Dry All®

Full Range of HVAC&R Line Products

COAXIAL HEAT EXCHANGERS

Coaxial Heat Exchangers

Dry All
Full Range of HVAC&R Line Products

Introduction

At Dry All, we are dedicated to pushing the boundaries of HVAC&R technology with innovative solutions designed for exceptional performance and efficiency. Our Coaxial Heat Exchanger is a prime example of this commitment, engineered to meet the demanding needs of modern industrial applications.

About the Coaxial Heat Exchanger

The Coaxial Heat Exchanger is a sophisticated heat transfer device that utilizes a unique coaxial design to deliver superior heat exchange efficiency in a compact form factor. This design features two concentric tubes, one for the hot fluid and one for the cold fluid, ensuring optimal thermal transfer and minimal space requirements.
Our Coaxial Heat Exchanger stands out due to its exceptional performance, reliability, and versatility. With its advanced design, it offers:

- **Enhanced Efficiency:** Achieve superior heat transfer with a compact and efficient design that maximizes thermal performance.
- **Durability:** Constructed from high-quality, corrosion-resistant materials for long-lasting performance even in harsh environments.
- **Versatility:** Ideal for a wide range of applications, including industrial processes, automotive systems, and HVAC systems.

Key Features & Advantages

1. **Innovative Coaxial Design**
   Dual-Tube Configuration: Features a concentric tube arrangement that optimizes the flow of hot and cold fluids, enhancing heat transfer efficiency.
   Compact Footprint: Designed to fit in tight spaces, making it ideal for applications where space is limited.

2. **Superior Heat Transfer Efficiency**
   Enhanced Performance: The coaxial design ensures effective thermal exchange, resulting in lower energy consumption and improved operational efficiency.
   High Thermal Conductivity: Utilizes advanced materials to maximize heat transfer rates and minimize thermal losses.

3. **Robust Construction**
   Durable Materials: Constructed from high-quality, corrosion-resistant materials to withstand harsh operating environments and extend service life.
   Pressure Resistance: Engineered to handle high-pressure conditions without compromising performance or safety.

4. **Versatile Applications**
   Wide Range of Uses: Suitable for various industries including industrial processes, automotive cooling systems, and HVAC applications.
   Customizable Options: Available in various sizes and configurations to meet specific application requirements.

5. **Low Maintenance**
   Easy to Maintain: Designed for minimal maintenance, reducing downtime and operational costs.
   Reliability: Proven durability and long-lasting performance ensure reliable operation with minimal intervention.

6. **User-Friendly Features**
   Easy Installation: Simplified installation process with clear guidelines and compatible connection options.
   Operational Flexibility: Compatible with a variety of fluids and operational conditions, providing flexibility for diverse.

Area of Application in HVAC&R

The Coaxial Heat Exchanger is a versatile component widely used in HVAC&R (Heating, Ventilation, Air Conditioning, and Refrigeration) systems. Its innovative design and high-performance characteristics make it suitable for various applications within this sector:

1. **Industrial HVAC&R Systems**
   - Process Cooling
   - Air Handling Units (AHUs)

2. **Commercial HVAC&R Systems**
   - Chilled Water Systems
   - Heating and Cooling Units.

