V.B. POWERNET
ELECTRICAL & INDUSTRIAL SUPPLY

BROCHURE
www.vbpower.net

DRY-TYPE TRANSFORMERS

SINCE 2001

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V.B. Powernet Electrical & Industrial Supply

V.B. POWERNET manufactures a complete line of dry-type transformers for industrial and commercial applications, single-phase, and three phase, and both indoor and outdoor applications.

WHAT IS A TRANSFORMER?

• A transformer is an electrical apparatus designed to convert alternating voltage from one voltage level to another. Tranformers are completely static devices without continuously moving mechanical parts, which, by, electromagnetic induction, transform electrical energy from one or more circuits to one or more other circuits at same frequency.

GENERAL PURPOSE TRANSFORMER

• Standard design for all general loads, indoor & outdoor, including lightning, industrial and commercial applications.

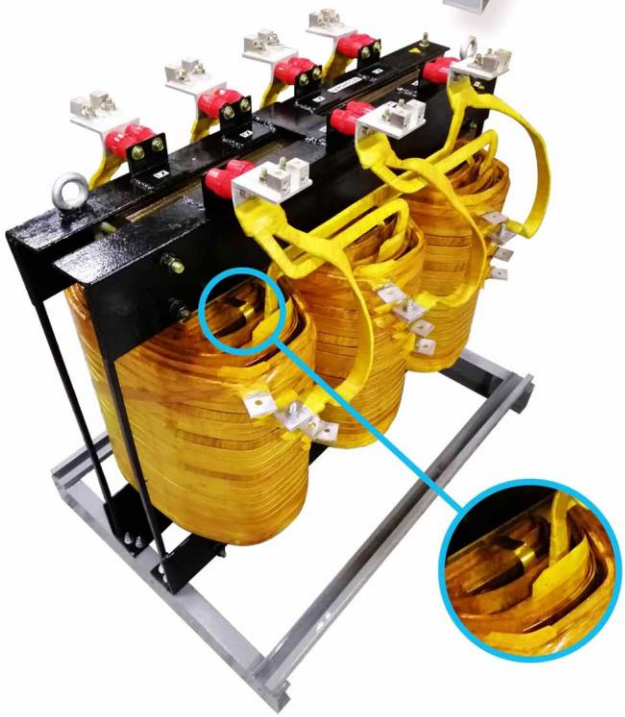
ISOLATION / INDUCTION TRANSFORMER

• A transformer design for two isolated windings between primary and secondary coils. It is used to separate voltage to another either same voltage or step-up and step-down voltage, also when loads needs a solid grounding.

ELECTROSTATICALLY SHIELDED TRANSFORMER

• Are designed to protect the system from unwanted high frequency voltages that occur due to switching and loading on distribution lines. While all transformers with separated primary and secondary windings isolate the load circuits, transients and electrical noise can be transmitted to the load through the inter-winding capacitance of the transformer.

This disturbance can have a detrimental effect on sensitive electronic equipment and can cause improper operation. Electrostatic shielding bring these unwanted signals to ground thus preventing the electrical disturbances from being transmitted to the load circuits.



AUTO TRANSFORMER

• Are more economical and physically smaller than equivalent two-winding transformers designed to carry the same load. They will perform the same function as two winding transformer with the exception of insulating or isolating two circuits. Since Auto Transformers may transmit line disturbances directly, the may be prohibited in some areas by local building codes. Before applying them, care should be taken to assure that they are acceptable according to local codes.

NOTE: Auto Transformers are not used in closed delta connections as they introduce into the circuit a phase shift.

COPPER WOUND TRANSFORMER

• Designed according to customers specifications when copper windings are needed.

CUSTOM BUILT TRANSFORMER FOR UPS APPLICATION AND FOR HIGH HARMONIC LOADS SUCH AS K RATED TRANSFORMER

(K1, K4, K13, K20 RATED)

GENERAL SPECIFICATION AND FEATURES:

• CORE - Constructed using non aging grain oriented silicon steel.

• COIL - Constructed using aluminum or copper conductors when varnish with air-dry electrical grade varnish.

• ENCLOSURE - Standard NEMA 1 rated enclosures are made from heavy gauge steel and finish with standard enamel paint finish. Modified enclosures for different applications are available upon request.

• Taps provided on primary windings.

• 220°C INSULATION SYSTEM (CLASS H INSULATION)

The total temperature of 220˚C is derived from the average conductor temperature rise of 150˚C, Hotspot temperature gradient of 30˚C and an ambient temperature of 40˚C.

