

MAKING MODERN LIVING POSSIBLE

*Danfoss*

Technical brochure

# Filter FIA and FIA-SS



[www.danfoss.com/ir](http://www.danfoss.com/ir)

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## Introduction

FIA filters are a range of angle-way and straight-way filters which are carefully designed to give favourable flow conditions. The design makes the filter easy to install, and ensures quick filter inspection and cleaning.

FIA filters are used ahead of automatic controls, pumps, compressors etc. for initial plant start-up and where permanent filtration of the refrigerant is required. The filter reduces the risk of undesirable system breakdowns and reduces wear and tear on plant components.

FIA filters are equipped with a screen mesh of stainless steel, available in sizes 100, 150, 250 and 500 $\mu$  (microns\*), (US 150, 100, 72, 38 mesh\*).



## Features

- Applicable to all common refrigerants and all non-corrosive gases/liquids.
- Filter net of stainless steel mounted direct without extra gaskets means easy servicing.
- FIA filter housing compatible with housings belonging to other Danfoss products. A compatibility overview can be obtained from local Danfoss Sales Company
- Two types of filter inserts are available:
  - A plain insert of stainless steel
  - A pleated insert (DN 15-200) with extra large surface, which ensures long intervals between cleaning and low pressure drop.
- FIA 15-40 (½ – 1 ½ in.):  
A special insert (50 $\mu$ ) can be used in combination with a standard version when cleaning a plant during commissioning.
- FIA 50-300 (2 - 12 in.):  
A large capacity filter bag (50 $\mu$ ) can be inserted for cleaning plant during commissioning
- FIA 50-300 (2 - 12 in.) can be equipped with a magnetic insert for detension of iron particles and other magnetic particles.
- Each filter clearly marked with type, size and performance range
- Housing and bonnet of low temperature steel (FIA) or stainless steel (FIA-SS) in accordance with the requirements of the Pressure Equipment Directive and those of other international classification authorities
- Temperature range  
–60/+150°C (–76/+302°F)
- Pressure range:  
FIA: 40 bar g (580 psi g)  
FIA-SS: 52 bar g (754 psi g)
- Classification: DNV, LR, SAQ, CRN, BV etc.  
To obtain an updated product certification list please contact your local Danfoss Sales Company

\* Mesh is the number of threads per inch.  
 $\mu$  (microns) is the distance between two threads  
(1 $\mu$  = 1/1000 mm).

**Design**
**Connections**

Available with the following connections:

- Butt-weld DIN (EN 10220)
- Butt-weld ANSI (B 36.10 Schedule 80), DN 15 - 40 (1/2 - 1 1/2 in.)
- Butt-weld ANSI (B 36.10 Schedule 40), DN 50 - 300 (2 - 12 in.)
- Socket Weld (ANSI B 16.11), DN 15 - DN 50 (1/2 - 2 in.)
- FPT Female Pipe Thread, NPT (ANSI/ASME B 1.20.1), DN 15 - 32 (1/2 - 1 1/4 in.)

**Filter Insert**

A filter grid and filter net of stainless steel ensure long element life. The filter net offers a very high degree of cleanability.

**Housing**

The filter housing is made of special, cold resistant steel (FIA) or stainless steel (FIA-SS) approved for low temperature application.

**Pressure Equipment Directive (PED)**

FIA filters are approved in accordance with the European standard specified in the Pressure Equipment Directive and are CE marked.

For further details / restrictions - see Installation Instruction



<b>Nominal bore</b>	DN ≤ 25 (1 in.)	DN 32-80 mm (1 1/4 - 3 in.)	DN 100-250 mm (4-10 in.)	DN 300 (12 in.)
<b>Classified for</b>	Fluid group I			
<b>Category</b>	Article 3, paragraph 3	II	III	IV

**Installation/Maintenance**

The filter is designed to resist high internal pressures. However, the piping system in general should be designed to avoid liquid traps and reduce the risk of hydraulic pressure caused by thermal expansion.

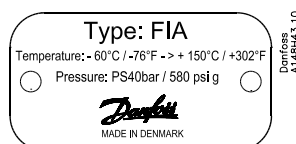
of the filter when the differential pressure loss >0.5 bar (7.3 psi) in the liquid line and >0.05 bar (0.7 psi) in the suction line. The max. permissible differential pressure is 1 bar (15 psi).

For further information refer to installation instruction for FIA.

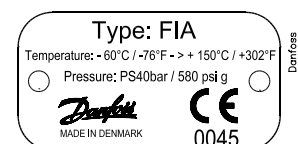
Install the filter with the cover downwards. Danfoss recommends to replacement/cleaning

**Identification:**

DN 15 - 25  
(1/2 - 1 in.)



DN 32 - 300  
(1 1/4 - 12 in.)


