

HTG SERIES | *Filter-Driers with Replaceable Core*



The series HTG filter-driers replaceable core are used to protect large capacity air conditioning and refrigeration systems from moisture and contamination.

FEATURES

- HIGHLY EFFICIENT IN MOISTURE AND CONTAMINATION REMOVAL
- 3 AVAILABLE FILTER-DRIER CORES:
 - SH48-A00 - 100% 3Å DESICCANT
HIGH WATER CAPACITY - SUITABLE FOR NEW SYSTEM INSTALLATIONS USING AN HFC REFRIGERANT AND MOISTURE CONTAMINATED SYSTEMS
 - SH48-A30 - 30% 3Å DESICCANT, 70% ACTIVATED ALUMINA
HIGH ACID CAPACITY - SUITABLE FOR COMPRESSOR BURNOUT
 - SH48-A80 - 80% 3Å DESICCANT, 20% ACTIVATED ALUMINA
SUITABLE FOR GENERAL FIELD REPLACEMENT
 - SH48-B00 - FILTER ELEMENT SUITABLE FOR SUCTION LINE FILTER
- 20 MICRON FILTRATION RATING

GENERAL SPECIFICATION

- Applicable for all common HCFC and HFC refrigerants such as: R-22, R-134a, R-404A, R-407C, R-410A, R-507
- Applicable ambient temperatures: -22°F to +130°F
- Fluid temperature range: -40°F to +158°F
- Maximum operating pressure: 650 psig
- Certifications: UL/CSA listed

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Model Designation Legend

1	Product Code	Filter Drier Series
	HTG	Model number - replaceable core filter-drier
2	Internal volume	Internal Volume (in ³)
	A48	48
	A96	96
	B44	144
	B92	192
3	Connection size	Connection Size (in)
	05	5/8
	07	7/8
	09	1-1/8
	11	1-3/8
	13	1-5/8
	17	2-1/8
	21	2-5/8
4	Pipe Connection	Type
	0	ODF solder connections
5	Version Number	Description
	901	901 = Standard product, xxx = Special product

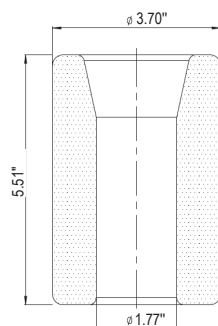
Note: * Solder connections which fit to metric and inch are marked with inch product codes e.g. 16, 22, 35 and 54mm

MODEL DESIGNATION EXAMPLE

Position Number						According to Model Designation Legend
1	2	3	4	5	6	
HTG	A96	09	0	901		→ Replaceable core filter-drier
HTG	A96	09	0	901		→ 96 in ³ internal volume
HTG	A96	09	0	901		→ 1-1/8" connection size
HTG	A96	09	0	901		→ ODF solder connections
HTG	A96	09	03	901		→ Standard product

TECHNICAL PARAMETERS

Filter Core Dimensions



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GENERAL CHARACTERISTICS OF FILTER Table 1

