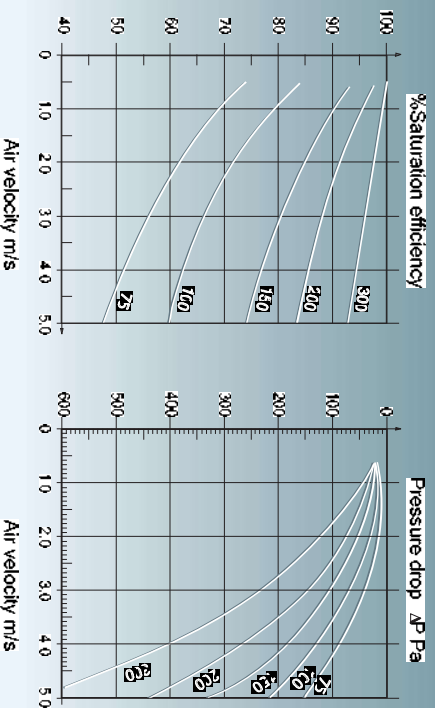




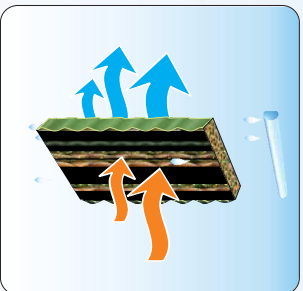
## PERFORMANCE CURVE



## PERFECT COOLING PACKAGE

ROOTS-dek is the finest evaporative cooling unit and its humidification media is the finest cooling pad available worldwide.

The best way to get the maximum mileage from evaporative cooling systems is when all the parts of the cooling process are working in harmony - the design, the control systems, the fan configuration and the overall dimensioning.



## ROOTS COOLING SYSTEMS PVT. LTD.

Corporate Office and Plant 1: B - 53, Hoskey Complex, Noida, Phase - 11, Noida-201 306, Uttar Pradesh.  
 Tel. No. + 91-1-20 - 4036100 Fax No.: +91-120-4319089  
 e-mail: rcs@rootsdek.com, web: rcs-india.com  
 Regional Offices: New Delhi: email:rcs@rootsdek.com • Gurgaon: g@rootsdek.com • Pune: m@rootsdek.com • Kolkata: k@rootsdek.com • Chandigarh: c@rootsdek.com

## Double Skinned



## Air Washers

## and Ventilation Units



## Double skin units offer the following advantages

- Robust construction
- High IAQ
- Flexibility
- Low Noise
- Energy Saving
- Higher cooling
- Aesthetically appealing



ISO 9001:2008 COMPANY

## WHY USE EVAPORATIVE COOLING?

Evaporative cooling is nature's own way of adding moisture. Hot and dry air is passed over the wetted surface where it picks up moisture. The highly absorbent cellulose based media ensures a very large contact surface between water and air providing a simple and reliable method of humidification.

## THE IMPORTANCE OF BLEED OFF

The bleed off rate is the water flow that needs to be constantly drained off to keep the mineral concentration in the water to an optimal level. When water evaporates and to avoid a build-up of insoluble minerals on the pads surface (scaling) some of its re-circulated water must be discharged and replaced with fresh water. This shall result in pads having long lasting durability with high performance & efficiency.

## HIGH COOLING EFFICIENCY

The cooling pad is manufactured by bonding corrugated cellulose sheets with different flute angles. The paper is carefully selected to precise specifications. Then proprietary curing and gluing materials & processes are used which are critical to the end product. Each cellulose based pad meets the highest standards of performance and durability.

## LONG LIFE

The impregnation stiffens the material enough to make it self-supporting. The pad is installed at an angle in such a way that it

## CONSTRUCTION FEATURES

The framework comprises of extruded aluminum profiles and 3D corner joints. The double - skin sandwich panels are fabricated with high polymer polyester coated, pre-painted, galvanized steel sheet with protection film on top. The panels are CFC free polyurethane foam injected with desired density and thickness resulting in high rigidity and sound attenuation characteristics. The unit is mounted on mild steel channels.

## FAN SECTION

The fan section is designed for double inlet double width forward curved blowers with medium & high static pressure. The centrifugal fans are belt driven and are isolated from the main structure with anti-vibration spring isolators and flexible canvas connection. This guarantees a minimum level of vibration and noise. Backward curved DDW fans can also be supplied as an option.

## HUMIDIFICATION SECTION

The humidification section consists of a fibreglass reinforced plastic/stainless steel water tank with a fibre glass reinforced plastic distributor with medium class internal GSS/PVC piping. Alternately multiple slopped water supply trough is also available for ease of water distribution & maintenance. The cellulose based media obtains 90% saturation efficiency at 500 fpm face velocity with 200mm thickness. The internal piping is connected with a monoblock pumpset which is complete with all valves and fittings.

## FILTERS SECTION

A flat filter section is designed for 50mm

# DOUBLE SKINNED AIRWASHERS GENUINE COMPONENTS

"Make a Difference"



## COMPARISON OF ROOTS-DRUM COOLING MACHINE WITH OTHERS

Water Type	Recommended Flow Spray/10000 Cfm	Pump hp Per 10000 Cfm	Solution Efficiency Percent	Water Length in Dishes
Single Spray	38	1.2751	55%	48"
Opposed Spray	81	2.6751	88%	110"
Bank	90	2.4751	95%	81"
P.V. Cell	40	2.0350	65%	45"
Cellulose Pad (both sides)	7	0.251201	90%	30"
Wood wool (as per Pad)	5	0.101071	70%	60"

Solution Efficiency Can be Improved As The Ability Of The Change The Leaving Air Quality To Approach The Solution Come On The Water Side. One Of A Proclonetic Client. REFERENCE: 100 DDM-9816



## Application Versatility

### COMFORT COOLING AND VENTILATION

- Centralised residential units
- Retail shop and department stores
- Commercial Kitchens
- Banks Theatres and auditoriums
- School, colleges and universities
- Libraries and museums
- Airports and railway stations

### INDUSTRIAL VENTILATION, PRESSURISATION AND DUST PREVENTION

- General shop floor cooling and ventilation
- Spot cooling of work stations and process lines
- Spot cooling of hot spot and hot zones
- Paint booths and paint lines
- Textile mill humidification
- Printing presses humidification and ventilation
- Laundries and Dry-cleaning Establishments
- Generator rooms and gas turbine inlets
- Warehouses and stores
- Pre-coolers for refrigeration compressors

### AGRICULTURAL APPLICATIONS

- Poultry and livestock confinement buildings
- Greenhouse and livestock confinement buildings
- Hardening houses for tissue culture labs
- Agricultural produce storage buildings
- Hatcheries and egg rooms