TD - Series Liquid Line Filter-Driers

Application

For all kind of refrigeration and air conditioning systems

Features, Advantages and Benefits

* For use with HCFC's, CFC's and the lubricants that go with them.
* High moisture, acids and dirt removal capacity.
* Designed for general protection and cleaning of refrigeration systems.
* Capacities from 1.8 to 105 kW.
* Shock resistant steel shell construction.
* Connections: nickel-plated flare fittings and solid copper ODF fittings.
* Full flow fittings for low-pressure drop.
* Corrosion resistant electrostatic powder paint.
* Approved by: UL/CUL file *SA7175*
* Maximum Working Pressure 41.4 bar (03 to 16), 34.5 bar (30 to 75).
* Burst Pressure 207 bar (03 to 16), 172.4 bar (30 to 75).

TD series filter-driers for liquid line are designed to offer complete protection of refrigeration and air conditioning systems. TD filter-driers remove moisture, acid and dirt and foreign material to protect the compressor, solenoid valves, expansion valves, capillary tubes and other close tolerance parts of your refrigeration system. They can be used with new and traditional refrigerants and oils.

The unique design of the molded desiccant block allows for efficient filtration and retention of solid contaminants, while insuring minimum pressure drop. The molded block exposes maximum surface area and provides even distribution of filtered material as the refrigerant flows through the drier.

The desiccant block is composite of careful selected drying materials. The blend of both molecular sieve and activated alumina provides high moisture and acid removal capabilities.

Installation

The TD liquid line filter-drier may be installed in any position. Best results are achieved when located as close as possible to the inlet of the expansion devise. If using a liquid line solenoid or moisture indicator, locate the filter-drier upstream. This will provide to the solenoid valve and allow the moisture indicator to measure the drier effectiveness. Install the drier in as cold location as possible in the direction of the flow arrow on the unit.

Nomenclature

EXAMPLE: TD-305S			
TD	30	5	S
Model	Block size in cu. in.	Connection size in 1/8"	Connection: S = ODF Omitted for flare

TD - Capacity Table (kW)

MODEL	CONNECTION (in) F=flare S=solder	FLOW CAPACITY(1) kW @ 0.069 bar					WATER CAPACITY(2) (Drops of water)(3)									
							R-134a		R-410A R-448A R-449A		R-404A/507		R-744		R-410A R-32	
							LIQUID LINE TEMPERATURE									
		R-134a	R-410A R-448A R-449A	R-404A/507	R-744	R-32	24ºC	52ºC	24ºC	52ºC	24ºC	52ºC	24ºC	52ºC	24ºC	52ºC
TD-032	1/4 F	6.7	7.4	4.9	9.5	8.0	81	73	90	81	84	79	43	48	35	32
TD-032S	1/4 S	8.1	8.8	6.0	11.3	9.5										
TD-033S	3/8 S	10.5	11.2	7.4	14.9	12.5										
TD-052	1/4 F	7.0	7.7	5.3	9.9	8.3	174	164	194	176	184	173	112	124	91	83
TD-052S	1/4 S	10.2	10.9	7.4	14.0	11.7										
TD-053	3/8 F	13.0	14.0	9.5	18.1	15.2										
TD-053S	3/8 S	15.8	17.2	5.3	22.1	18.6										
TD-082	1/4 F	7.0	7.7	5.3	9.9	8.3	288	272	322	296	301	282	158	174	129	116
TD-083	3/8 F	15.1	16.5	10.9	21.2	17.8										
TD-083S	3/8 S	14.8	17.2	10.9	20.8	17.4										
TD-084	1/2 F	23.5	25.7	17.2	33.0	27.7										
TD-084S	1/2 S	24.6	26.7	17.9	34.3	28.8										
TD-162	1/4 F	7.0	7.7	5.3	9.9	8.3	386	355	432	397	407	383	224	248	183	165
TD-163	3/8 F	15.5	16.7	11.2	21.7	18.2										
TD-163S	3/8 S	17.2	18.6	12.3	23.9	20.1										
TD-164	1/2 F	29.2	31.6	21.1	40.6	34.1										
TD-164S	1/2 S	30.2	32.7	21.8	42.0	35.2										
TD-165	5/8 F	41.5	45.0	30.2	57.8	48.5										
TD-165S	5/8 S	46.0	50.0	33.4	64.1	53.8										
TD-303S	3/8 S	18.3	19.7	13.7	23.0	19.3	980	905	1.095	1.095	1.028	966	538	594	439	396
TD-304	1/2 F	30.2	32.7	21.8	42.0	35.2										
TD-305	5/8 F	48.5	52.7	35.1	67.7	56.9										
TD-305S	5/8 S	51.0	55.2	37.0	70.9	59.5										
TD-306S	3/4 S	55.5	60.1	40.0	77.2	64.8										

