




- Trident cleansweep series of bacteria filters provides protection from bacteria in compressed air applications for medical and food industries.
- Aluminium alloy housing, hard anodized for corrosion resistance.
- Borosilicate filter media and stainless steel filter element construction, compatible with autoclave sterilisation.

Bacteria Filter Series

Technical Specifications

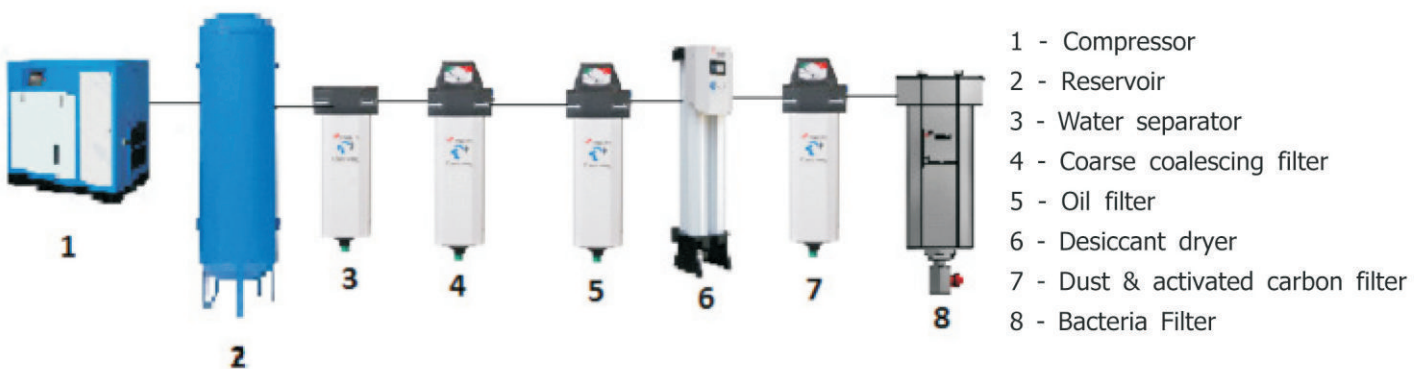
	End Connections BSP	Item Code	Rated Flow scfm	Dimensions			Max. Working Pressure kg/cm ²	Spare kit Item code
				A	B	C		
T100B	½"	PFB01	60	87	280	300	16	AS928
T250B	1"	PFB02	150	114	385	350	16	AS929
T600B	1½"	PFB03	350	114	461	420	16	AS930
T851B	2"	PFB04	500	148	646	600	16	AS931
T1210B	2"	PFB05	710	148	716	670	16	AS932
T1810B	3"	PFB06	1065	211	734	670	12	AS933



Element specifications :


- 1) Filter media material : Microglass Borosilicate
- 2) Particle removal : 0.01 micron
- 3) Pressure drop : <0.3 bar(d)
- 4) Bacteria retention : Log Reduction Value (LRV) >7 for *Pseudomonas* bacteria aerosol
- 5) Autoclaving temperature : 121°C
- 6) Filter element end caps material : S.S 304
- 7) Air flow direction : Inside to outside

Filter Installation Layout




Applications

- Packaging • Microbiology • Medical • Veterinary • Dental • Dairy • Biotechnology • Food Processing



Our Other Range of Products

- Timer based Auto Drain Valve • Level Sensing Auto Drain Valve • Desiccant Dryer (Heatless)
- Desiccant Dryer (Heated) • Refrigeration Dryers
- Oxygen & Nitrogen Generators



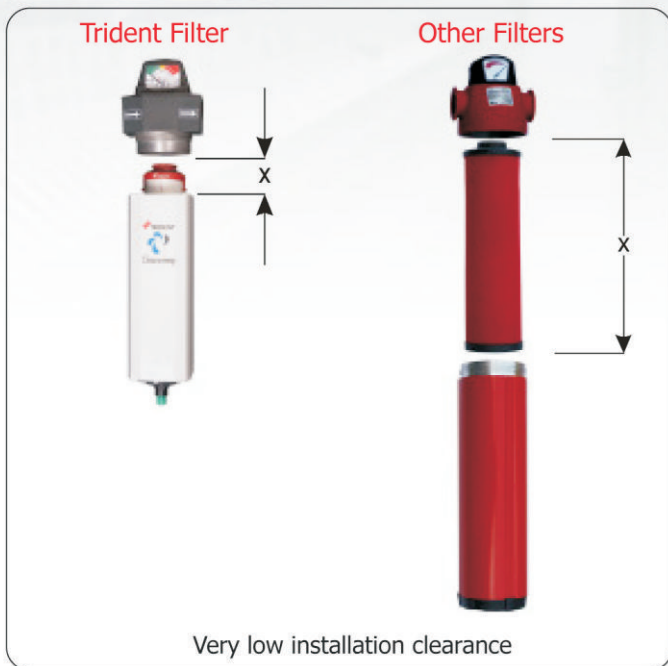
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- Very low installation clearance - Install anywhere
- Oil Removal (Coalescing) and Particulate
- Flow from 100 to 1810 m³/hour
- Particle Removal 0.01 (µm)
- Max. Oil carryover 0.003 (mg/m³)



Submicron Filters

Cleansweep

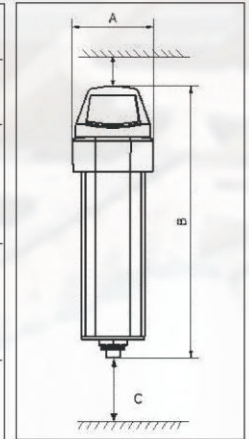
Complete filtration solution

Working Principle

Coalescing is a continuous natural process in which oil, water and solid particles that pass through the filter element come into contact with a fibre strand and unite with other collected aerosole to form droplets. The droplets fall to the bottom of the housing and are drained away.

Technical Data

Model	Element Grade	Item Code		Pipe Size BSP	Flow Rate (m ³ /hour) @7 (kg/cm ²)	Max Working Pressure (kg/cm ²)	Housing Dimensions (mm)		
		(EA) Drain Type	(IA) Drain Type				A	B	C
T 100	P	PF149	PF150	1/2"	100	16	87	294	50
	X	PF149A	PF150A						
	Y	PF149B	PF150B						
	A	PF149C	PF150C						
T 250	P	PF129	PF128	1"	250	16	114	399	50
	X	PF129A	PF128A						
	Y	PF129B	PF128B						
	A	PF129C	PF128C						
T600	P	PF131	PF130	1 1/2"	640	16	114	474	50
	X	PF131A	PF130A						
	Y	PF131B	PF130B						
	A	PF131C	PF130C						
T851	P	PF167	PF163	2"	851	16	148	666	50
	X	PF167A	PF163A						
	Y	PF167B	PF163B						
	A	PF167C	PF163C						
T1210	P	PF177	PF164	2"	1210	16	148	736	50
	X	PF177A	PF164A						
	Y	PF177B	PF164B						
	A	PF177C	PF164C						
T1810	P	PF170	PF165	3"	1810	12	211	761	50
	X	PF170A	PF165A						
	Y	PF170B	PF165B						
	A	PF170C	PF165C						



Ordering Code : Example : Model T100 X EA (or) T100 X IA X - Element Grade ; IA - Internal Automatic float drain
EA - External Automatic Drain

Specification

Description	Element Grade			
	P	X	Y	A
Filter Element	Borosilicate	Borosilicate	Borosilicate	Activated Carbon
Construction Material (T100 - T1810)	Extruded Aluminium Alloy	Extruded Aluminium Alloy	Extruded Aluminium Alloy	Extruded Aluminium Alloy
Coating - External	Epoxy Powder Coating	Epoxy Powder Coating	Epoxy Powder Coating	Epoxy Powder Coating
Particle Removal	5 (µm)	1 (µm)	0.01 (µm)	0.01 (µm)
Max. Oil carryover	5 (mg/m ³)	0.5 (mg/m ³)	0.01 (mg/m ³)	*Removes odour
Max. Working Temp.	80°C	80°C	80°C	80°C
Initial Pressure Loss	0.03 (kg/cm ²)	0.06 (kg/cm ²)	0.1 (kg/cm ²)	0.06 (kg/cm ²)
Pressure Drop for Element Change	0.4 (kg/cm ²)	0.4 (kg/cm ²)	0.4 (kg/cm ²)	0.4 (kg/cm ²)
Element End Cap Colour	Green	Red	Yellow	Black

*Use Y-element to remove oil aerosols before A-element

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- Large condenser for high ambient temperatures
- 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

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	PH224	20	0.32/—	½" BSP	506	202	502	25	T100PEA	T100XIA	T100YIA
Coldspell 40	PH192	40	0.37/—	½" BSP	525	450	475	48	T100PEA	T100XIA	T100YIA
Coldspell 60	PH194	60	0.37/—	½" 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	—/1.7	1½" BSP	860	670	700	129	T600PEA	T600XIA	T600YIA
Coldspell 250	PH199	250	—/1.7	1½" BSP	860	670	700	129	T600PEA	T600XIA	T600YIA
Coldspell 300	PH169	300	1.42/—	2" BSP	1275	850	800	240	T600PEA	T600XIA	T600YIA
Coldspell 400	PH170	400	1.95/—	2" BSP	1275	850	800	260	T851PEA	T851XIA	T851YIA
Coldspell 500	PH171	500	1.95/—	2" BSP	1275	850	800	290	T851PEA	T851XIA	T851YIA
Coldspell 650	PH186	650	—/3.5	2" NB	1700	1100	1425	350	T1210PEA	T1210XIA	T1210YIA
Coldspell 800	PH187	800	—/4.0	3" NB	1700	1100	1425	490	T1810PEA	T1810XIA	T1810YIA
Coldspell 1000	PH188	1000	—/5.1	3" NB	1700	1100	1425	580	T1810PEA	T1810XIA	T1810YIA
Coldspell 1250	PH189	1250	—/7.9	4" NB	1700	1100	1425	620	T2200PEA	T2200XIA	T2200YIA
Coldspell 1500	PH190	1500	—/7.9	4" NB	1700	1100	1425	900	T2600PEA	T2600XIA	T2600YIA
Coldspell 2000	PH203	2000	—/10.2	6" NB	1700	1100	1450	1020	T3400PEA	T3400XIA	T3400YIA

For any other capacity, please contact us. Specifications are subject to change without notification.