Series	Model	Part Number	Solder Connections ODF	Number of cores	Dimensions & Weight				
			(in)		A (in)	B (in)	L (in)	G (in)	Weight ¹⁾ [lb]
HTG A48s	HTG-A48050-901	HTG-29001	5/8	1	9.84	6.46	6.69	4.57	11.2
	HTG-A48070-901	HTG-29002	7/8		9.80	6.42	6.69	4.57	11.2
	HTG-A48090-901	HTG-29003	1 1/8		10.0	6.61	6.69	4.76	11.2
	HTG-A48110-901	HTG-29005	1 3/8		9.96	6.57	6.69	4.76	11.2
	HTG-A48130-901	HTG-29006	1 5/8		10.7	7.32	6.69	5.55	11.2
	HTG-A48170-901	HTG-29008	2 1/8		10.8	7.17	6.69	5.71	11.2
	HTG-A48210-901	HTG-29009	2 5/8		10.9	6.97	6.69	5.87	11.2
HTG A96s	HTG-A96050-901	HTG-29010	5/8	2	15.4	12.0	12.2	4.57	13.7
	HTG-A96070-901	HTG-29011	7/8		15.4	12.0	12.2	4.57	13.7
	HTG-A96090-901	HTG-29012	1 1/8		15.6	12.2	12.2	4.76	13.7
	HTG-A96110-901	HTG-29014	1 3/8		15.5	12.1	12.2	4.76	13.7
	HTG-A96130-901	HTG-29015	1 5/8		16.3	12.9	12.2	5.55	13.7
	HTG-A96170-901	HTG-29017	2 1/8		16.4	12.7	12.2	5.71	13.7
	HTG-A96210-901	HTG-29018	2 5/8		16.5	12.5	12.2	5.87	13.7
HTG B44s	HTG-B44050-901	HTG-29019	5/8	3	20.9	17.6	12.2	4.57	16.8
	HTG-B44070-901	HTG-29020	7/8		20.9	17.5	12.2	4.57	16.8
	HTG-B44090-901	HTG-29021	1 1/8		21.1	17.7	12.2	4.76	16.8
	HTG-B44110-901	HTG-29023	1 3/8		21.1	17.7	12.2	4.76	16.8
	HTG-B44130-901	HTG-29024	1 5/8		21.8	18.4	12.2	5.55	16.8
	HTG-B44170-901	HTG-29026	2 1/8		21.9	18.3	12.2	5.71	16.8
	HTG-B44210-901	HTG-29027	2 5/8		22.0	18.1	12.2	5.87	16.8
HTG B92s	HTG-B92050-901	HTG-29028	5/8	4	26.7	23.3	12.2	4.57	20.1
	HTG-B92070-901	HTG-29029	7/8		26.6	23.2	12.2	4.57	20.1
	HTG-B92090-901	HTG-29030	1 1/8		26.8	23.4	12.2	4.67	20.1
	HTG-B92110-901	HTG-29032	1 3/8		26.8	23.4	12.2	4.67	20.1
	HTG-B92130-901	HTG-29033	1 5/8		27.5	24.1	12.2	5.55	20.1
	HTG-B92170-901	HTG-29035	2 1/8		27.6	24.0	12.2	5.71	20.1
	HTG-B92210-901	HTG-29036	2 5/8		27.7	23.8	12.2	5.87	20.1

Note: 1. Weight of filter shell. Core weight each: 1.3 lb

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SELECTION TABLE - WITH CORE SH48-A00 Table 2

Model	Capacity (tons) ¹					Water Capacity (g)							
	R-34a	R-404A	R-22	R-407C ²	R-410A	R-134a		R-404A		R-407C ²		R-22	
		R-507				R-507		R-410A		R-22			
						75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F
HTG-A48050-901	18.6	13.1	19.2	19.2	19.2								
HTG-A48070-901	29.8	20.9	30.8	30.8	30.8								
HTG-A48090-901	42.8	30.1	44.2	44.2	44.2								
HTG-A48110-901	57.6	40.5	59.5	59.5	59.5	1344	1162	1452	1198	1140	1036	1244	1140
HTG-A48130-901	70.8	49.7	73.0	73.0	73.0								
HTG-A48170-901	101	70.6	104	104	104								
HTG-A48210-901	112	78.5	115	115	115								
HTG-A96050-901	18.6	13.1	19.2	19.2	19.2								
HTG-A96070-901	29.8	20.9	30.8	30.8	30.8								
HTG-A96090-901	42.8	30.1	44.2	44.2	44.2								
HTG-A96110-901	57.6	40.5	59.5	59.5	59.5	2700	2320	2900	2380	2280	2080	2480	2280
HTG-A96130-901	70.8	49.7	73.0	73.0	73.0								
HTG-A96170-901	101	70.6	104	104	104								
HTG-A96210-901	112	78.5	115	115	115								
HTG-B44050-901	18.6	13.1	19.2	19.2	19.2								
HTG-B44070-901	29.8	20.9	30.8	30.8	30.8								
HTG-B44090-901	42.8	30.1	44.2	44.2	44.2								
HTG-B44110-901	57.6	40.5	59.5	59.5	59.5	4040	3480	4360	3580	3420	3100	3740	3420
HTG-B44130-901	70.8	49.7	73.0	73.0	73.0								
HTG-B44170-901	101	70.6	104	104	104								
HTG-B44210-901	112	78.5	115	115	115								
HTG-B92050-901	18.6	13.1	19.2	19.2	19.2								
HTG-B92070-901	29.8	20.9	30.8	30.8	30.8								
HTG-B92090-901	42.8	30.1	44.2	44.2	44.2								
HTG-B92110-901	57.6	40.5	59.5	59.5	59.5	5400	4640	5800	4760	4560	4140	4980	4560
HTG-B92130-901	70.8	49.7	73.0	73.0	73.0								
HTG-B92170-901	101	70.6	104	104	104								
HTG-B92210-901	112	78.5	115	115	115								

