




SPERA
Vacuum Equipment Pvt Ltd



SPERA VACUUM EQUIPMENT

COMPANY BROCHURE

 www.speravacuum.com

ABOUT **SPERA**

Spera which in Latin means trust is continuously working towards fulfillment of our customer needs with twenty years of combined experience in vacuum equipment.

With an Inhouse expert team, we have designed and developed various customized vacuum and engineering solution as per requirement.

We focus on cutting edge technology and have integrated all the necessary facilities for development and testing of the products to cater with the state-of-the-art solution. With customer centric approach, we have successfully delivered to various clients across the globe.



MISSION

To help our clients achieve such high levels of economic value that together we set a benchmark of excellence in our industry.



VISION

To create best in class machines with minimum downtime, longer durability and efficiency.



VALUES

To consistently explore the new Horizons of the industry by creating a world class facility while preserving the environmental essence.

TRANSFORMER OIL FILTER MACHINE

Any oil needs to be free from any impurities to perform at its best. With impurities, it loses its physiochemical quality and ceases to perform its function effectively. The risk of breakdown accident and unscheduled downtime periods of expensive equipments is significantly increased.

We at Spera, build high vacuum filter machines aimed to reduce such impurities at its best with most sophisticated design and easy to use approach.



FEATURES

We manufacture machine ranging from 200 LPH to 18000 LPH machine	Imported pumps and high-quality filters	Digital temperature monitoring and controlling
Single to three stage degassing chambers	Semi-automatic to fully automatic machines with HMI	Audio (Buzzer) / visual warnings and process annunciation systems

RESULT TABLE

PARAMETERS	BEFORE FILTRATION	AFTER FILTRATION
Breakdown Voltage (BDV), kv	10-30kv	Above 60-80 kv
Moisture content in oil, ppm	50-100 ppm	Less than 5 ppm
Gas Content, %vol	10%	0.5 - 0.1%
Neutralization Value	0.5 mg of KOH	0.03 mg of KOH
Dirt Particles	100 microns	1 Micron

HYDRAULIC OIL FILTER MACHINE

Hydraulic Oil is the energy transfer medium in all hydraulic systems. However, the job of hydraulic fluid goes beyond simple transmission of power. For the best process and results, this oil needs to be free from Iron Particles, Aluminium Particles, Rubber Particles, Moisture & Carbon Particles.

We manufacture the Machine ranging from 500 LPH to 18000 LPH of the Hydraulic / Lube oil Machine.



FEATURES

Multistage Filtrations of oil with efficiency of 99.9%

Cleaning of oil till NAS 2 NAS 3 levels

Particle removal till 1 Micron

Absolute dehydration of Oil

All 3 forms of Moisture removal
Free, Emulsified & Dissolved

* Phases of water in Oil *



Free Water



Dissolved Water



Emulsified Water

TRANSFORMER ONLINE DRY OUT SYSTEM

The transformer is the heart of the power system. To maintain the transformer to its peak performance high purity of insulating oil is a very prime important.

Dryout is a system to monitor and extract the moisture in power transformers of all sizes. The problem of wet transformer is already well known. Due to high temperatures, moisture and oxygen, the insulation paper within the transformer is degrading

Online Dry out System is equipped with high quality of special media to remove the water from the transformer and its insulation paper. It is a moisture retaining and absorbing media. The moisture is separated from the oil without heating and vacuuming.

ADVANTAGES OF DRYOUT SYSTEM IS:

Continuous monitoring of oil temperature and moisture content entering and exiting the TRANSEC unit

Uses oil as the transfer medium to extract water from the paper insulation, where 95% of water is retained

Increases life expectancy of transformers by drying the insulation paper

Maintain a safe transformer with high breakdown voltage

Online installation & operation - no shutdown

Cost effective solution - 24/7 continuous drying and monitoring

No operator required. Stand alone unit LV powered

Low on investment, high on service



VACUUM PRESSURE IMPREGNATION PLANT

Vacuum Pressure Impregnation (VPI) is a process by which a fully wound electric apparatus stator or rotor is completely submerged in a Resin/Varnish.