Notes :



- 1) All models have air-cooled condenser as the default option. Water cooled option available on request.
- 2) Maximum working pressure: 16 bar
- 3) Refrigerants :
R134a : Coldspell 20 to 150 & 300 to 500
R407C : Coldspell 200 to 250 & 650 to 2000
- 4) ** To be ordered separately.

- Coldspell 20 — Wheel type indicator
- Coldspell 40 to 800 — LED display controller
- Coldspell 1000 to 2000 — Advanced LCD display controller




How to Order

Requirement :	Inlet flow	100 scfm
	working pressure	5 Kg / cm ²
	Inlet temperature	45° C
	Ambient temperature	38° C
Referring tables :	Factor Pi	= 0.84
	Factor Ti	= 1
	Factor Ta	= 1
Dryer capacity	Flow	= 100
required :	Pi x Ti x Ta	0.84 x 1 x 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 ²	3	5	7	9	12	
Correction factor (Pi)	0.6	0.84	1.0	1.11	1.21	

Rated nearest option B as per standard ISO 7183 - 2007

Our other range of products

- Timer based Auto Drain Valve
- Level Sensing Auto Drain Valve
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- Desiccant Dryer (Heated)
- Oxygen & Nitrogen Generators

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- High pressure 40 Kg / cm² (g)
- Bar indicator controller
- Anti freezer
- Anti recycle controller
- Advanced 3 in 1 integrated SS heat exchanger
- Large condenser for high ambient temperatures



Refrigeration Compressed Air Dryer




Coldspell - HP Series

Specification of dryer

Model	Item code	Flow in scfm	Power consm. in KW R 134a/R407C	End connection	Dimension in mm			**Recommended		
					H	W	D	HP filter model		HP drain model
CS 100 - 40 SS	PH071	100	0.33 / NA	1" BSP (F)	525	450	475	T 250 P EA-40	T 250 X/Y EA-40	EDV-X-12
CS 250 - 40 SS	PH117	250	NA / 1.7	1½" BSP (F)	850	670	700	T 600 P EA-40	T 600 X/Y EA-40	
CS 500 - 40 SS	PH120	500	3 / NA	1½" BSP (F)	1275	850	800			

For any other capacity contact factory. Specifications are subject to change without notification. **To be ordered separately.

Correction Factor

Inlet air temperature °C 	30	38	45	50
Correction factor (Ti)	1.14	1.08	1	0.75
Inlet pressure Kg/cm ² 	30	40	—	—
Factor (Pi)	0.84	1	—	—
Ambient temperature °C 	25	30	38	43
Factor (Ta)	1.36	1.18	1.0	0.86

How to Order

Requirement :	Inlet flow	300 scfm
	working pressure	30 Kg / cm ²
	inlet temperature	45° C
	ambient temperature	38° C
Referring tables :	Factor Pi	= 0.84
	Factor Ti	= 1
	Factor Ta	= 1
Dryer capacity required :	Flow	= 300
	$\frac{\text{Flow}}{\text{Pi} \times \text{Ti} \times \text{Ta}}$	$\frac{300}{0.84 \times 1 \times 1}$
		= 357.14 scfm
Choose the nearest higher model :		= Coldspell 500-40 SS

Applications

- Pharmaceutical Packaging • Blow Molding • Aeronautical valve testing • Injection molding • Chemical plants
- Furnace Manufacturing Unit • Dairy industries



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CTD



**Online Service &
Manual Drain**

- Easy to mount at all locations
- Condensate discharging is no more a problem
- On / Off timing adjustable
- Large orifice for effective drain of dust and condensate
- Maintains and cleans drain valve without removing from service
- Design Patented



Automatic Drain Valves
Series CTD

NEW COMPACT TIMER DRAIN - Model - CTD / CTD HD

CTD is the culmination of years of manufacturing drains. It takes care of all problems normally associated with drains. The controller is now built of ultra reliable micro controller and feature dual adjustment of both cycle and drain. The valve has a large orifice and special solenoid operator section to discharge dust.

Should the valve still get clogged you can service it without removing from the installation. Press the knob at the bottom of the valve to mechanically clear all the sludge. Electronically flush a few times and now it is fully serviced and ready for use.

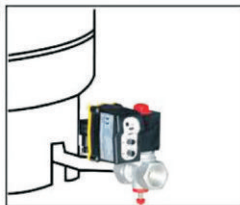
Specifications :

CTD

Item Code	PE067
Voltage	230 V AC / 50 Hz / 1 Ph
Power	15 watts Max
Protection	IP54
Elec. Connection	DIN 43650 Micro
Inlet	1/2" BSP (F)
Outlet	1/2" BSP (F)
Pressure	2 - 16 Kg/cm ² (g)
Valve Orifice	4 mm
Timing	Cycle : 1 min to 120 min Adjustable Drain : 1 sec to 25 Sec Adjustable
Body	Aluminium & moving parts SS
Compressor Capacity	Upto 850 m ³ /hour
Operating Temp	1 - 70°C
Maximum discharge	150 litres/hour at 7Kg/cm ² (g)
Control	Micro controller based
On line service	Yes : Integrated Mechanical + Electronic Flush
Dimensions (L x B x H)	80 x 70 x 105
Weight	350 Grams

Condensate discharge for any other pressure (P) multiply the flow given for 7 Kg/cm² (g) by $\frac{\sqrt{P}}{2.6}$

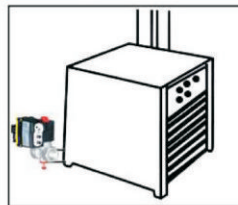
Applications :



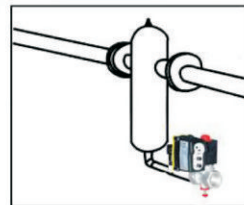
Air Receivers



Drop Legs



Refrigerated Dryers



Filters / Separators

Manufacturing Facility



Our Presence



Our Other Range of Products

- Level Sensing Auto Drain Valve
- Desiccant Dryer (Heatless)
- Desiccant Dryer (Heated)
- Refrigeration Dryers
- Submicron Filter
- Oxygen & Nitrogen Generators



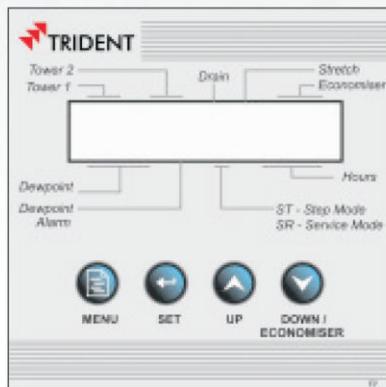
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Purge Economiser - Reduces purge loss and energy according to load requirements.

Accepts dewpoint meter signal to cycle on dewpoint temperature instead of time.

- Designed For - ISO:7183-1986 (E)
- Dryer Quality Class - ISO : 8573-1 : 2010 (E) class 3 (-40 ADP)
- Pressure Drop < 0.3 kg/cm² (g)
- Fabrication Code: IS 2825 / ASME SEC VIII - Optional
- LCD Display
- Stainless Steel Internals
- Filter made of aluminium with differential pressure indicator
- Operating voltage : 100 - 253 VAC 50+5% Hz 1 Ph.



Compressed Air Dryers (Heatless)
DP V2 Series

Selection Example

Requirement :
 Flow Volume : 480 cfm
 Working Pressure : 10 Kg / cm²
 Inlet air Temperature : 50°C
 Referring the Graphs : Factor (T) = 0.74
 Factor (P) = 1.4
 Dryer capacity required :

$$\frac{\text{Flow volume}}{\text{Factor (T)} \times \text{Factor (P)}} = \frac{480}{0.74 \times 1.4} = 463 \text{ cfm}$$

Choose the nearest higher model i.e, Model DP-960V2

Model	Item Code	Inlet Flow cfm	End Connection	Dimensions (mm)			Weight Kg
				Height	Width	Depth	
DP-768V2	PD328	450	2" NB	1750	1320	850	850
DP-960V2	PD329	565	2" NB	1730	1430	850	950
DP-1440V2	PD330	850	3" NB	1865	1930	1000	1265
DP-1920V2	PD331	1130	3" NB	1990	1930	1000	1575

- For any other capacity contact factory.
- Specifications are subject to change without notification.

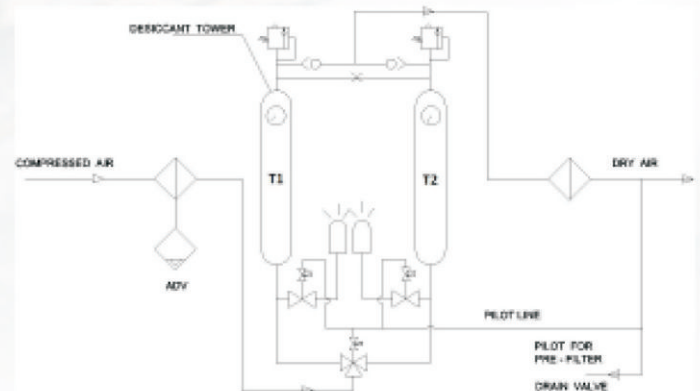
Specification

Maximum Operating Pressure : 12.5 kg/cm² (g)
 Air Inlet Temperature : 45 °C
 Operating pressure : 7 kg/cm² (g)
 Pre - Filter Rating : 5 Micron
 After - Filter Rating : 1 Micron
 Cycle Time : 10 Minutes
 Purge Loss : 12 ± 1%
 Outlet Conditions : -40°C ADP

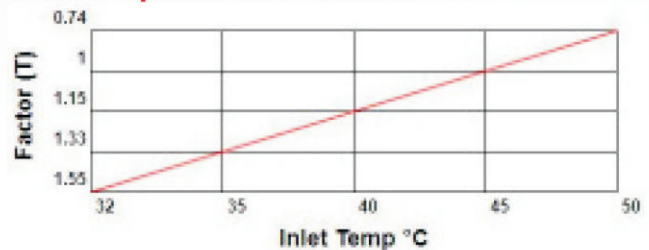
Principle of Operation

Drying Cycle : Moist air from the compressor is sent through the coalescing filter. Here water & oil coalesces and purges through the auto drain valve. The relatively clean air with water vapour passing through the aluminum drying tower filled with desiccant gets completely dried (up to -40°C ADP) and then passes through a built in after filter (1 micron). The desiccant fines from the towers are completely removed and clean dry air is let out through the outlet port for use.

