



## Proizvodni program

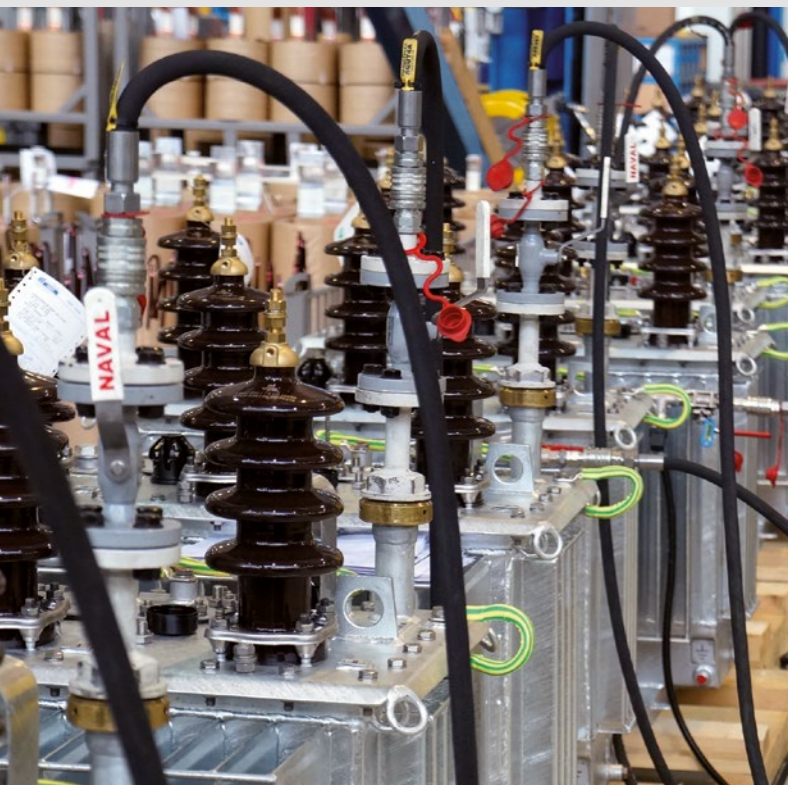
- **Uljni distributivni transformatori, nazivnih snaga do 8000 kVA i napona do 36 kV:**
  - standardni transformatori s regulacijom u beznaponskom stanju
  - transformatori s regulacijskom sklopkom pod opterećenjem
  - transformatori sa sniženim elektromagnetskim zračenjem
  - transformatori s amorfnom jezgrom
- **Suhi transformatori, nazivnih snaga do 5000 kVA i napona do 24 kV**
- **Specijalni transformatori:**
  - uzemljivački transformatori
  - ispravljački transformatori
  - transformatori za lokomotive i elektomotorne vlakove
  - transformatori za metalurške peći
  - transformatori otporni na vibracije
  - transformatori smanjene širine za ugradnju u stup vjetroturbine
  - transformatori za off-shore primjenu
  - autotransformatori različitih namjena
- **Prigušnice za kompenzaciju, metalurška postrojenja, ispravljačke uređaje te ograničenja struja kratkog i dozemnog spoja**
- **Servis i popravak transformatora i prigušnica**



## Production program

- **Oil-immersed distribution transformers, rated power up to 8000 kVA and voltage up to 36 kV:**
  - standard transformers with off-load regulation
  - transformers with on load regulation
  - transformers with low electromagnetic radiation
  - amorphous core transformers
- **Dry-type transformers, rated power up to 5000 kVA and voltage up to 24 kV**
- **Special transformers:**
  - earthing transformers
  - rectifier transformers
  - transformers for locomotives and EMU's
  - transformers for metallurgical furnaces
  - vibration-proof transformers
  - transformers with reduced width for installation in wind turbine tower
  - transformers for off-shore applications
  - autotransformers
- **Reactors for compensation, metallurgical plants, rectifying devices, short-circuit and ground fault current limitations**
- **Servicing and repairing of transformers and reactors**

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**KONČAR**  
Distribution and Special Transformers, Inc.  
Mokrovićeva 8  
P.O.Box 100  
10090 Zagreb, Croatia  
www.koncar-dst.hr

**PC Distribution transformers**  
Tel: (+385 1) 378 3722  
Fax: (+385 1) 371 3858  
E-mail: sales.dt@koncar-dst.hr



## Distributivni transformatori

Distribution transformers

**50-8000 kVA** do/up to 36kV



**KONČAR**  
**D&ST**

## Osnovni tehnički podaci

➔ Transformatori su dimenzionirani za nazivne snage od 50 do 8000 kVA i maksimalni pogonski napon do 36 kV. To su trofazni transformatori, uronjeni u tekućinu (mineralno ulje, sintetski ili prirodni ester), prirodno hlađeni (ONAN, KNAN), prikladni za rad u zatvorenom i otvorenom prostoru. Transformatori su u skladu sa standardima IEC 60076, EN 50588-1 (Uredba Komisije (EU) br. 548/2014), a prema potrebi i ostalim nacionalnim standardima i specifičnim zahtjevima kupaca. Transformatore dizajniramo i proizvodimo po najvišim standardima kvalitete, koristeći najnaprednije metode proračuna i dizajna, proizvodnih i tehnoloških procesa i završne kontrole.