**Technical data**

- **Refrigerants**  
Applicable to all common refrigerants including flammable refrigerants and all non-corrosive gases/liquids. For further information please see installation instruction for FIA.
- **Temperature range**  
-60°C/+150°C (-76°F/+302°F).

- **Pressure range**  
Max. working pressure:  
FIA: 40 bar g (580 psi g).  
FIA-SS: 52 bar g (754 psi g).

**Selection of filter size**

The mesh aperture size of the filter must satisfy the requirements stated by the suppliers of the equipment to be protected.

The following recommendations of aperture size apply in general to refrigeration installations:

*All lines*

First start up:..... **50μ**  
 (Use filter element with removable insert for FIA DN15-40 or separate filter bag for FIA DN 50-200. 50μ insert should normally be removed after the first 24 hours of operation)

*Liquid Lines*

Ahead of pumps:..... **500μ** [38 mesh]  
 After pumps: ..... **150μ** [100 mesh] / 250μ [72 mesh]  
 In front of AKVA valves ..... **100μ** [150 mesh]

*Protection of automatic regulation equipment*

Generally ..... **150μ** [100 mesh] / 250μ [72 mesh]  
 Sensitive equipment, e.g. suction regulators with low temperature ..... **250μ** [72 mesh]

*Suction Lines*

Ahead of screw compressor ..... **250μ** [72 mesh]  
 Ahead of piston compressor ..... **150μ** [100 mesh]

*Definition*

Mesh is the number of threads per inch. μ (microns) is the distance between two threads (1μ = 1 /1000 mm).

*Flow coefficient (DIN/ANSI)*

Size FIA	μ	mesh	wire mm	wire in.	free space %	screen area			
						Plain elements		Pleated elements	
						cm <sup>2</sup>	in <sup>2</sup>	cm <sup>2</sup>	in <sup>2</sup>
15 - 20 (1/2" - 3/4")	100		0.068	0.003	35	25	3.9	45	7.0
	150	100	0.10	0.004	36	25	3.9	45	7.0
	250	72	0.10	0.004	51	25	3.9	45	7.0
	500	38	0.16	0.006	57.6	25	3.9	45	7.0
25 - 40 (1" - 1 1/2")	100		0.068	0.003	35	71	11	160	25.0
	150	100	0.10	0.004	36	71	11	160	25.0
	250	72	0.10	0.004	51	71	11	160	25.0
	500	38	0.16	0.006	57.6	71	11	160	25.0
50 (2")	100		0.068	0.003	35	71	11	200	31.2
	150	100	0.10	0.004	36	87	13.5	200	31.2
	250	72	0.10	0.004	51	87	13.5	200	31.2
	500	38	0.16	0.006	57.6	87	13.5	200	31.2
65 (2 1/2")	150	100	0.10	0.004	36	127	19.7	305	47.6
	250	72	0.10	0.004	51	127	19.7	305	47.6
	500	38	0.16	0.006	57.6	127	19.7	305	47.6
	150	100	0.10	0.004	36	205	31.8	450	70.2
80 (3")	250	72	0.10	0.004	51	205	31.8	450	70.2
	500	38	0.16	0.006	57.6	205	31.8	450	70.2
	150	100	0.10	0.004	36	370	57.4	790	123.2
	250	72	0.10	0.004	51	370	57.4	790	123.2
100 (4")	500	38	0.16	0.006	57.6	370	57.4	790	123.2
	150	100	0.10	0.004	36	510	79.1	1105	172.4
	250	72	0.10	0.004	51	510	79.1	1105	172.4
	500	38	0.16	0.006	57.6	510	79.1	1105	172.4
125 (5")	150	100	0.10	0.004	36	726	112.5	1600	249.6
	250	72	0.10	0.004	51	726	112.5	1600	249.6
	500	38	0.16	0.006	57.6	726	112.5	1600	249.6
	150	100	0.10	0.004	36	1315	203.8		
150 (6")	250	72	0.10	0.004	51	1315	203.8		
	500	38	0.16	0.006	57.6	1315	203.8		
	150	100	0.10	0.004	36	1800	70.9		
	250	72	0.10	0.004	51	1800	70.9		
200 (8")	500	38	0.16	0.006	57.6	1800	70.9		
	150	100	0.10	0.004	36	2590	102.0		
	250	72	0.10	0.004	51	2590	102.0		
	500	38	0.16	0.006	57.6	2590	102.0		
250 (10")	150	100	0.10	0.004	36	2590	102.0		
	250	72	0.10	0.004	51	2590	102.0		
	500	38	0.16	0.006	57.6	2590	102.0		
	150	100	0.10	0.004	36	2590	102.0		
300 (12")	250	72	0.10	0.004	51	2590	102.0		
	500	38	0.16	0.006	57.6	2590	102.0		

