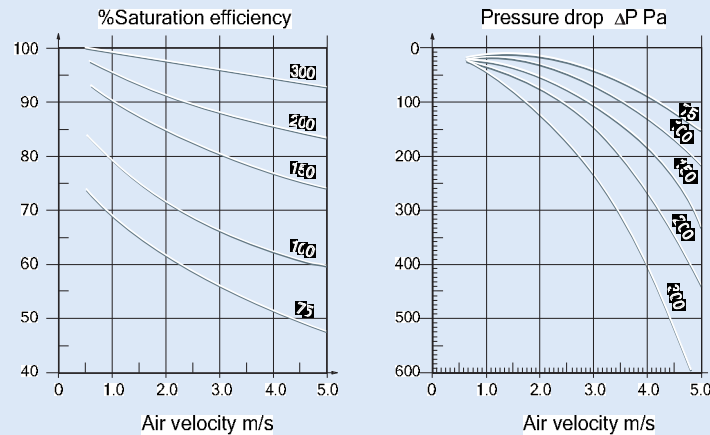




## PERFORMANCE CURVE



ROOTS COOLING SYSTEMS PVT. LTD.

Corporate Office and Plant: 1: B-53, Hosiery Complex, Noida, Phase - II, Noida-201305, Uttar Pradesh.  
Tel. No.: +91-120-4036100 Fax No.: +91-120-4319089  
e-mail: rcs@rootsdek.com, web: rcs-india.com

Regional Offices: • New Delhi: e-mailsales@rootsdek.co • Gurgaon: ggn@rootsdek.com • Pune: rootspune@vsnl.net  
• Kolkata: mailinfo@rootsdek.co • Coimbatore: e-mailcmb@rcs.org.in



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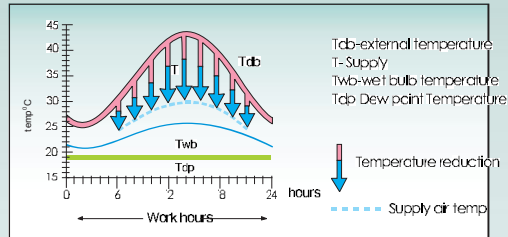


**SINGLE SKINNED  
Airwashers and Ventilation Units**

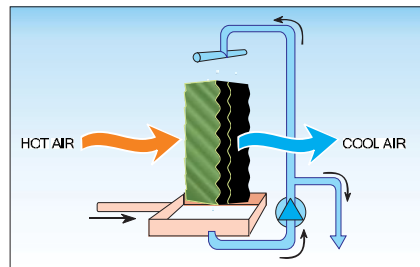
## ADVANTAGES

- Fill type systems attains high saturation efficiencies compared to conventional systems.
- Compact pre-fabricated design takes less space and consumes just 40% of the conventional system.
- No masonry work. Can be located inside or outside a building.
- Power consumption is negligible compared to spray machine because of low pump power and low pressure drop.
- Maintenance is almost negligible as no nozzles mean hassle-free service.
- Noise level is only 80 db at 1mtr distance because there are no high pressure nozzles.
- Quick installation is possible as machine is factory fabricated and tested and has flexibility in regards to relocation at a later date.

### TEMPERATURE REDUCTION DURING 24 HOURS



### ROOTS-dek MACHINE



Evaporative cooling harnesses the natural cooling effect that occurs when air passes over water.

## PRODUCT SPECIFICATIONS

The surface contact is specifically engineered for direct evaporative cooling and humidification.

Created from special cellulose paper possessing insoluble rot prevention compounds which contains stiffening saturants and wetting agents.

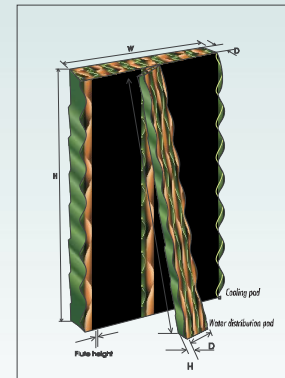
The sheets possess a patented angle arrangement to direct water flow towards the air inlet where evaporation occurs. It is designed to flush away the atmospheric dust.

The pad has a contact surface between air and water of 440 m<sup>2</sup>/m<sup>3</sup>.

The water distribution is specially designed for RCS cooling machines.

The water distribution cover is made of fibre glass reinforced plastics for high temperature conditions and anti-corrosive properties. Alternately multiple slotted water supply trough is also available for ease of water distribution & maintenance.

The metal parts are created from 16 gauge galvanised steelsheet/prepainted galvanised sheet.



### COMPARISON OF ROOTS-dek COOLING MACHINE WITH OTHERS

Washer Type	Recommended Spray Water Flow Gpm / 10,000 Cfm @ 60% Efficiency (Head, Ft.)	Pump Hp. Per 10,000 Cfm	Saturation Efficiency Percent	Washer Length In Direction Of Air Flow
Single Spray Bank	38	1.2 (75)	55%	48"
Opposed Spray Bank	81	2.6 (75)	86%	110"
Capillary Cell	90	2.4 (75)	98%	61"
P. V. Cell	40	2.0 (30)	65%	45"
Cellulose Fill (Roots-dek)	7	0.25 (20)	90%	30"
Wood Wool (as Per Pad)	5	0.10 (10)	70%	60"

Saturation Efficiency Can Be Pictured As The Ability Of The Change The Leaving Air Quality To Approach The Saturation Curve On The Wet Bulb Line Of A Psychrometric Chart.  
 DB in - DB out = 100  
 DB in - WB in

(Information From "Evaporative Cooling For Comfort By Richard G. Supply" Member ASHRAE, As Given In "ASHRAE Journal" August 1982)

## 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 mills 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