	27.44	25.24	27.10	24.90	24.56	22.49	40.47	32.35	25.34	22.95	6.75	4.57	4.46	7.17	6.70	6.56	8.10	9.82	46
DML 163 / 163s	27.1	25.5	29.2	27.6	29.8	27.3	27.4	25.2	27.1	24.9	24.6	22.5	40.47	32.35	25.3	23.0	19.42	13.15	12.82	20.61	19.26	18.87	23.20	28.24	46
DML 164 / 164s	27.09	25.51	29.20	27.58	29.75	27.35	27.44	25.24	27.10	24.90	24.56	22.49	40.47	32.35	25.34	22.95	27.04	18.32	17.86	28.71	26.83	26.28	32.40	39.33	46
DML 165 / 165s	27.1	25.5	29.2	27.6	29.8	27.3	27.4	25.2	27.1	24.9	24.6	22.5	40.47	32.35	25.3	23.0	37.81	25.61	24.97	40.14	37.52	36.75	45.20	54.99	46
DML 166 / 166s	27.09	25.51	29.20	27.58	29.75	27.35	27.44	25.24	27.10	24.90	24.56	22.49	40.47	32.35	25.34	22.95	44.16	29.91	29.16	46.89	43.82	42.92	52.80	64.22	46
DML 167s	27.1	25.5	29.2	27.6	29.8	27.3	27.4	25.2	27.1	24.9	24.6	22.5	40.47	32.35	25.3	23.0	49.71	33.67	32.83	52.78	49.32	48.31	59.50	72.29	46
DML 303 / 303s	55.95	52.69	60.31	56.97	61.45	56.49	56.68	52.13	55.97	51.44	50.72	46.46	81.59	65.23	52.34	47.41	20.48	13.87	13.52	21.74	20.32	19.90	24.50	29.79	46
DML 304 / 304s	56.0	52.7	60.3	57.0	61.4	56.5	56.7	52.1	56.0	51.4	50.7	46.5	81.59	65.23	52.3	47.4	30.67	20.77	20.25	32.56	30.42	29.80	36.70	44.60	46
DML 305 / 305s	55.95	52.69	60.31	56.97	61.45	56.49	56.68	52.13	55.97	51.44	50.72	46.46	81.59	65.23	52.34	47.41	48.61	32.93	32.10	51.61	48.23	47.24	58.20	70.70	46
DML 306 / 306s	56.0	52.7	60.3	57.0	61.4	56.5	56.7	52.1	56.0	51.4	50.7	46.5	81.59	65.23	52.3	47.4	60.17	40.75	39.73	63.88	59.69	58.47	72.00	87.50	46
DML 307s	55.95	52.69	60.31	56.97	61.45	56.49	56.68	52.13	55.97	51.44	50.72	46.46	81.59	65.23	52.34	47.41	69.46	47.05	45.86	73.74	68.91	67.50	83.10	101.01	46
DML 309s	56.0	52.7	60.3	57.0	61.4	56.5	56.7	52.1	56.0	51.4	50.7	46.5	–	–	–	–	79.18	53.63	52.28	84.06	78.55	76.94	–	–	46
DML 413	75.56	71.15	81.44	76.93	82.98	76.28	76.54	70.40	75.57	69.46	68.49	62.73	110.18	88.08	70.68	64.02	19.47	13.19	12.86	20.67	19.32	18.92	23.30	28.32	46
DML 414 / 414s	75.6	71.2	81.4	76.9	83.0	76.3	76.5	70.4	75.6	69.5	68.5	62.7	110.18	88.08	70.7	64.0	31.84	21.56	21.02	33.80	31.59	30.94	38.10	46.30	46
DML 415 / 415S	75.56	71.15	81.44	76.93	82.98	76.28	76.54	70.40	75.57	69.46	68.49	62.73	110.18	88.08	70.68	64.02	51.58	34.94	34.06	54.76	51.17	50.12	61.70	75.01	46
DML 417s	75.6	71.2	81.4	76.9	83.0	76.3	76.5	70.4	75.6	69.5	68.5	62.7	110.18	88.08	70.7	64.0	84.69	57.37	55.92	89.91	84.03	82.30	101.30	123.17	46
DML 419s	75.56	71.15	81.44	76.93	82.98	76.28	76.54	70.40	75.57	69.46	68.49	62.73	–	–	–	–	91.01	61.64	60.09	96.62	90.29	88.44	–	–	46
DML 607s	111.9	105.4	120.6	113.9	122.9	113.0	113.4	104.3	111.9	102.9	101.4	92.9	163.19	130.46	104.7	94.8	79.42	53.79	52.44	84.31	78.79	77.17	95.00	115.49	46
DML 609s	111.91	105.38	120.62	113.94	122.90	112.97	113.37	104.27	111.93	102.87	101.44	92.91	–	–	–	–	95.42	64.63	63.01	101.30	94.67	92.73	–	–	46
DML 757s	151.1	142.3	162.9	153.9	166.0	152.6	153.1	140.8	151.1	138.9	137.0	125.5	–	–	–	–	81.75	55.37	53.98	86.79	81.11	79.44	–	–	35
DML 759s	151.11	142.30	162.88	153.86	165.95	152.55	153.08	140.80	151.15	138.91	136.98	125.46	–	–	–	–	101.79	68.94	67.21	108.06	100.98	98.91	–	–	35

[1]) Drying capacity is based on following moisture content test standards before and after drying:
–R32: 990 ppm W - 50 ppm W
–R134a: 1050 – 50 ppm W
–R404A, R507: 1020 – 50 ppm W
–R407C: 1020 – 50 ppm W
–R410A: 1050 – 50 ppm W
–R22: 1050 – 60 ppm W
In accordance with ARI 710-2004

[2]) Given in accordance with ARI 710-2004 for
–t_e= -15 °C
–t_c= 30 °C
–Δp = 0.07 bar

For technical data on other refrigerants, please contact your Danfoss Sales Representative

Technical data and capacities

DCL - Hermetic filter drier
Drying and liquid capacity (SI units)