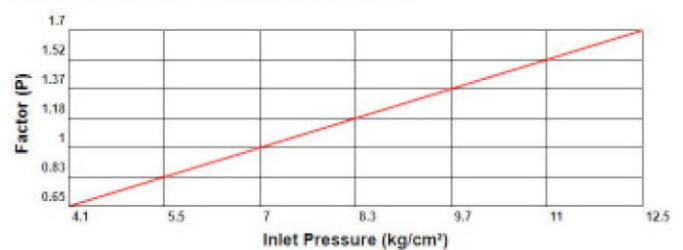
Regeneration Cycle : During the regeneration cycle, the sudden depressurisation brings out water molecule strapped in the Desiccant pores to the surface of the beads. A small portion of dry compressed air from the drying tower then passes over the desiccant through the regeneration orifice built in the Top Block. This results in complete regeneration of the Desiccant.



Inlet Temperature Correction Factor



Inlet Pressure Correction Factor



Our Other Range of Products

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- Level Sensing Auto Drain Valve
- Desiccant Dryer (Heated)
- Refrigeration Dryers
- Water Separator
- Submicron Filter



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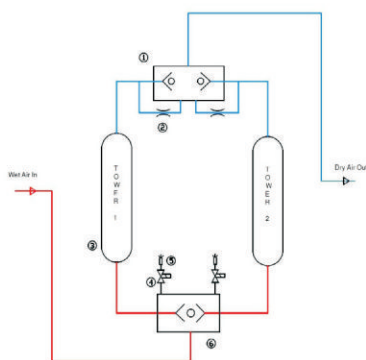


- Inlet condition have been designed For - ISO 7183-1986 (E)
- Outlet air quality Class - ISO:8573-1:1991 (E) class 3
- Low noise level
- Free from corrosion & scale formation
- Low pressure drop

Heatless Desiccant Air Dryer
Dryspell 5 V1

Specifications:

Flow	: 5 scfm
Max Working Pressure	:12.5 bar (g)
Rated Inlet Temperature	:38 ^o C
Max Rated Inlet Pressure	:7 bar (g)
Cycle Time	:4 Minutes
Operating Voltage	:85-300 VAC 50 / 60 Hz 1Ph
Outlet Conditions	:Dry air at -20 ^o C PDP
End Connections	:1/4" NPT
Pressure drop	:0.3 bar Max.



- | | |
|--------------------|-------------------------|
| 1. Top block | 2. Regeneration orifice |
| 3. Desiccant tower | 4. Exhaust valve |
| 5. Muffer | 6. Bottom block |

Operating Principles:

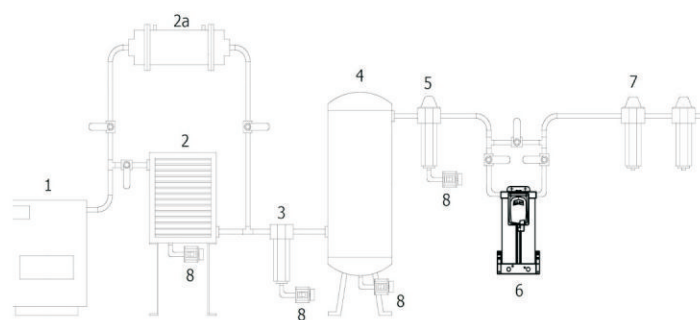
Wet air enters and flows from the top block to the bottom block via the air transfer tube. Air then flows to the shuttle inlet valve and is diverted to tower 1. The compressed air flowing through tower 1 is dried to a -20°F PDP and exits. A small portion (12%) of the compressed air is expanded to near atmospheric pressure by passing through

the purge orifice. Expansion of this already-dry gas to near-atmospheric pressure increases the ability of the purge air to strip the previously absorbed water vapor from the partially saturated desiccant bed in tower 2. The air exhausts through the opened purge valve. This cycle continues for 90 seconds then the purge valve closes and tank 2 begins re-pressurization. After 30 seconds purge valve 1 opens and the process repeats for tower 2.

Applications:

- Paint spray booths
- Tool, Valve, Cylinder protection
- Food packaging machine
- Auto Garage
- Textile & Garment
- SPM
- Instrumentation

Recommended installation:



- | | |
|-------------------------------|---------------------|
| 1. Air Compressor | 5. Pre Filter |
| 2. Air Cooled after cooler | 6. Air Dryer |
| 2a. Water Cooled after cooler | 7. After Filter |
| 3. Water separator | 8. Auto Drain Valve |
| 4. Air Receiver | |

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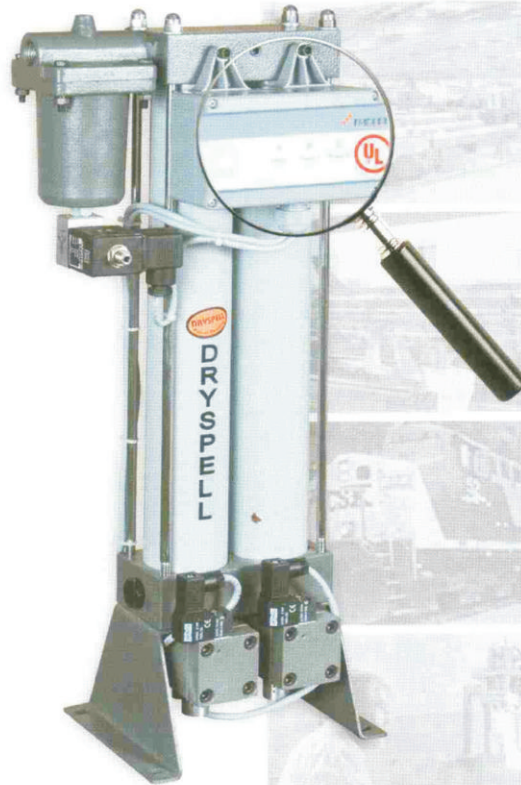
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Lasting Values

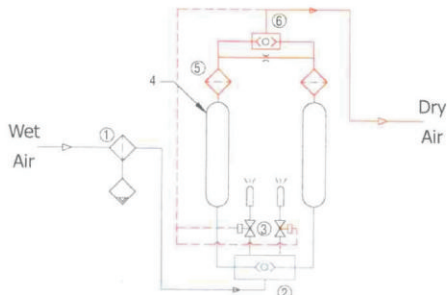


Desiccant Compressed Air Dryers

Dryspell

- Pre-filter rating 0.3 microns (coalescer)
- Shuttle valve for Low Pressure drop
- All Aluminium resist oxidation & scale formation
- Dewpoint better than -40°C
- Design Patented
- UL Certified Microprocessor Controller with dewpoint based changeover option

Dryspell Desiccant Dryer offers total cleaning solution for lubricated as well as non-lubricated compressed Air.



- 1. Pre-filter
- 2. Inlet shuttle valve
- 3. Exhaust valve
- 4. Desiccant tower
- 5. After filter
- 6. Outlet shuttle valve

Principle of Operation

Drying Cycle : Moist air from the compressor is sent through the coalescing filter. Here water & oil coalesces, gets purged through the auto drain valve.

The relatively clean air with water vapour passes through the aluminum drying tower filled with desiccant gets completely dried (upto -40°C dew point) and then passes through a built in after filter. The desiccant fines from the towers are completely removed and clean dry air is let out through the outlet port for use.

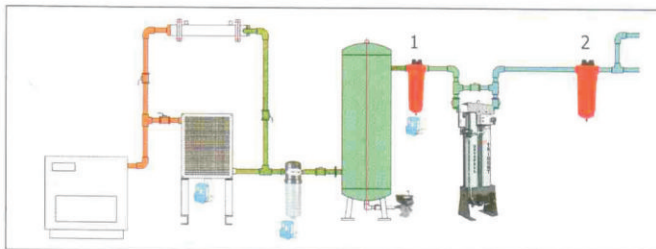
Regeneration Cycle : During the regeneration cycle. The sudden depressurisation brings out water molecules trapped in the Desiccant pores to the surface of the beads. A small portion dry compressed air from the drying TOWER then passes over the desiccant through the regeneration orifice built in the Top Block. This results in complete regeneration of the Desiccant.

Typical Application



- Paint spray booths
- Tool, Valve, Cylinder protection
- Food packaging machine
- Auto Garage
- Textile & Garment
- SPM
- Instrumentation

Recommended Installation



Specifications

- Maximum Working Pressure 16 kg / cm²
- Air Inlet Condition Maximum Fluid Temperature 45°C
- Pre-filter rating 0.3 Microns (Coalescer)
- Cycle Time 4 Minutes
- Regeneration Volume 10%
- Air Outlet Conditions Dry air at -40°C Dew Point
- Operating Voltage 85 - 265 V 50 / 60 hz 1 Ph

Model	Flow scfm	End Connection BSP	Dimensions (mm)			Weight KGS	Recommended Accessories	
			H	W	D		Pre filter (1)	Post filter (2)
Dryspell 5	5	1/2"	390	280	200	9	G 24 P	G 24 Y
Dryspell 10	10	1/2"	600	280	200	11	G 24 P	G 24 Y
Dryspell 15	15	1/2"	800	280	200	13	G 24 P	G 24 Y
Dryspell 20	20	1/2"	1015	280	200	16	G 100 P	G 100 Y
Dryspell 30	30	1/2"	810	350	260	28	G 100 P	G 100 Y
Dryspell 45	45	1/2"	1055	350	260	34	G 100 P	G 100 Y
Dryspell 60 A	60	3/4"	1250	350	285	43	G 100 P	G 100 Y
Dryspell 100	100	1"	1960	440	355	98	G 250 P	G 250 Y
Dryspell 150	150	1 1/2"	1926	450	550	190	G 250 P	G 250 Y
Dryspell 200	200	1 1/2"	1976	450	550	192	G 600 P	G 600 Y
Dryspell 300	300	2"	1976	480	770	235	G 600 P	G 600 Y
Dryspell 375	375	2"	1853	778	455	331	G 600 P	G 600 Y

Manufacturing Facility



Our Presence



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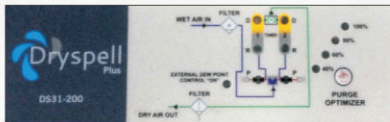
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Our other Range of Products

