

TECHNICAL SPECIFICATIONS FOR
400 KVA ELECTRICAL SUB - STATION

01) 400 KVA OIL IMMERSED TRANSFORMER: 1 NO

Three phase transformer ground mounted, oil immersed, with standard accessories, Indoor use, Designed manufactured and tested in accordance with NEMA/IEC/VDE/BS/BSS standard with 3 H.T Bushings and 4 L.T Bushings arranged on tank top, conservator, Oil level indicator, drain and filling valves, lifting lugs, bi-directional rollers, with first filling of oil in Transformer.

Technical Data :

| | |
|------------------------------|----------------------|
| Capacity | : 400 KVA |
| Voltage ratio at no load | : 11000/400/230 V |
| vector group | : DYN11 |
| Temperature rise | : 55 ° C |
| Insulation Oil | : 60 ° C |
| Rated voltage | : 11KV |
| BIL | : 75KV |
| Inter Phase connection | : Delta |
| Di-electric strength | : 28 KV(for 1 min). |
| winding Rated Voltage | : 415/230 KV |
| Star Natural | : Fully insulated |
| Dielectric strength | : 3 KV (for 1 min) |
| No load Loss (iron loss) | : 455 w |
| Full load loss (copper loss) | : 2525 w |
| Impedance voltage | : 4% |
| Wheels | : 1- set |

Routing Tests:-

Routine tests are carried out on each transformer before dispatching in our well equipped factory. Each transformer is issued with an official test certificate:

Origin: Silicon Steel Sheet (Core): EU

Copper Strip: MRS (BRB Group)

Transformer Oil: Hyrax, Malaysia,

Super Enameled Copper Wire: MRS (BRB Group) and

Assembled by Uniko Power Engineering Company Limited

(2)11KV HT SWITCH-GEAR WITH LBS:

Floor mounting indoor switch-gear with 630A hard drawn electrolytic copper bus-bars equipped with:

1 - No. 630A, 11 KV, 20KA, 350 MVA rated short time current, 50 Hz TP spring charged" stored energy mechanism triple pole LBS having automatic tripping mechanism whenever any of the fuses blow.

Origin: ABB- Italy.

2 - Nos. Cast resin insulated, double pole, Potential Transformer, ratio:

11/11 kV Class, 0.5, 50 VA, (in open delta connection)

Origin: SIEMENS, GERMANY

1 - No MCB of adequate rating for PT secondary protection

3 - Nos. Cast resin insulated, 11 KV dry type CT with ratio: 60/5/5A, for meter with suitable accuracy class & burden.

Origin: ABB- Italy.

3 - Nos. Ammeter, 0-30A

1 - No. Voltmeter, 0-15 KV, with selector switch.

3 - Nos. 63A HRC Fuses.

2- Nos. On and Off/TRIP Push Button

3 - Nos. Indicating Lamps ON & OFF/TRIP

1- No. Panel Heater.

ORIGIN:

ASSEMBLED BY : UNIKO POWER ENGINEERING COMPANY
LIMITED.

(3) LT SWITCH-GEAR: 1 SET:

Sheet steel fabricated,(18 SWG) floor mounting, tropical zed design, indoor type, for 3 phase, 4 wire, 50Hz, 380/415V AC system and shall be supplied complete with TP +N bitable size & properly insulated arrange to withstand & short current of 50 KA for 1 sec.

All MCCB and MCB units & panel boards shall fully comply regulations of the 15th edition IEE writing regulation for isolation & switching.

a) Incoming :

1 x 630A, 35 KA TP, breaking capacity molded case circuit breaker with thermal magnetic short circuit releases.

3 x Nos. Cast resin insulated. 440V dry type CT with ratio 500/5A with suitable accuracy and burden.

1 - No. Voltmeter, 0-500V, with selector switch.

3 - Nos. Phase Indicating Lamps

1 - No. Ammeter, 0-500A with selector switch

b) Outgoing:

1 × 400A, 25 KA, TP MCCB With adjustable thermal overload and magnetic short-circuit releases.

1 × 250A, 25 KA, TP MCCB With adjustable thermal overload and magnetic short-circuit releases.

ORIGIN: ALL ABOVE CIRCUIT BREAKER ARE OF ABB SACE (ITALY) ORIGIN OR HYUNDI (KOREA)

ASSEMBLED BY UNIKO POWER ENGINEERING COMPANY LIMITED.