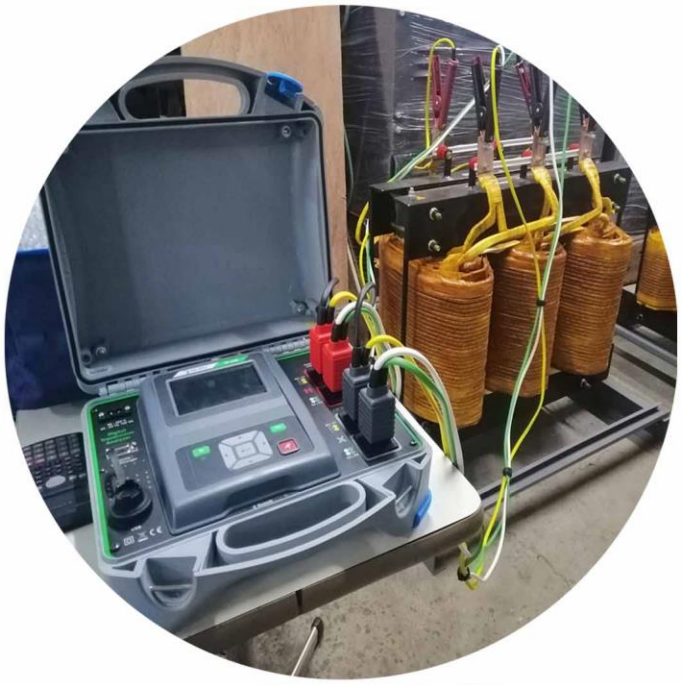
• Diagmmatic nameplate includes wiring diagram and rating data.

• Comes standard with grounding bolt.

• Adheres to NEMA ST-20 standards.

STANDARD TESTING INCLUDES:

V.B. Powernet dry-type transformers are designed, manufactured & tested in accordance with ANSI / NEMA & IIEE Standards.



• TRANSFORMER TURNS RATIO TEST
The ratio is a means by which turns high voltage winding are compared with the turns in the low voltage winding to ensure the proper voltage transformation. Ratio test is performed to rated voltage connection and tap connections to assure proper turns ratio on all connections.

• POLARITY TEST
Phase relation test are made to ensure proper polarity and markings because of their importance in paralleling or banking two or more transformers.

• WINDING INSULATION RESISTANCE TEST
Which often referred to as a Megger test, is a measure of the quality of the insulation within a transformer. Insulation resistance measurement are made between each winding and all other windings and ground by means of a Megger of more the 500V.

• TRANSFORMER WINDINGS RESISTANCE TEST (D.L.R.O)
Contact resistance measurement is made to check the transformers windings & transformer terminals are electrically bond & properly terminated. Also both to use as reference for future measurements.

• NO-LOAD (EXCITATION) LOSS TEST
Determines the losses of a transformer which is excited at rated voltage and frequency, but which is not supplying a laod. Transformer excitation loss, consist mainly of the iron loss in the transformer core.

• EXCITATION CURRENT TEST
Determines the current necessary to maintain transformer excitation.

• IMPEDANCE TEST
Is made to insure that transformer design standards are attained. This is important when paralleling transformers.

V.B. POWERNET DRY-TYPE TRANSFORMERS ENCLOSURE

NEMA 1

NEMA 3R

NEMA 4X
(STAINLESS)

NEMA 12

V.B. POWERNET DRY-TYPE TRANSFORMERS ENCLOSURE

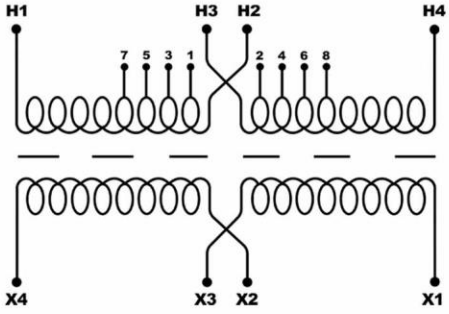
NEMA 1 WITH BUILT-IN
THERMO CONTROLLED KDK
INDUSTRIAL EXHAUST FAN

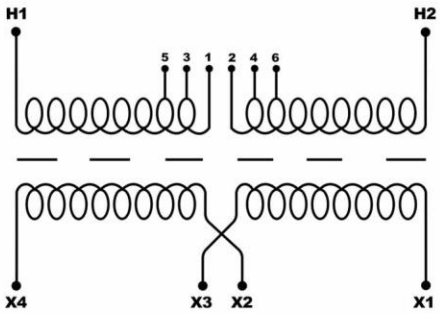
NEMA 12 WITH BUILT-IN
CANOPY THERMO CONTROLLED
KDK INDUSTRIAL EXHAUST FAN

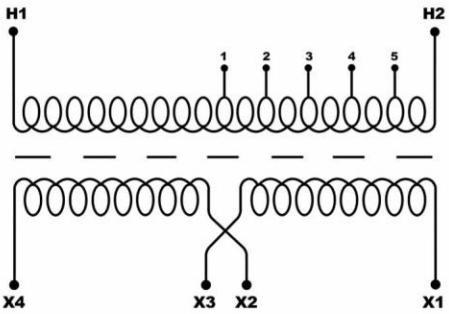
DETACHABLE CABINET
(2 UNITS TRANSFORMER INSIDE)