- Time based Auto Drain Valve
- Level Sensing Auto Drain Valve
- Refrigeration Dryer
- Blower Reactivated Dryer
- Submicron Filter
- Oil Water Separator
- Oxygen & Nitrogen Generators





**Purge Economiser -
Reduces purge loss and
energy according to
load requirements.**

**Accepts dewpoint meter
signal to cycle on
dewpoint temperature
instead of time.**



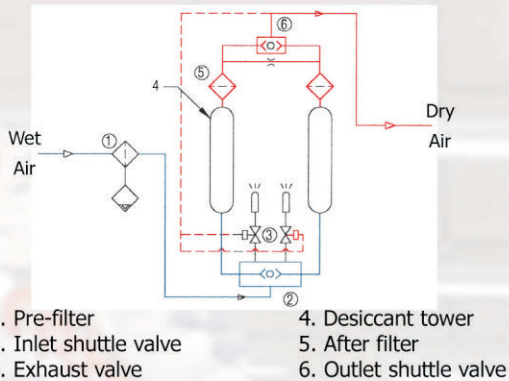
- Designed For - ISO:7183-1986 (E)
- Dryer Quality Class - ISO:8573-1:2010 (E) class 2
- Pre-Filter Quality Class - ISO:8573-1:2010 (E) class 1
- Consistent Dew Point performance
- Noise Level <80 dBA • Pressure Drop < 0.3 kg/cm²(g)
- Aluminum Construction
- Free From Corrosion & Scale Formation at Inner and Outer sides
- Uses High Crush Strength Adsorbent Materials



Desiccant Compressed Air Dryers

Dryspell Plus

Dryspell Plus Desiccant Dryer offers total cleaning solution for lubricated as well as non-lubricated compressed Air.



Principle of Operation

Drying Cycle : Moist air from the compressor is sent through the coalescing filter. Here water & oil coalesces and purges through the auto drain valve. The relatively clean air with water vapour passing through the aluminum drying tower filled with desiccant gets completely dried (up to -40°C PDP) and then passes through a built in after filter (25 micron). The desiccant fines from the towers are completely removed and clean dry air is let out through the outlet port for use.

Regeneration Cycle: During the regeneration cycle, the sudden depressurisation brings out water molecule strapped in the Desiccant pores to the surface of the beads. A small portion of dry compressed air from the drying tower then passes over the desiccant through the regeneration orifice built in the Top Block. This results in complete regeneration of the Desiccant.

Application

- Painting And Powder Coating • Machine Tool • Packaging Application • Auto Garage • Textile & Garment • Instrumentation • Pharmaceutical • Dental Laboratory • Rail Vehicles • Telecomm industry (pressurises its underground cables to repel moisture and avoid shorts) • Pneumatic control systems • Feed air for Zeolite type Oxygen and Nitrogen generators • Truck and Train Air brake systems.

Market Acceptance

- Excellent Performance
- High Reliability
- Require Less Service Time
- Reasonable Cost
- Low moving components
- Low Maintenance
- Safe Operation
- Global Support

Specifications

- Maximum Operating Pressure : 16 kg/cm²(g)
- Air Inlet Temperature : 38°C Max
- Operating Pressure : 7 kg/cm²(g)
- Pre-Filter Rating : 0.01 Micron
- Cycle Time : 4 Minutes
- Operating Voltage : 100-240 VAC 50/60 Hz 1 Ph
- Outlet Conditions : Dry air at -40°C PDP*
- Purge Loss : 15±1%

* ISO:8573-1:2010 (E) class -2-

Model	Item Code	Flow (m ³ /hour)**	End Connection BSP	Dimensions (mm)			Weight Kgs	Recommended Accessories	
				H	W	D		Pre filter	Post filter
Dryspell Plus 10	PD237	17	1/2"	1038	330	150	21	T 100 YEA	T 100 XIA
Dryspell Plus 20	PD238	34	1/2"	963	371	213	29	T 100 YEA	T 100 XIA
Dryspell Plus 30	PD239	51	1/2"	1227	371	213	39	T 100 YEA	T 100 XIA
Dryspell Plus 45	PD240	76	1/2"	999	497	313	49	T 100 YEA	T 100 XIA
Dryspell Plus 60	PD241	102	1"	1192	523	313	61	T 250 YEA	T 250 XIA
Dryspell Plus 100	PD242	170	1"	1603	439	372	106	T 250 YEA	T 250 XIA
Dryspell Plus 125	PD243	212	1"	1913	439	372	119	T 250 YEA	T 250 XIA
Dryspell Plus 200	PD244	340	1 1/2"	1615	449	582	214	T 600 YEA	T 600 XIA
Dryspell Plus 250	PD245	424	1 1/2"	1925	449	582	238	T 600 YEA	T 600 XIA
Dryspell Plus 300	PD246	510	2"	1615	457	764	256	T 851 YEA	T 851 XIA
Dryspell Plus 375	PD247	637	2"	1925	457	764	286	T 851 YEA	T 851 XIA

** As per ISO 7183 Option A2 inlet conditions.

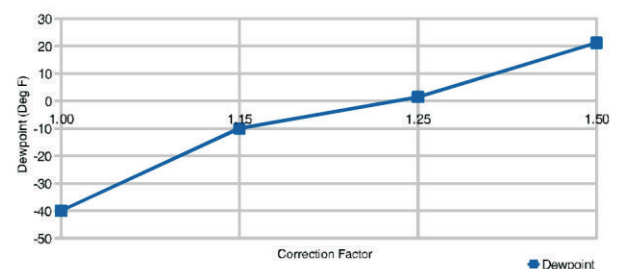
Inlet Pressure Correction Factor

psi (g)	60	80	100	120	140	160	180
bar (g)	4.1	5.5	6.9	8.3	9.7	11	12.4
Factor	0.65	0.83	1	1.18	1.37	1.52	1.7

Temperature Correction Factor

°F	90	95	100	105	110	115	120
°C	32	35	38	41	43	46	49
Factor	1.35	1.16	1	0.85	0.74	0.64	0.56

Dew Point Correction



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EDV X



EDV X SS40



EDV X HD11

- More than 2 Lakhs Installations
- Designed specially to drain sludge and rust laden condensate
- Reliable all digital electronic circuitry
- ON and OFF timing adjustable
- Power & Drain status indicator
- Extended cycle time upto 32 hrs adjustable



Automatic Drain Valves

Series EDV-X

Applications



Air Receivers



Drop Legs



Air Dryers



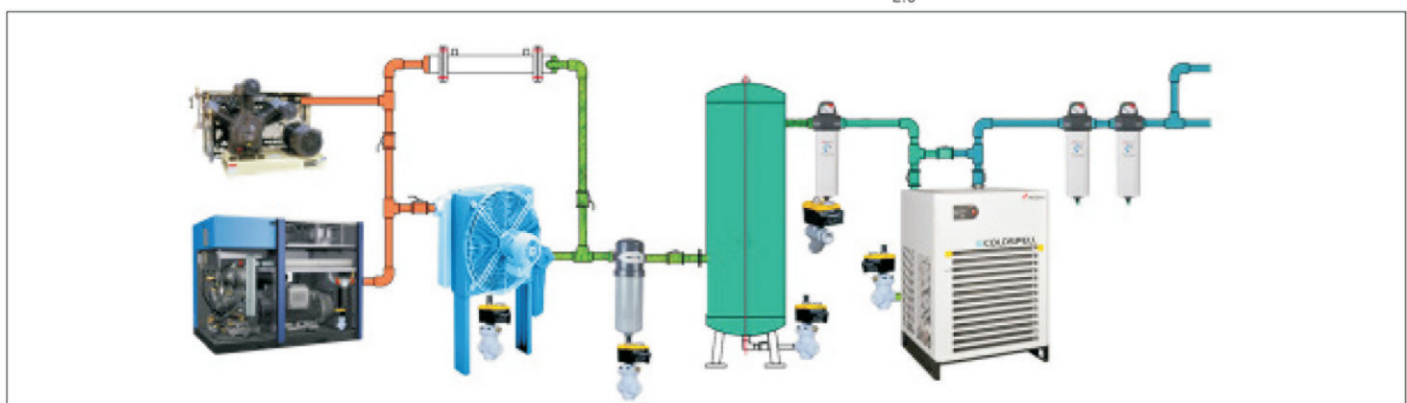
Filters / Separators






Valve Specifications

Item Code	PE076	PE078	PE089	PE095	PE094
Model	EDVX11	EDVX13	EDVXHD11	EDVXHD11-1"	EDVXSS40
Input voltage (AC)	230	230	230	230	230
Average power consumption (watts)	7	7	7	7	7
Min. working pressure (Kg/cm ² (g))	2	2	4	4	2
Max. working pressure (Kg/cm ² (g))	16	70	16	16	40
Timing Cycle(min)	1 to 120	1 to 120	1 to 120	1 to 120	18 min to 32 hrs
Drain (Sec)	1 to 25	1 to 25	1 to 25	1 to 25	1 to 25
Valve orifice (mm)	1.3	1.3	12.5	25	1.3
End connection inlet	1/2" BSP(F)	1/2" BSP(F)	1/2" BSP(F)	1" BSP(F)	1/2" BSP(F)
End connection outlet	1/2" BSP(F)	1/2" BSP(F)	1/2" BSP(F)	1" BSP(F)	1/2" BSP(F)
Environmental Protections	IP 55	IP 55	IP 55	IP 55	IP 55
Maximum fluid Temperature (Deg C)	75	75	75	75	75
Valve Dimension LxBxH (mm)	97x90x146	97x90x146	101x90x190	130x100x240	97x90x146
Weight (Kg)	0.65	0.75	0.9	1.8	0.75
Maximum condensate discharge quantity at 7Kg/cm ² (g)(Liters/hr)	29	29	200	400	29
Air compressor after cooler (m ³ /hr)	170	170	340 to 1700	1700 and above	170
Wet Air receiver (m ³)	1	1	2 to 5	6 and above	0.5
Prefilter (m ³ /hr)	1360	1360	1700 to 13600	15290 and above	1360
Refrigeration dryer (m ³ /hr)	340	340	3400	4250 and above	340
After filter (m ³ /hr)	1360	1360	1700 to 13600	15290 and above	1360
Dry Air receiver(m ³)	1	1	2 to 55	6 and above	0.5




Condensate discharge for any other pressure (P) multiply the flow given for 7 Kg/cm² (g) by $\sqrt{\frac{P}{2.6}}$



Our other Range of Products

- Level Sensing Auto Drain Valve
- Desiccant Dryer (Heatless)
- Blower Reactivated Dryer
- Submicron Filter
- Refrigeration Type Dryer
- Oxygen & Nitrogen Generators

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- Oil Removal (Coalescing) and Particulate
- Flow from 90 scfm to 800 scfm
- Particle Removal 0.01 (μm)

High Pressure Filters

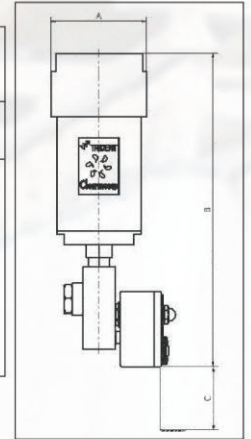
Cleansweep

Working Principle

Coalescing is a continuous natural process in which oil and water particles that pass through the filter element come into contact with a fiber strand and unite with other collected aerosol to form droplets. The droplets fall to the bottom of the housing and are drained away.