**Selection of filter size**  
(Continued)

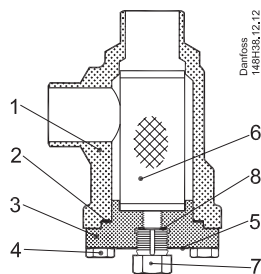
*K<sub>v</sub> values*

DN	FIA angle - plain filter net				FIA angle - pleated filter net		
	μ100	μ150	μ250	μ500	μ150	μ250	μ500
15	3.3	3.4	3.5	3.7	4.2		
20	6.9	7.1	7.3	7.7	8.8		
25	13.8	14.0	14.5	15.2	17.2	17.9	
32	23.0	23.8	24.7	25.5	29.2	30.5	
40	25.1	25.5	26.4	28.1	31.4	32.6	
50	45.1	45.9	47.6	50.2	56.7	58.8	62.0
65		56.1	57.8	60.4	69.3	71.4	74.6
80		104.6	108.0	113.1	129.2	133.4	139.7
100		162.4	167.5	176.0	200.6	206.9	217.4
125		275.4	283.9	298.4	340.2	350.7	368.6
150		362.1	373.2	391.9	447.3		
200		572.9	590.8	620.5			
250		784.5	808.9	849.7			
300		1062.3	1095.4	1150.8			

DN	FIA straight - plain filter net				FIA straight- pleated filter net		
	μ100	μ150	μ250	μ500	μ150	μ250	μ500
15	2.5	2.6	2.7	2.8	3.3		
20	5.3	5.4	5.6	5.9	6.9		
25	10.5	10.7	11.1	11.6	13.8	14.5	
32	17.6	18.2	18.9	19.5	23.9	24.7	
40	19.2	19.5	20.2	21.5	25.5	26.4	
50	34.5	35.1	36.4	38.4	45.9	47.6	50.2
65		42.9	44.2	46.2	56.1	57.8	60.4
80		80.0	82.6	86.5	104.6	108.0	113.1
100		124.2	128.1	134.6	162.4	167.5	176.0
125		210.6	217.1	228.2	275.4	283.9	298.4
150		276.9	285.4	299.7	362.1		
200		438.1	451.8	474.5			

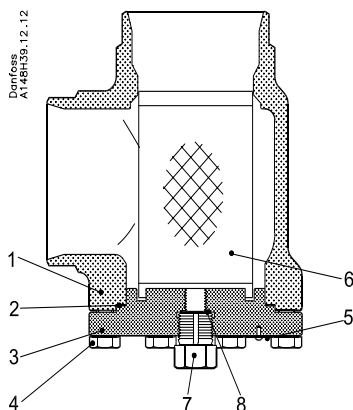
Material specification

FIA, FIA-SS 15 - 65 (1/2" - 2 1/2")



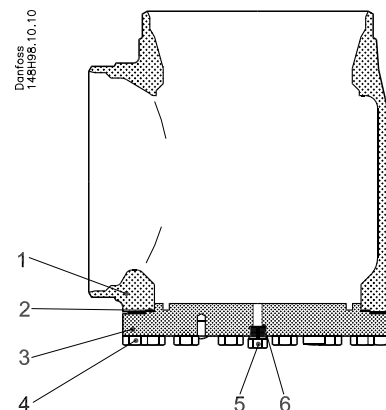
Danfoss  
A148H39, 12, 12

FIA 80 - 200 (3" - 8")

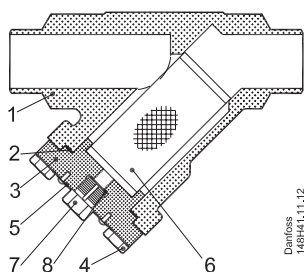


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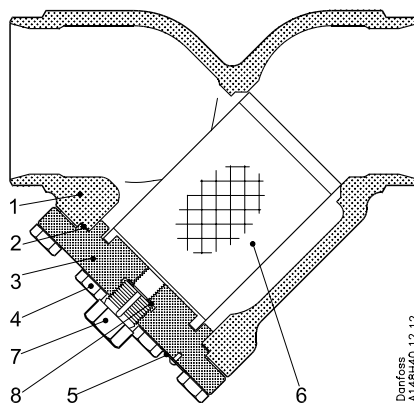
FIA 250 - 300 (10" - 12")



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A148H88, 10, 10



Danfoss  
A148H41, 11, 12



Danfoss  
A148H40, 12, 12

FIA, FIA-SS 15-65 (1/2" - 2 1/2")

No.	Part	Material	DIN	ISO	ASTM
1	Housing	Steel	G20Mn5QT, 10213-3 ----- P285QH+QT, 10222-4		LCC, A352 ----- LF2, A350
		Stainless steel (FIA-SS only)	X5CrNi18-10 EN 10088		AISI 304
2	Gasket	Fibre, Non-asbestos			
3	Cover	Steel	P275NL1 EN 10028-3		
		Stainless steel (FIA-SS only)	X5CrNi18-10 EN 10088		AISI 304
4	Bolts	Stainless steel	A2-70	A2-70	Type 308
5	Marking label	Aluminium			
6	Filter element	Stainless steel			

