GET 6859A

GE Commercial Transformer

Three-phase Padmounted Transformers

Three-phase COMPAD® Transformers (75-2500 kVA)

COMPAD CONSTRUCTION

COMPAD® oil-immersed transformers are padmounted compartmental-type transformers. Designed for outdoor installation on a concrete pad, the transformers provide underground power distribution to commercial, industrial and institutional loads.

GE COMPAD Transformers are available with oil, R'Temp and silicone insulating fluids. Oil is generally the standard choice for outdoor applications where flash and fire points are not an issue. For applications requiring less-flammable liquids, R'Temp and silicone insulating fluids are generally required. Internal switching is not available in GE silicone fluid-insulated transformers. R'Temp is generally the standard choice when switching is required.

APPROXIMATE FLASH AND FIRE POINTS ARE AS FOLLOW:

	OIL	R'TEMP	SILICONE
Flash Point	145C	238C	268C
Fire Point	165C	311C	371C

Featuring tamper- and weather-resistant construction for safety, these transformers meet ANSI security requirements. All live parts are completely enclosed in lockable high- and low-voltage compartments, which are interlocked for safety once a user-installed padlock is added.

These power-distribution packages are designed in a neat, clean, modern style and painted olive-green color (Munsell 7GY 3.29/1.5) for pleasing appearance and to harmonize with most surroundings.

Three-phase COMPAD transformers are furnished with an enclosure consisting of high- and low-voltage sections, separated by a steel barrier bolted in place. The low-voltage compartment door is equipped with a steel rod handle with provisions for padlocking. User-installed padlocks are required to complete the cabinet security system. In addition, the doors are so arranged that accessibility to the high-voltage compartment can only be gained after opening the low-voltage compartment door and releasing a captive screw. Cables enter and exit the compartment sections from below, through openings in the mounting pad.

The high- and low-voltage cabinet sections are completely removable with all screws and bolts accessible from inside the compartments. The transformer tank is constructed so that it can be lifted, rolled, slid, or skidded into place on a pad without disturbing the cables.

Standard Ratings

Three-phase COMPAD transformers are rated 75 through 5000 kVA, 60 hertz, 65C rise, up through 34500 GrdY/19920 150 kV BIL with low-voltage ratings of 208Y/120 and 240 delta through 1500 kVA, 480 delta through 3000 kVA, 480 wye/277 through 3750 kVA, 2400 to 7200 delta or wye from 750 kVA through 5000 kVA.

Units comply with ANSI Standards C57.12.22 for live-front application and C57.12.26 for separable insulated high-voltage connector application.

Kilovolt ampere ratings are based upon not exceeding 65C average temperature rise above 30C average ambient with a maximum ambient not to exceed 40C.

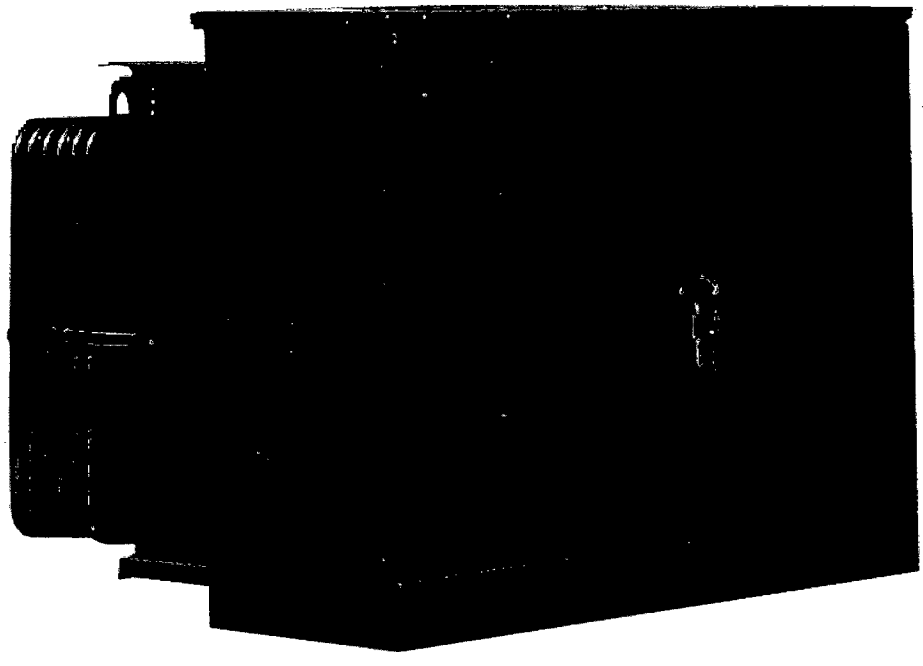
Standard kilovolt ampere ratings are as follow:

