



# NORTH STREET COOLING TOWERS PVT. LTD.

## Spares & Services Catalogue



An ISO 9001:2015 (QMS), 14001:2015 (EMS) & OHSAS 45001:2018 Certified Company

[www.nsctpl.com](http://www.nsctpl.com)



## About Us

North Street Cooling Towers Private Limited has been at the forefront of the cooling tower industry since its inception in 1989. This has been possible only due to great commitment, dedication to deliver cooling solutions to our customers for their applications with ensured availability of products for better business values and customer satisfaction.

North Street was founded as a specialist in custom designed cooling tower for commercial and industrial use. We are a dynamic company with an ever-expanding product range. We are located in the National Capital Region (NCR) of India with modern design, manufacturing and testing facilities. Our facilities span a total area of 10,000 sq. meters. Our dedicated workforce has a strong work ethic to supply our customers with the best cooling solutions as per the local prevalent conditions. We extensively focus on developing the latest technology through continuous investment on R&D. Our facilities include the latest machines and equipment with a highly trained workforce.

We believe environmental sustainable should be at the forefront in any industrial sector. For this reason, we continuously develop products that not only last longer, but also require lower operating power while operating at high efficiencies. We have a presence in the all the major industrial sectors, in India and abroad.

## Our Client

- Adani Wilmar Limited
- Aditya Biral Group
- AP Group
- Ambuja Cement
- Arcelor Mittal Group
- Biral Group Of Companies
- Century Pulp & Paper
- Chennai Petroleum Corporation Ltd.
- Department Of Atomic Energy
- Essar Power
- Essar Oil
- Gas Authority Of India Ltd.
- JK Group
- Mother Dairy
- Nestle
- Nuclear Power Corporation Of India Ltd
- National Thermal Power Corporation
- GIPCL
- HMEL Bathinda
- Indian Oil Corporation Ltd
- Indian Farmers Fertilizer Cooperative Ltd.
- Jindal Group
- JSW Group
- NTPC Ltd.
- NBCC
- NPCIL
- National Fertilizers Limited
- Essar Steel Ltd.
- UltraTech Cement
- India Glycol Ltd.
- Kribhco
- Reliance
- Rourkela Steel Plants
- Oil and Natural Gas Corporation
- Steel Authority Of India Ltd.
- Tata Group Triveni Engineering & Industries Ltd.
- Visakhapatnam Steel Plant

# Spare Parts Portfolio

## Gear Boxes

NSCT Right angle gear box in the single/double reduction are intended to satisfy characteristic requirements and conditions encountered in cooling tower applications. These are designed as direct replacements for the equivalent models & ratios in terms of critical mounting dimensions.

The catalogue contains specifications, dimensions and rating for selection of standard gear drives against usual applications. Our engineers will be pleased to assist in case of unusual conditions attracting special requirements.

NSCT gear boxes are heavy duty, right angled available in both, spiral bevel and spiral bevel cum helical type designs. They are specially designed for rugged cooling tower conditions. The rating practice and operation considerations are governed by CTI STD-111(86).

The following table gives the available reduction ratios:

Gear box Models	Reduction Ratio				
T-33	2.133:1	2.615:1			
U-44	2.71:1	3.27:1	4.11:1		
V-55	3.45:1	4.56:1	5.50:1	6.50:1	
W-66	5.77:1	7.71:1	8.66:1		
X-77	8.80:1	11.18:1	12.93:1	14.54:1	19.32:1
Y-88	8.85:1	11.18:1	13:1		
Z-99	10.83:1	12.98:1	14.84:1		

\* Service ratings listed above include a service factor over 2, as per AGMA/ CTI recommendation for enclosed gear boxes in cooling tower fan service

\* For further specifications, dimensions and ratings for the selection of standard gear boxes, please refer to our gear box catalogue.



**T-33**



**U-44**



**V-55**



**W-66**



**X-77**



**Z-99**

# Drive Shaft & It's Components

NSCT drive shafts are designed to transmit the required torque ratings for cooling tower applications. They are tubular floating types and have flexible flanged couplings at both ends to compensate for any misalignments. The lengths of these drive shafts are custom made as per the customer's requirements. They require a lot of precision in their manufacture. Each drive shaft is dynamically balanced prior to dispatch. The casting, machining and fabrication are closely inspected by our quality control department to ensure their smooth operation. These drive shafts are available in galvanized steel, stainless steel 304 and 316. For metallic drive shafts, the flexible elements are neoprene bonded metallic inserts.

NSCT also manufactures composite fiber drive shafts which are very light in weight and have high torque transmission efficiencies. Inter-changeability: All these drive shafts and their components are completely inter-changeable.

All drive shafts are designed as per ANSI/AGMA 9000--D11.



## Fan Cylinders

Fiberglass reinforced plastic fan cylinders are manufactured as per CTI STD-131 (86) available in diameters up to 11meters. Fire retardant FRP fan cylinders can also be supplied on a special request.



# Axial Flow & Flow Control Valves

## Axial Flow Fans

NSCT Axial flow fans are available in both aluminum and FRP (fiber reinforced plastic). These fans are designed especially for cooling tower applications. Each fan assembly is dynamically balanced prior to dispatch. The fan hubs are available in cast iron, hot dipped galvanized and stainless steel.