FIA 80-300 (3" - 12")

No.	Part	Material	DIN	ISO	ASTM
1	Housing	Steel	G20Mn5QT, 10213-3 ----- P285QH+QT, 10222-4		LCC, A352 ----- LF2, A350
2	Gasket	Fibre, Non-asbestos			
3	Cover	Steel	P275NL1 EN 10028-3		
4	Bolts	Stainless steel	A2-70	A2-70	Type 308
5	Marking label	Aluminium			
6	Filter element	Stainless steel			
7*	Pressure relief (screw)	Stainless steel			
8*	Packing washer	Aluminium			

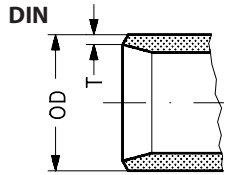
\* pos 7 and 8 used in FIA 50-200

Connections

Size mm	Size in.	OD mm	T mm	OD in.	T in.
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Butt-weld DIN (EN 10220)

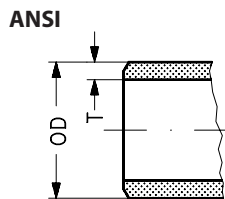
15	1/2	21.3	2.3	0.839	0.091
20	3/4	26.9	2.3	1.059	0.091
25	1	33.7	2.6	1.327	0.103
32	1 1/4	42.4	2.6	1.669	0.102
40	1 1/2	48.3	2.6	1.902	0.103
50	2	60.3	2.9	2.37	0.11
65	2 1/2	76.1	2.9	3	0.11
80	3	88.9	3.2	3.50	0.13
100	4	114.3	3.6	4.50	0.14
125	5	139.7	4.0	5.50	0.16
150	6	168.3	4.5	6.63	0.18
200	8	219.1	6.3	8.63	0.25
250	10	273	6.3	10.75	0.25
300	12	323.9	7.1	12.75	0.28



Size mm	Size in.	OD mm	T mm	OD in.	T in.
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Butt-weld ANSI (B 36.10 Schedule 80)

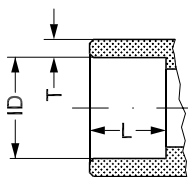
15	1/2	21.3	3.7	0.839	0.146
20	3/4	26.9	4.0	1.059	0.158
25	1	33.7	4.6	1.327	0.181
32	1 1/4	42.4	4.9	1.669	0.193
40	1 1/2	48.3	5.1	1.902	0.201



Butt-weld ANSI (B 36.10 Schedule 40)

50	2	60.3	3.9	2.37	0.15
65	2 1/2	73.0	5.2	2.87	0.20
80	3	88.9	5.5	3.50	0.22
100	4	114.3	6.0	4.50	0.24
125	5	141.3	6.6	5.56	0.26
150	6	168.3	7.1	6.63	0.28
200	8	219.1	8.2	8.63	0.32
250	10	273	6.3	10.75	0.25
300	12	323.9	7.1	12.75	0.28

SOC

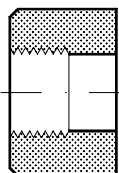


Size mm	Size in.	ID mm	T mm	ID in.	T in.	L mm	L in.
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Socket welding ANSI (B 16.11)

15	1/2	21.8	6.0	0.858	0.235	10	0.39
20	3/4	27.2	4.6	1.071	0.181	13	0.51
25	1	33.9	7.2	1.335	0.284	13	0.51
32	1 1/4	42.7	6.1	1.743	0.240	13	0.51
40	1 1/2	48.8	6.6	1.921	0.260	13	0.51
50	2	61.2	6.2	2.41	0.24	16	0.63