75 kVA	500 kVA	2500 kVA
112.5 kVA	750 kVA	3000 kVA
150 kVA	1000 kVA	3750 kVA
225 kVA	1500 kVA	5000 kVA
300 kVA	2000 kVA	

Standard high-voltage basic insulation levels (BIL) for common high-voltage ratings are as follow:

2400 delta or wye 60 kV BIL
4160 delta or wye 60 kV BIL
4800 delta or wye 60 kV BIL
7200 delta or wye 75 kV BIL
8320 delta or wye 75 kV BIL
12000 delta or wye 95 kV BIL
12470 delta or wye 95 kV BIL
13200 delta or wye 95 kV BIL
13800 delta or wye 95 kV BIL
14400 delta or wye 95 kV BIL
16340 delta or wye 95 kV BIL
22860 GrdY/13200 125 kV BIL
23900 GrdY/13800 125 kV BIL
24940 GrdY/14400 125 kV BIL
*34500 GrdY/19920 150 kV BIL

*Also available at 125 kV BIL



Standard Features and Accessories

STANDARD TESTS PERFORMED

Each GE distribution transformer receives the following tests as required by ANSI Standards. Tests are made in accordance with the ANSI Test Code C57.12.00/C57.12.90, latest revision, and are available by transformer serial number at no charge.

1. No-load loss
2. Exciting current at rated voltage
3. Polarity check
4. Ratio check
5. Dielectric tests at low frequency (high- and low-voltage in accordance with TABLE 1)
   a. For delta high-voltage transformers:
      Applied potential test and induced-potential test
   b. For grounded wye transformers:
      Induced-potential test only
6. Mechanical leak test

In addition to the above required tests, GE performs the following:

1. Load loss
2. Impedance
3. Production line impulse test (in accordance with TABLE 1)

ANSI DESIGN TESTS (NON-STANDARD)

The following tests are performed on new GE transformers with electrical or thermal design configuration:

1. Temperature rise
2. Impulse
3. Short-circuit test*
4. Resistance measurement
5. Audible sound level
6. Dielectric breakdown
7. Mechanical
   - Lifting
   - Pressure

*Not a design test. Listed in ANSI Test Code C57.12.00/C57.12.90 as "other."

Losses and Impedance

The total losses of a transformer shall be the sum of the excitation losses (no-load losses) and the load losses.

The losses represented by test of a transformer or transformers on a given order shall not exceed the specified losses by more than the percentages listed in TABLE 18 (in accordance with ANSI Test Code C57.12.00, latest revision).

TABLE 1

Transformer Rating	BIL Test (Full wave) (kV)	Low-frequency Test (Hi-pot) (kV)
2400/4160Y	60	19
4800/8320Y	75	26
12470GrdY/7200	95	-
7620/13200Y	95	34
13200GrdY/7620	95	-
12000	95	34
13200/22860Y	125	40
14400/24940Y	125	40
24940GrdY/14400	125	-
19920/34500Y	125	40
34500GrdY/19920	125	-
19920/34500Y	150	50
34500GrdY/19920	150	-

NOTE: Transformers may be provided with taps for voltages above the rated voltage values shown in TABLE 1 without increasing the insulation class.