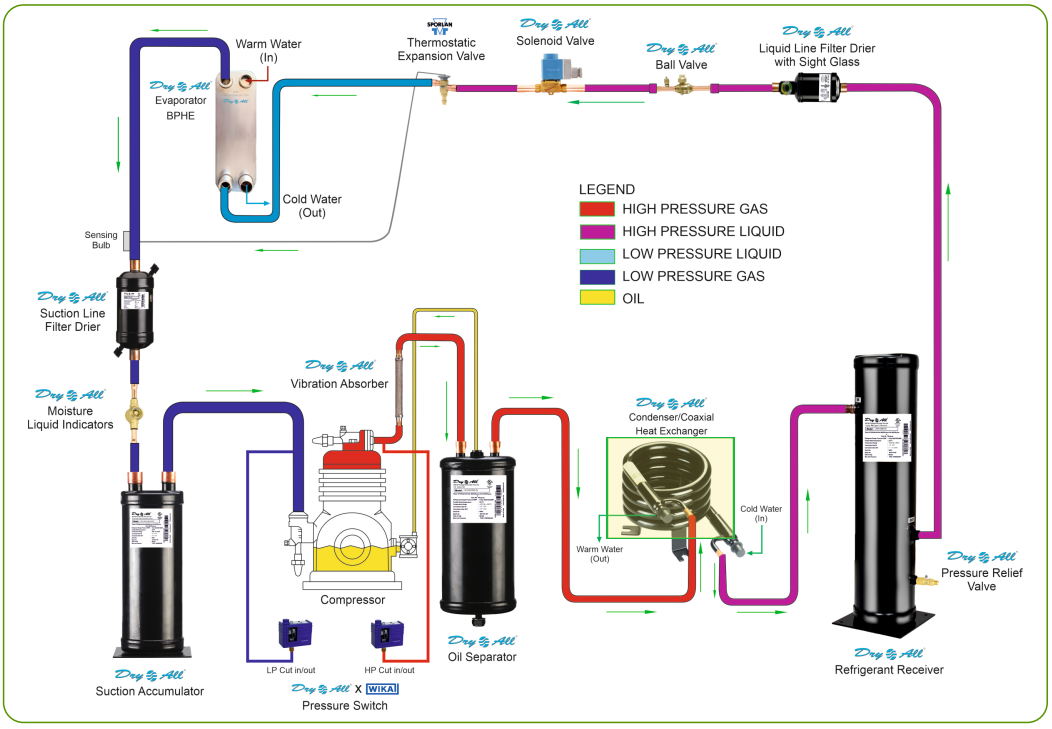
3. **Refrigeration Systems**
   - Refrigerant to Refrigerant Heat Exchanger
   - Cold Storage

4. **Air Conditioning Systems**
   - Split Systems
   - Chillers

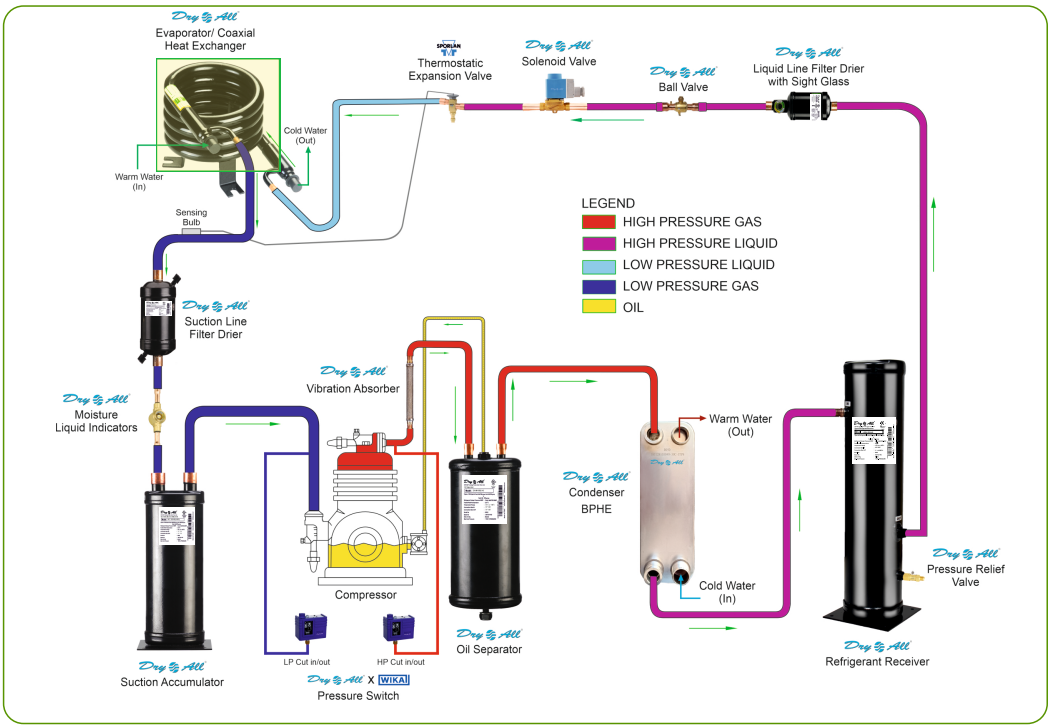
5. **Specialized Applications**
   - Clean Rooms
   - Data Centres

Product Installed in Refrigeration Cycle

As a Condenser



As an Evaporator



Working Principle

1. **As Condenser:**

- **Refrigerant Vapor:** In this configuration, the refrigerant vapor enters through the top of the outer tube, which is typically made of mild steel. The refrigerant vapor travels downward through the annular space between the outer and inner tubes.
- **Cooling Liquid (Water):** Water or another cooling liquid is directed through the inner tube, entering from the bottom and flowing upward. The water absorbs heat from the refrigerant vapor, causing the vapor to condense as it moves down the outer tube.