FPT



Size mm	Size in.	Inside pipe thread
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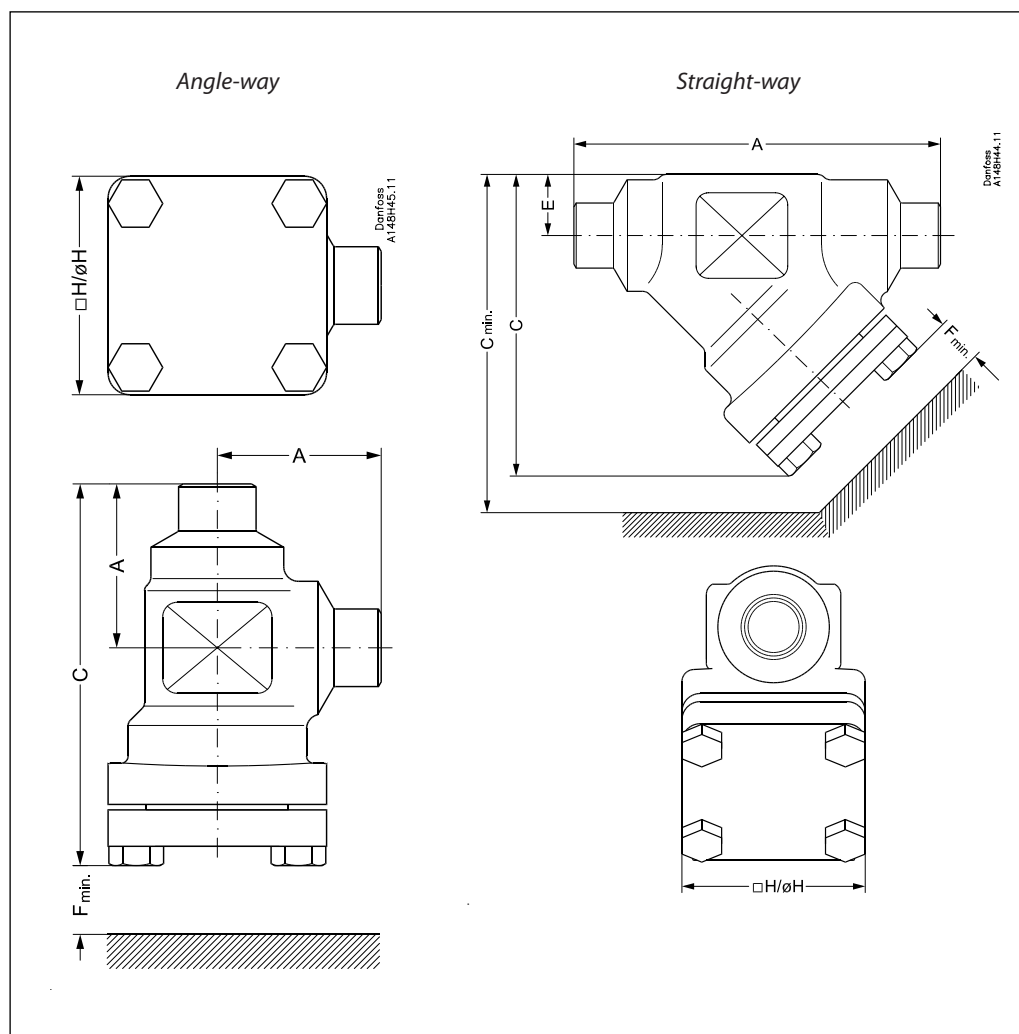
FPT inside pipe thread, NPT (ANSI/ASME B 1.20.1)

15	1/2	(1/2 x 14 NPT)
20	3/4	(3/4 x 14 NPT)
25	1	(1 x 11.5 NPT)
32	1 1/4	(1 1/4 x 11.5 NPT)



## Dimensions and weights

## FIA 15 - 65



## Angle-way

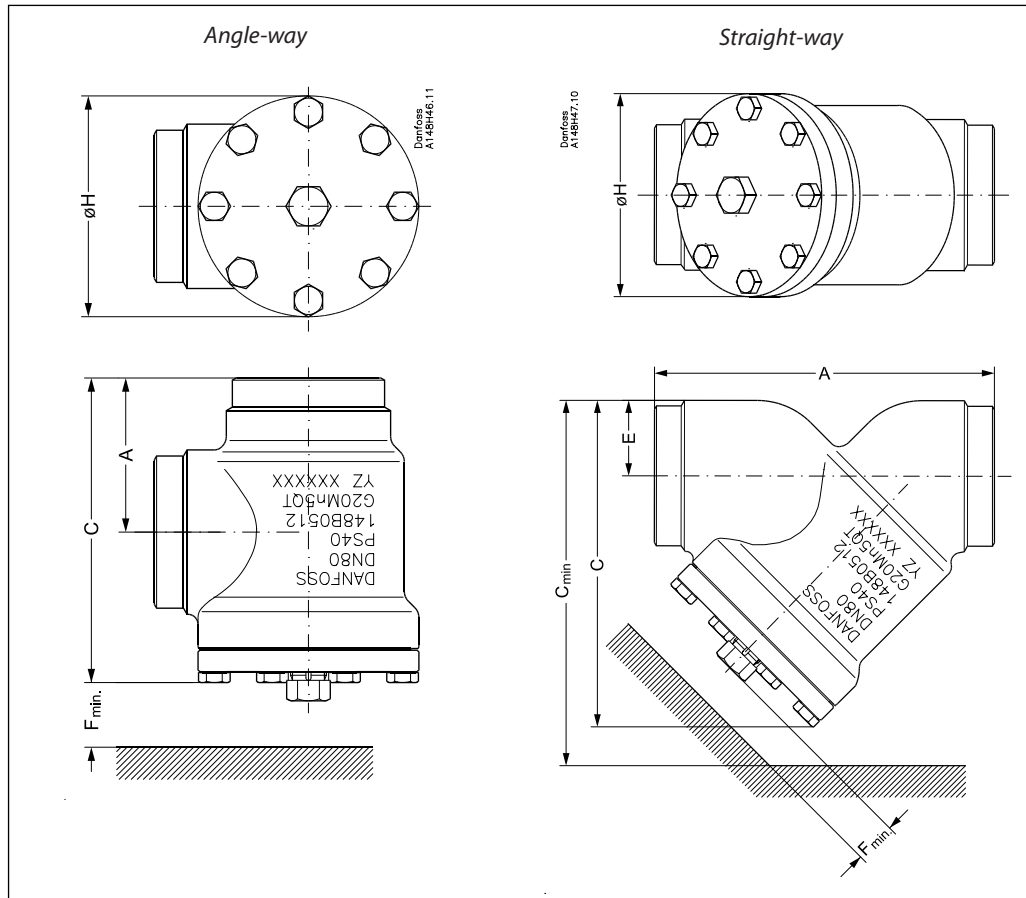
Filter size		A	C	H	F <sub>min.</sub>	Weight
FIA 15-20	mm	45	105	60	68	1.1 kg
(1/2" - 3/4")	in.	1.77	4.13	2.36	2.68	2.4 lbs
FIA 25-40	mm	55	132	70	95	1.7 kg
(1" - 1 1/2")	in.	2.17	5.20	2.76	3.74	3.7 lbs
FIA 50	mm	60	132	77	92	2.8 kg
(2")	in.	2.36	5.20	3.03	3.62	6.2 lbs
FIA 65	mm	70	152	90	107	3.8 kg
(2 1/2")	in.	2.76	5.98	3.54	4.21	8.4 lbs

