GAS INSULATED INSTRUMENT TRANSFORMERS FOR GIS SWITCHGEARS
This document may be subject to changes. Contact ARTECHE to confirm the characteristics and availability of the products described here.
CONTENTS

1. Presentation | 5
2. Manufacturing | 6
3. Features | 8
4. Accessories | 8
5. Range y diagrams | 9
6. Quality and Environment | 11
7. Service | 11
We have installed transformers in over 150 countries.
1. PRESENTATION

Arteche Gas Insulated Instrument Transformers (AGIT) born with the aim to become the reference as independent manufacturer in SF₆ gas insulated voltage and current transformers’ market, for Gas Insulated Switchgears.

The production plant is located in Vitoria-Gasteiz, in northern Spain with good logistics communications to provide close support and ensuring short delivery times, improving the competitiveness of our customers.

Arteche Gas Insulated Instrument Transformers (AGIT) was born as a joint venture between ARTECHE GROUP and NISSIN ELECTRIC CO, although it currently belongs to Arteche Group. AGIT has extensive worldwide experience in the Instrument Transformers field with the purpose of becoming a trustworthy partner for all European GIS substation manufacturer.

In Arteche Gas Insulated Instrument Transformers (AGIT) we share a vision of future for our projects. Innovation is our key to find more efficient solutions through most advanced technologies and resources, which will further strengthen our position in the market, being able to successfully face the challenges in a sector in continuous evolution.
2. MANUFACTURING OF VTs

There are two types of gas insulated VTs: one is single-phase type, the other is three phase type.

A three-phase Gas-VT consists of three units of single-phase VT which are enclosed in a tank. Both type Gas-VTs are connected to GIS through an insulator.

**WINDING**

Heat-resisting electric wires with synthetic resin coating and plastic film with high dielectric strength, high mechanical performance and moisture free are used.

Insulation medium between winding layers is SF₆ gas and plastic film.

Iron cores are made of silicon steel plates.

**FILLING VALVE FOR SF₆ GAS**

A filling valve for SF₆ gas is provided on a side of the tank.

Gas runs between Gas-VT and GIS through this valve in operation. Therefore, monitoring devices for gas leakage and gas pressure are not provided generally on a Gas-VT itself.

**TERMINAL BOX**

A terminal box is provided on a side of the tank.

A low voltage terminal of primary windings and secondary terminals of secondary windings are brought out in this terminal box through SF₆ gas seal tightness bushings.

Through its production plant based in Spain, Arteche Gas Insulated Instrument Transformers (AGIT) offers in Europe the leading technology in the Asian market.
High and steady accuracy, combined with safe design and maximum reliability.
3. FEATURES

› Convenient and easy for GIS designing. Gas insulated voltage transformers (Gas-VTs) are designed to be light and compact and furthermore can be connected to GIS in horizontal, vertical or inverted position.
› Safety. No oil is used as an insulation medium. Therefore, our Gas transformers are appropriate for indoor use in safety conditions.
› High-reliability of insulation. A superior distribution of electric field in primary windings ensures high-reliability against incoming surge voltage.
› Line trapped charge discharging. Line charge, which is trapped after opening the line circuit breaker of a long transmission line or power cable, is discharged through VTs, if either is connected to the power line or cable.
› Easy for maintenance. SF₆ gas is used as insulation medium like GIS. Thus, its maintenance is easy. Main components are enclosed in SF₆ gas and hermetically sealed. Thus no maintenance is required for them.

4. ACCESSORIES

Voltage transformers include usually the following accessories:

› Terminal box (1 piece)
› Secondary (Tertiary) terminal block (1 set)
› Earth terminal (1 piece)
› Nameplate (1 piece)
› Inlet valve for gas (1 piece)
› Lifting lugs (1 set)
5. RANGE AND DIAGRAMS

Arteche Gas Insulated Instrument Transformers (AGIT) can manufacture to comply with any national or international standard. All kinds of burdens and accuracy classes can be met.