(4) 240 KVAR PFI PLANT: 1 SET:

Automatic power factor improvement plant, 240 KVAR in 6 steps. Sheet steel fabricated, (18 SWG) floor mounting, tropicalized design, indoor type, low tension switch-gear for 3 phase. 4 wire, 50 Hz, 415V Ac system and shall be supplied complete with TP+N bus-bars suitably sized & properly insulated arrange to withstand & short current of 50 KA for 1 Sec. The boards are designed & constructed in accordance with BS54486/IEC439. The panel shall fully comply regulations of the 15th edition IEE wiring regulation for isolation & switching.

THE PANEL COMPRISING OF:

2 x 50 KVAR 415V, 50Hz, 3 phase, dry type, self healing compact PF capacitors bank with discharge resistor,
3 x 25 KVAR 415V, 50Hz, 3 phase, dry type, self healing compact PF capacitors bank with discharge resistor.
2 x 15 KVAR 415V, 50Hz, 3 phase, dry type, self healing compact PF capacitors bank with discharge resistor.
2 x 10 KVAR 415V, 50Hz, 3 phase, dry type, self healing compact PF capacitors bank with discharge resistor.
1 x 7.5 KVAR 415V, 50Hz, 3 phase, dry type, self healing compact PF capacitors bank with discharge resistor.
1 x 5 KVAR 415V, 50Hz, 3 phase, dry type, self healing compact PF capacitors bank with discharge resistor.
2 x 15 KVAR 415V, 50Hz, 3 phase, dry type, self healing compact PF capacitors bank with discharge resistor.

1-Automatic power factor correction with interlocking auxiliary.

1-Power factor measuring meter, 3-phase, 415V.

2 x 100 A triple phase air contractor for 50 KVAR capacitor.

3 x 50 A triple phase air contractor for 25 KVAR capacitor.

1 x 20 A triple phase air contractor for 10 KVAR capacitor.

1 - Power factor & regulator with digital built in PF meter.

1 - Set TPN bus-bars suitably sized.

1- Set of control fuses

3 - Indicating lamps

1- Auto selector switch

ORIGIN : All Above **CAPACITOR:** SHUZUKI, JAPAN

MAGNETIC CONTRACTOR : Donga (Korea). All MCB Hyundai (Korea)

ASSEMBLED BY **UNIKO POWER ENGINEERING COMPANY LIMITED.**

05) DROP-OUT FUSE: 1 SET:

| | |
|---------------------------------------|------|
| Rated voltage (Nominal) | 11KV |
| Rated maximum voltage | 15KV |
| Rated current (cont.) RMS | 100A |
| Rated fuse rating | 50A |
| Rated frequency | 50Hz |
| BIL | 75KV |
| Interrupt. current RMS | 10KA |
| Withstand test voltage (Dry 1 minute) | 35KV |
| Wet 10 sec | 30KV |

06) LIGHTNING ARRESTER: 1 SET:

| | |
|--------------------------------|-------------|
| Type | LA9 |
| Rated voltage | 11KV |
| Rated maximum voltage | 12KV |
| Rated arrested voltage | 9KV (rms) |
| Rated frequency | 50Hz |
| Maximum spark over | 14KV (rms) |
| Maximum spark over | 40KV (rms) |
| Maximum impulse spark (create) | 45KV (peak) |
| Withstand test voltage | |
| Power frequency Dry 1 minute | 28KV |
| Power frequency Wet 10 sec | 24KV |
| Discharge 33KV (create) | 14KA |
| Impulse current withstand | 14KA |

ORIGIN: ALL ABOVE COMPONENT ARE OF PAKISTAN & U.K ORIGIN AND ASSEMBLED BY UNIKO POWER ENGINEERING COMPANY LIMITED.

WARRANTY CERTIFICATE

We stand warranty for trouble free operation of our supplied equipment and we undertake warranty for free replacement of any parts failing due to manufacturing defects, which shall Not Normal operational wear and tear, for a period of Transformer 30 (Thirty) months, LT switchgear and PFI plant 12 (Twelve) months from the date of delivery.

Thanking you,
Yours faithfully

For,
Uniko Power Engineering Company Limited.