

# Distribution transformer windings



Headquarter: Postal Code: 1468833846  
P.O.Box: 15175-518, Tehran, Iran  
Tel: +98(21)88374335-8  
Fax: +98(21)88374339  
Factory: Postal Code: 3573195986  
P.O.Box: 35715-111, Shahmirzad, Semnan, Iran  
Tel: +98(23)33279421-28, +98(23)3111  
Sales Office Tel: +98(23)3111488  
Fax: +98(23)33279429-30  
[www.arya-transfo.com](http://www.arya-transfo.com)  
[sales@arya-transfo.com](mailto:sales@arya-transfo.com)



## Arya Transfo Shargh Co. in brief

Arya Transfo Shargh Co. as one of the lead manufacturers in the ME provides oil immersed distribution transformers in highest quality according to the International standards. Supported with a strong R&D department, the company is able to offer the state of art in engineering solutions and guarantees a continues development in its design. The range of the products in terms of voltage and power rating are up to 36kV and 5000kVA. Arya Transfo Shargh Co. is able to design and manufacture any special transformer such as Electrostatic Precipitator (ESP) rectifier transformer, Multi-winding transformer, etc.

### **Winding: manufacture and design**

Transformer windings must withstand high electrical and mechanical stresses during the factory tests, normal operation conditions and also temporary short time abnormal conditions such as electrical faults. the windings are designed to meet the customer's insulation level requirements and also to withstand the short circuit forces as outlined in IEC60076-5.

The conductors used are a high grade electrolytic copper or aluminum as per design or customer requirements. Windings are designed and manufactured in round, rectangular and obround shapes.



Low and High voltage windings are layered-type and made from rectangular paper or enameled insulated wire, round wire and foil as a conductor. Insulation materials meet the requirement of class A insulating materials without loss of life. The use of insulating paper partially coated with epoxy resin (Diamond Dotted Paper) in low voltage and high voltage windings bonds the winding into a compact block during the drying process and additionally increases the short-circuit withstand capability.

The dust free winding shop equipped with computer-controlled foil and layer winding machines with adjustable mandrels from well-known Swiss manufacturer Tuboly-Astronics AG. The programmable winding machine can calculate stop points. HV winding machine has capability that wound interlayer insulation uniformly and non-uniformly. These winding machines are capable to produce windings with height up to 1200 mm and weight up to 1000 kg.



Drying process is done on all windings and act as a key role to guarantee safety and reliability of winding during the life cycle.

As per customer's demand, windings could be stored in special tanks filled with oil/dry air and shipped. The winding will be delivered in a special packing, which is suitable for export in order to avoid possible damages during the transportation.

Arya Transfo Shargh Co. Using the well equipped and maintained winding shop with respect to the necessary standards, is able to manufacture with highest level of quality for International markets. In addition, the experienced R&D experts offer the design according to the requirements of the customer and tailored to their needs.

Electrostatic and electromagnetic analyses are performed using latest developed softwares to calculate axial and radial forces, voltage distribution during normal and dielectric test condition etc.