Technical Data

Model	Element Grade	Drain Type	Pipe Size BSP	Flow Rate (scfm)	Max Working Pressure kg/sq.cm.	Housing Dimensions (mm)		
						A	B	C
T 100-40	P/X/Y/A	EA	1/2"	90	45	83.5	370	60
T 250-40	P/X/Y/A	EA	1"	350	45	125	461	60
T 600-40	P/X/Y/A	EA	1 1/2"	800	45	125	537	60



* Contact factory for higher flowrate and pressure.

Ordering Code : Example : Model T 100 X EA-40

X - Element Grade ; EA - Electronic adjustable timer drain

Specification

Description	Element Grade			
	P	X	Y	A
Filter Element	Borosilicate	Borosilicate	Borosilicate	Activated Carbon
Housing	Aluminium IS 63400	Aluminium IS 63400	Aluminium IS 63400	Aluminium IS 63400
Coating - External	Epoxy Powder Coating	Epoxy Powder Coating	Epoxy Powder Coating	Epoxy Powder Coating
Particle Removal	5 (µm)	1 (µm)	0.01 (µm)	0.01 (µm)
Max. Oil carryover	5 (mg/m ³)	0.5 (mg/m ³)	0.01 (mg/m ³)	*Removes odour
Max. Working Temp.	80°C	80°C	80°C	80°C
Initial Pressure Loss	0.03 (kg/cm ²)	0.06 (kg/cm ²)	0.1 (kg/cm ²)	0.06 (kg/cm ²)
Pressure Drop for Element Change	0.5 (kg/cm ²)	0.5 (kg/cm ²)	0.5 (kg/cm ²)	0.5 (kg/cm ²)
Element End Cap Colour	Green	Red	Yellow	Black

*Use Y-element to remove oil aerosols before A-element

Our Other Range of Products

- Timer based Auto Drain Valve • Level Sensing Auto Drain Valve • Desiccant Dryer (Heatless)
- Desiccant Dryer (Heated) • Refrigeration Dryers
- Oxygen & Nitrogen Generators

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Cost Saving Calculation by Trident Level Sensing Automatic Drain Valve (LDV Series)

If you purchase Time based automatic drain valve the Orifice size is 12.5mm and also if it operates at a frequency of 288 times a day (I.e. Every 5 minutes for a fixed period of four seconds. The compressed air receiver pressure is 100 Psi (7Kg/Cm²).

From Standard Tables we find that the air flow through an Orifice of 12.5mm at 100 Psi is 415 Cfm. The flow per second is 6.9 cubic feet. Valve opening time is 4 secs. The Air loss is $6.9 \times 4 = 27.66$ Cubic feet.

Therefore for every discharge the wastage is	= 27.66 Cubic Feet.
For one day. The wastage is	= $288 \times 27.66 = 7966.08$.

Power required to produce 7966.08 Cubic Feet of Compressed Air.

1 H.P. Compressor will discharge maximum of 4 Cfm of the compressed Air.

For producing 7966.08 cubic feet of compressed Air,

1 H.P Compressor has to run for 33.192 hours.

1 H.P	= 0.784KW.
Power Required to produce 7966.08 Cubic Feet	= $33.192 \times 0.74 = 24.56KW$.
Electrical Charge is Rs.7.50 per Unit	
Cost saving for one day	= $24.56 \times 7.50 = Rs.184.20$
Cost saving for one month	= $30 \times 184.00 = Rs.5,520.00$
Cost saving for one year	= $5520 \times 12 = Rs.66,240.00$

So as final Conclusion by using Trident Level sensing Drain valve,

You can save **Rs.66,240/- per Annum.**



LDV 1000



LDV 2000



LDV 3000

- Condensate Sensing Type
- Zero Air Loss
- Design Patented
- Noise Free
- Fault tolerant system



Automatic Drain Valves

Series LDV

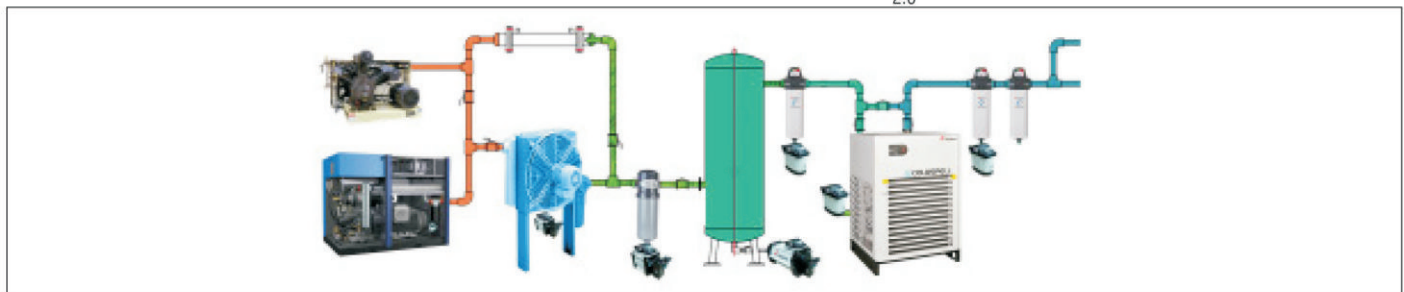
The LDV Series

Trident's condensate sensing type automatic drain valve is the latest advancement in drain valve technology. These valves sense the condensate level for activation, ensuring absolutely no loss of compressed air and hence results in enormous energy saving. Trident condensate sensing type drain valves are highly efficient and reliable. Fault tolerant system is switching over into timer mode automatically while LDV fails to operate due to sensor failure. Timing cycle is every 2 mins for a period of 2 seconds.

Technical Specifications

Item code	PL009	PL010	PL011	PL012	PL013	PL014
Model	LDV 1000	LDV2000	LDV3000	LDV1030	LDV2030	LDV 3030
Input voltage (AC/DC)	85 to 300VAC 50/60HZ	85 to 300VAC 50/60HZ	85 to 300VAC 50/60HZ	24VDC	24VDC	24VDC
Avg. power consum. (watts)	12	12	12	12	12	12
Min. working pressure (Kg/cm ² (g))	2	4	4	2	4	4
Max. working pressure (Kg/cm ² (g))	10	10	10	10	10	10
Valve orifice (mm)	4	15	15	4	15	15
End connection Inlet	1/2" BSP(F)	1/2" BSP(M)	1/2" BSP(M)	1/2" BSP(F)	1/2" BSP(M)	1/2" BSP(M)
End connection outlet	6mm Hose barb	1/2" BSP(F)	1/2" BSP(F)	6mm Hose barb	1/2" BSP(F)	1/2" BSP(F)
Environmental Protections	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54
Max. fluid Temperature (°C)	75	75	75	75	75	75
Dimension LxBxH (mm)	141x60x127	225x127x164	385x183x229	141x60x127	225x127x164	385x183x229
Weight (Kg)	1.25	3.2	7.0	1.25	3.2	7.0
Maximum condensate discharge quantity at 7Kg/cm ² (g) (Liters/hr)	50	185	675	50	185	675
Air compressor after cooler (m ³ /hr)	850	1019 to 3398	4248 & above	850	1019 to 3398	4248 & above
Wet Air receiver (m ³)	2	4 to 10	12 & above	2	4 to 10	12 & above
Prefilter (m ³ /hr)	6796	8495 to 27184	30582 & above	6796	8495 to 27184	30582 & above
Refrigeration dryer (m ³ /hr)	1699	2209 to 6796	8495 & above	1699	2209 to 6796	8495 & above
After filter (m ³ /hr)	6796	8495 to 27184	30582 & above	6796	8495 to 27184	30582 & above
Dry Air receiver (m ³)	2	4 to 10	12 & above	2	4 to 10	12 & above

Condensate discharge for any other pressure (P) multiply the flow given for 7 Kg/cm² (g) by $\sqrt{\frac{P}{2.6}}$



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Features

- The electronic level control ensures proper draining of condensate and avoids unnecessary loss of air.
- All the functions of the valve are accurately indicated by the Yellow LED.
- Test switch (or) manual drain allows function test at anytime.
- Intelligent Controller detects probe failure and indicates Red LED for potential free relay NO change to NC.
- Noise free, as air is not discharged.
- Inbuilt fault tolerant system ensures continues operation of drain valves.
- Incase of level probe failure drain valve gets ON 0.5 sec at every 6 minutes.









Zero pressure loss.

Model	: MAD 10
Inlet	: 1/2 BSP
Outlet	: 6 mm
Max w pressure	: 16 Bar
Min W temp.	: 3 C
Max W temp.	: 90 C
Discharge value of water	: 24 ML

Content	: Drain Valve
Model	: MAD 10
Wt.	: 132 grams
Size	: 12 X 79 mm
Month & year of Mtg	:
MRP (incl of taxes)	:



MECHANICAL AUTO DRAIN VALVE

-  Fully mechanical type auto drain valve.
-  No need of electrical power.
-  Save valuable compressed air.
-  Discharge the condensate liquid effectively.
-  Protect downstream equipment from being damaged by condensate liquid.
-  No loss of air pressure.

