

TES - DRY TYPE POWER TRANSFORMERS



TES-X-Y (shown without enclosure box)

Base Electrical Characteristics (N.A. Markets):

- TES-X-Y: (X=[V], Y = [kVA])
- Primary voltages X: 5 to 25 kV
- Secondary voltages: 0.6, 0.4, 0.24, 0.120 kV
- Power rated Y: 20 to 630 kVA
- Three phase – windings casted in epoxy resin
- Ambient temperature: -40 °C to +40 °C
- Temperature insulation: 220°C (150°C rise)
- Multiple taps available on primary and secondary sides per specific requests
- Primary winding regulation in range +/- 2x2.5%

Certified to:

- IEC 60076-1, IEC-60076-2, DIN 42540 (noise level test), IEC 270 and VDE 0533 (partial discharge test)

CSA and UL 1561 certifications are underway

Key Features:

- Fire retardant
- High efficiency: meets NEMA Premium
- Copper windings
- Wall or floor installation
- Highly reliable and Maintenance free
- Sound: meets NEMA ST-20, DIN 42540 and VDE 0532 standards
- Outdoor or indoor enclosures (IP/NEMA)
- No carbon monoxide emissions, environmentally friendly

Advantages:

- Long performance history, first built in 1960's (FMT Zajecar, Serbia)
- Compact footprint
- No harmful or dangerous material in construction
- Resistant to insulation cracking
- Resistant to short circuit faults
- Resistant to impulse voltage
- Resistant to ingress of moisture and chemicals
- Handles higher short-time overloads
- Low noise, easy installation, no maintenance
- Resistance to fire – self-extinguishes

Technical data for 10 kV are given in table below:

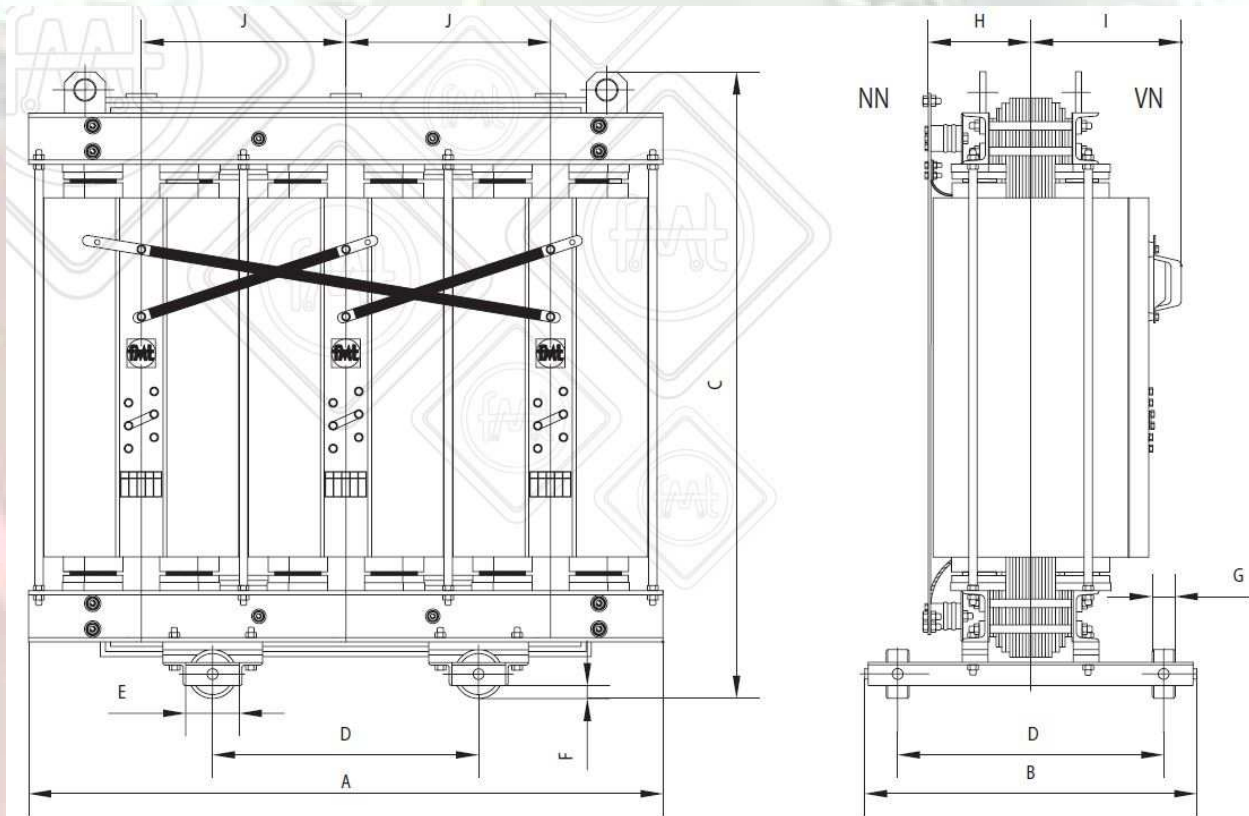
Transformer type	Rated power	Vector group	No-load losses	Short – circuit losses at 120°C	Resistance voltage	Short – circuit voltage	Weight
	kVA		W	W	%	%	kg
TES -10-20	20	Yz5,Dy5	250	500	2.5	4	260
TES -10-31.5	31.5	Yz5,Dy5	270	900	2.85	4	290
TES -10-50	50	Yz5,Dy5	300	1200	2.4	4	500
TES -10-63	63	Yz5,Dy5	360	1300	2.06	4	600
TES -10-100	100	Yz5,Dy5	440	1800	1.8	4	660
TES -10-160	160	Yz5,Dy5	610	2400	1.5	4	850
TES -10-250	250	Dy5	800	3400	1.36	4	1100
TES -10-400	400	Dy5	1200	4800	1.2	4	1700
TES -10-500	500	Dy5	1250	5600	1.12	4	2000
TES -10-630	630	Dy5	1500	6800	1.08	4	2300

Other technical data for different sizes available on request.



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TES-10-Y - DIMENSIONS



Type	DIMENSIONS [mm]									
	A	B	C	D	E	F	G	H	I	J
TES -10-20	790	420	720	420	65	42	-----	146	156	250
TES -10-31.5	790	420	770	420	65	42	-----	146	156	250
TES -10-50	900	600	805	520	105	25	50	225	240	300
TES -10-63	965	550	865	520	105	25	50	235	240	300
TES -10-100	965	550	865	520	105	25	50	235	240	300
TES -10-160	1210	650	1095	520	105	25	50	256	261	397
TES -10-250	1300	650	1200	520	105	25	50	200	275	400
TES -10-400	1520	790	1370	620	140	35	60	280	316	500
TES -10-500	1520	790	1370	620	140	35	60	280	316	500
TES -10-630	1610	790	1510	620	140	35	60	283	346	525



Industries / Application:

*Oil and gas, Mining, Power distribution, ...
Hospitals, airports, market centers, sport and
congress halls, theatres and cinemas ...*

- Office / Residential buildings
- Manufacturing facilities
- Substations...