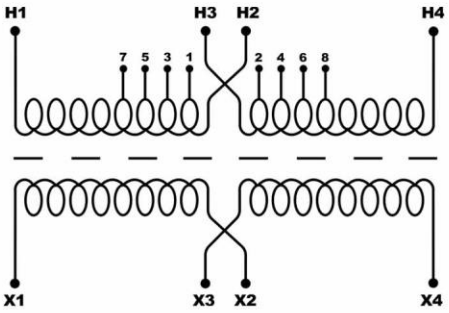
NEMA CABINET
(2 UNITS TRANSFORMER INSIDE)

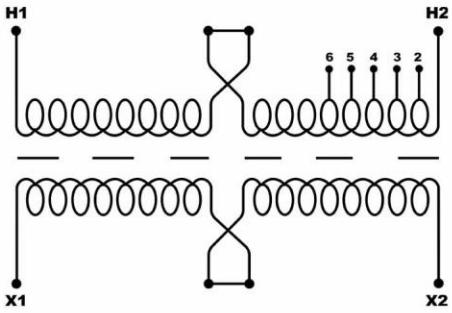
SINGLE PHASE



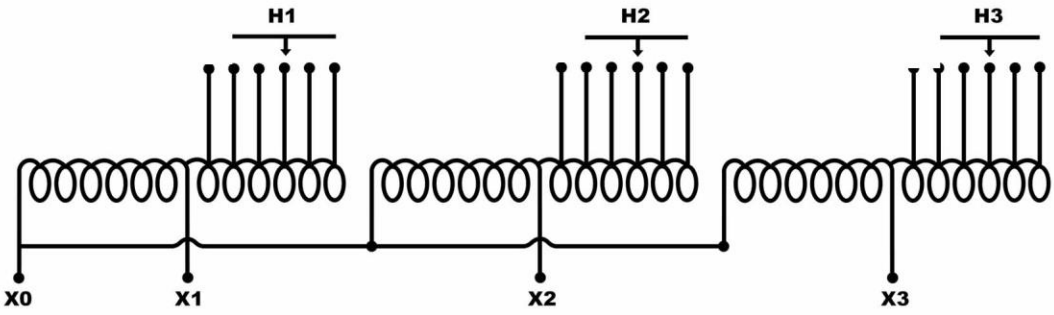




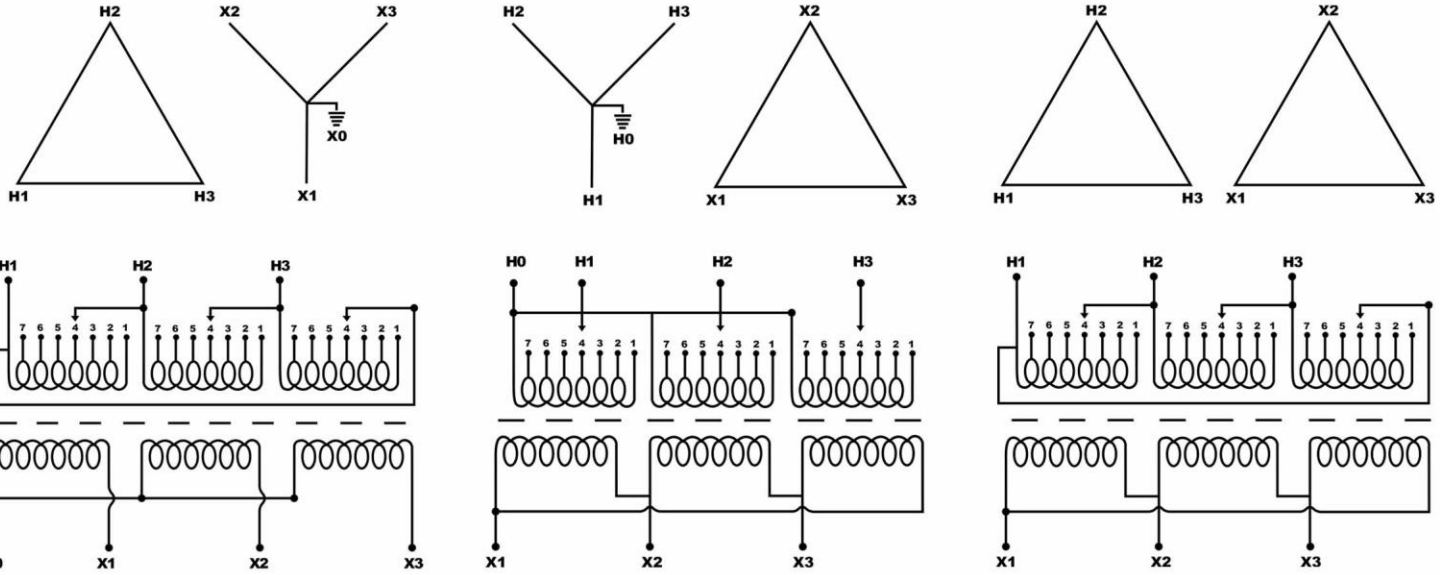


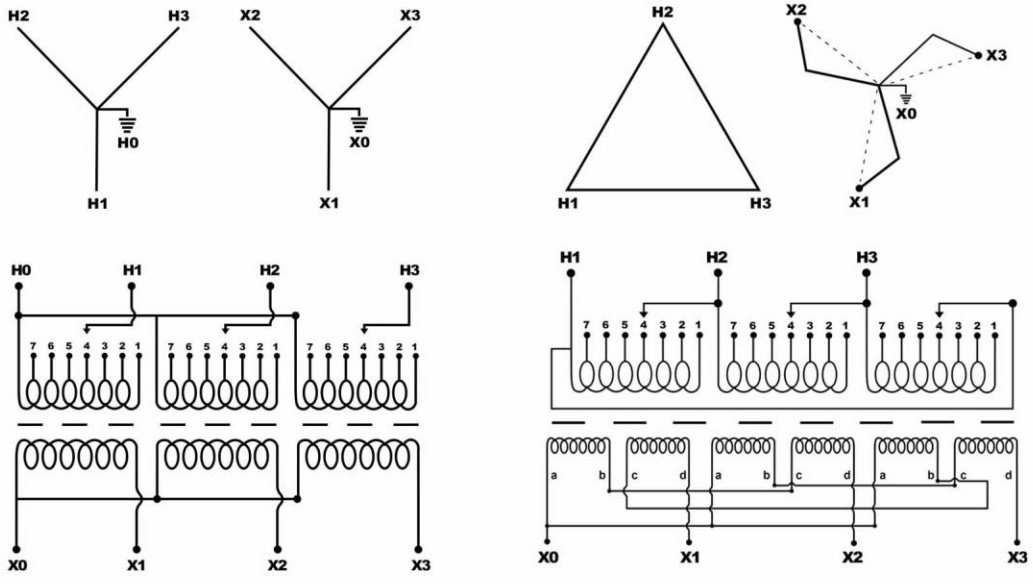


AUTO-TRANSFORMER



THREE PHASE





HARMONIC MITIGATING TRANSFORMER

DIMENSIONS

SINGLE PHASE DRY-TYPE TRANSFORMERS, 600V AND BELOW

KVA CAPACITY	Approx Dimension in mm (in.)			Approx Weight (Kgs)
	Height	Width	Length	
5	406 (16)	254 (10)	365 (15)	60
10	508 (20)	356 (14)	365 (15)	90
15	559 (22)	356 (14)	406 (16)	100
20	559 (22)	356 (14)	406 (16)	100
25	660 (26)	406 (16)	432 (17)	120
30	660 (26)	406 (16)	432 (17)	120
37.5	762 (30)	508 (20)	610 (24)	160
45	762 (30)	508 (20)	610 (24)	200
50	889 (35)	508 (20)	711 (28)	200
60	889 (35)	508 (20)	711 (28)	215
75	889 (35)	508 (20)	711 (28)	280
100	1016 (40)	635 (25)	889 (35)	320

THREE PHASE DRY-TYPE TRANSFORMERS, 600V AND BELOW

KVA CAPACITY	Approx Dimension in mm (in.)			Approx Weight (Kgs)
	Height	Width	Length	
5	432 (17)	254 (10)	432 (17)	75
10	558 (22)	356 (14)	558 (22)	110
15	635 (25)	406 (16)	584 (23)	120
25	711 (28)	457 (18)	711 (28)	180
37.5	711 (28)	457 (18)	711 (28)	200
50	762 (30)	457 (18)	762 (33)	260
75	762 (30)	508 (20)	813 (35)	300
100	940 (37)	559 (22)	914 (36)	380
125	940 (37)	559 (22)	965 (38)	520
150	1016 (40)	610 (24)	965 (38)	560
200	1016 (40)	762 (30)	965 (38)	750
300	1397 (55)	838 (33)	1143 (47)	1000
500	1626 (64)	914 (36)	1219 (48)	1200
750	1651 (65)	991 (39)	1422 (56)	1600
1000	1845 (73)	1100 (43)	1620 (64)	2000