ONE YEAR WARRANTY



- Borosilicate filter element 99.999% efficiency
- Compliant with HEALTH TECHNICAL MEMORANDUM 2022
- Lightweight, corrosion-protected aluminium body
- Differential pressure gauge indicator for filter element replacement
- Sterilisable drain flask to capture biological fluids
- Vacuum flow rates from 3 to 68 litres/second
- Available in 1/2" to 3" pipe connections

Medical Vacuum Filters
Complete Bacteria Removal

Trident Medical Vacuum Filter Series

Trident Medical Vacuum Filter series are designed to remove the liquid, solid and bacterial contamination from the suction side of the vacuum pump and the potential biological infection of the surrounding environment. The filter elements and housings are designed for medical use and can be utilized in hospitals, pharmaceutical laboratories, dentist's surgery and other critical areas.

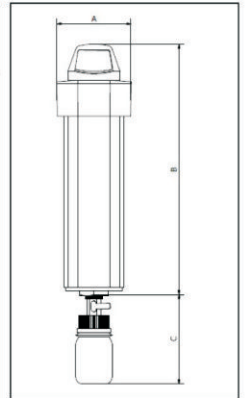
Installed on suction side of vacuum pump to remove bacteria and prevent contamination to the pump and atmosphere.

Biological liquids are collected in a transparent drain flask, which can be easily removed for sterilization. The flask should be visually checked daily and removed for cleaning and sterilization. The filter element must be replaced at least every 6 months or when the pressure drop reaches 100 mbar.

The efficiency of the installed filter elements exceeds the 0.005% penetration specified in HTM 2022 for infectious disease units, when tested in accordance with BS 3928.

Technical Specifications

Model	Item Code	Flow rate at atmospheric pressure		Pipe Connection BSP	Housing Dimensions (mm)			Spares - Item Code	
		scfm	NI/s		A	B	C	Spare Kit Filter Element	Draft Flask 100ml
T100 V	PFV07	7	3	½"	87	294	170	AS701	AC249
T250 V	PFV08	18	9	1"	114	399	170	AS693	
T600 V	PFV09	44	21	1½"	114	474	170	AS697	
T851 V	PFV10	63	30	2"	148	666	170	AS717	
T1210 V	PFV11	89	42	2"	148	736	170	AS721	
T1810 V	PFV12	134	63	3"	211	761	170	AS913	



Correction factor


Gauge reading	mm Hg	760	380	252	188	150
	in Hg	29.9	15.0	9.9	7.4	5.9
	psi (abs)	14.7	7.4	4.9	3.6	2.9
	Kpa (abs)	101	51	34	25	20
Correction factor	-	1	2	3	4	5

Example :

- Flow & vacuum at user end : 50 scfm, 380 mm Hg (gauge reading)
- Since the catalogue specifies flow rates at atmospheric pressure, the suitable correction factor must be selected from the table - this is 2 in this case.
Therefore, filter capacity required : $50 \text{ scfm} / 2 = 25 \text{ scfm}$
- From the table of models, choose the model that has the closest flow rate to the above value. In this case, it is 44 scfm, so model T600 V must be used.


SPECIFICATION

Penetration to	BS 3928 <0.005%	Maximum working vacuum	Full vacuum
Particle removal	0.01 micron (99.999%)	Filter element	Borosilicate
Maximum temperature	80°C (176°F)	Construction material	Extruded Aluminium Alloy
Pressure loss-clean element	30 mbar (0.44 psi)	Coating – External	Epoxy Powder coating
Pressure loss-change element	100 mbar (1.5 psi)	Drain type	Hand shut-off valve with
Maximum working pressure	7 barg (100 psig)		Sterilisable drain flask (capacity 100 ml)



Our Other Range of Products

- Timer based Auto Drain Valve • Level Sensing Auto Drain Valve • Desiccant Dryer (Heatless)
- Desiccant Dryer (Heated) • Refrigeration Dryers
- Medical Breathing Dryers • Oxygen & Nitrogen Generators



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- Purity maximum upto 99.99%
- Modular aluminum construction for corrosion free
- Universal voltage 100-240V AC - 50/60Hz - 1ph
- Compact in size
- Faster payback period



Nitrogen Gas Generator

 **NitroGen**

PSA BASED NITROGEN GENERATION SYSTEM

The Trident nitrogen generator systems are perfect for anyone who wants their own flexible and reliable supply of nitrogen without compromising on quality. Trident NitroGen Generators allow you to produce the gas exactly where you need it, when you need it.

Benefits

- Produce as per Demand
- Avoid Cylinder Availability Issues
- Avoid Logistics and Management Problem
- Faster Payback period within 1Year and lesser
- Eliminate safety risk associated with handling high pressure cylinders
- Can be used as Mobile application also
- Avoid unused gas in the cylinder.

Principle of Operation

Drying Cycle : Purified (Moisture and oil free) air from the compressed air system, Passing through one of the aluminium tower filled with Carbon Molecular Sieves. The CMS selectively adsorbs oxygen, allowing nitrogen to pass through at the desired purity level.

Regeneration Cycle : During regeneration cycle, the sudden depressurisation brings out oxygen molecules strapped in the CMS pores to the surface of the beads. Small portion of Nitrogen from the drying tower is passes over the CMS through the regeneration orifice. This results in complete regeneration of Carbon Molecular Sieves.

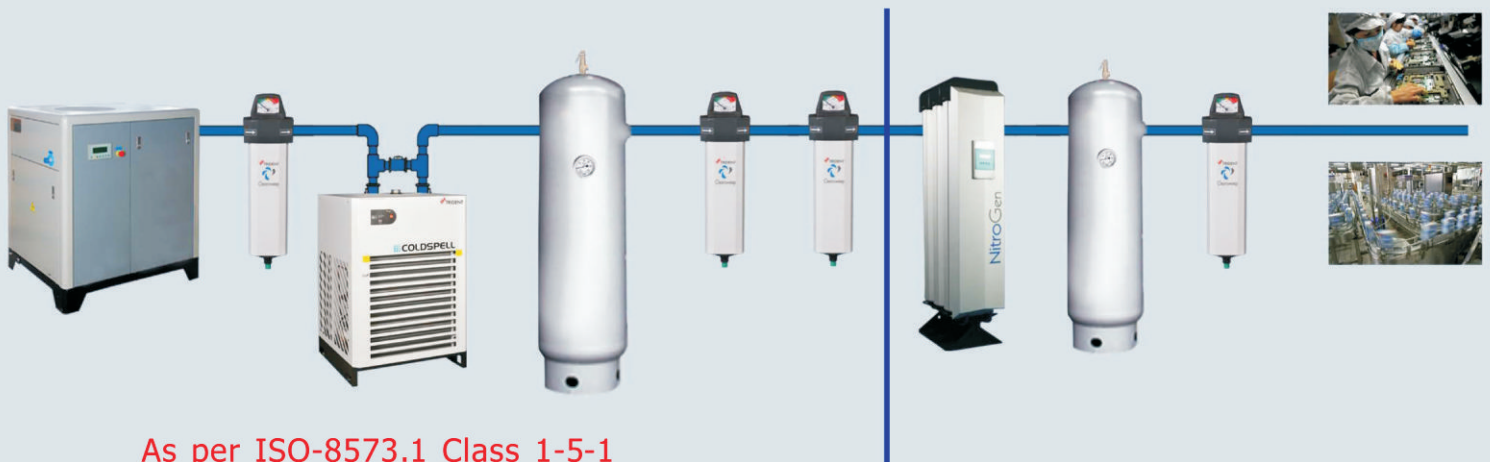
The automatic cycling of the adsorption and desorption between the two beds enables the continuous production of Nitrogen.

Detailed design of process parameters followed by extensive validation has resulted in consistant performance in Nitrogen Series.

All Aluminium construction hence life long corrosion free. All the joints are modularly designed non welded gasketted technology.

Highly reliable Microprocessor based controller with LCD display of generator operations. This controller has designed to suit universal voltage.

Recommended installation is for On-site Gas Generation as per below.



As per ISO-8573.1 Class 1-5-1



Trident generators are designed in such way, it will work at site 24 x 7 without any trouble. All the components used in generators are highly reliable and tested, validated for long life period. Optional safety precautions can be addressed (Stand by gas supply mode automatically in case of any failure mode like, Purity, Power failure etc.) to give uninterrupted gas supply.

However trained service personal will attend the service calls for breakdown as well as preventive maintenance. Necessary documents will be provided and training will be given to the users to handle minor breakdowns.

- 45 service outlet in India
- Centralized service logging system
- Onsite Training for the users
- Genuine spares available at nearest point
- Competitive and effective Annual Maintenance Contracts available at the end of warranty period

Rated Capacity at various Purity Level

Nitrogen Purity %		99.99		99.9		99.5		99		98		97		95		Inlet air requirement in
Oxygen Level %		0.01		0.1		0.5		1.0		2.0		3.0		5.0		
Model	Item Code	Nm ³ /Hr	LPM	Nm ³ /Hr	LPM	Nm ³ /Hr	LPM	Nm ³ /Hr	LPM	Nm ³ /Hr	LPM	Nm ³ /Hr	LPM	Nm ³ /Hr	LPM	Nm ³ /Hr
NitroGen 10	PG001	0.56	9.3	1.22	20.3	1.8	30.0	2.16	36.0	2.52	42.0	2.88	48.0	3.6	60.0	5.8
NitroGen 20	PG002	0.81	13.5	1.77	29.5	2.6	43.3	3.12	52.0	3.64	60.7	4.16	69.3	5.2	86.7	8.3
NitroGen 30	PG003	1.62	27.0	3.54	59.0	5.2	86.7	6.24	104.0	7.28	121.3	8.32	138.7	10.4	173.3	16.5
NitroGen 40	PG004	2.43	40.5	5.3	88.3	7.8	130.0	9.36	156.0	10.92	182.0	12.48	208.0	15.6	260.0	25
NitroGen 50	PG005	3.24	54.0	7.07	117.8	10.4	173.3	12.48	208.0	14.56	242.7	16.64	277.3	20.8	346.7	33.3

For higher capacity please contact factory. Specifications are subjected to change based on continuous improvement.

Compressed air specification

Air quality requirement is as per ISO 8573.1 - 1.5.1 (Trident product selection as per the compressed air quality class would be class 1 - filter element - grade x of 1 micron for particle removal, class 4 - Refrigeration type air dryer with pressure dew point $\leq +3$ deg c, class 1 - filter element - grade y of 0.01 micron for oil removal.)