Through a combination of dry and wet vacuum and pressure cycles, the resin is assimilated throughout the insulation system. Once thermally processed, the impregnated windings become a monolithic and homogenous structure.

THE RESULTING BENEFITS ARE

Improved electric motor efficiency	Particle removal till 1 micron
Increased mechanical strength	Greater thermal inductivity
Reduced probability of motor failure	Superior protection against the ingress of water, chemical and containments

TYPES

Manual VPI Plant

Manual VPI includes, manual lid clamping arrangement, manual operated ball valves and all other process to be operated manually.

Semi-Automatic VPI Plant

Semi-Automatic VPI plants are designed as per customer's requirement. A combination of automation and manual operation can be routed as per requirement.

Automatic VPI Plant

Automatic PI Plant includes Automatic Bayonet Lid Lock/Unlock, Up/Down arrangement, Pneumatically operated EP Valves through HMI and PLC systems.



CASTING IMPREGNATION PLANT

Porosity is a phenomenon that is caused by solidification, shrinkage or gas formation when castings go from a liquid to a solid state during the manufacturing process. As a result, small imperfections and leak paths are formed which can make pressure or fluid-tight parts unusable.

Casting impregnation is a porosity sealing solution that removes air from the voids then fills them with a chemically and thermally resistant polymer. For the most effective quality enhancement results, the impregnation process can be integrated within the production facility or even in-line with the manufacturing process.

THE PROCESS INCLUDES 4 MAJOR CYCLE

Impregnation

Vacuum is created which sucks the air from the porosity and the sealant is introduced into the porosity.

Draining

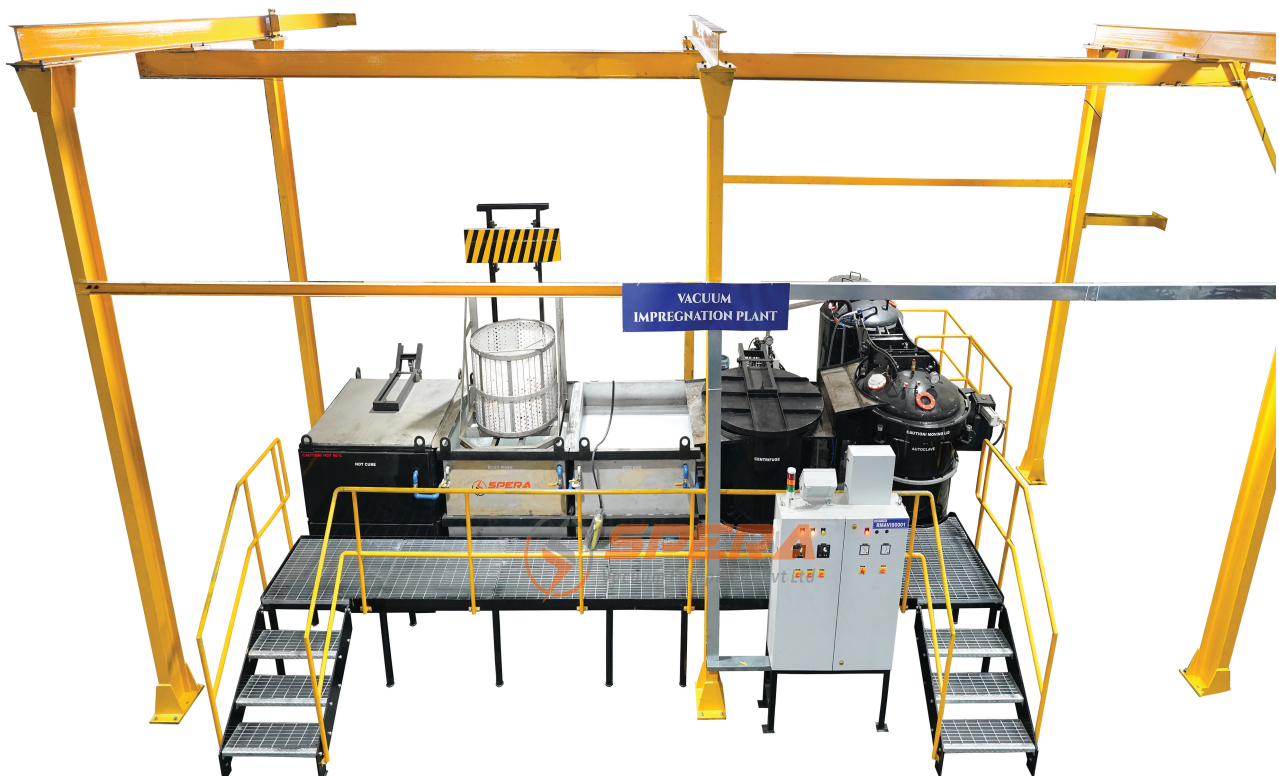
Drain the extra sealant from the components, which goes back to the storage tank.