(1) Capacities according to ARI Standard 710-86
30 ºC Liquid refrigerant temperature
-15 ºC Saturated vapor temperature
4.9 kg/min/kW for R-134a
4.6 kg/min/kW for R-448A, R-449A
6.4 kg/min/kW for R-404A/507
4.26 kg/min/kW for R-410A

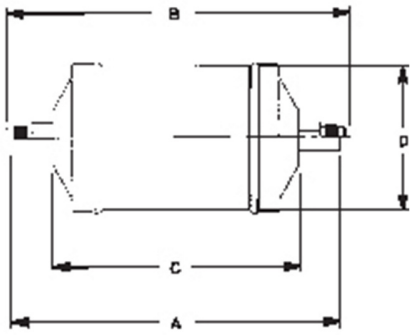
(2) Water Capacity based on
EPD for R-134a, R-744, R32, R410A = 50 ppm
EPD for R-448A, R-449A = 60 ppm
EPD for R-404A/507 = 50 ppm

(3) Since there is currently no ARI standard for R-744, values are based on 1 ton of refrigeration at 20°F liquid refrigerant temperature and -20°F saturated vaportemperature.

TD - Series Liquid Line Filter-Driers

Dimensional Data

MODEL	CONNECTION (in) F=Flare S=Solder	DESICCANT VOLUME cm^3 (cu. in.)	DIMENSIONS mm (in)			
			A	B	C	D
TD-032	1/4 F	49 (3)	---	112 (44.09)	66 (25.98)	44 (17.32)
TD-032S	1/4 S		96 (37.80)	---		
TD-033S	3/8 S		101 (39.76)	---		
TD-032MF	1/4 F (male) / 1/4 F (female)		---	100 (39.37)		
TD-052	1/4 F	82 (5)	---	123 (48.43)	76 (29.92)	64 (25.20)
TD-052S	1/4 S		108 (42.52)	---		
TD-053	3/8 F		---	130 (51.18)		
TD-053S	3/8 S		113 (44.49)	---		
TD-082	1/4 F	131 (8)	---	143 (56.30)	97 (38.19)	64 (25.20)
TD-083	3/8 F		---	151 (59.45)		
TD-083S	3/8 S		134 (52.76)	---		
TD-084	1/2 F		---	156 (61.42)		
TD-084S	1/2 S		135 (53.15)	---		
TD-162	1/4 F	262 (16)	---	167 (65.75)	121 (47.64)	64 (25.20)
TD-163	3/8 F		---	175 (68.90)		
TD-163S	3/8 S		158 (62.20)	---		
TD-164	1/2 F		---	181 (71.26)		
TD-164S	1/2 S		159 (62.60)	---		
TD-165	5/8 F		---	192 (75.59)		
TD-165S	5/8 S		166 (65.35)	---		
TD-303S	3/8 S	492 (30)	225 (88.58)	---	188 (74.02)	76 (29.92)
TD-304	1/2 F		---	247 (97.24)		
TD-305	5/8 F		---	259 (101.97)		
TD-305S	5/8 S		233 (91.73)	---		



TD-100 - Series Replaceable Core Filter-Driers

Application

TD-100 series filter-driers are one or multiple core replaceable core driers, designed for a wide range of system applications for suction and liquid line service. Suction line drier model numbers end in the suffix “SV”. The shell is 6” outside diameter. These driers offer the flexibility of using either replaceable filter cores for protection against solid contaminants, or replaceable filter-drier blocks for protection against acid moisture and solids. They provide complete system protection with a choice of cores (cores sold separately), and high liquid line flow capacities for larger air conditioning and refrigeration applications.