Type	Drying capacity [kg] of refrigerant [1]																Liquid capacity [kW] 2								Max. working pressure PS [bar]
	R134a		R404A		R507		R22		R407C		R410A		R290		R32										
	[°C]																R134a	R404A	R507	R22	R407C	R410A	R290	R32	
	24	52	24	52	24	52	24	52	24	52	24	52	24	52	24	52									
DCL1.52XL /	2.3	2.1	2.4	2.3	2.5	2.3	2.3	2.1	2.3	2.1	2.1	1.9	3.4	2.7	2.1	1.9	2.81	1.90	1.85	2.98	2.78	2.73	4.20	4.08	46
DCL 032 / 032s	3.65	3.44	3.94	3.72	4.01	3.69	3.70	3.40	3.66	3.36	3.31	3.03	5.46	4.36	3.42	3.10	6.13	4.15	4.05	6.51	6.08	5.96	7.00	8.91	46
DCL 032.5s	3.65	3.44	3.94	3.72	4.01	3.69	3.70	3.40	3.66	3.36	3.31	3.03	5.46	4.36	3.42	3.10	9.63	6.53	6.36	10.23	9.56	9.36	11.50	14.01	46
DCL 033 / 033s	3.65	3.44	3.94	3.72	4.01	3.69	3.70	3.40	3.66	3.36	3.31	3.03	5.46	4.36	3.42	3.10	11.25	6.68	7.43	10.46	11.17	9.58	13.50	16.37	46
DCL 052 / 052s	5.9	5.5	6.3	6.0	6.4	5.9	5.9	5.5	5.9	5.4	5.3	4.9	8.7	7.0	5.5	5.0	6.51	4.41	4.30	6.91	6.46	6.33	7.80	9.47	46
DCL 052.5s	5.86	5.52	6.31	5.96	6.43	5.91	5.93	5.46	5.86	5.38	5.31	4.86	8.75	6.99	5.48	4.96	12.13	8.21	8.01	12.87	12.03	11.78	14.50	17.64	46
DCL 053 / 053s	5.86	5.52	6.31	5.96	6.43	5.91	5.93	5.46	5.86	5.38	5.31	4.86	8.75	6.99	5.48	4.96	16.52	11.19	10.91	17.54	16.39	16.05	19.80	24.02	46
DCL 082 / 082s	9.45	8.90	10.18	9.62	10.37	9.54	9.57	8.80	9.45	8.68	8.56	7.84	14.11	11.28	8.84	8.00	6.46	4.38	4.27	6.86	6.41	6.28	7.70	9.40	46
DCL 082.5s	9.45	8.90	10.18	9.62	10.37	9.54	9.57	8.80	9.45	8.68	8.56	7.84	14.11	11.28	8.84	8.00	12.42	8.41	8.20	13.19	12.32	12.07	14.90	18.06	46
DCL 083 / 083s	9.45	8.90	10.18	9.62	10.37	9.54	9.57	8.80	9.45	8.68	8.56	7.84	14.11	11.28	8.84	8.00	16.28	11.03	10.75	17.28	16.15	15.82	19.50	23.68	46
DCL 084 / 084s	9.45	8.90	10.18	9.62	10.37	9.54	9.57	8.80	9.45	8.68	8.56	7.84	14.11	11.28	8.84	8.00	21.42	14.51	14.14	22.74	21.25	20.82	25.60	31.15	46
DCL 162 / 162s	21.32	20.08	22.98	21.71	23.42	21.52	21.60	19.87	21.33	19.60	19.33	17.70	31.85	25.46	19.95	18.07	6.75	4.57	4.46	7.17	6.70	6.56	8.10	9.82	46
DCL 163 / 163s	21.32	20.08	22.98	21.71	23.42	21.52	21.60	19.87	21.33	19.60	19.33	17.70	31.85	25.46	19.95	18.07	19.42	13.15	12.82	20.61	19.26	18.87	23.20	28.24	46
DCL 164 / 164s	21.32	20.08	22.98	21.71	23.42	21.52	21.60	19.87	21.33	19.60	19.33	17.70	31.85	25.46	19.95	18.07	27.04	18.32	17.86	28.71	26.83	26.28	32.40	39.33	46
DCL 165 / 165s	21.32	20.08	22.98	21.71	23.42	21.52	21.60	19.87	21.33	19.60	19.33	17.70	31.85	25.46	19.95	18.07	37.81	25.61	24.97	40.14	37.52	36.75	45.20	54.99	46
DCL 166 / 166s	21.32	20.08	22.98	21.71	23.42	21.52	21.60	19.87	21.33	19.60	19.33	17.70	31.85	25.46	19.95	18.07	44.16	29.91	29.16	46.89	43.82	42.92	52.80	64.22	46
DCL 167s	21.32	20.08	22.98	21.71	23.42	21.52	21.60	19.87	21.33	19.60	19.33	17.70	31.85	25.46	19.95	18.07	49.71	33.67	32.83	52.78	49.32	48.31	59.50	72.29	46
DCL 303 / 303s	43.83	41.27	47.24	44.62	48.13	44.24	44.40	40.84	43.84	40.29	39.73	36.39	63.91	51.09	41.00	37.13	20.48	13.87	13.52	21.74	20.32	19.90	24.50	29.79	46
DCL 304 / 304s	43.83	41.27	47.24	44.62	48.13	44.24	44.40	40.84	43.84	40.29	39.73	36.39	63.91	51.09	41.00	37.13	30.67	20.77	20.25	32.56	30.42	29.80	36.70	44.60	46
DCL 305 / 305s	43.83	41.27	47.24	44.62	48.13	44.24	44.40	40.84	43.84	40.29	39.73	36.39	63.91	51.09	41.00	37.13	48.61	32.93	32.10	51.61	48.23	47.24	58.20	70.70	46
DCL 306 / 306s	43.83	41.27	47.24	44.62	48.13	44.24	44.40	40.84	43.84	40.29	39.73	36.39	63.91	51.09	41.00	37.13	60.17	40.75	39.73	63.88	59.69	58.47	72.00	87.50	46
DCL 307s	43.83	41.27	47.24	44.62	48.13	44.24	44.40	40.84	43.84	40.29	39.73	36.39	63.91	51.09	41.00	37.13	69.46	47.05	45.86	73.74	68.91	67.50	83.10	101.01	46
DCL 309s	43.83	41.27	47.24	44.62	48.13	44.24	44.40	40.84	43.84	40.29	39.73	36.39	–	–	–	–	79.18	53.63	52.28	84.06	78.55	76.94	–	–	46
DCL 413	59.71	56.23	64.36	60.80	65.58	60.28	60.49	55.64	59.73	54.89	54.13	49.58	87.08	69.61	55.86	50.60	19.47	13.19	12.86	20.67	19.32	18.92	23.30	28.32	46
DCL 414 / 414s	59.71	56.23	64.36	60.80	65.58	60.28	60.49	55.64	59.73	54.89	54.13	49.58	87.08	69.61	55.86	50.60	31.84	21.56	21.02	33.80	31.59	30.94	38.10	46.30	46
DCL 415 / 415s	59.71	56.23	64.36	60.80	65.58	60.28	60.49	55.64	59.73	54.89	54.13	49.58	87.08	69.61	55.86	50.60	51.58	34.94	34.06	54.76	51.17	50.12	61.70	75.01	46
DCL 417s	59.71	56.23	64.36	60.80	65.58	60.28	60.49	55.64	59.73	54.89	54.13	49.58	87.08	69.61	55.86	50.60	84.69	57.37	55.92	89.91	84.03	82.30	101.30	123.17	46
DCL 419s	59.71	56.23	64.36	60.80	65.58	60.28	60.49	55.64	59.73	54.89	54.13	49.58	–	–	–	–	91.01	61.64	60.09	96.62	90.29	88.44	–	–	46
DCL 607s	87.65	82.54	94.48	89.25	96.26	88.49	88.80	81.67	87.67	80.58	79.46	72.78	127.82	102.19	82.00	74.27	79.42	53.79	52.44	84.31	78.79	77.17	95.00	115.49	46
DCL 609s	87.65	82.54	94.48	89.25	96.26	88.49	88.80	81.67	87.67	80.58	79.46	72.78	–	–	–	–	95.42	64.63	63.01	101.30	94.67	92.73	–	–	46
DCL 757s	119.43	112.46	128.72	121.60	131.15	120.56	120.99	111.28	119.46	109.79	108.26	99.16	–	–	–	–	81.75	55.37	53.98	86.79	81.11	79.44	–	–	35
DCL 759s	119.43	112.46	128.72	121.60	131.15	120.56	120.99	111.28	119.46	109.79	108.26	99.16	–	–	–	–	101.79	68.94	67.21	108.06	100.98	98.91	–	–	35