### Jezgra

Step-lap jezgra izrađena je od visokokvalitetnog hladnovaljanog, orijentiranog lima. Limovi jezgre režu se uzdužno i poprečno na automatskim linijama.

### Namoti

Namoti pravokutnog, ovalnog ili okruglog oblika izrađeni su od bakrenih ili aluminijevih vodiča izoliranih lakom ili papirom. NN namoti rade se od folije ili profilne žice, a VN namoti od okrugle ili profilne žice.

### Kotao

Standardna izvedba kotlova je hermetički zatvorena s valovitom stranicom (nije potrebno održavanje). Na zahtjev kupca moguća je izvedba s konzervatorom, kao i s radiatorima.

### Montaža aktivnog dijela i postupak sušenja

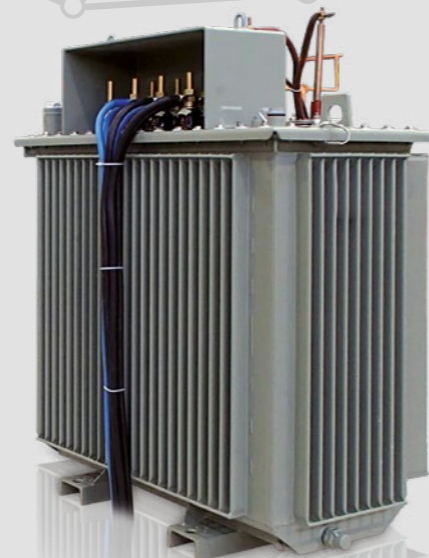
Aktivni dio montiran je na način da se zadovolje zahtjevi na mehaničku otpornost prema silama kratkog spoja. Postupkom sušenja i punjenja uljem pod vakuumom, koje se provodi u specijalnoj peći (LFH) gdje se namoti električno zagrijavaju niskofrekventnim strujama, postiže se potpuna impregnacija izolacijskih materijala i osigurava duži životni vijek transformatora.

### Zaštita od korozije

Zbog različitih uvjeta okoline u kojima naši transformatori rade, poduzima se niz zahvata da se osigura odgovarajuća zaštita od korozije. Gotovi kotlovi, poklopci i ostali metalni dijelovi pripremaju se i štite u skladu s ISO 12944 standardom ovisno o kategoriji korozije C1 do C5M.

### Ispitivanje

Prije isporuke transformatori se ispituju rutinski prema normi IEC 60076 (po potrebi i prema drugim standardima). Tipska i specijalna ispitivanja izvode se na zahtjev kupca.



Distributivni transformator sa smanjenim EM-zračenjem / Distribution transformer with reduced EM radiation

## Basic technical data

➔ Transformers are designed for nominal ratings from 50 up to 8000 kVA and a maximum operating voltage up to 36 kV. They are three-phase oil-immersed type (mineral oil, synthetic or natural ester), with natural cooling (ONAN, KNAN), suitable for indoor and outdoor operation. Transformers are in accordance with standards IEC 60076, EN 50588-1 (Commission Regulation (EU) No 548/2014), and if necessary with other national standards and specific requirements of customers. Our transformers are designed and produced to meet the highest quality standards, using the most advanced methods of calculation and design, production and technology processes, and final quality control.

### Core

Step-lap core is made of high-quality cold rolled grain-oriented steel sheets. Core sheets are cut longitudinally and transversally by automatic cutting lines.

### Windings

Rectangular, oval and cylindrical shape windings are made of copper or aluminium conductors insulated with enamel or paper. LV windings are made of foil or profile wire and HV windings of round or profile wire.

### Tank

Standard tank design is hermetically sealed with corrugated walls (maintenance-free). On customer's request, it is also possible to design tanks with conservator, as well as with radiators.

### Assembly of active parts and drying

Active part is assembled to meet the requirements of mechanical resistance to short-circuit forces. With the process of drying and oil filling under vacuum, which is done in a special furnace (LFH) where the windings are electrically heated with low frequency currents, full impregnation of insulation material is achieved and longer transformers' lifetime ensured.

### Corrosion protection

Since our transformers can operate under different hard environmental conditions, series of actions are taken in order to ensure proper corrosion protection. Finished tanks, covers and other metal parts are prepared and painted following ISO 12944 standard according to climate conditions C1 up to C5M.

### Testing

Prior to delivery all transformers are routine tested according to standard IEC 60076 (if required, acc. to other standards also). On customer's request, type and special tests are carried out.



Distributivni transformator s regulacijom pod naponom / Voltage regulated distribution transformer