Inlet temperature + 5 Deg C to 40 deg C

Operating Pressure 7 bar(g) to 9 bar(g)

Electrical requirement 100 to 230 V, 50/60 HZ, Single phase

Ordering Procedure :

Eg: If you required flow rate of 2.43 Nm³/ Hr at 99.99% Purity.

Your ordering code would be : NitroGen 40.

Treatment Products from Trident to achieve ISO 8573.1 Class 1-5-1



Refrigeration Dryer

- Highly Efficient refrigeration air dryer for pretreatment of compressed air
- Dew point as per ISO 8573 class 5
- Eco friendly refrigerant (R134a, R407c)

High Efficient Coalescing filters to remove

- Moisture
- Dust Particle up to 0.01 micron
- Oil Aerosols up to 0.003mg/cu.m



Microprocessor based controller with Digital Display - Optional

- LCD Display
- Failure alarm system
- Purity
- Pressure

Air and Nitrogen Tank

- Compressed air and oxygen tanks are designed as per IS 2825
- Anti-corrosive paint for better life
- Optional : SS Tank
- Pressure Safety valve, Pressure gauges and draining system for automatic and manual



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- System guidelines as per ISO 10083
- Oxygen Safe for medical use as per USP requirements
- Faster payback period
- Automatic switchover to the secondary oxygen supply
- Digital display - Oxygen purity & Pressure



Onsite Oxygen Plant

GO

PSA BASED ON SITE OXYGEN GENERATION SYSTEM

The Trident on-site oxygen generator systems are perfect for anyone who wants their own flexible and reliable supply of oxygen without compromising on quality. Trident Oxygen Generators allow you to produce the gas exactly where you need it, when you need it.

Benefits

- Produce as per Demand
- Avoid Cylinder Availability Issues
- Avoid Logistics and Management Problem
- Faster Payback period within 1Year and lesser
- Eliminate safety risk associated with handling high pressure cylinders
- Can be used as Mobile application also.
- Gas sensors and PLC Based Warning system
- Oxygen as per ISO 10083
- Concentration up to $93 \pm 3\%$

Principle of Operation

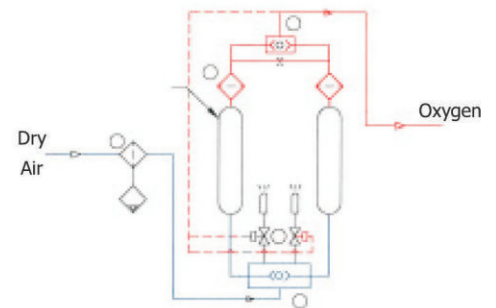
Drying Cycle : Purified (Moisture and oil free) air from the compressed air system, Passing through one of the tower filled with Molecular Sieves (Zeolite type). The sieves selectively adsorbs nitrogen, allowing oxygen to pass through at the desired purity level.

Regeneration Cycle : During regeneration cycle, the sudden depressurisation brings out nitrogen molecules strapped in the sieves pores to the surface of the beads. Small portion of oxygen from the drying tower is passes over the sieves through the regeneration orifice. This results in complete regeneration of Molecular Sieves.

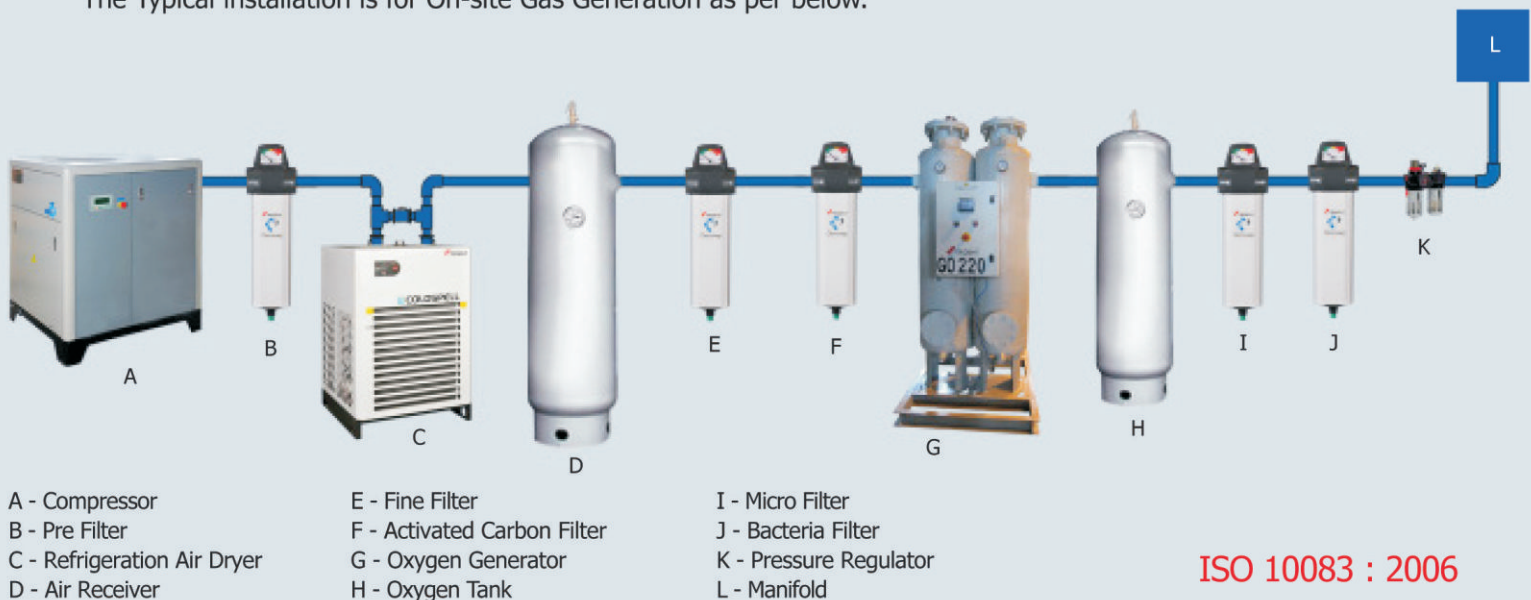
The automatic cycling of the adsorption and desorption between the two beds enables the continuous production of oxygen.

Detailed design of process parameters followed by extensive validation has resulted in consistant performance in Oxygen Series.

Highly reliable PLC based controller with digital display of generator operations.



The Typical installation is for On-site Gas Generation as per below.



ISO 10083 : 2006



Refrigeration Dryer

- Highly Efficient refrigeration air dryer for pretreatment of compressed air
- Dew point as per ISO 8573 class 4
- Eco friendly refrigerant (R134a, R407c)

High Efficient Coalescing filters to remove

- Moisture
- Dust Particle up to 0.01 micron
- Oil Aerosols up to 0.003mg/cu.m
- Bacteria Penetration up to 0.0001%

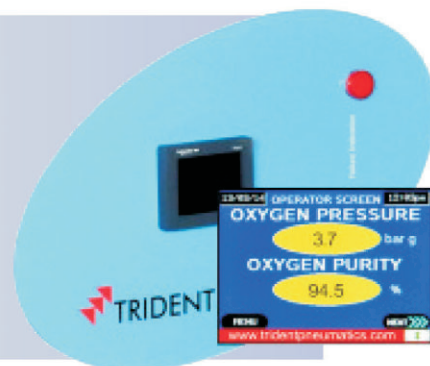


Oxygen Generator

- PSA type oxygen generator to achieve the purity of 93±3%.
- Highly reliable valves and components tested as per industrial standard.
- Oxygen compatible materials.

PLC Based controller with Digital Display

- Gas Purity
- Pressure
- Failure warning visual & Audible
- Operation hours
- Provide indication of plant maintenance schedule



Air and Oxygen Tank

- Compressed air and oxygen tanks are designed as per IS 2825
- Anti-corrosive paint for better life
- Optional : SS Tank
- Pressure Safety valve, Pressure gauges and draining system for automatic and manual



Trident generators are designed in such way, it will work at site 24 x 7 without any trouble. All the components used in generators are highly reliable and tested as per Industrial standards. All the safety precautions has been addressed (Stand by gas supply mode automatically in case of any failure mode like, Purity, Power failure etc.) to give uninterrupted gas supply.

However trained service personal will attend the service calls for breakdown as well as preventive maintenance. Necessary documents will be provided and training will be given to the users to handle minor breakdowns.

- 45 service outlet in India
- Centralized service logging system
- Onsite Training for the users
- Genuine spares available at nearest point
- Competitive and effective Annual Maintenance Contracts available at the end of warranty period

Model	Capacity		Equivalent		Air requirements (Comp. Power)			Overall Dimensions L x B x H (Feet) (approx.)
	LPM	cu.m/hr	Liquid oxygen liters/day	No. of cylinders / day	cfm	Pressure in Kg/Cm ²	Power in KW	
GO 50	50	3.0	90	5 - 11	31	7	5	3 x 5 x 5
GO 85	85	5.1	153	15 - 18	44	7	7.5	3 x 5 x 6
GO 140	140	8.4	252	25 - 31	78	7	11	4 x 6 x 5
GO 180	180	10.8	324	35 - 40	100	7	15	4 x 6 x 6
GO 230	230	13.8	414	45 - 50	125	7	18	5 x 7 x 6
GO 260	260	15.6	468	50 - 60	144	7	22	5 x 7 x 7
GO 390	390	23.4	702	70 - 86	205	7	30	6 x 8 x 6
GO 470	470	28.2	846	90-105	250	7	37	6 x 8 x 7
GO 570	570	34.2	1026	110-126	310	7	45	6 x 8 x 7
GO 710	710	42.6	1278	130-160	390	7	55	7 x 9 x 6
GO 960	960	57.6	1728	170-220	525	7	75	7 x 9 x 7

Specification :

For higher model, contact factory

- Oxygen Purity 93±3%
- Oxygen Pressure 4 - 5 bar a
- Air pressure 7 bar g
- Air Inlet Temperature 45 deg C max
- Ambient Temperature 45 deg C max
- Air quality ISO 8573 - 2010 class 1-4-1