[1]) Drying capacity is based on following moisture content test standards before and after drying:
- *R32: 990 ppm W - 50 ppm W*
- *R134a: 1050 – 50 ppm W*
- *R404A, R507: 1020 – 50 ppm W*
- *R407C: 1020 – 50 ppm W*
- *R410A: 1050 – 50 ppm W*
- *R22: 1050 – 60 ppm W*

In accordance with ARI 710-2004

[2]) Given in accordance with ARI 710-2004 for
- t_e = -15 °C
- t_c = 30 °C
- Δp = 0.07 bar

For technical data on other refrigerants, please contact your Danfoss Sales Representative

Conversions

$$\text{Drops of water} = \frac{\text{(kg of refrigerant} \times \text{(Initial PPM of water - Final PPM of water)}}{50}$$

See ARI standard 710-86 for recommended initial and final PPM values for different refrigerants.

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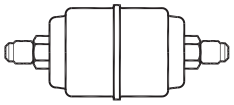
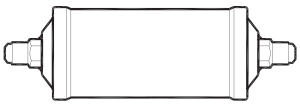
Ordering





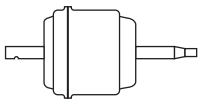
Type DCL Flare

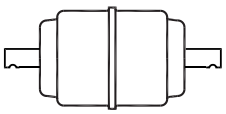
Type	Conn.		Multi pack		Industrial pack for OEM only	
	[in.]	[mm]	Code no.	Qty.	Code no.	Qty.
DCL 032	1/4	6	023Z5000 [1] [2]	32	–	–
DCL 032	1/4	6	023Z5075 [2]	32	–	–
DCL 033	3/8	10	023Z5001 [1] [2]	32	–	–
DCL 033	3/8	10	023Z5089 [2]	32	–	–
DCL 052	1/4	6	023Z5002 [2]	24	023Z8002 [2]	16
DCL 053	3/8	10	023Z5003 [2]	24	023Z8003 [2]	16
DCL 082	1/4	6	023Z5004 [2]	24	023Z8004 [2]	16
DCL 083	3/8	10	023Z5005 [2]	24	023Z8005 [2]	16
DCL 084	1/2	12	023Z5006 [2]	24	–	–
DCL 162	1/4	6	023Z5007 [2]	12	023Z8007 [2]	12
DCL 163	3/8	10	023Z5008 [2]	12	023Z8008 [2]	12
DCL 164	1/2	12	023Z5009 [2]	12	023Z8009 [2]	12
DCL 165	5/8	16	023Z5010 [2]	12	023Z8010 [2]	12
DCL 166	3/4	19	023Z5011 [2]	12	–	–
DCL 303	3/8	10	023Z0012	8	–	–
DCL 304	1/2	12	023Z0013	8	023Z3013	8
DCL 305	5/8	16	023Z0014	8	023Z3014	8
DCL 306	3/4	19	023Z0156	8	–	–
DCL 414	1/2	12	023Z0102	8	–	–
DCL 415	5/8	16	023Z0103	8	–	–

[1]) Wire mesh in filter drier outlet

[2]) India make is available with code 023ZXXXX91

Ordering





Type DCL Solder (copper)

Type	Conn.	Multi pack		Industrial pack for OEM only		Conn.	Multi pack	
	[in.]	Code no.	Qty.	Code no.	Qty.	[mm]	Code no.	Qty.
DCL 1.52XL/2.8mm s	1/4	–	–	023Z8252	36	–	–	–
DCL 032s	1/4	023Z5013 [1] [2]	32	023Z8013 [1]	28	3	–	–
DCL 032.5s	5/16	023Z5014 [2]	32	–	–	8	–	–
DCL 033s	3/8	023Z5015 [2]	32	–	–	10	023Z5016 [2]	32
DCL 052s	1/4	023Z5018 [2]	24	–	–	6	–	–
DCL 053s	3/8	023Z5019 [2]	24	023Z8011	16	10	023Z5020 [2]	24
DCL 082s	1/4	023Z5022 [2]	24	–	–	6	–	–
DCL 083s	3/8	023Z5023	24	023Z8023 [2]	16	10	023Z5024 [2]	24
DCL 084s	1/2	023Z5026 [2]	24	023Z8026	16	12	023Z5025	24
DCL 085s	5/8	023Z5145 [2]	24	–	–	–	–	–
DCL 162s	1/4	023Z5028 [2]	12	–	–	6	023Z5027 [2]	12
DCL 163s	3/8	023Z5029 [2]	12	–	–	10	023Z5030 [2]	12
DCL 164s	1/2	023Z5032 [2]	12	023Z8032 [2]	12	12	023Z5031 [2]	12
DCL 165s	5/8	023Z5033 [2]	12	–	–	12	–	–
DCL 166s	3/4	023Z5070 [2]	12	–	–	–	–	–
DCL 167s	7/8	023Z5034 [2]	12	–	–	–	–	–
DCL 303s	3/8	023Z0030	8	–	–	10	–	–
DCL 304s	1/2	023Z0031	8	–	–	12	–	–
DCL 305s	5/8	023Z0032	8	023Z3032	8	16	–	–
DCL 306s	3/4	023Z0033	8	–	–	18	023Z0216	8
DCL 307s	7/8	023Z0034	8	–	–	22	–	–
DCL 309s	1 1/8	023Z0035	8	–	–	28	–	–
DCL 414s	1/2	023Z0104	8	–	–	12	–	–
DCL 415s	5/8	023Z0105	8	–	–	16	–	–
DCL 417s	7/8	023Z0106	8	–	–	22	–	–
DCL 419s	1 1/8	023Z0107	8	–	–	28	–	–
DCL 607s	7/8	023Z0036	12	–	–	22	–	–
DCL 609s	1 1/8	023Z0037	12	–	–	28	–	–
DCL 757s	7/8	023Z0115	12	–	–	22	–	–
DCL 759s	1 1/8	023Z0116	12	–	–	28	–	–

