



DT1-72.5 and DT1-123/145

for 72.5 kV to 145 kV



Dead Tank DT1-145 kV

The operating experience that AREVA T&D has accumulated — based on more than 60,000 circuit breakers with spring operating mechanisms — is what distinguishes ongoing circuit breaker development and what positions AREVA T&D as the world leader in this field.

SF6 circuit breakers from AREVA T&D are in service throughout the world and demonstrate a high level of reliability on a daily basis. Even under extreme conditions such as those that prevail in areas with high seismic activity or in the tropical regions of the world, our customers can count on AREVA T&D circuit breakers. The field data and experience acquired with live tank circuit breakers was utilized in developing the dead tank circuit breaker.

The DT1 has a horizontal interrupter chamber and is therefore also suitable for installation beneath existing low-lying busbars. The interrupter assembly is located in an SF6-insulated and grounded housing. These breakers can also be used for refurbishment purposes, especially in indoor installations where the overall height allowance is limited.

TESTING

AREVA T&D circuit breakers meet the requirements of national and international standards. This has been confirmed by comprehensive type tests based on the latest versions of IEC and ANSI standards.

QUALITY

An ISO 9001:2000-certified quality management system and ISO 14001-certified environmental management govern the entire development and production process for high voltage circuit breakers and guarantee a high-quality product as well as compliance with the rated values obtained in type tests.

Customer Benefits

- Low overall height. Ideal for situations with limited height allowance
- Integrated current transformer – Reduced space requirements
- Third-generation interrupter chamber
- Type FK3 spring operating mechanism
- Easy accessibility to all components



Dead Tank DT1-72.5 kV

Dead Tank DT1-123 kV



Dead Tank DT1

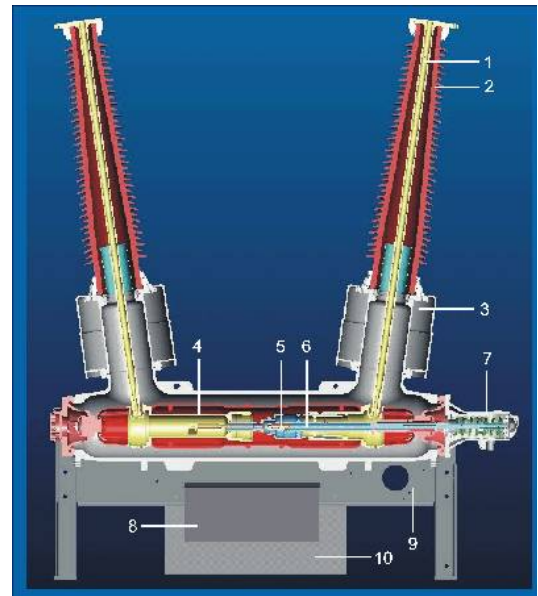
DESIGN AND OPERATION

Dead tank breakers offer the possibility of integrating up to 6 toroidal core current transformers per phase and are therefore classed as compact switchgear. This means that it is not necessary to install separate CTs in the bay. With a DT1 dead tank breaker, you can save space and achieve compactness.

- > High-voltage terminals can be replaced without opening the gas compartment
- > Suitable for ambient temperatures to -50°C
- > Shipped completely assembled on low-bed vehicles within Europe

CHARACTERISTICS

- > Third-generation interrupter chamber, with the same quenching geometry as in the field-proven interrupter assembly, guarantees switching reliability and safety
- > Pressure relief system for passive protection of station and personnel
- > Field-proven temperature-compensated density meter with two-step sensor and three-color scale
- > Toroidal core CT can be replaced without removing bushing (possible in standard models)
- > Hot-dip-galvanized steel parts
- > Pre-set at factory before shipping and therefore no adjustments necessary during installation and commissioning



- 1 = inner conduction
- 2 = bushing
- 3 = compartment for current transformer
- 4 = fixed contact
- 5 = moving interrupter unit
- 6 = support system for interrupter unit
- 7 = crankcase
- 8 = current transformer terminal cabinet
- 9 = base frame
- 10 = mechanism and control cabinet



Dead Tank DT1-145 kV

FK3 SPRING OPERATING MECHANISM

Advanced circuit breaker technologies require reliable mechanism designs. The series of type FK3 spring operating mechanisms forms the basis for all AREVA T&D circuit breakers.

The introduction of energy-optimized interrupter chambers reduces opening energy requirements.

The FK3 in particular, with its optimally adjusted spring forces, offers the best characteristics for circuit breakers.

Experience accumulated with more than 70,000 spring operating mechanisms has been incorporated in this mechanism type.



Type FK3 Spring operating mechanism

DESIGN AND OPERATION

- > Spring mechanism with helical compression springs (most reliable spring energy storage system).
- > Easy circuit breaker adjustment due to uniformly distributed forces (factory setting).
- > Easy-to-read mechanical indication of spring charging and operating state.
- > Low-impact closing and opening operation.
- > Spring mechanism designed to withstand weathering in compliance with IP 54.
- > Standardized terminal strip for easy retrofitting with optional accessories such as :
 - Remote/local selector switch
 - Close/open switch
 - Thermostatically controlled backup heater
 - Socket or receptacle, etc.



TECHNICAL DATA

Rated operating sequence:

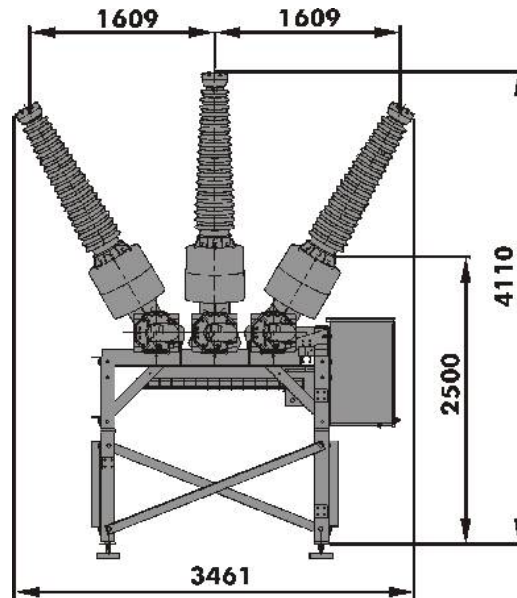
O-0.3s-CO-3min-CO resp. CO-15s-CO

Ambient temperature:

-30°C up to +40°C

Standard values per IEC 62271.

Further data is available on request.



TECHNICAL DATA				
Breaker type		DT1-72.5	DT1-123	DT1-145
Rated voltage	kV	72.5	123	145
Rated frequency	Hz	50	50	50
Rated power-frequency withstand voltage	kV	140	230	275
Rated lightning impulse withstand voltage	kV	325	550	650
Rated normal current	A	3000	3150	3150
Rated short-circuit breaking current	kA	40	40	40
Rated short-circuit making current	kA	100	100	100
Rated duration of short-circuit	s	3	3	3
Opening time	ms	38	38	38
Break time	ms	50	60	60
Closing time	ms	<=70	106	106

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