

DISTRIBUCIJSKA KOMPAKTNA SKLOPNA APARATURA (RING MAIN UNIT)

Serije VDA

ZA UNUTARNJU UGRADNJU
Neproširiva izvedba

1. OPĆENITO

Kompaktni sklopni blokovi (distribucijske sklopne aparature) serije VDA grade se za nazivne napone 12, (17,5) i 24 kV. Koriste se za razvod električne energije u transformatorskim stanicama do 2500 kVA, 10(20)/0,4 kV.

Predviđene su za ugradnju u zatvorene prostore uz normalne pogonske uvjete, u skladu s normama IEC 62271-200 i IEC 60694.

DISTRIBUTIVE COMPACT SWITCHGEAR (RING MAIN UNIT)

Series VDA

FOR INDOOR INSTALLATION
Compact non-extensible version

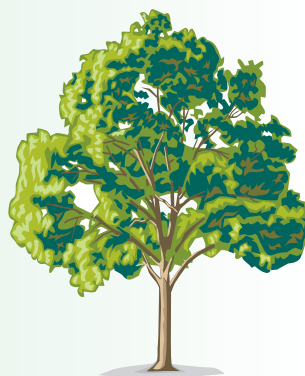
1. GENERAL INFORMATION

Vacuum compact cubicles (ring main units) series VDA are manufactured for rated voltages 12, (17,5) and 24 kV. The main purpose of VDA compact switchgear is energy distribution in transformer substations up to 2500 kVA, at voltage ratio 10(20)/0,4 kV.

Compact switchgear series VDA is designed for indoor installation, at normal service conditions, in accordance with IEC 62271-200 and IEC 60694.

EKOLOŠKI PROIZVOD!

ENVIRONMENT FRIENDLY PRODUCT!



- Kompaktnost
- Sigurnost osoblja
- Jednostavnost
- Pouzdanost
- Ekološka podobnost
- Mogućnost daljinskog upravljanja svim aparatima

- Compactness
- Personnel safety
- Simplicity
- Reliability
- Environmental compatibility
- Possibility of remote control for each apparatus

Vakuumska distribucijska aparatura serije VDA ima visoku pouzdanost i raspoloživost pogona, potpunu neovisnost o vanjskim utjecajima, te višestruko smanjen volumen u odnosu na klasične sklopne blokove s rastavnim sklopkama izoliranim zrakom.

Osnovne izvedbe kompaktnih aparatura serije VDA imaju dva, tri ili četiri vodna polja opremljena tropoložajnim vakuumskim rastavnim sklopkama i jedno transformatorsko polje s vakuumskim prekidačem za zaštitu energetskog transformatora, te dva vodna i dva transformatorska polja.

Svi sklopovi i elementi glavnog strujnog puta smješteni su u zajedničkom plinonepropusnom kućištu od čeličnog lima, te međusobno i prema kućištu izolirani plinom SF6. Gašenje električnog luka vrši se u vakuumskim komorama, kako u prekidaču, tako i u rastavnim sklopkama. Plin služi samo kao izolacija, što praktično isključuje potrebu održavanja primarnog dijela električkih sklopova unutar kućišta i osigurava njenu ekološku podobnost.

Umjesto tradicionalnih kombinacija rastavnih sklopki i zemljospojnika, te VN osigurača za zaštitu transformatora ovakva aparatura ima tropoložajne rastavne sklopke s vakuumskim komorama u vodnim poljima, te vakuumski prekidač upravljani specijalnim mikroprocesorskim nadstrujnim relejem za zaštitu transformatora.

Osim obvezatnog ručnog upravljanja ova aparatura ima mogućnost daljinskog upravljanja svakim od aparata, što omogućuje potpunu automatizaciju distribucijskih trafostanica u kojima se koristi. Zahvaljujući ovoj opciji, postoji mogućnost rješavanja niza specifičnih zahtjeva koji se mogu pojaviti u suvremenim razdjelnim mrežama.