[1]) Wire mesh in filter drier outlet

[2])India make is available with code 023ZXXXX91

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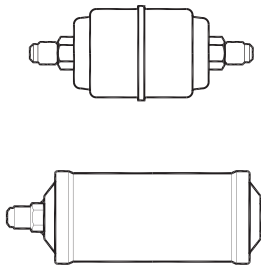
Ordering (continued)



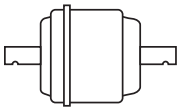
Type DML Flare

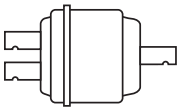
Type	Conn.		Multi pack		Industrial pack for OEM only	
	[in.]	[mm]	Code no.	Qty.	Code no.	Qty.
DML 032	1/4	6	023Z5035 [1] [2]	32	023Z8035 [1] [2]	28
DML 033	3/8	10	023Z5036 [1] [2]	32	023Z8036 [1]	28
DML 033	3/8	10	023Z5090 [2]	32	–	–
DML 052	1/4	6	023Z5037 [2]	24	023Z8037 [2]	16
DML 053	3/8	10	023Z5038 [2]	24	023Z8038 [2]	16
DML 082	1/4	6	023Z5039 [2]	24	023Z8039 [2]	16
DML 083	3/8	10	023Z5040 [2]	24	023Z8040 [2]	16
DML 084	1/2	12	023Z5041 [2]	24	023Z8041 [2]	16
DML 085	5/8	16	023Z5073 [2]	24	–	–
DML 162	1/4	6	023Z5042 [2]	12	023Z8042 [2]	12
DML 163	3/8	10	023Z5043 [2]	12	023Z8043 [2]	12
DML 164	1/2	12	023Z5044 [2]	12	023Z8044 [2]	12
DML 165	5/8	16	023Z5045 [2]	12	023Z8045 [2]	12
DML 166	3/4	19	023Z5046 [2]	12	–	–
DML 303	3/8	10	023Z0049	8	023Z3049	8
DML 304	1/2	12	023Z0050	8	023Z3050	8
DML 305	5/8	16	023Z0051	8	023Z3051	8
DML 306	3/4	19	023Z0193	8	023Z3193	8
DML 385	5/8	16	023Z0189	8	–	–
DML 413	3/8	10	023Z0108	8	–	–
DML 414	1/2	12	023Z0109	8	–	–
DML 415	5/8	16	023Z0110	8	023Z3110	6
DML 416	3/4	19	023Z0195	8	023Z0210	6

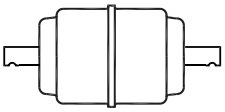
[1] Wire mesh in filter drier outlet

[2] India make is available with code 023ZXXXX91

Ordering (continued)







Type DML Solder (copper)

Type	Conn.	Multi pack		Industrial pack for OEM only		Conn.	Multi pack		Industrial pack for OEM only	
	[in.]	Code no.	Qty.	Code no.	Qty.	[mm]	Code no.	Qty.	Code no.	Qty.
DML 1.52s	1/4	–	–	023Z8253	36	–	–	–	–	–
DML 1.52x2/2s	1/4	–	–	023Z8250	36	–	–	–	–	–
DML 032s	1/4	023Z5048 [1] [2]	32	023Z8048 [1]	28	6	–	–	023Z8047 [2]	28
DML 032.5s	5/16	023Z5049 [2]	32	–	–	8	–	–	–	–
DML 033s	3/8	023Z5050 [2]	32	023Z8050 [2]	28	10	023Z5051 [2]	32	–	–
DML 034s	1/2	023Z5121	32	–	–	12	–	–	–	–
DML 052s	1/4	023Z5053 [2]	24	–	–	6	023Z5052 [2]	24	–	–
DML 053s	3/8	023Z5054 [2]	24	023Z8054 [2]	16	10	023Z5055 [2]	24	023Z8055 [2]	16
DML 054s	1/2	023Z5101 [2]	24	–	–	–	–	–	–	–
DML 055s	5/8	023Z5100 [2]	24	–	–	16	023Z5100 [2]	24	–	–
DML 082s	1/4	023Z5057 [2]	24	–	–	6	–	–	–	–
DML 082.5s	5/16	023Z5117	24	–	–	8	–	–	–	–
DML 083s	3/8	023Z5058 [2]	24	–	–	10	023Z5059 [2]	24	–	–
DML 084s	1/2	023Z5061 [2]	24	–	–	12	023Z5060 [2]	24	–	–
DML 085s	5/8	023Z5072 [2]	24	–	–	16	–	–	–	–
DML 162s	1/4	023Z5063 [2]	12	–	–	6	–	–	–	–
DML 163s	3/8	023Z5064 [2]	12	–	–	10	023Z5065 [2]	12	–	–
DML 164s	1/2	023Z5067 [2]	12	023Z8067 [2]	12	12	023Z5066 [2]	12	–	–
DML 165s	5/8	023Z5068 [2]	12	023Z8068 [2]	12	16	–	–	–	–
DML 166s	3/4	023Z5071 [2]	12	023Z8071	12	19	–	–	–	–
DML 167s	7/8	023Z5069 [2]	12	–	–	22	–	–	–	–
DML 303s	3/8	023Z0067	8	–	–	10	–	–	–	–
DML 304s	1/2	023Z0068	8	–	–	12	–	–	–	–
DML 305s	5/8	023Z0069	8	023Z3069	8	16	–	–	–	–
DML 306s	3/4	023Z0070	8	–	–	19	–	–	–	–
DML 307s	7/8	023Z0071	8	023Z3071	8	22	–	–	–	–
DML 309s	1 1/8	023Z0072	8	–	–	28	–	–	–	–
DML 414s	1/2	023Z0111	8	–	–	12	–	–	–	–
DML 415s	5/8	023Z0112	8	–	–	16	–	–	–	–
DML 416s	3/4	–	–	–	–	19	023Z8246	8	–	–
DML 417s	7/8	023Z0113	8	–	–	22	–	–	–	–
DML 419s	1 1/8	023Z0114	8	023Z3114	6	28	–	–	–	–
DML 604s	1/2	–	–	–	–	12	–	–	–	–
DML 607s	7/8	023Z0073	12	–	–	22	–	–	–	–
DML 609s	1 1/8	023Z0074	12	–	–	28	–	–	–	–
DML 757s	7/8	023Z0117	12	–	–	22	–	–	–	–
DML 759s	1 1/8	023Z0118	12	–	–	28	–	–	–	–

