

4. TEST REPORT

Kind of Testing

Date

1. Routine Test

19.05.2005

429818

2. Routine Test

19.05.2005

429819

| TEST-REPORT | | s.-no. : 429 818 | |
|----------------------|-----------------------|------------------|--|
| type : DOTP 250 H/10 | year of manuf. : 2005 | | |
| test st. : IEC 60076 | | | |

execution
 Oil-earthing-Transformer
 Corrosion protection: painted
 Earth fault capacity: 400 kVA ; Cont.
 Neutral loading current: 110 A

| | | | | | |
|---------------------------------|-------------|----------------|-----------------------|-----------|--------------|
| rat.pow.: 400.0kVA | freq.: 50Hz | impedanc.volt: | typ: SpB | duty : DB | Um(kV) : 7.2 |
| rat. volt.[V]: 6300 | | | vector gr. : ZN | | |
| | | | prot.syst. : IP54 | | |
| | | | ins. cl : A | | |
| rat. curr.[A]: 110 | | | cooling : ONAN | | |
| | | | short cir.curr | | |
| | | | short ci.durat | | |
| voltage taps : ohne Anzapfungen | | | oil type : Nytro 3000 | | |
| | | | oil weight : 0.210t | | |
| | | | total weight : 0.850t | | |

measured data/guaranteed data
 Po [W] : 410
 PL [W] :
 Po + PL [W]: 410
 ez [%] :
 Lpa[dB(A)] :
 Lwa [dB] :

| No-load measurement at tap l.v. 6300 V and 50.00 Hz | | | | | | | | | | | |
|---|---------|---|------|---------|---|--------|------------|---------|---|---|-------|
| phase | reading | C | V | reading | C | A | amps.averg | reading | Σ | C | watts |
| 1U-1V | | | 6298 | | | 0.1575 | | | | | |
| 1V-1W | | | 6298 | | | 0.1310 | 0.1379 | | | | |
| 1W-1U | | | 6326 | | | 0.1252 | lo 0.376% | | | | 410 |

| Short-circuit measurement | | | | | | | | | | | |
|---------------------------|---------|---|---|---------|---|---|------------|---------|---|---|-------|
| phase | reading | C | V | reading | C | A | amps.averg | reading | Σ | C | watts |
| | | | | | | | | | | | |

| phase | reading | C | V | reading | C | A | amps.averg | reading | Σ | C | watts |
|-------|---------|---|---|---------|---|---|------------|---------|---|---|-------|
| | | | | | | | | | | | |

| PL in watts PL in watts | | | | | | | | | | | |
|---------------------------|------|--------|------|------|------|------|-------|------|--------|------|------|
| at 21.6 °C | Pz W | ΣI²R W | PL W | ez % | er % | ex % | at °C | Pz W | ΣI²R W | PL W | ez % |
| | | | | | | | | | | | |

| Resistance measurement at 21.6 °C (measuring values [Ω]) | | | | | | | | | | | |
|--|-------|-------|-------|--|--|--|--|--|--|-------------|--|
| tap volt. V | 1U-1V | 1V-1W | 1W-1U | | | | | | | tap volt. V | |
| 6300.0 | 2.640 | 2.635 | 2.644 | | | | | | | | |

| Check of voltage ratio and vector group (error [%]) | | | | | | | | | | | |
|---|--|--|--|--|--|--|--|--|--|--|--|
| tap V | | | | | | | | | | | |
| Rated ratio | | | | | | | | | | | |
| | | | | | | | | | | | |

| Dielectric tests | | | | | | | | | | | |
|-------------------|--|--|--|------|------|-----|---------------------|--|--|--|--|
| withstand voltage | | | | kV | Hz | min | induced overvoltage | | | | |
| h.v./l.v. core | | | | 20.0 | 50.0 | 1 | | | | | |
| low voltage | | | | | | | low voltage | | | | |
| | | | | | | | | | | | |

Additional tests

NOTES

At the time of shipment, the PCB-content of the oil
 is below 1 ppm acc. to DIN 51527.
 Halogenated hydrocarbons are not detectable.

