



- Large condenser for high ambient temperatures
- Microprocessor based controller
- Anti-recycle feature for compressor protection
- Low pressure drop across advanced heat exchangers saves energy
- The dryers have been designed for nominal standard inlet conditions as per ISO 7183 - 2007
- Dryer Quality class - ISO 8573 - 1 : 2010 (E) class -5-

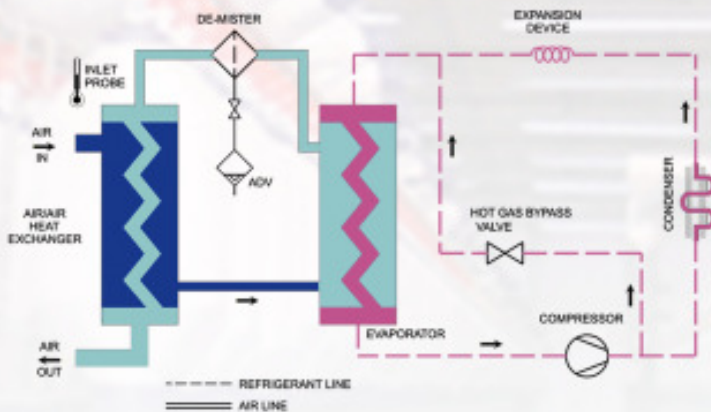


Refrigeration Compressed Air Dryer

**Coldspell**

Trident Refrigeration Compressed Air Dryer is an ideal solution for clean and dry compressed air. It is the result of extensive design and prototype testing and provides a consistent dew point of +3°C to +7°C. Compared to other Air Dryers Coldspell Series of Trident has a very low running cost.

### Schematic diagram



### Principle of Operation

Warm compressed air enters the Air/Air heat exchanger where it is pre-cooled by outgoing cold refrigerated air. Pre-cooling makes it possible to use a smaller (more economical) refrigeration Unit. Then the pre-cooled air enters the Air to Refrigerant heat exchanger where it is cooled down to +3°C to +7°C. At this temperature, water condenses into liquid droplets, which are removed from the air stream by a very efficient Demister and automatically discharged to drain by an Automatic drain valve.

The cold dry compressed air passes back through the secondary side of the Air to Air heat exchanger where it is reheated by the incoming warm air. Reheating the outgoing compressed air increases the volume of the air enabling it to do more work and it also prevents downstream pipe sweating. Trident heat exchanger has no extended surfaces or sharp corners that collect dust, dirt or oil residue. Their self cleaning smooth surface tube and fin design will maintain the same heat transfer efficiency through out the dryer's life. Any dust, dirt or oil will be washed from the air system along with the condensed moisture at the Demister.

### Features

- Condensing Temperature control for ambient Temperature variations.
- Hot gas by-pass circuit for partial load.
- Maintains constant pressure dewpoint.
- Compressor safety through HP cut switch.
- The advanced mimic display indicates the functions & faults if any.

Trident Automatic Drain Valve provided in Demister for effective Dryer functioning.



## Specification of Dryer

Model	Item Code	Flow in scfm	Power consumption (KW) R134a/R407c	End connection	Dimension (mm)			Weight (kg)	Recommended Pre Filter** 5 Micron	Recommended Post Filter**	
					H	W	D			1 Micron	0.01 Micron
Coldspell 20	PH191	20	0.32	¾" BSP	420	400	430	38	T100PEA	T100XIA	T100YIA
Coldspell 40	PH192	40	0.34	1" BSP	525	450	475	48	T100PEA	T100XIA	T100YIA
Coldspell 50	PH193	50	0.36	1" BSP	525	450	475	48	T100PEA	T100XIA	T100YIA
Coldspell 60	PH194	60	0.36	1" BSP	525	450	475	48	T100PEA	T100XIA	T100YIA
Coldspell 80	PH195	80	0.85	1" BSP	675	485	525	65	T250PEA	T250XIA	T250YIA
Coldspell 100	PH196	100	0.85	1" BSP	675	485	525	65	T250PEA	T250XIA	T250YIA
Coldspell 150	PH197	150	1.02	1½" BSP	860	670	700	123	T250PEA	T250XIA	T250YIA
Coldspell 200	PH198	200	2.08/2.34	1½" BSP	860	670	700	129	T600PEA	T600XIA	T600YIA
Coldspell 250	PH199	250	2.08/2.34	1½" BSP	860	670	700	129	T600PEA	T600XIA	T600YIA
Coldspell 300	PH169	300	2.4/2.4	2" NB	1275	850	800	240	T600PEA	T600XIA	T600YIA
Coldspell 400	PH170	400	2.5/2.3	2" NB	1275	850	800	260	T851PEA	T851XIA	T851YIA
Coldspell 500	PH171	500	2.5/2.3	2" NB	1275	850	800	290	T851PEA	T851XIA	T851YIA
Coldspell 650	PH186	650	3.12/3.32	2" NB	1700	1100	1425	350	T1210PEA	T1210XIA	T1210YIA
Coldspell 800	PH187	800	5.3/4.8	3" NB	1700	1100	1425	490	T1810PEA	T1810XIA	T1810YIA
Coldspell 1000	PH188	1000	4.72/4.8	3" NB	1700	1100	1425	580	T1810PEA	T1810XIA	T1810YIA
Coldspell 1250	PH189	1250	5.63/5.12	4" NB	1700	1100	1425	620	T2200PEA	T2200XIA	T2200YIA
Coldspell 1500	PH190	1500	6.21	4" NB	1700	1100	1425	900	T2600PEA	T2600XIA	T2600YIA
Coldspell 2000	PH202	2000	8.00	6" NB	1700	1100	1450	1020	T3400PEA	T3400XIA	T3400YIA