STANDARDNE KONFIGURACIJE JEDNOLINIJNE SCHEMA:

VDA 24 - 2VT

(dva vodna i jedno trafo polje)

VDA 24 - 3VT

(tri vodna i jedno trafo polje)

VDA 24 - 2V2T

(dva vodna i dva trafo polja)

VDA 24 - 4VT

(četiri vodna i jedno trafo polje)

REFERENCE:

Do 2007. godine isporučeno je više od 2000 aparatura, koje su ugrađene u brojne trafostanice u Hrvatskoj i drugim zemljama.

Vacuum compact switchgear series VDA are highly reliable and available, as well as completely independent on environmental conditions.

Overall dimensions of VDA compact switchgear are considerably reduced in comparison with classic air insulated cubicles equipped with three-positional load break switches and HRC fuses.

Basic versions of VDA switchgear consist of two, three and four conducting feeders with vacuum load break switches, and one transformer feeder with vacuum circuit breaker for power transformer protection, or two conducting and two transformer feeders.

All live parts are placed into gas-insulated steel container. The container is filled with SF6 gas, which provides mutual insulation of current path elements, as well as insulation to the earth level potential. The arc quenching takes place in vacuum interrupters built both in circuit breaker and load break switches. SF6 gas is not used as arc-quenching medium, so the gas replacement has been eliminated. This feature provides complete environment acceptability of this product.

The traditional combination of load break switch and HRC fuses has been substituted with innovative solution: three-positional vacuum load break switches and vacuum circuit breaker controlled by microprocessor-based overcurrent relay for power transformer protection.

Besides the obligatory manual drive, ring main unit series VDA can be equipped with motor drive and set of releases for remote control of each device. There is possibility of complete automatization of distributive transformer substations, regarding various specific requirements for remote control and monitoring.

AVAILABLE CONFIGURATIONS OF SINGLE LINE DIAGRAMS:

VDA 24 - 2VT

(two ring main + one transformer feeder)

VDA 24 - 3VT

(three ring main + one transformer feeder)

VDA 24 - 2V2T

(two ring main + two transformer feeders)

VDA 24 - 4VT

(four ring main + one transformer feeder)

REFERENCE:

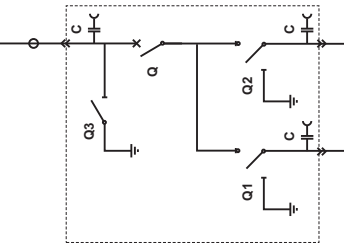
More than 2000 ring main units series VDA have been delivered and installed into transformer substations in Croatia and abroad.

MJERNE SKICE I JEDNOPOLNE SCHEME

2.1. VDA 24 - 2VT

2 vodna + 1 trafo polje

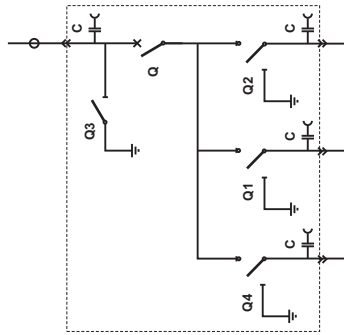
2 ring main feeders
+ 1 transformer feeder



2.2. VDA 24 - 3VT

3 vodna + 1 trafo polje

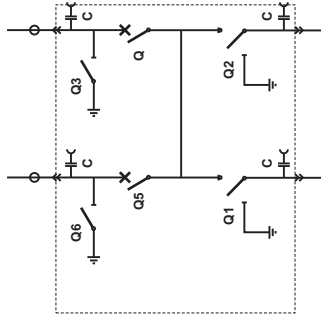
3 ring main feeders
+ 1 transformer feeder