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SELECTION TABLE - WITH CORE SH48-A80 *Table 3*

Model	Capacity (tons) ¹					Water Capacity (g)							
	R-134a	R-404A	R-22	R-407C ²	R-410A	R-134a		R-404A		R-407C ²		R-22	
		R-507A				R-507		R-410A		R-22			
						75°F	125°F	75°F	125°F	75°F	125°F	75°F	125°F
HTG-A48050-901	18.6	13.1	19.2	19.2	19.2								
HTG-A48070-901	29.8	20.9	30.8	30.8	30.8								
HTG-A48090-901	42.8	30.1	44.2	44.2	44.2								
HTG-A48110-901	57.6	40.5	59.5	59.5	59.5	1160	1000	1234	1014	958	870	1058	970
HTG-A48130-901	70.8	49.7	73.0	73.0	73.0								
HTG-A48170-901	101	70.6	104	104	104								
HTG-A48210-901	112	78.5	115	115	115								
HTG-A96050-901	18.6	13.1	19.2	19.2	19.2								
HTG-A96070-901	29.8	20.9	30.8	30.8	30.8								
HTG-A96090-901	42.8	30.1	44.2	44.2	44.2								
HTG-A96110-901	57.6	40.5	59.5	59.5	59.5	2320	2000	2460	2020	1916	1792	2120	1938
HTG-A96130-901	70.8	49.7	73.0	73.0	73.0								
HTG-A96170-901	101	70.6	104	104	104								
HTG-A96210-901	112	78.5	115	115	115								
HTG-B44050-901	18.6	13.1	19.2	19.2	19.2								
HTG-B44070-901	29.8	20.9	30.8	30.8	30.8								
HTG-B44090-901	42.8	30.1	44.2	44.2	44.2								
HTG-B44110-901	57.6	40.5	59.5	59.5	59.5	3480	3000	3700	3040	2880	2620	3180	2900
HTG-B44130-901	70.8	49.7	73.0	73.0	73.0								
HTG-B44170-901	101	70.6	104	104	104								
HTG-B44210-901	112	78.5	115	115	115								
HTG-B92050-901	18.6	13.1	19.2	19.2	19.2								
HTG-B92070-901	29.8	20.9	30.8	30.8	30.8								
HTG-B92090-901	42.8	30.1	44.2	44.2	44.2								
HTG-B92110-901	57.6	40.5	59.5	59.5	59.5	4640	4000	4940	4060	3840	3480	4240	3880
HTG-B92130-901	70.8	49.7	73.0	73.0	73.0								
HTG-B92170-901	101	70.6	104	104	104								
HTG-B92210-901	112	78.5	115	115	115								