## Flow Control Valves

NSCT flow control valves are available in 6", 8", 10", 12", 14", 16", 18" and 20" flange diameter sizes. They have a cast iron body, operating handle, locking bar and a stainless steel spindle and neoprene rubber gaskets.



## Fill Support Grids

NSCT fill support grids are made from stainless steel wires. They are designed to keep fill splash bars horizontal and to take the load of water and fill during operation. They are used for all treated timber splash bars, PVC rectangular splash bars and PVC V type splash bars. They are commonly supplied in stainless steel 304 but stainless steel 316 and Monel grids are also available for special applications.



## Splash Type Fill

### (PVC V Bars & Timber Splash Bars)

NSCT cooling tower fills are available for both cross and counter flow cooling towers. They are available in treated timber and PVC (polyvinyl chloride) material.

The splash bars are specially designed to provide the required surface area and allow uniform distribution of water over them and ensure smooth air flow without significant pressure drop. Treated timber splash bars are rectangular in cross-section and chemically treated as per ASTM D1760-96



## Film Type Fill

NSCT film fills are cross corrugated, large fluted, made from PVC (polyvinyl chloride) sheets. They offer high thermal performance and require low maintenance. Depending on the quantity required, they can be dispatched in glued or un-glued form. They are designed to withstand human loads and have a minimum density of 1.4 gm/cc ASTM D792/ DIN 53479. They are self-extinguishing and the flammability is checked as per ASTM D 635.



## Drift Eliminators

NSCT drift eliminators are available in both PVC and treated timber. they are designed to keep the drift losses below 0.005% in case of PVC and 0.05% in treated timber. The isokinetic drift loss is measured as per the CTI test code: ATC-140. In PVC eliminator the flame spread rate is tested according to ASTM E-84.



## Water Distribution Components

All piping is made from corrosion resistant PVC which provides low frictional loss to reduce pump head requirements. Other materials are available for special applications.

**Non-Clogging:** The system is designed to minimize silt or debris collection.

**Self-Draining:** The nozzle outlets are designed to be at the lowest elevations in the whole water distribution system. This provides for self-draining of the system when the water supply is shut off.

**High Operational Efficiency:** The entire system is designed for optimum thermal efficiencies. This is achieved through uniform water distribution, while reducing the pump head.

**Quick assembly and dismantling:** The simplicity and modular design of each component enables the assembly and dismantling to be carried out, using only a few hand tools.

All NSCT non clog nozzles are made from inert polypropylene, capable of withstanding severe water conditions. They are available in various designs and sizes to meet the water distribution needs. As the name suggest, their large orifice keeps them free from clogging and the diffuser rings ensures uniform water distribution.



## Timber Treatment

The cooling tower industry subjects its wooden towers to the harshest environments conceivable. The wet-dry cyclic conditions and structural design intensify the undisciplined seasoning of the wooden members, resulting in warping, twisting and craching. This results in the need for timber treatment which is carried out as per CTISTD-112 (97).

We have an in-house timber fabrication unit which makes all timber connections as per CTISTD-119(2007)



## Safety Equipments

Vibration Limit Switch

Low Oil Level Limit Switch



# Upgradation

Our rich experience of cooling tower up-gradation can be demonstrated in the following references:

## Essar Power Ltd. Hazira

An up-gradation on a 16 cell cooling tower with a cooling capacity of 38,400 CMH of water, resulted in an increased output of 2.5 to 3 MW from their steam turbine.

## India Glycol Ltd Kashipur

Splash fill of an existing cooling tower was replaced with PVC film film to increase it's cooling water capacity by 25% and to further reduce the cold water temperature by 10C.

## Bangkok Industrial Gases Thailand

An RCC cooling tower was upgraded by fill and mechanical system replacement, to reduce the approach from 5.70C to 2.50C.

## Reliance Industries Ltd. Dahej

The fill media was replaced to lower down the cooling tower approach by 10C.

There are many other cases where we have upgraded the exhibiting cooling towers to improve performances. Hence, if you are considering a new cooling tower, just wait and get your existing cooling tower inspected to explore the possibilities of an up-grade to meet your new requirements.

# Service Portfolio

## Repair & Maintenance

Our repair and maintenance experts and service teams stand 24 hours a day to provide immediate assistance for all your industrial cooling tower repair and maintenance needs. We supply only the highest quality items and field labuor services for all makes and models of cooling towers, at competitive prices.



## Inspection Service

Our post inspection reports establish the difference between the prevailing thermal and mechanical performances as compared to the designed ratings of cooling towers. The reports give various options to increase the cooling tower performances to reduce the operational costs or to upgrade them for increased thermal loads. We work closely with our customers to save running costs or eliminate the need to add additional cooling towers by simply upgrading the existing tower to meet the current needs.

# Cooling Tower Services

We are a company with a vast cooling tower experience, providing complete systems from inlet to outlet, including design, engineering, supply and the construction of industrial cooling towers. Our cooling towers are installed in all major industries and power plants across the India and abroad. A team of experienced engineers, project managers, construction superintendents and craftsmen, combined with our financial strength, enable us to offer total solutions and undertake total responsibility.

# Other Services

Inspection | Testing | Consulting | Repair & Maintenance | Reconstruction | Quality Spare Parts



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