2. **As Evaporator:**

- **Refrigerant Liquid:** For evaporators, refrigerant liquid enters through the bottom of the outer tube. It moves upward through the annular space between the tubes.
- **Cooling Liquid (Water):** The water flows downward through the inner tube, entering from the top. The heat from the refrigerant liquid is transferred to the water, causing the refrigerant to evaporate as it moves up the outer tube.

Flow Pattern:

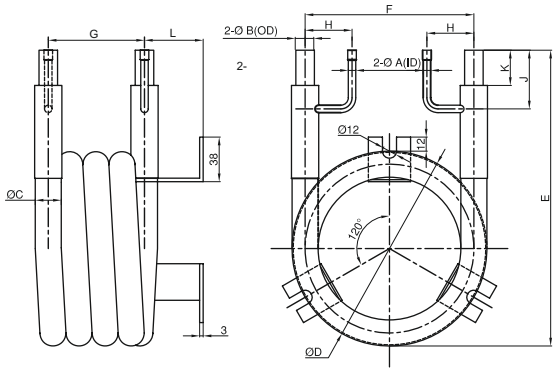
- The heat exchanger operates in a Counter flow pattern, meaning the two fluids flow in opposite directions. This configuration maximizes the temperature gradient between the fluids, enhancing the efficiency of heat transfer and improving overall performance.

Design Features

- **Inner Tube Design:** The inner tube is typically made of copper and features special corrugations. These corrugations increase the surface area available for heat transfer and promote better mixing of the fluid. The design also encourages turbulent flow, which improves heat exchange efficiency.

- **Swirling Action:** The corrugated design of the inner tube creates a swirling action in the water. This swirling effect helps to keep the inner tube's surface clean by preventing the accumulation of scale and debris. This not only improves heat transfer but also reduces the frequency and cost of maintenance.

Models Available

IMAGE	DIMENSIONAL DATA
	

Mobile No.	Refrigerant Connection IN/OUT (I.D.)	Connection IN/OUT (O.D)	C		D		E		F		G		H		J		K		L	
	A	B	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch
DA-COAX-0050GT	3/8"	5/8"	22.2	0.87	166	6.54	252	9.92	146	5.75	59	2.32	40	1.57	50	1.97	30	1.18	50	1.97
DA-COAX-0055GT	3/8"	5/8"	22.2	0.87	166	6.54	252	9.92	146	5.75	82	3.23	40	1.57	50	1.97	30	1.18	50	1.97
DA-COAX-0060GT	3/8"	5/8"	22.2	0.87	166	6.54	252	9.92	146	5.75	106	4.17	40	1.57	50	1.97	30	1.18	50	1.97
DA-COAX-0075GT	3/8"	18mm	25.4	1	248	9.76	340	13.39	230	9.06	94	3.70	50	1.57	50	1.97	30	1.18	50	1.97

Technical Table

Sr. No.	Model No.	Condenser		Evaporator		Water Flow Rate (LPM)	Water Side Pressure Drop (kPa)	Max Working Pressure (Psig)	
		Capacity (KW)	Capacity (TR)	Capacity (KW)	Capacity (TR)			Refrigerant Side	Water Side
1	DA-COAX-0050GT	1.75	0.50	1.20	0.35	7	10	600	220
2	DA-COAX-0055GT	2.63	0.75	1.85	0.50	9	12	600	220
3	DA-COAX-0060GT	3.50	1.00	2.50	0.75	10	15	600	220
4	DA-COAX-0075GT	5.25	1.50	3.60	1.00	20	18	600	220

Working Condition

For Condenser:
Refrigerant R134a
Water In/Out: 30/35°C

For Evaporator:
Refrigerant R134a
Water In/Out : 12/7°C

Note:

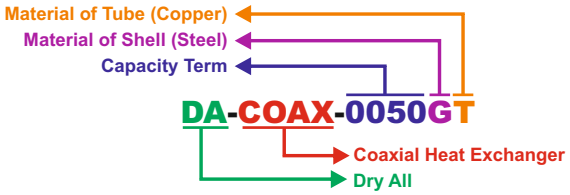
Applications

HVAC, Heat Pump, Oil cooling and Heating, Water Cooling and Heating.