For any other capacity contact factory. Specifications are subject to change without notification. Max. Pressure = 16 bar.

\*Note : Coldspell 20 - Coldspell 500 = R 134A, Coldspell 650 to Coldspell 2000 = R 407C \*\*To be ordered separately.



Air cooled Temperature = Ambient temperature

Water cooled Temperature : 32°C max

## How to Order

Requirement :	Inlet flow	100 scfm
	working pressure	5 Kg / cm <sup>2</sup>
	Inlet temperature	45° C
	Ambient temperature	38° C
Referring tables :	Factor Pi	= 0.84
	Factor Ti	= 1
	Factor Ta	= 1
Dryer capacity required :	$\frac{\text{Flow}}{\text{Pi} \times \text{Ti} \times \text{Ta}}$	$= \frac{100}{0.84 \times 1 \times 1}$ = 119 scfm
Choose the nearest higher model :		= Coldspell 150

## Correction Factor

Air Inlet Temperature °C 	30	38	45	50	55	60
Correction Factor (Ti)	1.14	1.08	1.0	0.75	0.63	0.5
Ambient Temperature °C 	25	30	38	43		
Correction Factor (Ta)	1.36	1.18	1.0	0.86		
Inlet Pressure Kg/cm <sup>2</sup>	3	5	7	9	12	
Correction Factor (Pi)	0.6	0.84	1.0	1.11	1.21	

Rated near option B as per standard ISO 7183 - 2007

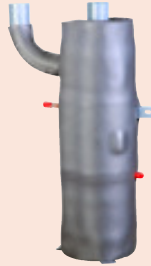




## Superior Design

### Integrated Heat Exchanger

- Compact in design.
- Low operating costs due to low pressure drop.
- No corrosion inside the heat exchanger even contact with wet compressed air superior heat transfer capabilities than shell & tube heat exchanger.



### Hotgas Bypass Control

- Prevents evaporator freezing.
- Constant dewpoint even with changing loads.
- Proven and reliable technology with easy handling.



### Compact & user-friendly

- Clearly visible operator front control panel.
- Minimum maintenance requirements.
- Minimum space requirement.
- Installation is made easy by the access to all connections from one side controlling the key component operation from the front panel.

### Micro processor based controller

- Coldspell 40 to Coldspell 800.
- Bar Type Indicating Controller.
- Indication for Dryer on, Drain open, Dew Point.
- Anti recycling ensures gas pressure equalisation and reduce starting current during starting of the machine, it increases the life of Compressors.



### LCD controller

- Coldspell 1000 and above.
- Auto drain controller.
- Dew point indication.
- Easy user interface.
- It indicates the status of refrigeration compressor, drain valve, & running hours.
- It shows the air inlet, dew point temperature also.



## Trident Refrigeration Dryers are suitable for all compressed air systems like :

- Plant Air
- Machines using pneumatic cylinder
- Cylinder applications
- Foundry
- Textiles
- Engineering
- Glass blowing



### Global Presence



### Reach Pneumatics

42/2, 6th Cross, 5th Main, Malleswram, Bangalore - 560003, India.

Ph : +91-80-23465570, 23469620

e-mail : reachpneumatics@gmail.com

Website : www.reachpneumatics.com