2.3. VDA 24 - 2V2T

2 vodna + 2 trafo polja

2 ring main feeders
+ 2 transformer feeders



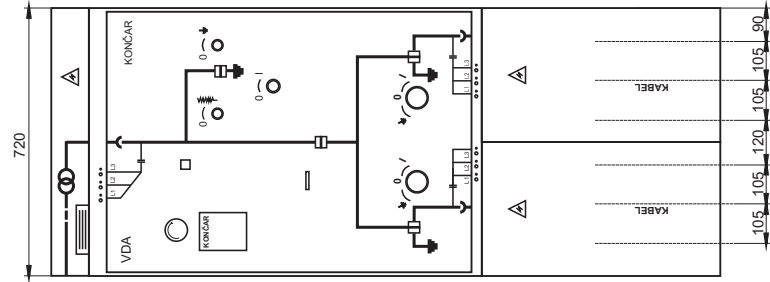
LEGENDA:

Q - Prekidač
Q5 - Prekidač
Q1 - Rastavna sklopka
Q2 - Rastavna sklopka
Q4 - Rastavna sklopka
Q3 - Zemljospojnik
Q6 - Zemljospojnik
C - Kapacitivni indikator napona

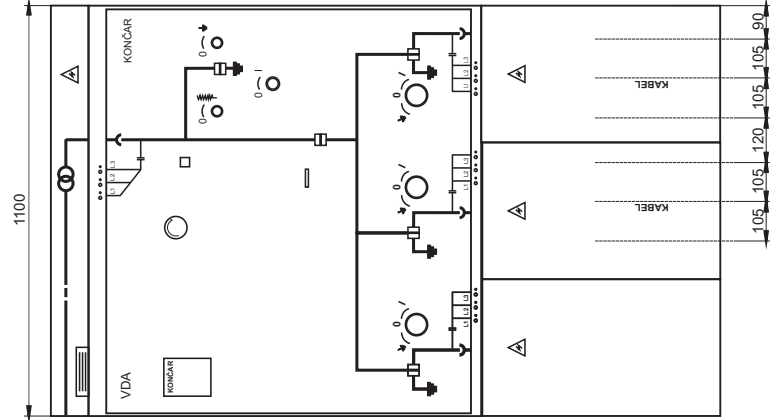
LEGENDA:

Q - Circuit breaker
Q5 - Circuit breaker
Q1 - Load break switch
Q2 - Load break switch
Q4 - Load break switch
Q3 - Earthing device
Q6 - Earthing device
C - Capacitive voltage indicator