Cold Wash

Wash the components from the extra sealant on the surface.

Hot Wash

Heats the sealant which polymerise the sealant and solidifies within the porosity to prevent the leakage.



TRANSFORMER AIR DRYER

Transformer air dryers are essential for removing moisture from transformer oil, which helps prevent insulation breakdown and equipment failure. They work by circulating dry air through the transformer, which absorbs moisture from surrounding.

Proper usage of a transformer air dryer involves monitoring the moisture level of the transformer oil and adjusting the air flow rate accordingly. It is also important to regularly inspect and maintain the air dryer to ensure it is functioning properly.

Our Heatless Compressed Air Dryer system for transformer is mainly used to quickly and effectively provide dry air for transformers and other industrial equipment.

It uses an air compression system, refrigerated air drying system, adsorption/Desiccant drying system, air purification system and PLC control operation.

ADVANTAGES OF AIR DRYER:

Easy and hassle free operation.

Up to -70°C Dew Point.

Uses natural air from the atmosphere

Continuous generation of dry air

Online Dew Point measurement system

Economic and Low maintenance system being regenerative type

Safer and cheaper than Nitrogen



VACUUM DRYING PLANT

Drying of power transformer, distribution transformer, capacitors are mandatory in order to withstand for high electrical heads. These plants are specially used for drying insulated windings of transformers. By vacuum technique the moisture is removed from the deep cavitation's of windings and improves the electrical parameters. Vacuum pump capacities are selected depending on the working vacuum requirements of the system. Vapor condensers of requisite sizes with water cooling are provided.

Spera has specialized in improving the life cycle of transformers. This starts during the transformer manufacturing process. The right transformer drying solution provides a low process time, but also protects the equipment from high internal stresses. Here, the Spera Drying product line offers state-of-the-art technology to speed up your transformer manufacturing operations. This system can be Manual, Semi-Automatic or Fully Automatic as per clients requirement.

CONTROL & MONITORING

A wide choice of control and monitoring equipment can be offered to suit customer requirements

Utilities

Insulating oil handling and filling systems complete with under-vacuum storage facility can be provided. Accessories such as chilling plants, trolleys, hydraulically operated rail-bridges etc. can be provided

The plant can be fully automatic with SCADA operation method to provide state of the art automation and control

Other customization as per customers requirement.



HEATING OVEN

We manufacture wide range of heating ovens used in the industries such as, Transformers, Motors, and all Electrical industries.

We manufacture the Oven in the size ranging from 4 feet to 16 feet Ovens.

OPERATING TEMPERATURE:

100- 500 DEGREE

MODE:

MANUAL TO FULLY AUTO OVEN



OIL / CAPACITOR IMPREGNATION PLANT

This machine is used for Impregnation of Oil into the Capacitors and Sintered products.

The Components are placed inside the chamber and Vacuumized to draw out the air gaps and then oil is introduced under vacuum so that the oil is easily impregnated into the products.

It consists of Two Storage tank (Raw oil and clean Oil) and Impregnation chamber.

This is for impregnated the oil into the whole clearance of the porous material by capillary phenomenon.



GLOBAL CLIENT BASE

TATA STEEL





We customize, design and manufacture wide range of vacuum equipment

COUNTRIES SERVED



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