Features, Advantages and Benefits

* For replaceable 100 cubic inches cores.
* High moisture, acids and dirt removal capacity.
* Steel flange cover with threaded bolt holes.
* Stainless steel bolts for suction line models (suffix “SV”).
* Galvanised steel bolts for liquid line models.
* Spring loaded core retainer.
* Internal gasket seal to eliminate refrigerant bypass.
* Shock resistant steel shell construction.
* Connections: solid copper ODF fittings.
* Full flow fittings for low-pressure drop.
* The flange comes with a 1/4” FPT access valve installed in suction line models.
* The flange comes with a 1/4” FPT stopper installed in liquid line models.
* Corrosion resistant electrostatic powder paint.
* Approved by: UL/CUL file *SA7175*
* Maximum Working Pressure 34.5 bar.
* Burst Pressure172.4 bar.

The TD-100 series internal core retainer, allows for easy removal of the core for installation of new cores in restricted areas. The core retainer is spring loaded against an internal gasket to eliminate refrigerant bypass flow. The flange cover is made of steel with threaded bolt holes. One hole is notched to ease installation of the flange to the shell.

For liquid line models, the TD-100 series uses steel bolts for sealing the flange to the shell. The flange comes with a 1/4 FPT tapped hole for insertion of an access valve. For suction line models with the “SV” suffix, the TD-100 series use stainless steel bolts for sealing the flange to the shell. The flange comes with a 1/4 SAE access valve installed.

Nomenclature

EXAMPLE: TD-10017 SV			
TD	100	17	SV
Model	Desiccant volume in cu. in.	Connection size in 1/8” 17 = 2-1/8	Suffix for suction line

Installation

For liquid line applications, the TD-100 drier may be installed in any position along the liquid line. However, for best results, install the drier as close as possible to the expansion device. If a solenoid valve or a moisture indicator is in the system, the drier should be installed upstream. This will provide protection to the solenoid valve and allow the moisture indicator to measure the drier effectiveness. Install the drier in as cold a location as possible in the direction of the flow arrow on the unit.

For suction line applications, the TD-100 drier should be installed as close as possible to the compressor. If an accumulator is in the system, install the drier up stream. Allow a minimum of ten inches (25.4 cm) of clearance between the flange and any obstacle for ease in replacing cores.

TD-100 - Series Replaceable Core Filter-Driers

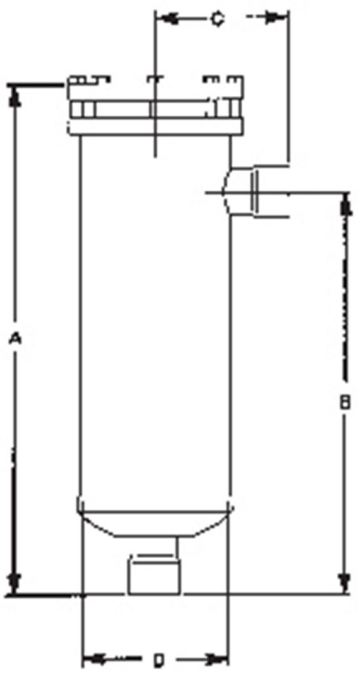
TD-100 - Replaceable Core Suction Line Filter Driers - Capacity Table (kW)

MODEL	UNIT SIZE	CONNECTION SIZE AND TYPE (in)	FLOW CAPACITY (kW) AT LISTED CONDITIONS (1)														
			REFRIGERANT														
			R-134a					R-448A, R-449A, R-32					R-404A/507				
			EVAPORATOR TEMPERATURE (ºC)														
			5	-7	-18	-29	-40	5	-7	-17.8	-29	-40	5	-7	-18	-28.9	-40
			PRESSURE DROP (kPa)														
			14	10.3	7	3.4	3.4	21	14	10.3	7	2	20.7	14	10	7	3.4
TD-10017 SV	100	2-1/8 ODF	115.8	76.7	50.3	32.2	17.5	186.9	123.8	81.3	51.9	28.3	151.3	100.2	65.8	42.0	22.9
TD-10021 SV		2-5/8 ODF	122.5	81.1	53.3	34.0	18.6	192.7	127.6	83.8	53.5	29.2	156.0	103.3	67.8	43.3	23.6
TD-10025 SV		3-1/8 ODF	129.1	85.5	56.1	35.9	19.6	197.3	130.7	85.8	54.8	29.9	165.4	109.5	71.9	45.9	25.1

(1) Capacities are based on 38 ºC liquid refrigerant temperature and suction gas superheated 5.6 ºC.