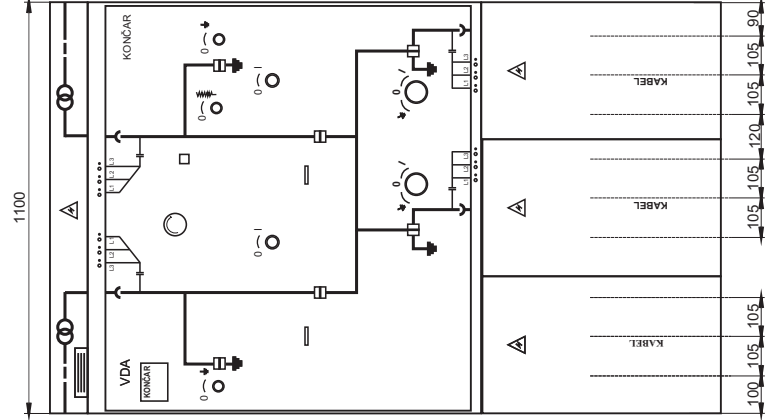
DIMENSIONAL DRAWINGS AND SINGLE LINE DIAGRAMS



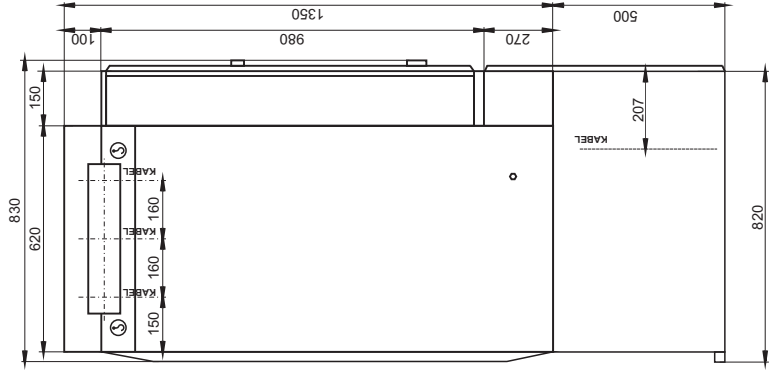
VDA24-2VT



VDA24-3VT



VDA24-2V2T



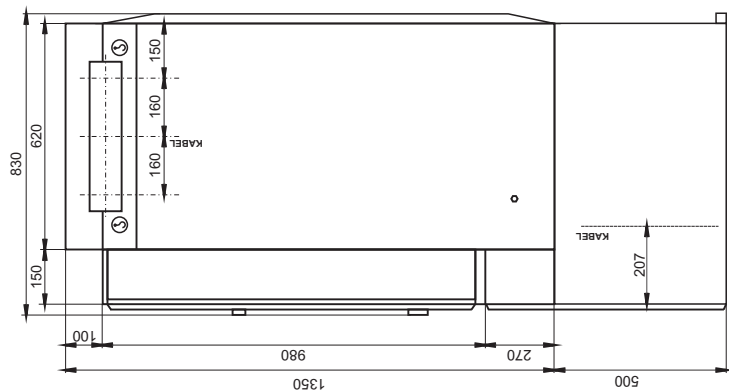
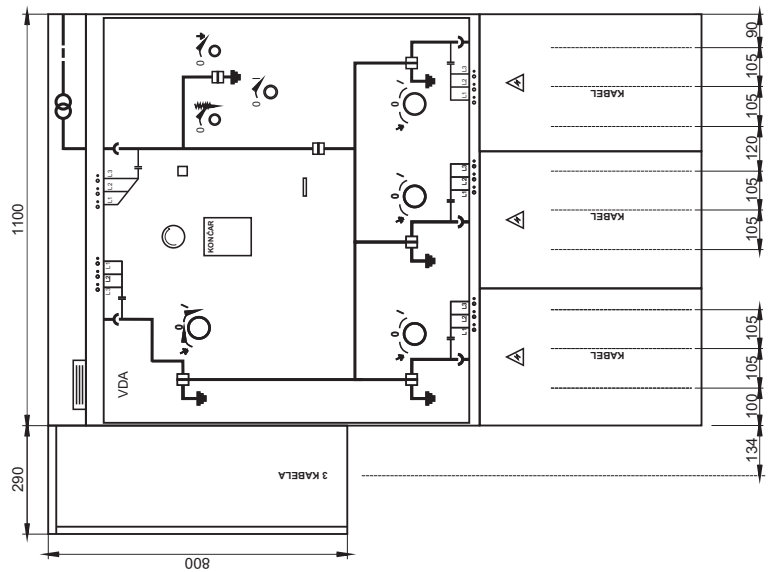
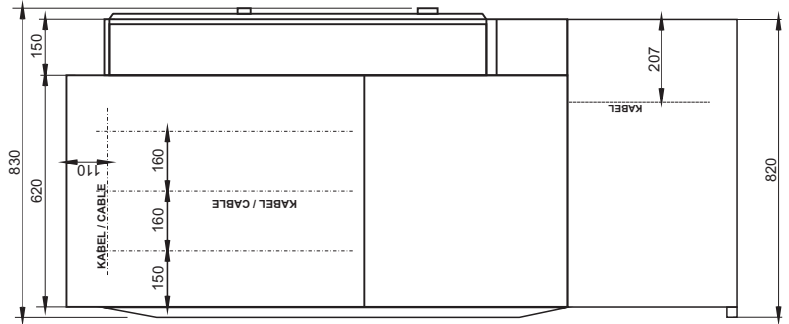
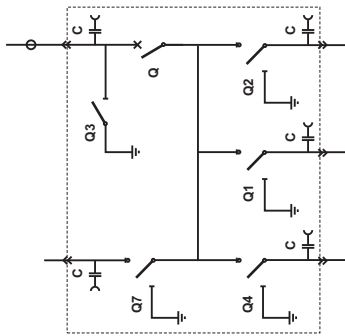
2.4. VDA 24 - 4VT

