

TYPE VAP COMBINED TRANSFORMER

72,5 to 550 kV

Performance

- In: up to 6000 A
- Short circuit: up to 100 kA (I_{dyn}: 250 kA peak)
- Secondary cores: up to 10
- Secondary windings: up to 6
- All metering and protection classes

CURRENT TRANSFORMER

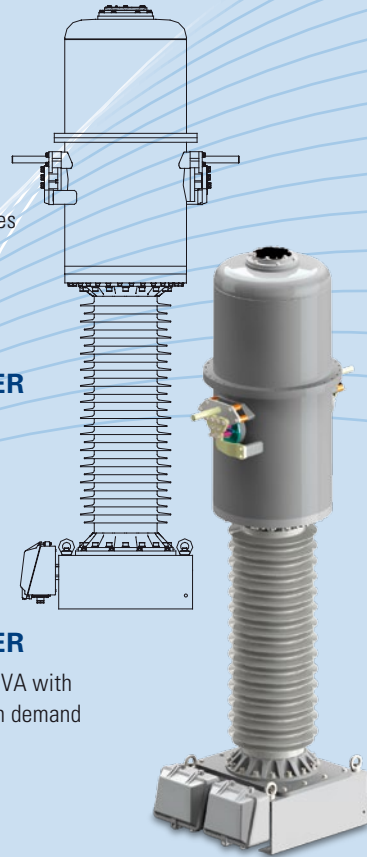
- Top core design - ensuring low primary winding losses
- Primary and/or secondary transformation ratio selection
- Low leakage reactance

VOLTAGE TRANSFORMER

- High thermal burden - up to 2500 VA with standard design, higher ratings on demand
- High voltage winding designed for optimal performance

Standard Dimensions

Type	Maximum System Voltage	Total Height	Total Weight	SF ₆ Weight	Base Mounting	Minimal Creepage Distance
	kV	mm	kg	kg	mm	mm
VAP-72,5	72,5	2500	410	10	500 x 500	1815
VAP-123	123	2700	420	10	500 x 500	3075
VAP-145	145	2900	440	11	500 x 500	3625
VAP-170	170	3200	490	13	500 x 500	4250
VAP-245	245	4650	970	30	650 x 650	6125
VAP-300	300	4850	1020	35	650 x 650	7500
VAP-362	362	5600	1350	55	750 x 750	9050
VAP-420	420	6550	1670	70	900 x 900	10500
VAP-550	550	7500	1900	85	900 x 900	13750



Application

The combined instrument transformer essentially consists of two measuring units: the inductive voltage transformer and the current transformer.

Combined instrument transformers are used to step-down current and voltage to defined values, and thus provide standardized, useable levels of current and voltage in a variety of metering, protection and automation applications while insulating the measurement and protection equipment from high system voltage.

Main Features

- High-precision measurement accuracy and protection classes with superior transient response
- Maintaining of designated accuracy class during entire transformer lifetime
- Insulating medium - non-toxic, inert and non-flammable SF₆ gas
- Internal shields provide an optimal axial electric field distribution
- Explosion proof design ensured by means of a rupture disc
- Low SF₆ leakage rate of less than 0,5% per year
- Standard ambient temperatures from -35 to +40 °C (extreme ranges upon request)
- High quality composite (silicone shed) or porcelain insulator
- Extensive experience with seismically demanding design
- Non-corrosive hardware
- Maintenance free
- Space and cost savings

Accessories

- Densimeter for gas pressure monitoring
- Reliable internal overpressure indicator as an online monitoring system (optional)
- Fuses or micro circuit breakers (MCB) for secondary winding protection (optional)
- Revenue metering secondary terminals can be sealed separately
- Transport shock indicators (optional)