Dimensional Data

MODEL	CONNECTION (in)	NUMBER OF CORES	DESICCANT VOLUME cm³ (cu. In.)	DIMENSIONS mm (in)			
				A	B	C	D
TD-10017 SV	2-1/8 ODF	1	1.639 (100)	306 (12.05)	221 (8.70)	144 (5.67)	152 (6.00)
TD-10021 SV	2-5/8 ODF			325 (12.80)	216 (8.50)	153 (6.02)	
TD-10025 SV	3-1/8 ODF			329 (12.95)	228 (8.98)	151 (5.94)	



TDS - Series Replaceable Core Filter-Driers

Application

TDS series filter-driers are one or multiple core replaceable core driers, designed for a wide range of system applications for suction and liquid line service. The shell is 4-1/2" outside diameter. These driers offer the flexibility of using either replaceable filter cores for protection against solid contaminants, or replaceable filter-drier blocks for protection against acid moisture and solids. They provide complete system protection with a choice of cores (cores sold separately), and high liquid line flow capacities for larger air conditioning and refrigeration applications.

Features, Advantages and Benefits

* For replaceable 48 cubic inches cores.
* High moisture, acids and dirt removal capacity.
* Aluminum flange cover.
* Galvanised steel nuts and bolts.
* Spring loaded core retainer.
* Internal gasket seal to eliminate refrigerant bypass.
* Shock resistant steel shell construction.
* Connections: solid copper ODF fittings.
* Full flow fittings for low-pressure drop.
* The flange comes with a 1/4" FPT stopper installed.
* Corrosion resistant electrostatic powder paint.
* Approved by: UL/CUL file *SA7175*
* Maximum Working Pressure 34.5 bar.
* Burst Pressure172.4 bar.

The TDS series is the standard line of replaceable core driers. The unique internal core retainer allows for easy removal of the core retainer for installation of new cores in restricted areas. The core retainer is spring loaded against the internal gasket to eliminate refrigerant bypass. The flange cover is made of aluminum with drilled holes for use with nuts and bolts. One hole is notched to ease installation of the flange to the shell.

The flange comes with a 1/4 FPT tapped hole for insertion of an access valve and is sealed to the shell with galvanised steel bolts and square nuts.

Nomenclature

EXAMPLE: TDS-1449		
TDS	144	9
Model	Desiccant volume in cu. in. (48 x 3)	Connection size in 1/8" (9 = 1-1/8)

Installation

For liquid line applications, the TDS drier may be installed in any position along the liquid line. However, for best results, install the drier as close as possible to the expansion device. If a solenoid valve or a moisture indicator is in the system, the drier should be installed upstream. This will provide protection to the solenoid valve and allow the moisture indicator to measure the drier effectiveness. Install the drier in a location as cold as possible in the direction of the flow arrow on the unit.

For suction line applications, the TDS drier should be installed as close as possible to the compressor. If an accumulator is in the system, install the drier up stream. Allow a minimum of ten inches (25.4 cm) of clearance between the flange and any obstacle for ease in replacing cores.