Treatment Prodcuts included in the Scope

Model	Air Dryer	Air Receiver Liters	Air Filters	Carbon Tower	Oxygen generator	Oxygen Receiver Liters	Bacterial Filter
GO 50	CS40	300	T100	TCT 100	OxyGen 50	300	TB 100
GO 85	CS60	300	T100	TCT 100	OxyGen 85	300	TB 100
GO 140	CS100	500	T250	TCT 250	OxyGen 140	500	TB 100
GO 180	CS150	500	T250	TCT 250	OxyGen 180	500	TB 100
GO 230	CS200	500	T600	TCT 600	OxyGen 230	500	TB 100
GO 260	CS200	1000	T600	TCT 600	OxyGen 260	1000	TB 100
GO 390	CS300	1500	T851	TCT 851	OxyGen 390	1500	TB 100
GO 470	CS400	1500	T851	TCT 851	OxyGen 470	1500	TB 100
GO 570	CS400	1500	T851	TCT 851	OxyGen 570	1500	TB 100
GO 710	CS500	2000	T1210	TCT 1210	OxyGen 710	2000	TB 100
GO 960	CS650	2000	T1210	TCT 1210	OxyGen 960	2000	TB 100

Suggested Guidelines for Selection :

Capacity= (1 x No. of beds + No. of beds in ICU x 10 + No. of beds in operation theater x 10) (lpm)



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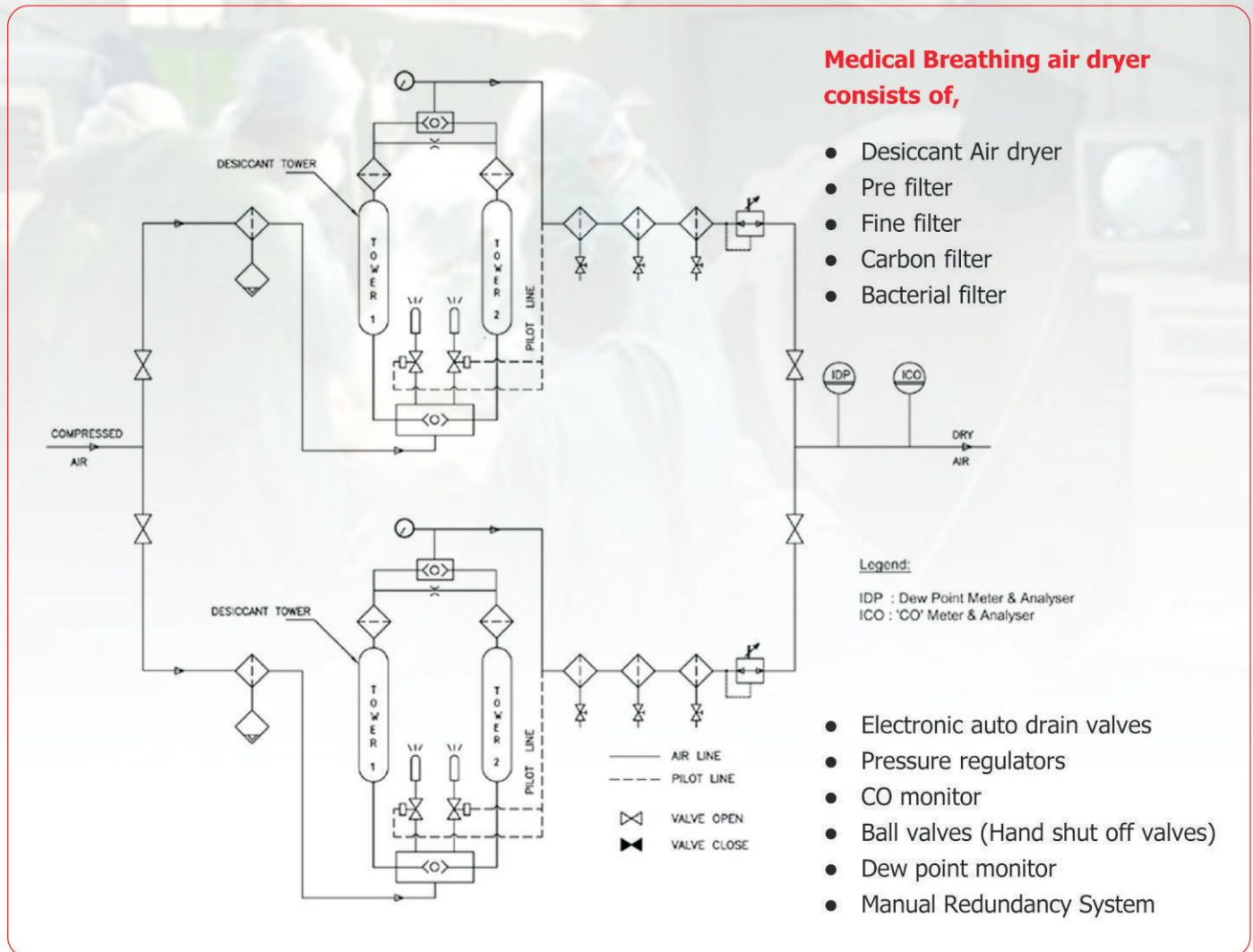
- Guaranteed dew point performance
- Design simplicity
- No refrigerants used
- Purge saving & Dew point dependent control system
- Compact digital CO & Dewpoint Monitor/Alarm
- Air quality mandated by **NFPA 99**
- Bacterial Penetration upto 0.0001%
- LED tower operation display indicating sequence of operation



Desiccant Compressed Air Dryer
**Medical Breathing
Air Dryers**

TBAS Medical Dryers

The TBAS medical dryers operate with the principle of Pressure Swing Adsorption, hence removing more moisture than refrigeration air dryers, and delivers moisture free dry air consistently irrespective of flow variation.



DESCRIPTION OF OPERATION

Drying cycle

The compressed wet air flows through the pre filter. The Liquid water particles get filtered by the filter. The filtered air flows in to the adsorber tower filled with desiccant where it loses all the moisture to the desiccant. Purified (Moisture and oil free) air further passing through the series filter to achieve the desired quality level as per Breathing Standard.

Regeneration Cycle

In order to remove the moisture during regeneration cycle. Small portion of dry air from the drying tower is passes over the desiccant through the regeneration orifice. This results in complete regeneration of desiccant and ready for the next cycle.

Item Code	Model TBAS *Simplex	L mm	B mm	H mm	Flow cfm	End Conn. BSP	Item Code	Model TBAS #Duplex	L mm	B mm	H mm
PM001	10S	625	540	1121	10	½"	PM009	10D	1150	800	1168
PM002	20S	625	540	1121	20	½"	PM010	20D	1150	800	1168
PM003	30S	625	540	1316	30	½"	PM011	30D	1150	800	1327
PM004	45S	663	648	1120	45	½"	PM012	45D	1150	800	1170
PM005	60S	808	740	1290	60	1"	PM013	60D	1150	838	1327
PM006	100S	823	740	1745	100	1"	PM014	100D	1343	800	1788
PM007	125S	823	740	2055	125	1"	PM015	125D	1343	805	2085
PM008	200S	865	795	1819	200	1½"	PM016	200D	1369	912	1819

Standard Features

* Single Medical breathing Air unit with CO and Dew Point Monitor (Simplex)

Dual Medical breathing Air unit with CO and Dew Point Monitor (Duplex) One Stand by unit with manual redundancy.

Operating Conditions

Voltage	: 100 - 240 VAC, 50/60Hz, 1ph
Power Consumption	: 40 Watt Max
Maximum working pressure	: 16 bar (g)
Minimum working pressure	: 4 bar (g)
Rated inlet Temperature	: 38°C
Rated inlet pressure	: 7 bar(g)
CO Level	: 10 PPM (Alarm set point) as per NFPA 99
Air Quality	: 2°C PDP (Alarm set point) as per NFPA 99 0.01 micron particle level.
Cycle Time	: 4 min
Dewpoint dependent change over	

The **TBAS** Series has robust valving and includes high quality coalescing pre-filter, a particulate fine-filter, a Activated carbon filter, and Bacterial filter mounted as a standard feature.

Coalescing - Pre Filter

The P-Grade (5 Micron) pre-filter element removes particulates, water aerosols, and oil mist content in the air.

Fine Filter

The X-Grade (1 Micron) Fine filter efficiently removes fine aerosols and desiccant powder particles from the adsorbent towers.

Activated Carbon Filter

This filter is used to remove oil and hydrocarbon vapor from the compressed air stream coming from the dryer. Odor and Taste free air at the outlet.

Bacterial Filter

Bacterial filters (0.01 Micron) provide effective protection against various types of particles including bacteria, viruses, and moisture droplets in the dry air out from the medical dryer.

These are help to protect the patient, and the breathing circuit, hospital pipe line from contamination, odor and taste free dry air at the outlet.

TBAS controller

TBAS medical breathing air dryer provides complete control of the system with LED indication/description of each step in the sequence of operation. A high quality Carbon Monoxide (CO) Monitor and Dew point monitor ensures the continuous monitoring of CO in PPM level and Water vapor concentrations in dewpoint deg °C in the Digital display to ensure the safety of all users.

TBAS Outstanding features and applications

✓ **Alarms**

Compact digital carbon monoxide (CO) monitor, Dew point monitor. If the set value exceeds the standard value, it will give the alarm in the front panel.

✓ **Purge saving**

Manual Purge economiser.

Dewpoint sensor for automatic purge control.

✓ **Construction**

Corrosion free aluminium towers and blocks. All pipeline are in SS/Copper.

✓ **Display**

LED indication for tower operation and sequence of operations.

✓ **Easy Integration**

Easy installation and integration with existing equipment: All system tie-in points are on one side.

✓ **Safe**

Heavy-duty adsorption vessels, designed and certified for an unlimited number of cyclic loads.

✓ **Customization**

An extended list of options allow you to define your specific Trident Twin-Tower PSA breathing air dryer adjusted to your individual need.

The TBAS series breathing air dryer meets/exceeds the breathing air standards below.

Breathing Air Quality :	Statement of conformity for Dryer and Filter
NFPA99	• ISO 8573 Class - 2 : Outlet air quality
OSHA : Grade D	• 97 / 23 / CE : Pressure Directive
European Pharmacopoeia	• 89 / 392 / CEE : Machinery Directive
IS/ISO 7396	• 73 / 23 / CEE : Low Voltage
	• CRN

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