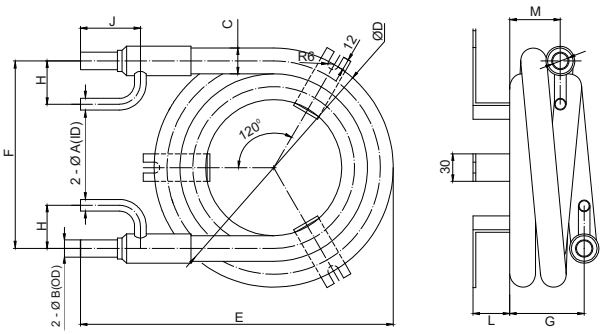
Material of Construction

1. Inner Tube: Corrugated Copper
2. Outer Tube: Mild Steel

Nomenclature



Models Available

IMAGE	DIMENSIONAL DATA
	

Model No.	Refrigerant Connection IN/OUT (I.D.)	Connection IN/OUT (O.D)	C		D		E		F		G		H		J		L		M	
	A	B																		
	Inch	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch
DA-COAX-0250GT-P	1/2"	3/4"	28	1.10	260	10.24	340	13.39	204	8.03	81	3.19	47	1.85	65	2.56	40	1.57	55	2.17
DA-COAX-0300GT-P	5/8"	7/8"	33	1.29	314	12.36	353	13.90	248	9.76	105	4.13	54	2.13	65	2.56	40	1.57	70	2.76
DA-COAX-0600GT-P	3/4"	1 1/8"	38	1.49	381	15.00	450	17.72	305	12.01	117	4.61	58	2.28	65	2.56	40	1.57	98	3.86

Technical Table

Sr. No.	Model No.	Condenser		Evaporator		Water Flow Rate (LPM)	Water Side Pressure Drop (kPa)	Max Working Pressure (Psig)	
		Capacity (KW)	Capacity (TR)	Capacity (KW)	Capacity (TR)			Refrigerant Side	Water Side
1	DA-COAX-0250GT-P	7.00	2.00	4.90	1.40	25	22.50	610	220
2	DA-COAX-0300GT-P	10.50	3.00	7.00	2.00	32	27.50	610	220
3	DA-COAX-0600GT-P	17.50	5.00	12.25	3.50	52	24.00	610	220

Working Condition

For Condenser:
Refrigerant R410a
Water In/Out: 30/35°C

For Evaporator:
Refrigerant R410a
Water In/Out : 12/7°C

Note:

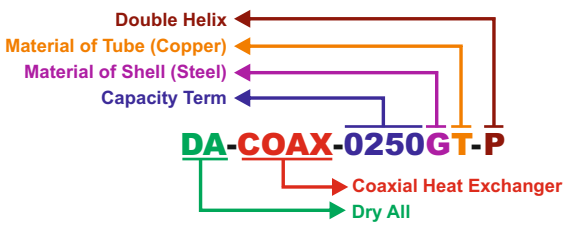
Applications

HVAC, Heat Pump, Oil cooling and Heating, Water Cooling and Heating.

Material of Construction

1. Inner Tube: Corrugated Copper
2. Outer Tube: Mild Steel

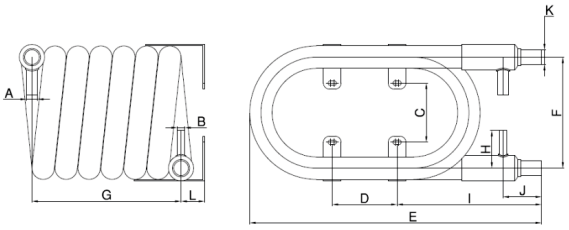
Nomenclature



Trombone Co-axial Heat Exchanger

Dry All®
Full Range of HVAC&R Line Products

Image & Drawing

IMAGE	DIMENSIONAL DATA
	

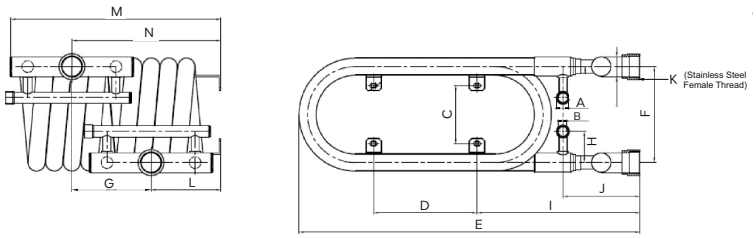
Model Table

Model No.	Refrigerant Connection IN/OUT		Connection IN/OUT	C		D		E		F		G		H		I		J		L	
	A	B	K																		
	Inch	Inch	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch
DA-COAX-0270GB-U	3/4"	1/2"	1"	112	4.41	110	4.33	450	17.72	185	7.28	153	6.02	60	2.36	241	9.48	90	3.54	50	1.97
DA-COAX-0420GB-U	3/4"	1/2"	1-1/4"	110	4.33	130	5.12	495	19.49	188	7.40	214	8.43	55	2.17	230	9.06	60	2.36	40	1.57