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SELECTION FORMULAS

Filter-Driers for liquid line are rated in compliance with AHRI Standard 710. Maximum flow rate of liquid refrigerant at a differential pressure of 1 psi, liquid refrigerant temperature of 86°F, and an evaporating temperature 5°F. The follow may be used to convert capacity in tons to refrigerant mass flow:

- 3.1 lb/min-ton R-134a
- 4.1 lb/min-ton R-404A, R-507
- 3.0 lb/min-ton R-22, R-407C
- 2.8 lb/min-ton R-410A

Note: Data on water absorption is based on the following EPD, ASHRAE Standard 63.1:

- 60ppm R-22
- 50ppm R-134a
- 50ppm R-404A
- 50ppm R-407C
- 50ppm R-410A
- 50ppm R-507

SUCTION LINE FILTER-DRIERS:

Any pressure loss in the suction line affects system capacity. Obtaining a low pressure drop is particularly important for proper air conditioning and refrigeration system operation. Therefore, suction line filter-driers should be sized generously. Sanhua suggests pressure drop should not exceed the values given in the table below:

Table 4

Suction Line Filter Drier Maximum Recommended Pressure Drop (psi)					
System	Evaporator Saturated Suction Temperature ⁵⁾ (°F)	Permanent Installation		Temporary Installation	
		Refrigerant			
		R-22; R-404A; R-407C; R-410A, R-507	R-134a	R-22; R-404A; R-407C; R-410A, R-507	R-134a
Air conditioning	40	3	2	8	6
Commercial	20	2	1.5	4	3
Low temperature	-20	1	0.5	2	1

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SUCTION LINE FLOW CAPACITY WITH CORE SH48-A30 (TONS)¹ Table 5

Model	Capacity (tons)											
	Evaporation temperature (°F)											
	-40	-4	40	-22	-4	40	-40	-4	40	-40	-4	40
	Pressure drop (bar)											
	0.58	1.5	3.0	0.58	1.0	2.0	0.58	1.5	3.0	0.58	1.5	3.0
	R-22/R-407C			R-134a			R-404A/R-507			R-410A		
HTG-A48050-901	0.85	2.42	5.69	0.82	1.45	3.53	0.65	1.91	4.72	0.85	2.42	5.69
HTG-A48070-901	1.56	4.41	10.2	1.51	2.67	6.31	1.22	3.50	8.42	1.56	4.35	10.2
HTG-A48090-901	2.10	5.83	13.8	2.02	3.58	8.53	1.62	4.63	11.4	2.10	5.83	13.8
HTG-A48110-901	2.70	7.39	17.4	2.59	4.55	10.7	2.08	5.89	14.2	2.70	7.39	17.4
HTG-A48130-901	2.70	7.39	17.4	2.59	4.55	10.7	2.08	5.89	14.2	2.70	7.39	17.4
HTG-A48170-901	2.70	7.39	17.4	2.59	4.55	10.7	2.08	5.89	14.2	2.70	7.39	17.4
HTG-A48210-901	2.70	7.39	17.4	2.59	4.55	10.7	2.08	5.89	14.2	2.70	7.39	17.4
HTG-A96050-901	0.88	2.45	5.77	0.85	1.54	3.61	0.68	1.99	4.86	0.88	2.47	5.83
HTG-A96070-901	1.56	4.38	10.3	1.51	2.67	6.37	1.22	3.50	8.47	1.56	4.38	10.3
HTG-A96090-901	2.36	6.65	15.8	2.27	4.07	9.70	1.85	5.32	13.1	2.36	6.65	15.9
HTG-A96110-901	3.21	9.10	21.6	3.07	5.52	13.2	2.50	7.25	17.9	3.21	9.10	21.6
HTG-A96130-901	3.84	10.8	25.9	3.70	6.57	15.8	2.99	8.64	21.3	3.81	10.8	25.9
HTG-A96170-901	3.84	10.8	25.9	3.70	6.57	15.8	2.99	8.64	21.3	3.81	10.8	25.9
HTG-A96210-901	3.84	10.8	25.9	3.70	6.57	15.8	2.99	8.64	21.3	3.81	10.8	25.9
HTG-B44050-901	0.94	2.70	6.17	0.91	1.62	3.78	0.74	2.08	4.69	0.94	2.70	6.17
HTG-B44070-901	1.79	5.12	11.7	1.71	3.01	7.14	1.36	3.92	9.67	1.79	5.12	11.7
HTG-B44090-901	2.39	6.82	15.6	2.27	4.07	9.67	1.85	5.26	13.1	2.39	6.82	15.6
HTG-B44110-901	3.55	10.4	25.3	3.44	6.26	15.4	2.79	8.30	20.8	3.55	10.4	25.3
HTG-B44130-901	3.55	10.4	25.3	3.44	6.26	15.4	2.79	8.30	20.8	3.55	10.4	25.3
HTG-B44170-901	3.55	10.4	25.3	3.44	6.26	15.4	2.79	8.30	20.8	3.55	10.4	25.3
HTG-B44210-901	3.55	10.4	25.3	3.44	6.26	15.4	2.79	8.30	20.8	3.55	10.4	25.3
HTG-B92050-901	1.14	3.10	7.36	1.08	1.91	4.55	0.85	2.47	6.14	1.14	3.10	7.36
HTG-B92070-901	2.13	5.83	13.9	2.05	3.61	8.53	1.65	4.69	11.5	2.13	5.83	13.9
HTG-B92090-901	2.87	7.82	18.8	2.76	4.86	11.4	2.22	6.28	15.4	2.87	7.82	18.8
HTG-B92110-901	4.01	11.3	27.0	3.87	6.88	16.5	3.13	9.07	22.2	4.01	11.3	27.0
HTG-B92130-901	4.86	13.9	33.6	4.69	8.53	20.5	3.81	11.1	27.6	4.86	13.9	33.6
HTG-B92170-901	4.86	13.9	33.6	4.69	8.53	20.5	3.81	11.1	27.6	4.86	13.9	33.6
HTG-B92210-901	4.86	13.9	33.6	4.69	8.53	20.5	3.81	11.1	27.6	4.86	13.9	33.6