[1]) Wire mesh in filter drier outlet

[2])India make is available with code 023ZXXXX91

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Identification

Type codes

Type	Codes	Description
Filter drier	D	Drier
Solid core	C	80% Molecular Sieve / 20% activated alumina
	M	100% Molecular Sieve core
Application	L	Liquid line
Size (volume)	1.5	1.5 in^3
	03	3 in^3
	05	5 in^3
	08	8 in^3
	16	16 in^3
	30	30 in^3
	38	38 in^3
	41	41 in^3
	60	60 in^3
	75	75 in^3
Connection (filter connection in 1/8 of an inch increments)	2	1/4 in. / 6 mm
	2.5	5/16 in. / 8 mm
	3	3/8 in. / 10 mm
	4	1/2 in. / 12 mm
	5	5/8 in. / 16 mm
	6	3/4 in. / 18 (19) mm
	7	7/8 in. / 22 mm
	9	1 1/8 in. / 28 mm
Connection type	(blank)	Flare connection
	s	Solder connection (pure copper)

Example for type codes

D	C	L	05	3	s
Filter drier	Solid core	Application	Size (volume)	Connection (filter connection in 1/8 of an inch increments)	Connection type

DML 1.52x2/2s

D	M	L	1.5	2	x 2/2	s
Filter drier	Solid core	Application	Size (volume)	Connection (filter connection in 1/8 of an inch increments)	Dual connector inlet / Connection outlet in 1/8 of an in. increments	Connection type

Selection

Type selection is made considering the application

Refrigerant and oil types		DCL	DML
Refrigerant	HFO	Recommended	Recommended
	HC [1])	Recommended	Recommended
	HFC	Recommended	Recommended
	HCFC	Recommended	Recommended
Oil	Mineral or AB	Recommended	Recommended
	POE or PAG, pure	Recommended	Recommended
	POE or PAG, with additives	Not recommended [2])	Recommended

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

[2]) DCL Hermetic filter driers contain activated alumina, which is a polar material used for acid adsorption. Many oil additives are also polar substances and can be adsorbed by the activated alumina, rendering them useless, and reducing the drier's acid capacity, though this is not harmful to the system.

Selection example

Select the appropriate type (DML or DCL) based on refrigerant and oil type.
Then select the drier size based on the adsorption and liquid capacity required.

a. Amount of charge: 25 kg R134a at tL= 24 °C To dry 25 kg R134a at 24 °C from 1050 to 60 ppm moisture, a DML 16 is necessary

b. Cooling capacity: Qe= 20 kW
To obtain a mass flow corresponding to 20 kW cooling capacity with a DML 16 hermetic filter drier, a $^{3}/_{8}$ inch connection must be chosen. Larger connections can be chosen in accordance with the liquid line dimension

c. Result
DML 163 or DML 163s can be used

If the initial moisture content is very small or a planned change of the filter drier is considered, a smaller filter drier size can be chosen.

Type	Drying capacity [kg] refrigerant [1])														Liquid capacity [kW] [2])						
	R134a		R404A		R507		R22		R407C		R410A		R32		R134a	R404A	R507	R22	R407C	R410A	R32
	[°C]																				
	24	52	24	52	24	52	24	52	24	52	24	52	24	52							
DML 1.52s	2.9	2.7	3.1	3.0	3.2	2.9	2.9	2.7	2.9	2.7	2.6	2.4	2.7	2.5	5.97	4.21	3.86	6.32	5.97	5.97	8.78
DML 1.52x2/2s	2.9	2.7	3.1	3.0	3.2	2.9	2.9	2.7	2.9	2.7	2.6	2.4	2.7	2.5	5.97	4.21	3.86	6.32	5.97	5.97	8.78
DCL 033/033s	5.0	4.7	5.3	5.1	5.4	3.9	3.9								12.85	9.86	9.57	14.46	13.84		
DML 163/163s	27.7	26.2	29.8	28.3	30.4	28.0	28.1	26.0	27.8	25.7	25.3	23.3	25.6	23.6	16.33	11.18	10.82	17.41	16.33	16.43	24.16
DML 164/164s	27.7	26.2	29.8	28.3	30.4	28.0	28.1	26.0	27.8	25.7	25.3	23.3	25.6	23.6	32.19	23.54	22.81	35.40	33.60	34.83	50.99
DML 165/165s	27.7	26.2	29.8	28.3	30.4	28.0	28.1	26.0	27.8	25.7	25.3	23.3	25.6	23.6	44.64	36.59	35.59	51.82	50.16	54.83	79.63
DML 166/166s	27.7	26.2	29.8	28.3	30.4	28.0	28.1	26.0	27.8	25.7	25.3	23.3	25.6	23.6	45.53	37.37	36.35	52.89	51.20	56.01	81.33
DML 167s	27.7	26.2	29.8	28.3	30.4	28.0	28.1	26.0	27.8	25.7	25.3	23.3	25.6	23.6	43.92	40.14	39.19	53.50	52.78	60.97	87.77
DML 303/303s	12.6					58.3	58.5	54.0	57.8	53.4	52.6	48.5	53.3	49.2	15.70	10.56				15.48	22.79
DCL											11.5	10.6	11.7								

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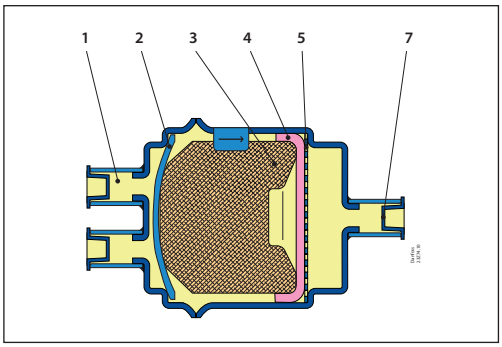
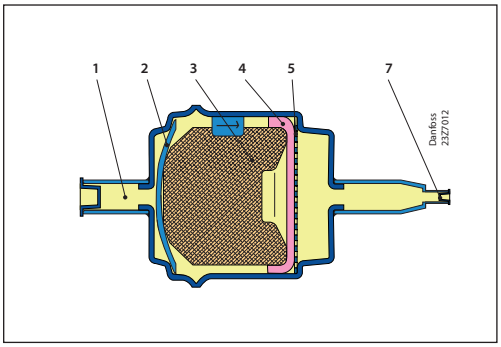
Design / Function