Technical Table

Sr. No.	Model No.	Condenser		Evaporator	
		Capacity (KW)	Capacity (TR)	Capacity (KW)	Capacity (TR)
1	DA-COAX-0270GB-U	10.5	3	8.05	2.3
2	DA-COAX-0420GB-U	15.7	4.5	12.07	3.4

Image & Drawing

IMAGE	DIMENSIONAL DATA
	

Model Table

Model No.	Refrigerant Connection IN/OUT		Connection IN/OUT	C		D		E		F		G		H		I		J		L		M		N	
	A	B	K																						
	Inch	Inch	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch
DA-COAX-0360GB-U-S	7/8"	7/8"	G 1-1/4"	112	4.41	200	7.88	624	24.56	185	7.28	153	6.02	60	2.36	280	11.02	114	4.48	135	5.32	406	15.98	288	11.33

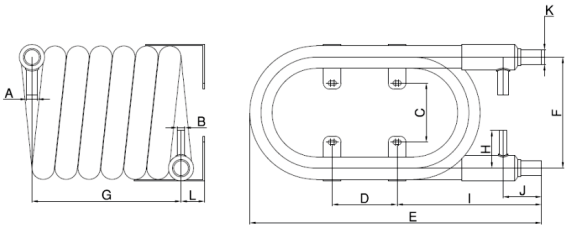
Technical Table

Sr. No.	Model No.	Condenser		Evaporator	
		Capacity (KW)	Capacity (TR)	Capacity (KW)	Capacity (TR)
3	DA-COAX-0360GB-U-S	-	-	20	5.75

Trombone Co-axial Heat Exchanger

Dry All
Full Range of HVAC&R Line Products

Image & Drawing

IMAGE	DIMENSIONAL DATA
	

Model Table

Model No.	Refrigerant Connection IN/OUT				Connection IN/OUT		C		D		E		F		G		H		I		J		L	
	A		B		K																			
	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch
DA-COAX-0525GT-U	19	3/4"	12.7	1/2"	25	1"	100	3.94	110	4.33	495	19.49	188	7.40	253	9.96	64	2.52	245	9.65	65	2.56	40	1.57

Technical Table

Sr. No.	Model No.	Condenser		Evaporator	
		Capacity (KW)	Capacity (TR)	Capacity (KW)	Capacity (TR)
1	DA-COAX-0525GT-U	22.8	6	17.5	5

Note:

1. For GB-U Model

Applications

Milk Chilling, Drinking water

Material of Construction

1. Inner Tube: Corrugated Stainless Steel
2. Outer Tube: Mild Steel

2. For GT-U Model (Special High-Capacity)

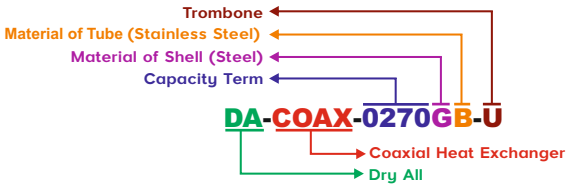
Applications

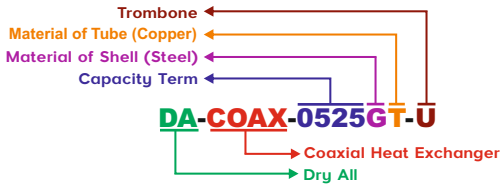
HVAC, Oil cooling & Heating, Water Cooling & Heating

Material of Construction

1. Inner Tube: Copper
2. Outer Tube: Mild Steel

Nomenclature





Check Hologram for Genuine Product

Manufactured by:

Dry All®

Full Range of HVAC&R Line Products

SAFE A&T Technology Private Limited
D-4, MIDC, Phase II,Dombivali (E),
Dist. Thane-421 201.
T : +91-(0)-251-2870680/81/82
M : +91-9619933838
Customer Care : +91 8181 994 994
E : info@dryall.net
W : www.dryall.net

File No.: L/S&M/01
REV23-05-01-00