TDS - Series Replaceable Core Filter-Driers

TDS - Liquid Line Filter Driers - Capacity Table (kW)

MODEL	UNIT SIZE	CONNECTION SIZE AND TYPE (in)	FLOW CAPACITY(1) kW @ 0.069 bar				
			R-134a	R-410A R-448A R-449A	R-404A/507	R-744	R-32
TDS-487	48	7/8 ODF	123.0	133.6	87.9	52.89	44.40
TDS-489		1-1/8 ODF	172.2	186.3	126.5	74.82	62.81
TDS-4811		1-3/8 ODF	196.8	214.4	144.0	104.49	87.71
TDS-967	96	7/8 ODF	133.6	144.0	98.4	58.05	48.73
TDS-969		1-1/8 ODF	203.8	221.4	147.6	91.59	76.89
TDS-9611		1-3/8 ODF	256.6	277.6	186.3	112.23	94.21

(1) Suggested nominal capacity selection. By type or application. R-448A/R-449A ratings according to ARI Standard 710-86

TDS - Suction Line Filter Driers - Capacity Table (kW)

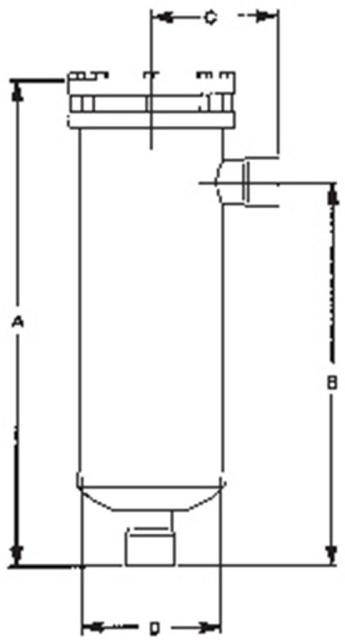
MODEL	UNIT SIZE	CONNECTION SIZE AND TYPE (in)	FLOW CAPACITY (kW) AT LISTED CONDITIONS (1)													
			REFRIGERANT													
			R-134a				R448A, R449A					R-404A/507				
			EVAPORATOR TEMPERATURE (ºC)													
			5	-7	-18	-29	5	-7	-18	-29	-40	5	-7	-18	-29	-40
			PRESSURE DROP (kPa)													
			14	10.3	7	3.4	21	14	10.3	7	2	20.7	14	10	7	3.4
TDS-489	48	1-1/8 ODF	21.4	14.4	9.3	5.9	50.1	33.2	21.8	13.9	7.6	42.1	27.9	18.3	11.7	6.4
TDS-4811		1-3/8 ODF	40.1	27.0	17.4	11.1	60.9	40.3	26.5	16.9	9.2	50.5	33.4	22.0	14.0	7.7
TDS-4813		1-5/8 ODF	48.6	32.7	21.1	13.5	75.2	49.8	32.7	20.9	11.4	61.1	40.5	26.6	17.0	9.3
TDS-4817		2-1/8 ODF	64.8	43.6	28.2	18.0	103.7	68.7	45.1	28.8	15.7	85.5	56.6	37.2	23.8	13.0
TDS-4821		2-5/8 ODF	89.1	60.0	38.7	24.8	139.0	92.1	60.4	38.6	21.1	114.6	75.9	49.8	31.8	17.4
TDS-9613	96	1-5/8 ODF	52.1	35.1	22.7	14.5	83.7	55.4	36.4	23.3	12.7	62.9	41.7	27.3	17.5	9.5
TDS-9617		2-1/8 ODF	68.3	46.0	29.7	19.0	114.4	75.8	49.7	31.8	17.3	87.4	57.9	38.0	24.3	13.2
TDS-9621		2-5/8 ODF	100.4	67.6	43.7	27.9	158.0	104.6	68.7	43.9	23.9	121.4	80.4	52.8	33.7	18.4
TDS-9625		3-1/8 ODF	132.5	89.2	57.6	36.8	219.6	145.4	95.5	61.0	33.3	169.6	112.3	73.7	47.1	25.7
TDS-14417	144	2-1/8 ODF	72.1	48.5	31.3	20.0	118.2	78.3	51.4	32.8	17.9	93.7	62.1	40.7	26.0	14.2
TDS-14421		2-5/8 ODF	109.4	73.6	47.6	30.4	165.5	109.6	72.0	46.0	25.1	132.1	87.5	57.4	36.7	20.0
TDS-14425		3-1/8 ODF	146.6	98.7	63.7	40.7	231.7	153.4	100.7	64.4	35.1	186.3	123.4	81.0	51.8	28.2
TDS-19221	192	2-5/8 ODF	114.0	76.7	49.6	31.7	175.8	116.4	76.4	48.8	26.6	139.2	92.2	60.5	38.7	21.1
TDS-19225		3-1/8 ODF	157.6	106.1	68.5	43.8	251.4	166.5	109.3	69.8	38.1	200.0	132.5	87.0	55.6	30.3

(1) Capacities are based on 38 ºC liquid refrigerant temperature and suction gas superheated 5.6 ºC.