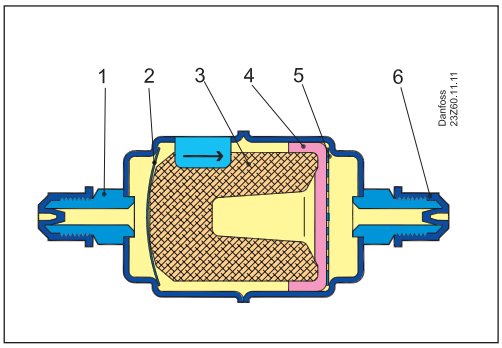
DML 1.5



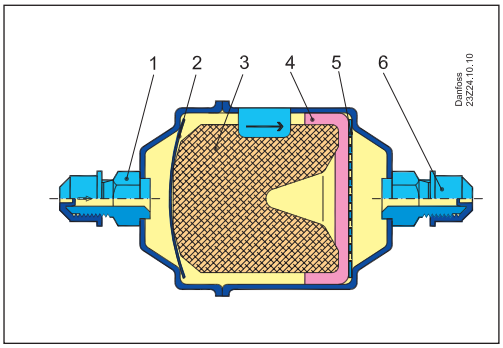
DCL 1.5



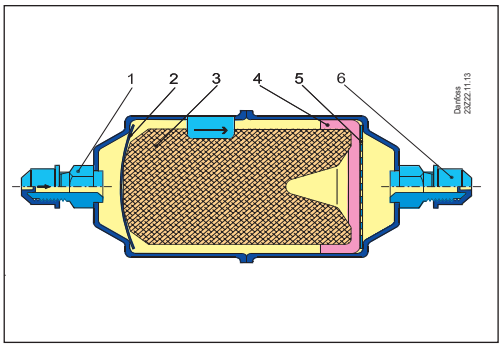
DML / DCL 03



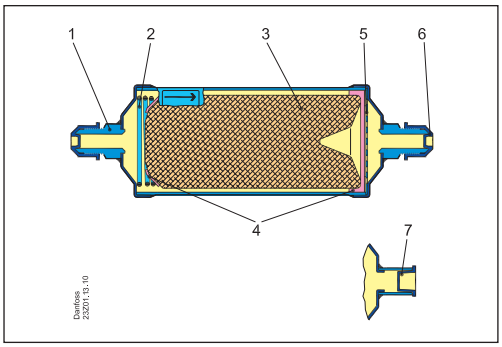
DML / DCL 05



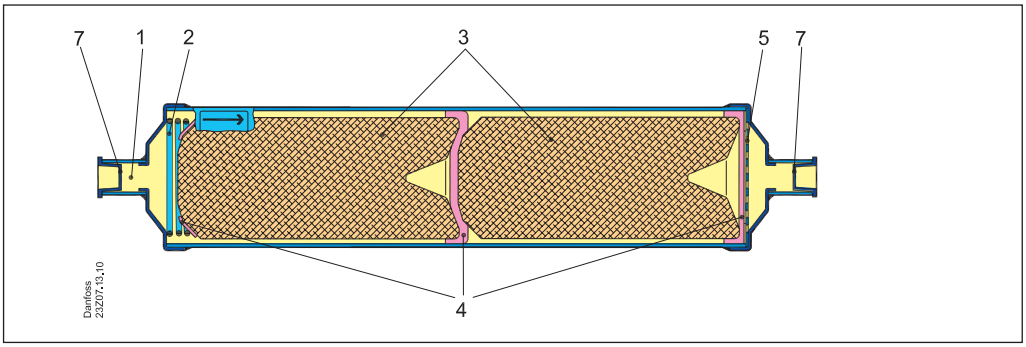
DML / DCL 08, DML / DCL 16



DML / DCL 30, DML / DCL 41



DML / DCL 60, DML / DCL 75



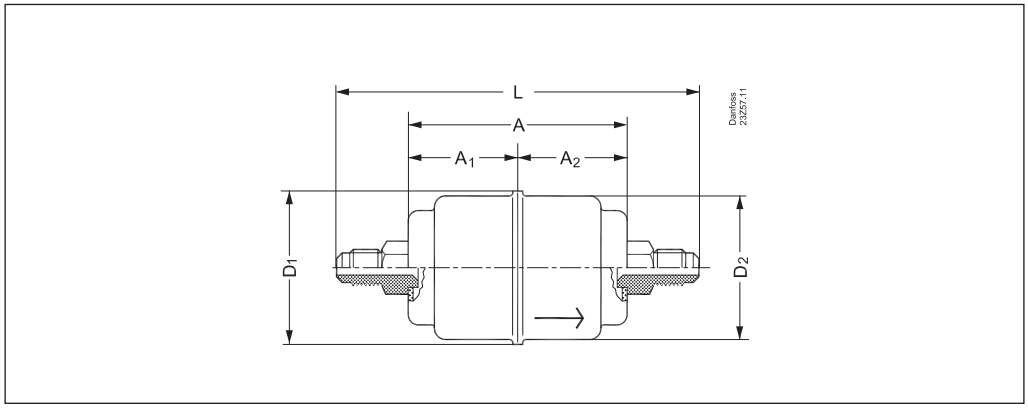
1. Inlet
2. Spring
3. Solid core
4. Polyester mat
5. Perforated plate
6. Seal cap, flare connection
7. Seal cap, solder connection

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

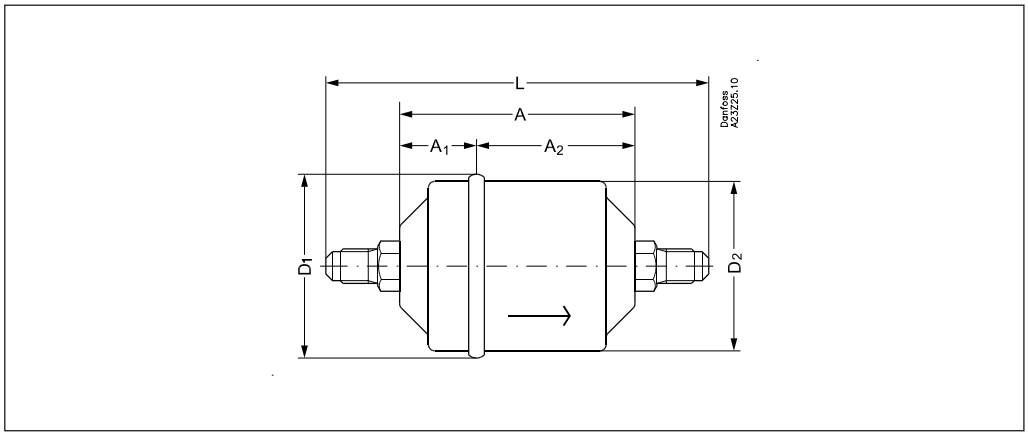
Powder formation is eliminated because the solid core grains are bonded and cannot move against each other.