## Straight-way

Valve size		A	C	C <sub>min.</sub>	H	E	F <sub>min.</sub>	Weight
FIA 15-20	mm	120	99	133	60	20	68	1.4 kg
(1/2" - 3/4")	in.	4.72	3.90	5.24	2.36	0.79	2.68	3.1 lbs
FIA 25-40	mm	155	129	177	70	26	95	2.4 kg
(1" - 1 1/2")	in.	6.10	5.08	6.97	2.76	1.02	3.74	5.3 lbs
FIA 50	mm	148	138	184	77	32	92	3.5 kg
(2")	in.	5.83	5.43	7.24	3.03	1.26	3.62	7.7 lbs
FIA 65	mm	176	165	219	90	40	107	5.3 kg
(2 1/2")	in.	6.93	6.50	8.62	3.54	1.57	4.21	11.7 lbs

Dimensions and weights

FIA 80 - 300



Angle-way

Filter size		A	C	H	$F_{min}$	Weight
FIA 80	mm	90	189	129	133	7.3 kg
(3")	in.	3.54	7.44	5.08	5.24	16.1 lbs
FIA 100	mm	106	223	156	163	11.9 kg
(4")	in.	4.17	8.78	6.14	6.42	26.2 lbs
FIA 125	mm	128	268	192	190	21.2 kg
(5")	in.	5.04	10.6	7.56	7.48	46.7 lbs
FIA 150	mm	145	303	219	223	30.5 kg
(6")	in.	5.71	11.93	8.62	8.78	67.2 lbs
FIA 200	mm	180	372	276	280	68 kg
(8")	in.	7.09	14.65	10.87	11.02	150 lbs
FIA 250	mm	210	397	334	285	89 kg
(10")	in.	8.27	15.63	13.14	11.22	196.3 lbs
FIA 300	mm	240	458	384	340	125 kg
(12")	in.	9.45	18.03	15.12	13.39	275.5 lbs

Straight-way

Filter size		A	C	$C_{min}$	H	E	$F_{min}$	Weight
FIA 80	mm	216	204	271	129	48	133	8.6 kg
(3")	in.	8.50	8.03	10.67	5.08	1.89	5.24	19 lbs
FIA 100	mm	264	256	337	156	60	163	14.9 kg
(4")	in.	10.39	10.08	13.27	6.14	2.36	6.42	32.8 lbs
FIA 125	mm	322	313	408	192	74	190	26.9 kg
(5")	in.	12.68	12.32	16.06	7.56	2.91	7.48	59.3 lbs
FIA 150	mm	370	370	482	219	91	223	51 kg
(6")	in.	14.57	14.57	18.98	8.62	3.58	8.78	112 lbs
FIA 200	mm	464	465	605	276	117	280	95 kg
(8")	in.	18.27	18.31	23.82	10.87	4.61	11.02	209 lbs

**Ordering**

The table below is used to identify the filter required.  
Please note that you have to order **FIA filter housing, a filter element** and **accessories**.