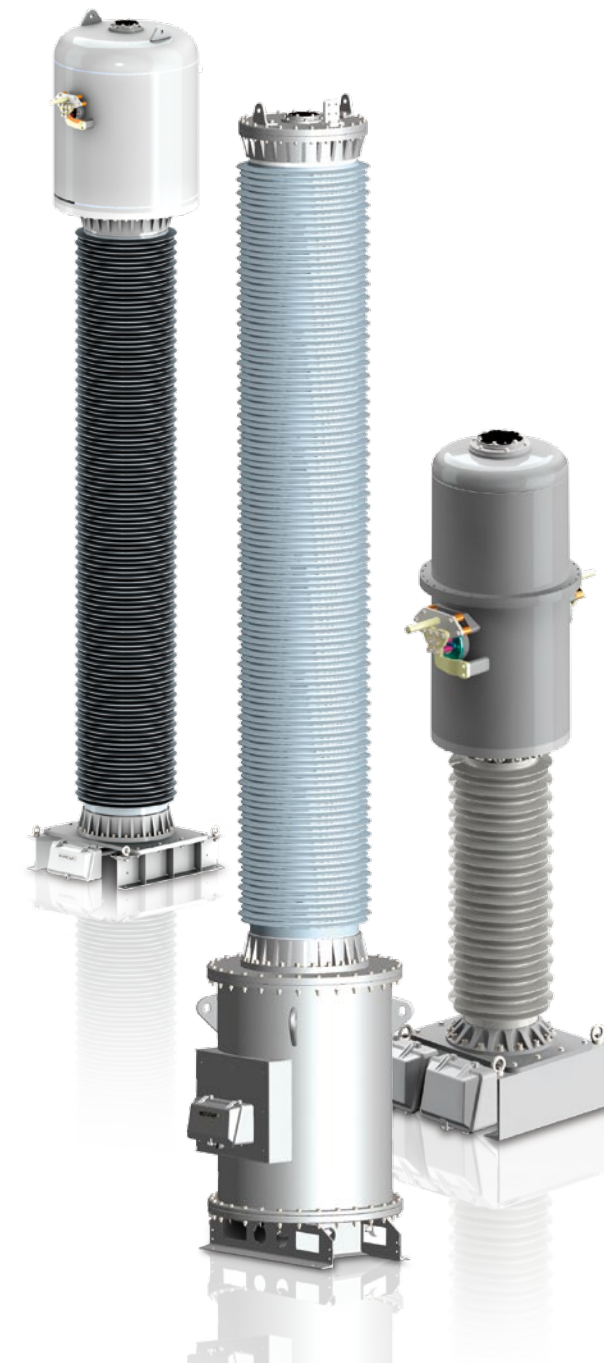
The given indicative values refer to our standard composite insulator versions and vary depending on electrical, mechanical and environmental parameters specified in the customers' inquiry. The values are susceptible to change in the course of technical developments.

TRADITION - MANUFACTURING INSTRUMENT TRANSFORMERS SINCE 1947

FLEXIBLE DESIGN - READINESS AND WILLINGNESS TO COMPLY WITH CUSTOMER REQUIREMENTS

LONGEVITY AND RELIABILITY - DESIGNED FOR AT LEAST 50 YEARS OF SERVICE LIFE

High Voltage SF₆ INSULATED INSTRUMENT TRANSFORMERS for Outdoor Installation



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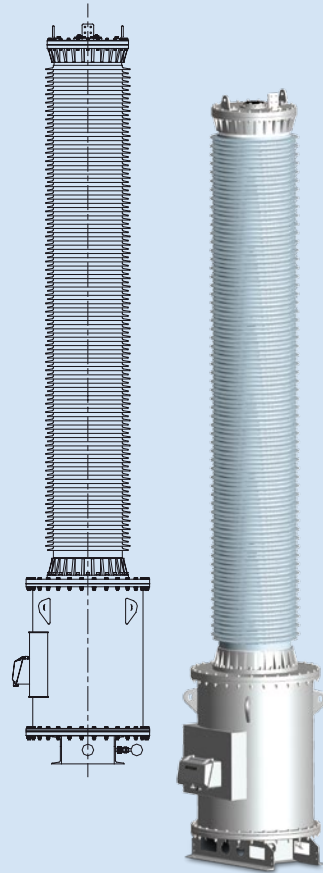
Končar - Instrument Transformers Inc.

TYPE VPP VOLTAGE TRANSFORMER

72,5 to 550 kV

DESIGN

Our SF₆ insulated instrument transformers are designed to fit our customers' needs and requests, which makes them a tailor-made product from design stage onwards. Modern design methods including Finite Element Analysis are incorporated into the design process to ensure swift and accurate calculation of design parameters and an immediate in-house development, when needed. The same philosophy is extended into every production stage. Quality materials, such as steel and light alloys, as well as high strength composite or porcelain insulators are used, while all in-factory processes are thoroughly controlled and transformers are subdued to several interphase checks before reaching final routine testing.



Standard Dimensions

Type	Maximum System Voltage	Total Height	Total Weight	SF ₆ Weight	Base Mounting	Minimal Creepage Distance
	kV	mm	kg	kg	mm	mm
VPP-72,5	72,5	2170	245	5	500 x 500	1815
VPP-123	123	2370	260	6,5	500 x 500	3075
VPP-145	145	2570	290	7	500 x 500	3625
VPP-170	170	2670	350	8,5	500 x 500	4250
VPP-245	245	3750	715	20	500 x 500	6125
VPP-300	300	3900	745	22	500 x 500	7500
VPP-362	362	4750	930	30	700 x 700	9050
VPP-420	420	5400	1050	40	700 x 700	10500
VPP-550	550	6400	1450	60	700 x 700	13750

Application

Voltage transformers are used to step-down high voltage to defined values, and thus provide standardized, useable levels of voltage in a variety of metering, protection and automation applications while insulating the measurement and protection equipment from high system voltage.