Dimensions and weights

Flare connections



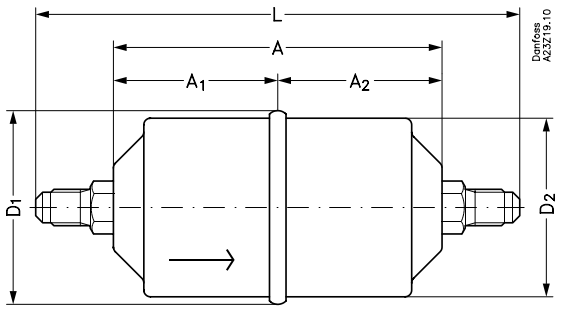
Type	A	A1	A2	L	D1	D2	Net weight
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[Kg]
DCL/DML 032	66	33	33	110	46	43	0.17
DCL/DML 033	66	33	33	123	46	43	0.19



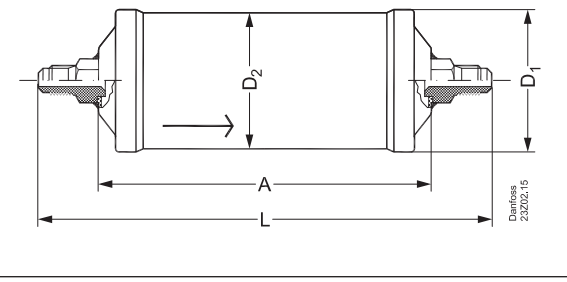
Type	A	A1	A2	L	D1	D2	Net weight
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[Kg]
DCL/DML 052	75	24.5	50.5	119	58	54	0.24
DCL/DML 053	75	24.5	50.5	132	58	54	0.27

Dimensions and weights (continued)

Flare connections



Type	A	A1	A2	L	D1	D2	Net weight
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[Kg]
DCL/DML 082	101	50.5	50.5	145	58	54	0.31
DCL/DML 083	101	50.5	50.5	158	58	54	0.35
DCL/DML 084	101	50.5	50.5	166	58	54	0.37
DML 085	101	50.5	50.5	175	58	54	0.40
DCL/DML 162	110	55	55	154	80	76	0.65
DCL/DML 163	110	55	55	167	80	76	0.67
DCL/DML 164	110	55	55	175	80	76	0.74
DCL/DML 165	110	55	55	184	80	76	0.74
DCL/DML 166	110	55	55	182	80	76	0.84

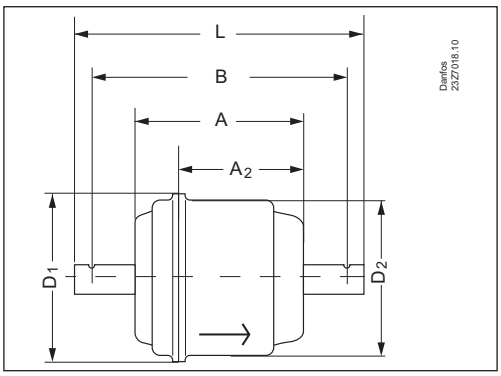


Type	A	L	D1	D2	Net weight
	[mm]	[mm]	[mm]	[mm]	[Kg]
DCL / DML 303	186	243	80	76	1.28
DCL / DML 304	186	251	80	76	1.32
DCL / DML 305	186	260	80	76	1.35
DCL / DML 306	186	258	80	76	1.44
DML 385	151	225	93	89	1.59
DCL / DML 413	187	244	93	89	1.79
DCL / DML 414	187	252	93	89	1.82
DCL / DML 415	187	261	93	89	1.87

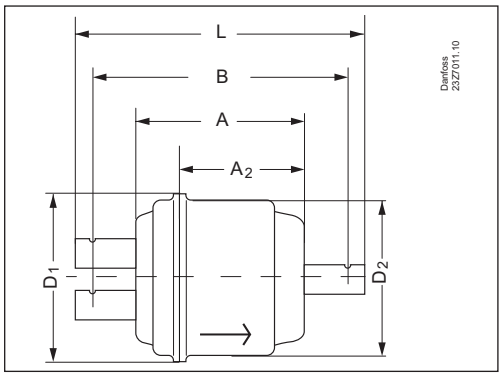
Dimensions and weights (continued)

