- Designed for locomotive use
- Non volatile memory system
- Automatic Purge control valve (Optional)
- Fixed volume automatic drain valve
- Built in Pre Filter

Air Dryer for locomotives
Locodry
Principle of Operation

Moist Air from the compressor enters into the Pre filter through the top manifold. Water and oil coalesces here. The condensate with water and oil is drained by the Drain valve. The drain valve is periodically opened by the controller. The specially designed drain valve discharges only a fixed volume of condensate and minimizes air loss. The air then passes through the Inlet Shuttle valve and the Drying tower. In the drying tower, Activated Alumina adsorbs the water vapour present in the air and sends out Dry air of required Dew point. Fine Alumina powder which may come from the bed of desiccant is removed by the After filter. Clean and dry compressed air is let out through the outlet shuttle valve and the Purge Control valve.

The Purge Control Valve Diaphragm senses the outlet flow and accordingly the Purge Air port size area is varied. This changes the amount of Purge Air during regeneration in proportion to the flow of compressed air through the dryer. Purge air is also a function of the inlet pressure and hence the purge control valve uses purge air in proportion to the moisture load.

The two towers operate alternately in the drying and regeneration phase, dry purge air is passed through the tower under regeneration and released into the atmosphere. Under given operating conditions (service pressure of 10.5 Kg/cm2 (g)) 10% of the airflow is used for regeneration. A fixed quantity of air is purged during very low flows. The regeneration phase is shorter than the drying phase in order to allow the regenerated tower to return to service pressure before a new cycle starts. The purge is 10% for units with Auto Adjust purge control valve and fixed 15% without Auto Adjust purge control valve.

Salient Features

- **Designed for locomotive use**: Meets all Environmental and functional specifications for the Railroad industry. This dryer will withstand the vibrations, temperature in a locomotive platform outside the locomotive.
- **Operates over a wide Voltage range**
- **Non volatile memory system** - The dryer is completely switched off when the compressor is off and restarts where the cycle was stopped. This increases the life of the dryer.
- **Automatic Purge control valve**: Adjusts purge air depending on the compressed air flow and pressure. This ensures guaranteed dew point at optimized purge loss. This also reduces compressor usage.
- **Fixed Volume Automatic Drain valve** drains condensate without wasting much of compressed air. It has a fail safe design
- **Optimised design to meet Input-output dewpoint depression requirement**
- **Desiccant health indicator for each desiccant tower**
- **Pre-filter health indicator.**
- **Low MTTR**
- **High MTBF**
- **All aluminum construction for corrosion free long life.**
- **Slide-In mount**: The dryer can be slid in and out for service and installation in minutes, when installed in the mounting bracket (e.g. Trident MB1)
- **Small size**
- **Dewpoint depression of 30°C at design airflow and 15°C at worst case of airflow and ambient temperature.**
- **Low pressure drop of 3% of inlet pressure at design air flow.**
## Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Length (in mm)</th>
<th>Breadth (in mm)</th>
<th>Height (in mm)</th>
<th>Weight (in Kg approx)</th>
<th>Electrical Connector</th>
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<td>LD1</td>
<td>310</td>
<td>570</td>
<td>510</td>
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</tbody>
</table>

## Ordering Code:

LD X X X X X X

- X - No digit for ALCO loco (IR)
- 0 - Flow 110 scfm
- 1 - Flow 90 scfm
- 2 - Flow 60 scfm
- 3 - Flow 45 scfm
- 4 - Flow 35 scfm
- 5 - Flow 200 scfm
- 6 - Flow 30 scfm

- 0 - Bolt on Bracket MB2 suitable for LD2 only
- 1 - With Slide in Mounting Bracket MB 1 suitable for LD1 only
- 2 - Mounting Bush (CD 750)
- 3 - Bolt on Bracket MB3 suitable for LD2 only (AD1041)
- 4 - Bolt on bracket MB4 suitable for LD2 only (AD1040)
- 5 - No Mounting Bracket

- 0 - With Differential Pressure Indicator for Pre-filter
- 1 - Without Differential Pressure Indicator for Pre-filter

- 0 - Without Auto Adjust Purge Control Valve
- 1 - With Auto Adjust Purge Control Valve

- 0 - Without Heater
- 1 - With 74 VDC Heaters
- 2 - With 110 VDC Heaters
- 3 - With 24 VDC Heaters

- 0 - Input voltage 48-138 Vdc
- 1 - Input Voltage 72 Vdc
- 2 - Input Voltage 110 Vdc
- 3 - Input Voltage 24 Vdc

- 1 - LocoDry Frame 1
- 2 - LocoDry Frame 2
- 3 - LocoDry Frame 3
- 4 - LocoDry Frame 4
- 5 - LocoDry Frame 5

## Applications:

Trident Locomotive dryers are designed exclusively for the railroad industry for the following applications:

- Electric Locomotives
- Diesel Locomotives
- Commuter locomotives
- Shunting locomotives
- Mining applications
- EMU / DEMU / MEMU
Quality Policy

We commit to design and manufacture Compressed Air Dryers, Drain Valves, Gas Separation, Filtration Systems, Filters and Other Compressed Air Treatment Products for Industrial Applications, Locomotives & Trucks and Render Services of Excellent Quality to meet Customer Expectation. We will continually strive to improve our quality, customer satisfaction and profitability by means of teamwork, global bench marking and innovation.

Our Other Range of Products

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

Trident Pneumatics Pvt Ltd
5/232, K.N.G. Pudur Road, Coimbatore - 641 108, India. Ph : +91-422-2400492, 2401373 Fax : +91-422-2401376

e-mail : sales@tridentpneumatics.com Website : www.tridentpneumatics.com

ISO Certificate

Certificate of Compliance
INTEGRATED QUALITY CERTIFICATION PVT. LTD.

No. 5/232, K.N.G Pudur Road,
Somasampalayam Post,
Coimbatore - 641 108, Tamil Nadu, INDIA.

has been assessed and conforms to the quality management systems
ISO 9001:2008

Scope: Design, manufacture and provision of service for the compressed air treatment, gas separation, filtration systems, refrigeration and air conditioning products.

<table>
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<th>EA/NACE</th>
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Initial issue date : 18.09.2013
Last expiry date : 17.09.2016
Current issue date : 18.09.2016
Current expiry date : 14.09.2018

The certificate is valid subject to periodic surveillance audits of the quality management systems within the above defined scope as per the agreed scope terms and conditions. The organization shall provide written notification certificates of compliance.

Trident Pneumatics Private Limited

Manufacturing Facility

Our Presence