Main Features & Performance

- Up to 6 secondary windings
- High-precision measurement accuracy and protection classes with superior transient response
- Maintaining of designated accuracy class during entire transformer lifetime
- Insulating medium - non-toxic, inert and non-flammable SF₆ gas
- High voltage winding designed for optimal performance
- Internal shields provide an optimal axial electric field distribution
- Explosion proof design ensured by means of a rupture disc
- Low SF₆ leakage rate of less than 0,5% per year
- High thermal burden - up to 2500 VA in standard design, higher ratings possible
- Standard ambient temperatures from -35 to +40 °C (extreme temperature ranges upon request)
- High quality composite (silicone shed) or porcelain insulator
- Extensive experience with seismically demanding design
- Non-corrosive hardware
- Maintenance free

Accessories

- Densimeter for gas pressure monitoring
- Reliable internal overpressure indicator as an online monitoring system (optional)
- Fuses or micro circuit breakers (MCB) for secondary winding protection (optional)
- Revenue metering secondary terminals can be sealed separately
- Transport shock indicators (optional)

The given indicative values refer to our standard composite insulator versions and vary depending on electrical, mechanical and environmental parameters specified in the customers' inquiry. The values are susceptible to change in the course of technical developments.

Quality Assurance

Končar instrument transformers are designed in compliance with IEC, ANSI/IEEE, GOST, AS, IS, CAN/CSA, or any other relevant standard.

Product quality is assured through a certified quality standard, the ISO 9001, covering all aspects of design, production and testing.

Končar - Instrument transformers Inc. is ISO 14001 and OHSAS 18001 certified, ensuring environmental and occupational health standards are met.

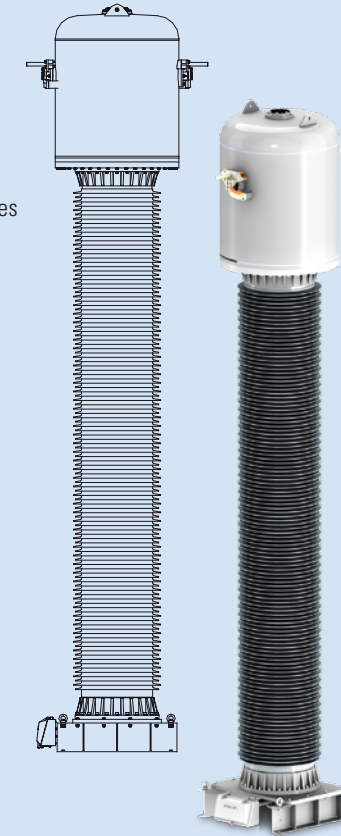
And most importantly, our tireless ambition to satisfy customers has sealed long lasting quality and reliability onto our product.

TYPE AGP CURRENT TRANSFORMER

72,5 to 800 kV

Performance

- I_n: up to 6000 A
- Short circuit: up to 100 kA (I_{dyn}: 250 kA peak)
- Secondary cores: up to 10
- All metering and protection classes



Standard Dimensions

Type	Maximum System Voltage	Total Height	Terminal Height	Total Weight	SF ₆ Weight	Base Mounting	Minimal Creepage Distance
	kV	mm	mm	kg	kg	mm	mm
AGP-72,5	72,5	2050	1815	290	5,5	500 x 500	1815
AGP-123	123	2250	2015	310	6,5	500 x 500	3075
AGP-145	145	2450	2215	340	7,5	500 x 500	3625
AGP-170	170	2550	2315	360	9	500 x 500	4250
AGP-245	245	3200	2800	590	10	650 x 650	6125
AGP-300	300	3400	3000	630	12	650 x 650	7500
AGP-362	362	4600	4250	910	25	750 x 750	9050
AGP-420	420	5450	4750	1170	50	900x900	10500
AGP-550	550	6250	5630	1290	60	900x900	13750
AGP-800	800	8500	7900	1850	110	900x900	20000

The given indicative values refer to our standard composite insulator versions and vary depending on electrical, mechanical and environmental parameters specified in the customers' inquiry. The values are susceptible to change in the course of technical developments.

Application

Current instrument transformers are used to step-down current to defined values, and thus provide standardized, useable levels of current in a variety of metering, protection and automation applications while insulating the measurement and protection equipment from high system voltage.

Main Features

- Top core design - ensuring low primary winding losses
- Primary and/or secondary transformation ratio selection
- Low leakage reactance
- Insulating medium - non-toxic, inert and non-flammable SF₆ gas
- Internal shields provide an optimal axial electric field distribution
- Explosion proof design ensured by means of a rupture disc
- Low SF₆ leakage rate of less than 0,5% per year
- Standard ambient temperatures from -35 to +40 °C (extreme ranges upon request)
- High quality composite (silicone shed) or porcelain insulator
- Extensive experience with seismically demanding design
- Non-corrosive hardware
- Maintenance free

Accessories

- Densimeter for gas pressure monitoring
- Reliable internal overpressure indicator as an online monitoring system (optional)
- Revenue metering secondary terminals can be sealed separately
- Transport shock indicators (optional)