TABLE 1A
Tolerances for Single-phase and Three-phase Transformer Losses

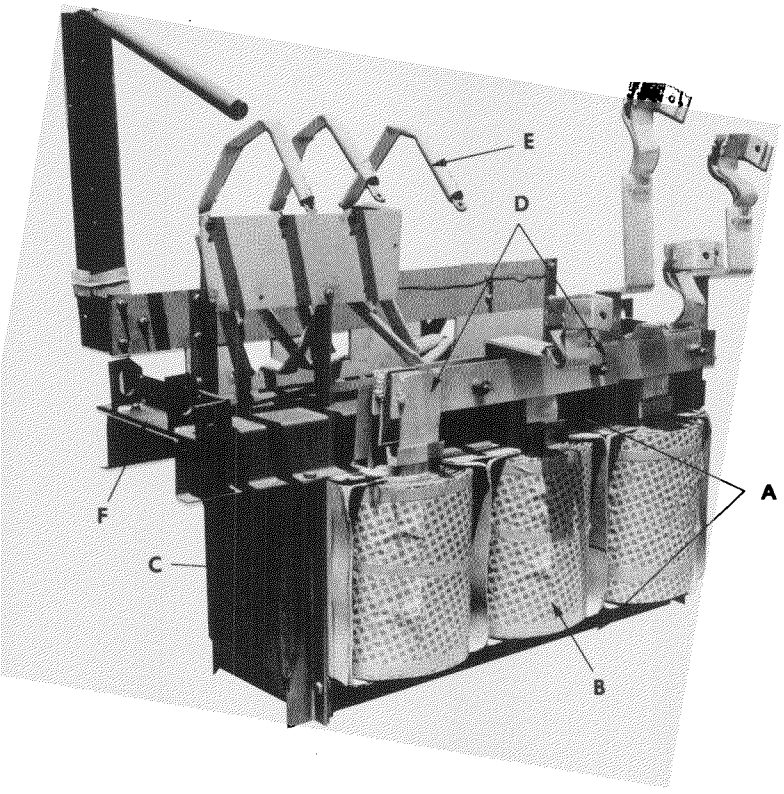
No. of Units on One Order	Basis of Determination	Percentage	
		No-load Losses	Total Losses
1	1 Unit	10	6
2 or More	Each Unit	10	6
2 or More	Average of All Units	0	0

COMPAD® Standard Core-and-coil Construction

Where craftsmanship and manufacturing expertise meet.

Each COMPAD® transformer starts with the careful selection of compatible materials. The five-legged core-and-coil assembly — the heart of the transformer — represents years of research and development efforts directed at improving and developing materials and techniques that result in long, reliable transformer life. For example, a patented metallurgical bonding and specially developed insulation materials contribute to the transformer designed to give you the most efficient operation possible.

A The coils are clamped axially, top and bottom, to prevent shifting under short-circuit conditions.
B The layer insulation paper is coated with a thermal setting adhesive that during the oven-curing process bonds the winding and interlayer insulation into a solid structure.
C The transformer core is cradled and retained, minimizing mechanical stresses.
D Transition joints in low-voltage bus structure and leads are welded.
E High- and low-voltage leads are flexible to minimize damage that could result from forces due to short-circuits and shipping.
F Firm positioning of interior assembly within tank is assured by bolting at top corners of the assembly.
G Five-legged core is standard on all COMPAD transformers.



This construction allows use of wye-wye connections to avoid ferroresonance problems and minimize tank heating. Every completed COMPAD transformer is placed in a vacuum chamber where air and moisture are removed before filling tank to proper level with clean, dry de-aerated oil.

GE is the leader in the design and manufacturing of high-efficiency, low-loss transformers. We offer a full range of efficiencies designed to match individual customer costs-of-energy criteria. GE has the product to meet industry needs — from standard efficiency, for customers who purchase on a first-cost basis, to high efficiency and ultra-efficient transformers, for customers who use EEI loss-evaluation methodology or purchase high-efficiency transformers.

The ULTRA Efficient Amorphous Core Transformer technology consists of a new class of metal that has no crystaline structure. The amorphous atomic structure is more easily magnetized and demagnetized 50 to 60 cycles per second in a transformer core resulting in 70 to 85% lower core losses than transformers with silicone steel cores. The combination of GE's advanced core technology, proven coil construction and patented manufacturing processes has resulted in a high-quality, extremely reliable, ultra-efficient transformer offering.

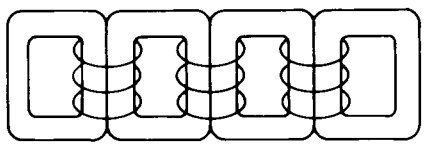
Fully processed grain-oriented silicon core steel is machine-cut and wound, then formed in a rectangular shape. Core quality and characteristics are improved by this method, which also results in less handling damage and more positive core-and-coil alignment. The annealing process eliminates any stress in the core during the fabrication process and results in reduced core losses and improved COMPAD transformer performance.

Enameled primary wire and full-width secondary strip are layered with paper insulation to form COMPAD coils. The strip is edge-conditioned to eliminate sharp edges and burrs that could penetrate paper layer insulation and cause turn-to-turn failures. Proper tension is maintained during the winding process to produce tight, compact coils that assure uniform electrical characteristics and superior resistance to short-circuit forces.