Solder connections

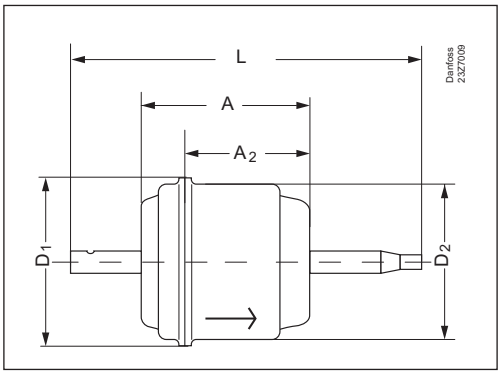
DML 1.52s



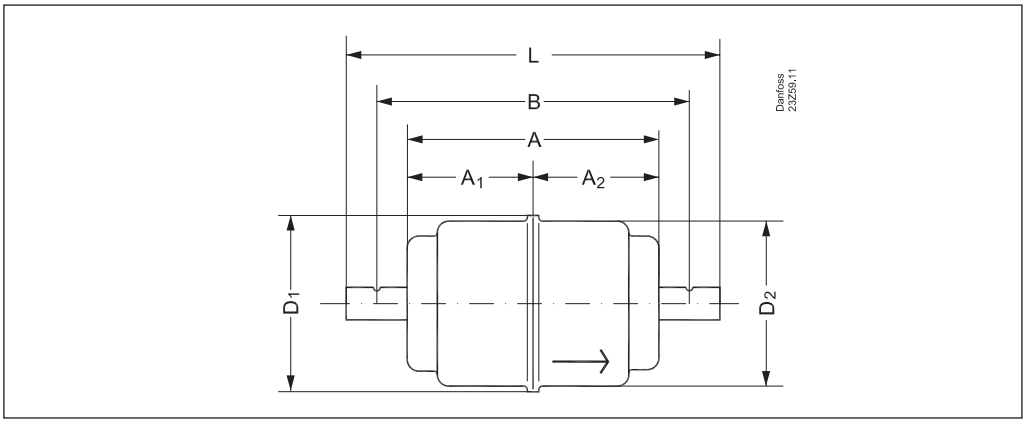
DML 1.52x2/2s



DCL 1.52XL/2.8mm s



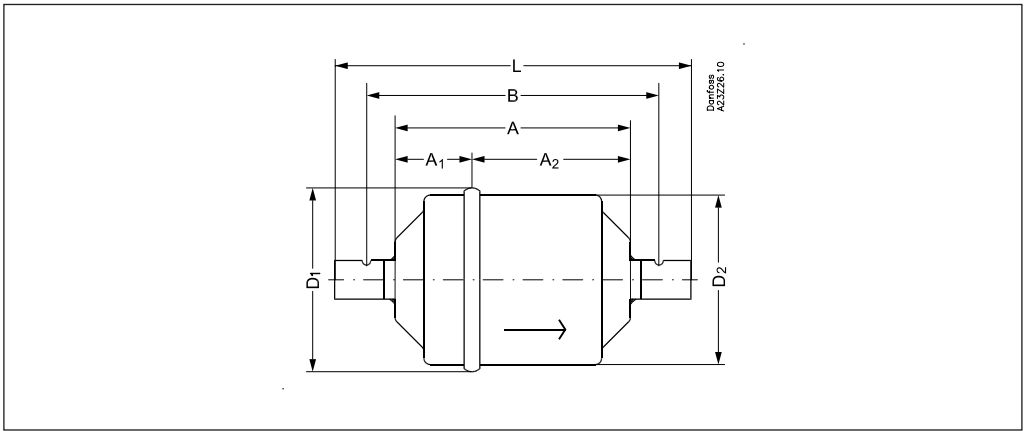
Type	A	A_2	B	L	D_1	D_2	Net weight
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[Kg]
DML 1.52s	45	33	63	77	46	43	0.11
DML 1.52x2/2s	45	33	63	77	46	43	0.14
DCL 1.52XL/2.8mm s	45	33	–	106	46	43	0.14



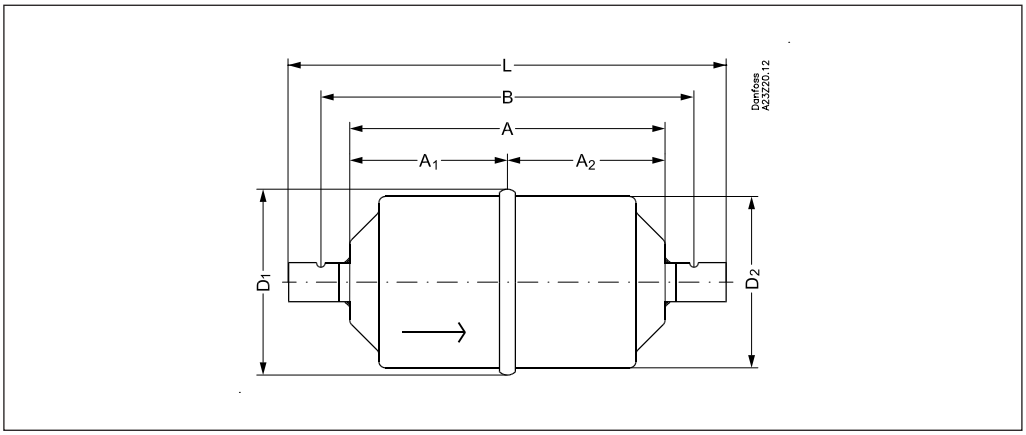
Type	A	A_1	A_2	B	L	D_1	D_2	Net weight
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[Kg]
DCL/DML 032s	66	33	33	82	98	46	43	0.15
DCL/DML 032.5s	66	33	33	84	102	46	43	0.15
DCL/DML 033s	66	33	33	85	104	46	43	0.15
DCL/DML 034s	66	33	33	87	108	46	43	0.15

Dimensions and weights (continued)

Solder connections



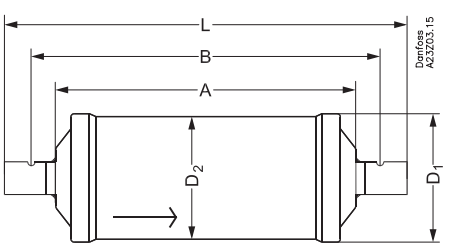
Type	A	A1	A2	B	L	D1	D2	Net weight
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[Kg]
DCL/DML 052s	75	24.5	50.5	91	107	58	54	0.24
DCL/DML 052.5s	75	24.5	50.5	93	111	58	54	0.24
DCL/DML 053s	75	24.5	50.5	94	113	58	54	0.24
DML 054s	75	24.5	50.5	96	117	58	54	0.24
DML 055s	75	24.5	50.5	99	123	58	54	0.24



Type	A	A1	A2	B	L	D1	D2	Net weight
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[Kg]
DCL/DML 082s	101	50.5	50.5	117	133	58	54	0.34
DCL/DML 082.5s	101	50.5	50.5	119	137	58	54	0.30
DCL/DML 083s	101	50.5	50.5	120	139	58	54	0.30
DCL/DML 084s	101	50.5	50.5	122	143	58	54	0.30
DML 085s	101	50.5	50.5	125	149	58	54	0.35
DCL/DML 162s	110	55	55	126	142	80	76	0.63
DCL/DML 162.5s	110	55	55	128	146	80	76	0.63
DCL/DML 163s	110	55	55	129	148	80	76	0.63
DCL/DML 164s	110	55	55	131	152	80	76	0.65
DCL/DML 165s	110	55	55	134	158	80	76	0.66
DCL/DML 166s	110	55	55	140	170	80	76	0.66
DCL/DML 167s	110	55	55	136	172	80	76	0.67

Dimensions and weights (continued)

Solder connections



Type	A	B	L	D_1	D_2	Net weight
	[mm]	[mm]	[mm]	[mm]	[mm]	[Kg]
DCL/DML 303s	186	205	224	80	76	1.24
DCL/DML 304s	186	207	228	80	76	1.24
DCL/DML 305s	186	210	234	80	76	1.24
DCL/DML 306s	186	216	246	80	76	1.24
DCL/DML 307s	186	212	248	80	76	1.24
DCL/DML 309s	186	207	249	80	76	1.43
DCL/DML 414s	187	208	229	93	89	1.73
DCL/DML 415s	187	211	235	93	89	1.74
DCL/DML 417s	187	213	249	93	89	1.74
DCL/DML 419s	187	208	250	93	89	1.74
DCL/DML 604s	337	358	379	80	76	2.94
DCL/DML 607s	337	363	399	80	76	2.94
DCL/DML 609s	337	358	400	80	76	2.95
DCL/DML 757s	338	364	400	93	89	4.09
DCL/DML 759s	338	359	401	93	89	4.11

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