*Example:*  
FIA 50 D ANG + FIA-X 50 150µ Filter Element + Filter Bag = **148H3056** + **148H3130** + **148H3150**

Size		Type	Code number							
mm	in.		Without Filter Element	Filter Element 100µ 150 mesh	Filter Element 150µ 100 mesh	Filter Element 250µ 72 mesh	Filter Element 500µ 38 mesh	Pleated filter element 150µ 100 mesh	Pleated filter element 250µ 72 mesh	Pleated filter element 500µ 38 mesh
15	½	FIA 15 D ANG	<b>148H3051</b>	148H3122	148H3124	148H3126	148H3128	148H3303	-	-
15	½	FIA-SS 15 D ANG 52BAR	<b>148H3221</b>							
15	½	FIA 15 A ANG	<b>148H3063</b>							
15	½	FIA 15 SOC ANG	<b>148H3075</b>							
15	½	FIA 15 FPT ANG	<b>148H3081</b>							
15	½	FIA 15 D STR	<b>148H3085</b>							
15	½	FIA-SS 15 D STR 52BAR	<b>148H3285</b>							
15	½	FIA 15 A STR	<b>148H3097</b>							
15	½	FIA 15 SOC STR	<b>148H3109</b>							
15	½	FIA 15 FPT STR	<b>148H3115</b>							
20	¾	FIA 20 D ANG	<b>148H3052</b>	148H3122	148H3124	148H3126	148H3128	148H3303	-	-
20	¾	FIA-SS 20 D ANG 52BAR	<b>148H3222</b>							
20	¾	FIA 20 A ANG	<b>148H3064</b>							
20	¾	FIA 20 FPT ANG	<b>148H3082</b>							
20	¾	FIA 20 SOC ANG	<b>148H3076</b>							
20	¾	FIA 20 D STR	<b>148H3086</b>							
20	¾	FIA-SS 20 D STR 52BAR	<b>148H3286</b>							
20	¾	FIA 20 A STR	<b>148H3098</b>							
20	¾	FIA 20 FPT STR	<b>148H3116</b>							
20	¾	FIA 20 SOC STR	<b>148H3110</b>							
25	1	FIA 25 D ANG	<b>148H3053</b>	148H3123	148H3125	148H3127	148H3129	148H3304	148H3269	-
25	1	FIA-SS 25 D ANG 52BAR	<b>148H3223</b>							
25	1	FIA 25 A ANG	<b>148H3065</b>							
25	1	FIA 25 FPT ANG	<b>148H3083</b>							
25	1	FIA 25 SOC ANG	<b>148H3077</b>							
25	1	FIA 25 D STR	<b>148H3087</b>							
25	1	FIA-SS 25 D STR 52BAR	<b>148H3287</b>							
25	1	FIA 25 A STR	<b>148H3099</b>							
25	1	FIA 25 FPT STR	<b>148H3117</b>							
25	1	FIA 25 SOC STR	<b>148H3111</b>							
32	1¼	FIA 32 D ANG	<b>148H3054</b>	148H3123	148H3125	148H3127	148H3129	148H3304	148H3269	-
32	1¼	FIA-SS 32 D ANG 52BAR	<b>148H3224</b>							
32	1¼	FIA 32 A ANG	<b>148H3066</b>							
32	1¼	FIA 32 FPT ANG	<b>148H3084</b>							
32	1¼	FIA 32 SOC ANG	<b>148H3078</b>							
32	1¼	FIA 32 D STR	<b>148H3088</b>							
32	1¼	FIA-SS 32 D STR 52BAR	<b>148H3288</b>							
32	1¼	FIA 32 A STR	<b>148H3100</b>							
32	1¼	FIA 32 FPT STR	<b>148H3118</b>							
32	1¼	FIA 32 SOC STR	<b>148H3112</b>							
40	1½	FIA 40 D ANG	<b>148H3055</b>	148H3123	148H3125	148H3127	148H3129	148H3304	148H3269	-
40	1½	FIA-SS 40 D ANG 52BAR	<b>148H3225</b>							
40	1½	FIA 40 A ANG	<b>148H3067</b>							
40	1½	FIA 40 SOC ANG	<b>148H3079</b>							
40	1½	FIA 40 D STR	<b>148H3089</b>							
40	1½	FIA-SS 40 D STR 52BAR	<b>148H3289</b>							
40	1½	FIA 40 A STR	<b>148H3101</b>							
40	1½	FIA 40 SOC STR	<b>148H3113</b>							
50	2	FIA 50 D ANG	<b>148H3056</b>							
50	2	FIA-SS 50 D ANG 52BAR	<b>148H3283</b>							
50	2	FIA 50 A ANG	<b>148H3068</b>							
50	2	FIA 50 SOC ANG	<b>148H3080</b>							
50	2	FIA 50 D STR	<b>148H3090</b>							
50	2	FIA-SS 50 D STR 52BAR	<b>148H3290</b>							
50	2	FIA 50 A STR	<b>148H3102</b>							
50	2	FIA 50 SOC STR	<b>148H3114</b>							