TDS - Series Replaceable Core Filter-Driers

Dimensional Data

MODEL	CONNECTION (in)	NUMBER OF CORES	DESICCANT VOLUME cm³ (cu. In.)	DIMENSIONS mm (in)			
				A	B	C	D
TDS-487	7/8 ODF	1	787 (48)	228 (8.98)	151 (5.94)	85 (3.35)	115 (4.5)
TDS-489	1-1/8 ODF			227 (8.94)	151 (5.94)	84 (3.31)	
TDS-4811	1-3/8 ODF			233 (9.17)	156 (6.14)	90 (3.54)	
TDS-4813	1-5/8 ODF			232 (9.13)	156 (6.14)	89 (3.5)	
TDS-4817	2-1/8 ODF			235 (9.25)	158 (6.22)	92 (3.62)	
TDS-4821	2-1/8 ODF			264 (10.39)	168 (6.61)	132 (5.2)	
TDS-967	7/8 ODF	2	1.573 (96)	371 (14.61)	294 (11.57)	85 (3.35)	115 (4.5)
TDS-969	1-1/8 ODF			370 (14.57)	294 (11.57)	84 (3.31)	
TDS-9611	1-3/8 ODF			376 (14.8)	299 (11.77)	90 (3.54)	
TDS-9613	1-5/8 ODF			375 (14.76)	299 (11.77)	89 (3.5)	
TDS-9617	2-1/8 ODF			377 (14.84)	301 (11.85)	92 (3.62)	
TDS-14417	2-1/8 ODF	3	2.361 (144)	520 (20.47)	444 (17.48)	92 (3.62)	115 (4.5)
TDS-19211	1-3/8 ODF	4	3.148 (192)	661 (26.02)	584 (22.99)	90 (3.54)	115 (4.5)



Replaceable desiccant blocks and cores

Application

These cores and desiccant molded blocks are designed to protect the refrigeration system and the compressor from soluble and solid contaminants. They fit in interchangeably with our TD, TDS and TDQA filter-drier shells, and all competitive shell type filter-driers.

Features, Advantages and Benefits

* New special desiccant blend molded cores for exceptional acid capacities for normal system protection, or effectively clean up after a compressor burnout.
* Water capacities to suit specific system conditions.
* Wax removal capabilities, if desired, in low temperature applications.
* Interchangeable with competitive products.

Our replaceable desiccant blocks are molded using selected desiccant materials for high acid, moisture and wax removal. The blocks are molded to resist high mechanical strength using the same process as used in our sealed type filter-driers.

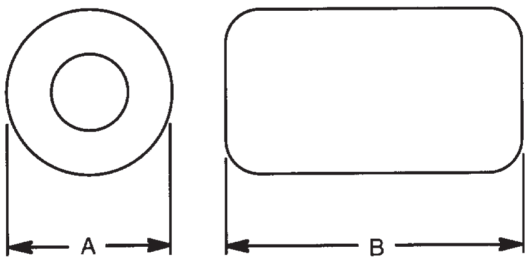
Cores are fully activated and hermetically sealed in individual packages. Inside the package is included a set of replacement gaskets, to replace flange and core gaskets in our filter-drier shells and other manufacturer's shells.

Felt elements are dried and hermetically sealed to prevent the filter from picking up moisture from the atmosphere.

Nomenclature

EXAMPLE: TD-HC-48		
TD	HC	48
Series	Description: HC = Activated charcoal	Desiccant volume in cu. in.

Dimensional Data



Core model and size	Dimensions mm (in)		Filter area
	A	B	
TD-T-48 TD-H-48 TD-HC-48 TD-F-48	94 (3.70)	140 (5.51)	1.131 cm ² (69 sq.in.)
TD-H-100 TD-HC-100 TD-F-100	122 (4.80)	166 (6.54)	1.803 cm ² (110 sq.in.)