4 vodna + 1 trafo polje

4 ring main feeders
+ 1 transformer feeder

LEGENDA:

- | | | | |
|----|--------------------------------|----|--------------------------------|
| Q | - Prekidač | Q | - Circuit breaker |
| Q1 | - Rastavna sklopka | Q1 | - Load break switch |
| Q2 | - Rastavna sklopka | Q2 | - Load break switch |
| Q4 | - Rastavna sklopka | Q4 | - Load break switch |
| Q7 | - Rastavna sklopka | Q7 | - Load break switch |
| Q3 | - Zemljospojnik | Q3 | - Earthing device |
| C | - Kapacitivni indikator napona | C | - Capacitive voltage indicator |



VDA24-4VT

3. TEHNIČKE KARAKTERISTIKE

3. TECHNICAL CHARACTERISTICS

NAZIVNE KARAKTERISTIKE NOMINAL DATA		TROPOLOŽAJNA VAKUUMSKA RASTAVNA SKLOPKA THREE-POSITIONAL VACUUM LOAD BREAK SWITCH			VAKUUMSKI PREKIDAČ VACUUM CIRCUIT BREAKER		
Nazivni napon Rated voltage	kV	12	17,5	24	12	17,5	24
Podnosivi napon mrežne frekvencije 50Hz/1min. Rated power frequency withstand voltage 50Hz/1min.	kV	28	38	50	28	38	50
Podnosivi udarni napon Rated lightning impulse voltage	kV	75	95	125	75	95	125
Nazivna struja Rated current	A	630	630	630	630	630	630
Nazivna prekidna moć Rated breaking capacity	kA	0,63	0,63	0,63	20	16	16
Nazivna uklopna moć Rated making capacity	kA	50	40	40	50	40	40
Nazivna kratkotrajna podnosiva struja 1s. Rated short time withstand current 1 sec.	kA	20	16	16	20	16	16
Isklopno vrijeme (za kratki spoj) Switch-off time (short circuit)	ms	-	-	-	45	45	45

4. PODACI ZA NARUČIVANJE

Podaci se daju isključivo na upit. Molimo e-mailom ili telefaksom dostaviti osnovne podatke potrebne za definiranje proizvoda:

- Nazivni napon mreže
- Odabranu konfiguraciju (broj vodnih i broj trafo polja)
- Nazivne parametre energetskog transformatora
- Ostalo - navesti sve posebne zahtjeve, kao što je npr. ugradnja elemenata za daljinsko upravljanje (navesti sekundarni napon) i drugo.

Kontakt - Prodaja:

KONČAR - ELEKTRIČNI APARATI SREDNJEG
NAPONA d.d.

Borongajska bb, 10000 Zagreb

Tel. +385 1 23 34 867

Fax. +385 1 23 31 058

e-mail: prodaja@koncar-easn.hr

4. ORDERING DATA

Obligatory information is available on written request (e-mail or fax message). To help us define the product, please, list the following data:

- Rated voltage of distributive network
- Configuration (number of ring main and transformer feeders)
- Nominal parameters of power transformer
- Other special requests, e.g. remote control equipment or similar

Contact - Sales Dept:

KONČAR - MEDIUM VOLTAGE APPARATUS, Inc.

Borongajska bb, 10000 Zagreb

Tel. +385 1 23 34 867

Fax. +385 1 23 31 058

e-mail: prodaja@koncar-easn.hr

FOTO GALERIJA:

PHOTO GALLERY:



NAPOMENA:

*Svi podaci navedeni u ovom katalogu informacijskog su karaktera.
Proizvođač pridržava pravo izmjene.
Obvezujuće podatke i mjerne skice dajemo na zahtjev.*

NOTICE:

Technical characteristics, dimensional drawings and other relevant data are subject to change.

Obligatory data only on request.