D = Butt-weld DIN                      ANG = Angle-way  
A = Butt-weld ANSI                    STR = Straight-way  
SOC = Socket welding  
FPT = Inside pipe thread

**Ordering**

Size		Type	Code number						
mm	in.		Without Filter Element	Filter Element 150µ 100 mesh	Filter Element 250µ 72 mesh	Filter Element 500µ 38 mesh	Pleated filter element 150µ 100 mesh	Pleated filter element 250µ 72 mesh	Pleated filter element 500µ 38 mesh
65	2½	FIA 65 D ANG	<b>148H3057</b>	<b>148H3131</b>	<b>148H3139</b>	<b>148H3145</b>	<b>148H3180</b>	<b>148H3185</b>	<b>148H3190</b>
65	2½	FIA-SS 65 D ANG 52BAR	<b>148H3284</b>						
65	2½	FIA 65 A ANG	<b>148H3069</b>						
65	2½	FIA 65 D STR	<b>148H3091</b>						
65	2½	FIA-SS 65 D STR 52BAR	<b>148H3291</b>						
65	2½	FIA 65 A STR	<b>148H3103</b>						
80	3	FIA 80 D ANG	<b>148H3058</b>	<b>148H3119</b>	<b>148H3120</b>	<b>148H3121</b>	<b>148H3181</b>	<b>148H3186</b>	<b>148H3191</b>
80	3	FIA 80 A ANG	<b>148H3070</b>						
80	3	FIA 80 D STR	<b>148H3092</b>						
80	3	FIA 80 A STR	<b>148H3104</b>						
100	4	FIA 100 D ANG	<b>148H3059</b>	<b>148H3132</b>	<b>148H3140</b>	<b>148H3146</b>	<b>148H3182</b>	<b>148H3187</b>	<b>148H3192</b>
100	4	FIA 100 A ANG	<b>148H3071</b>						
100	4	FIA 100 D STR	<b>148H3093</b>						
100	4	FIA 100 A STR	<b>148H3105</b>						
125	5	FIA 125 D ANG	<b>148H3060</b>	<b>148H3133</b>	<b>148H3141</b>	<b>148H3147</b>	<b>148H3183</b>	<b>148H3188</b>	<b>148H3193</b>
125	5	FIA 125 A ANG	<b>148H3072</b>						
125	5	FIA 125 D STR	<b>148H3094</b>						
125	5	FIA 125 A STR	<b>148H3106</b>						
150	6	FIA 150 D ANG	<b>148H3061</b>	<b>148H3134</b>	<b>148H3142</b>	<b>148H3148</b>	<b>148H3226</b>	-	-
150	6	FIA 150 A ANG	<b>148H3073</b>						
150	6	FIA 150 D STR	<b>148H3095</b>						
150	6	FIA 150 A STR	<b>148H3107</b>						
200	8	FIA 200 D ANG	<b>148H3062</b>	<b>148H3135</b>	<b>148H3143</b>	<b>148H3149</b>	-	-	-
200	8	FIA 200 A ANG	<b>148H3074</b>						
200	8	FIA 200 D STR	<b>148H3096</b>						
200	8	FIA 200 A STR	<b>148H3108</b>						
250	10	FIA 250 D ANG	<b>148H3171</b>	<b>148H3136</b>	<b>148H3175</b>	<b>148H3177</b>	-	-	-
250	10	FIA 250 A ANG	<b>148H3173</b>						
300	12	FIA 300 D ANG	<b>148H3172</b>	<b>148H3137</b>	<b>148H3176</b>	<b>148H3178</b>	-	-	-
300	12	FIA 300 A ANG	<b>148H3174</b>						

D = Butt-weld DIN  
A = Butt-weld ANSI

ANG = Angle-way  
STR = Straight-way

**Accessories**

Part	Accessory for	Code number	
Magnet insert	FIA 65-100	<b>148H3447</b>	
	FIA 125-200	<b>148H3448</b>	
Part	Accessory for	Code number	
	Filter element µ150 with removable element µ50 for the first start up	FIA 15-20 FIA 25-40	<b>148H3301</b> <b>148H3302</b>
Part	Accessory for	Code number	
	Filter bag	FIA 50	<b>148H3150</b>
		FIA 65	<b>148H3151</b>
		FIA 80	<b>148H3152</b>
		FIA 100	<b>148H3153</b>
		FIA 125	<b>148H3154</b>
		FIA 150	<b>148H3155</b>
FIA 200		<b>148H3156</b>	
Part	Accessory for	Code number	
	Purge valve complete Blind nut with gasket	FIA 50 - 200	<b>148B3745</b> <b>148H3450</b>