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The capacities listed in the table 5 are rated at the maximum recommended pressure drop for permanent installation. Suction line Filter-Drier guarantees an acid removal and a drying capacity described in table 6:

Table 6

Drying capacity: SH48-A30 ¹⁾					
Filter Type		HTG-A48	HTG-A96	HTG-B44	HTG-B92
Number of cores		1	2	3	4
Acid Adsorption capacity (g) ³⁾		28.0	56.0	84.0	112.0
Refrigerant	Evaporating Temp. (°F) ⁴⁾	Water Capacity (g)			
R-22/ R-407C ²⁾	-40	520	1040	1560	2080
	-4	360	726	1080	1440
	40	220	440	640	860
R-134a	-22	860	1720	2580	3784
	-4	720	1440	2560	2880
	40	500	1000	1500	2000
R-404A / R-507	-40	900	1800	2700	3600
	-4	560	1120	1680	2240
	40	360	720	1080	1440
R-410A	-40	800	1600	2400	3200
	-4	660	1320	1980	2640
	40	480	960	1440	1920

Drying capacity is expressed during drying in:

R-22: EPD = 10 ppm W, corresponding dew point temperature is -58°F

R-134a: EPD = 50 ppm W, corresponding dew point temperature is -35°F

R-404A: EPD = 10 ppm W, corresponding dew point temperature is -40°F

R-407C: EPD = 10 ppm W, corresponding dew point temperature is -40°F

- Note:**
- The data reported in the Table 2, 3, 5 and 6 are based on filter-driers in a clean system at ideal conditions; with impurities accumulated in the filter, the capacity may decrease.
 - R-407C data based on dew point conditions
 - Standard Evaporating Temperature defined by ANSI/AHRI Standard 730 (I-P)-2013