Z = 3.155Ω/phase at 110A

| | | | |
|--|-------------------------|-------------------------|----------------|
| Win P450020500 | ENGL 40°C | | |
| Date of execute 19.05.2005 | Date of test 19.05.2005 | qualt. control Bochmann | qualt. control |
| SÄCHSISCH-BAYERISCHE STARKSTROM-GERÄTEBAU Ohmstr. 01, 08492 Neumark/Sachsen | | | |

| TEST-REPORT | | s.-no. : 429 819 | |
|----------------------|-----------------------|------------------|--|
| type : DOTP 250 H/10 | year of manuf. : 2005 | | |
| test st. : IEC 60076 | | | |

execution

Oil-earthing-Transformer
Corrosion protection: painted
Earth fault capacity: 400 kVA ; Cont.
Neutral loading current: 110 A

| | | | | | |
|---------------------------------|-------------|----------------|-----------------------|-----------|--------------|
| rat.pow.: 400.0kVA | freq.: 50Hz | impedanc.volt: | typ: SpB | duty : DB | Um(kV) : 7.2 |
| rat. volt.[V]: 6300/ | | | vector gr. : ZN | | |
| | | | prot.syst. : IP54 | | |
| | | | ins. cl : A | | |
| rat. curr.[A]: 110/ | | | cooling : ONAN | | |
| | | | short cir.curr | | |
| | | | short ci.durat | | |
| voltage taps : ohne Anzapfungen | | | oil type : Nytro 3000 | | |
| | | | oil weight : 0.210t | | |
| | | | total weight : 0.850t | | |

measured data/guaranteed data
Po [W] : 414
PL [W] :
Po + PL [W]: 414
ez [%] :
Lpa[dB(A)] :
Lwa [dB] :

No-load measurement at tap l.v. 6300 V and 50.00 Hz

| phase | reading | C | V | reading | C | A | amps.averg | reading | Σ | C | watts |
|-------|---------|---|------|---------|---|--------|------------|---------|---|---|-------|
| 1U-1V | | | 6285 | | | 0.1626 | | | | | |
| 1V-1W | | | 6283 | | | 0.1327 | 0.1416 | | | | |
| 1W-1U | | | 6310 | | | 0.1296 | lo 0.386% | | | | 414 |

Short-circuit measurement

| phase | reading | C | V | reading | C | A | amps.averg | reading | Σ | C | watts |
|-------|---------|---|---|---------|---|---|------------|---------|---|---|-------|
| | | | | | | | | | | | |

| phase | reading | C | V | reading | C | A | amps.averg | reading | Σ | C | watts |
|-------|---------|---|---|---------|---|---|------------|---------|---|---|-------|
| | | | | | | | | | | | |

PL in watts | PL in watts |

| at | 22.0 °C | Pz W | ΣI²R W | PL W | ez % | er % | ex % | at | °C | Pz W | ΣI²R W | PL W | ez % | er % | ex % |
|----|---------|------|--------|------|------|------|------|----|----|------|--------|------|------|------|------|
| | | | | | | | | | | | | | | | |

Resistance measurement at 22.0 °C (measuring values [Ω])

| tap volt. V | 1U-1V | 1V-1W | 1W-1U | tap volt. V |
|-------------|-------|-------|-------|-------------|
| 6300.0 | 2.662 | 2.660 | 2.638 | |

Check of voltage ratio and vector group (error [%])

| tap V | | | | | | | | | | | |
|-------------|--|--|--|--|--|--|--|--|--|--|--|
| Rated ratio | | | | | | | | | | | |

Dielectric tests

| withstand voltage | kV | Hz | min | induced overvoltage | kV | Hz | sec |
|-------------------|------|------|-----|---------------------|--------|-----|------|
| h.v./l.v. core | 20.0 | 50.0 | 1 | | | | |
| low voltage | | | | low voltage | 12.600 | 125 | 48.0 |

Additional tests

NOTES

At the time of shipment, the PCB-content of the oil is below 1 ppm acc. to DIN 51527.
Halogenated hydrocarbons are not detectable.

Z = 3.155Ω/phase at 110A

Win P450020500

ENGL 40°C

| | | | | |
|-------------------------------|----------------------------|----------------------------|----------------|--|
| Date of execute 19.05.2005 | Date of test 19.05.2005 | qualt. control Bochmann | qualt. control | SÄCHSISCH-BAYERISCHE STARKSTROM-GERÄTEBAU Ohmstr. 01, 08492 Neumark/Sachsen |
|-------------------------------|----------------------------|----------------------------|----------------|--|