VOLTAGE TRANSFORMERS FOR GIS

Single phase

<table>
<thead>
<tr>
<th>Model</th>
<th>Highest system voltage (kV)</th>
<th>Rated primary voltage (kV)</th>
<th>Power frequency withstand voltage (kV)</th>
<th>Lightning impulse withstand voltage (kV)</th>
<th>Switching impulse withstand voltage (kV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SVR-6</td>
<td>72.5</td>
<td>66√3/3</td>
<td>140</td>
<td>325</td>
<td>-</td>
</tr>
<tr>
<td>SVR-10</td>
<td>123</td>
<td>110√3/3</td>
<td>230</td>
<td>550</td>
<td>-</td>
</tr>
<tr>
<td>SVR-12</td>
<td>145</td>
<td>132√3/3</td>
<td>275</td>
<td>650</td>
<td>-</td>
</tr>
<tr>
<td>SVR-14</td>
<td>170</td>
<td>154√3/3</td>
<td>325</td>
<td>750</td>
<td>-</td>
</tr>
<tr>
<td>SVR-20</td>
<td>245</td>
<td>220√3/3</td>
<td>460</td>
<td>1,050</td>
<td>-</td>
</tr>
<tr>
<td>SVR-25</td>
<td>300</td>
<td>275√3/3</td>
<td>460</td>
<td>1,050</td>
<td>850</td>
</tr>
<tr>
<td>SVR-34</td>
<td>362</td>
<td>345√3/3</td>
<td>510</td>
<td>1,175</td>
<td>950</td>
</tr>
<tr>
<td>SVR-38</td>
<td>420</td>
<td>380√3/3</td>
<td>630</td>
<td>1,425</td>
<td>1,050</td>
</tr>
<tr>
<td>SVR-50</td>
<td>550</td>
<td>500√3/3</td>
<td>680</td>
<td>1,550</td>
<td>1,175</td>
</tr>
<tr>
<td>SVR-80</td>
<td>800</td>
<td>735√3/3</td>
<td>975</td>
<td>2,100</td>
<td>1,550</td>
</tr>
</tbody>
</table>

Data subject to change without notice.

Three phase

<table>
<thead>
<tr>
<th>Model</th>
<th>Highest system voltage (kV)</th>
<th>Rated primary voltage (kV)</th>
<th>Power frequency withstand voltage (kV)</th>
<th>Lightning impulse withstand voltage (kV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SVTR-6</td>
<td>72.5</td>
<td>66√3/3</td>
<td>140</td>
<td>325</td>
</tr>
<tr>
<td>SVTR-10</td>
<td>123</td>
<td>110√3/3</td>
<td>230</td>
<td>550</td>
</tr>
<tr>
<td>SVTR-12</td>
<td>145</td>
<td>132√3/3</td>
<td>275</td>
<td>650</td>
</tr>
<tr>
<td>SVTR-14</td>
<td>170</td>
<td>154√3/3</td>
<td>325</td>
<td>750</td>
</tr>
</tbody>
</table>

Data subject to change without notice.

CURRENT TRANSFORMERS FOR GIS

Single phase

<table>
<thead>
<tr>
<th>Model</th>
<th>Highest system voltage (kV)</th>
<th>Power frequency withstand voltage (kV)</th>
<th>Lightning impulse withstand voltage (kV)</th>
<th>Switching impulse withstand voltage (kV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CET-145</td>
<td>145</td>
<td>275</td>
<td>650</td>
<td>-</td>
</tr>
</tbody>
</table>

Data subject to change without notice.
6. QUALITY & ENVIRONMENT

Everyone in Arteche Gas Insulated Instrument Transformers (AGIT) is committed to our environmental and quality policy.

A sum of regulated procedures based on communication, teamwork, prevention analysis and continuous improvement, common to the whole organization.

› Advanced sustainability criteria in production and in the creation and development of new products.
› Compact designs, manufactured with minimal energy consumption and enviromental-friendly materials.
› Internal and external skill motivation programs.
› Advanced development of knowledge management.
› Quality agreements with utilities.
› Electrical laboratories for testing of products and components according to international standards.
› Type test reports issued by independent laboratories.
› Final testing according to specific customer requirements.

› Routine test at Arteche’s laboratory.
› Independent laboratory tests.
7. SERVICE

› Our service is based on a close relationship with the customers, reflected in the integrated post-sale assistance plan and structured client opinion system.

› In addition to ensuring rapid response, Arteche Gas Insulated Instrument Transformers (AGIT) developed a continuous service improvement plan, which sustains an extensive training program with courses, publications, conferences, etc.

› As a part of the ARTECHE Group and NISSIN ELECTRIC, we are an active participant in the electrical organizations such as: IEC, IEEE, CIGRE, CIRED, ASINEL, etc.

› From its leadership in the asian market, Arteche Gas Insulated Instrument Transformers (AGIT) has technical offices throughout Europe. To provide effective responses to the requirements of any customer and situation, based on the global knowledge acquired.

Exceeding environmental regulations, Arteche Gas Insulated Instrument Transformers (AGIT) has been able to minimize the use of hazardous materials, energy consumption and waste generation.

The solutions Arteche Gas Insulated Instrument Transformers (AGIT) has developed and expanded have made us an active participant in the most important electrical events and organizations.