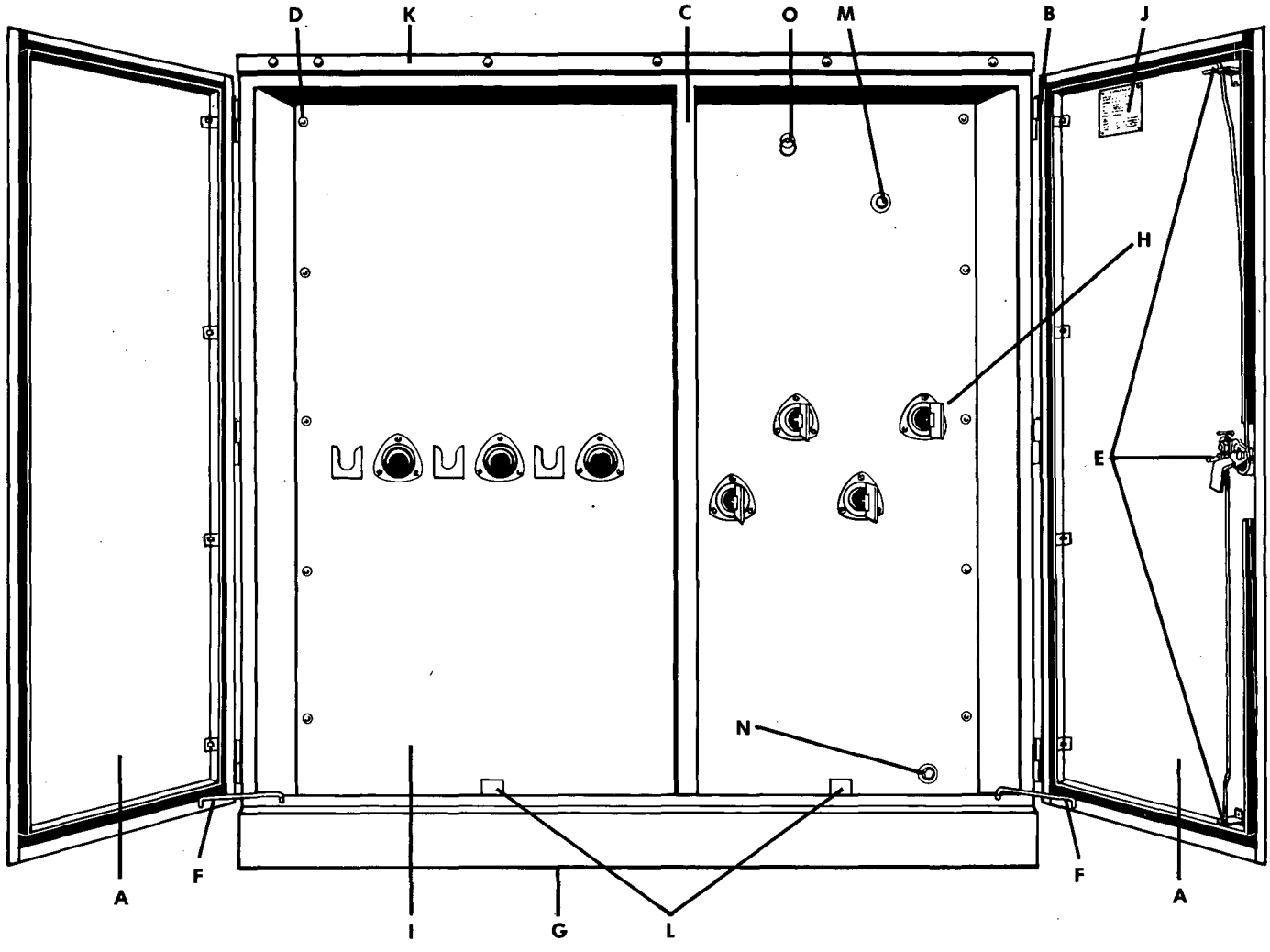
High-voltage coils are wound with conductor that is shaved, drawn and formed into rectangular wire. An enamel coating is applied to thoroughly cleaned wire and cured in successive coatings to assure uniform thickness. The techniques used assure positive bonding of enamel to conductor.

Each unit also goes through final electrical tests — load and no-load losses, exciting current, polarity and ratio checks, dielectric tests at low frequency, impedance test, impulse testing — and results are recorded.

G



Standard Features



A Easily removable compartment doors give authorized personnel added access to compartment interior. A special padlocking provision gives shearing action to the padlock hasp. Double right-angle bends are formed at all points where the doors come together with compartment structure, providing a unit that meets ANSI security requirements.

B Stainless-steel hinges and 3/8-inch pins inhibit corrosion.

C A rigid, steel partition separates high- and low-voltage compartments to give added strength and safety. This partition acts as a groundplane and reduces the possibility of a voltage potential building up on the partition.

D All-bolted compartment construction permits one-person removal of side panel sections; allows easy, on-site replacement; and affords maximum working space during cabling.

E Three-point latching (shown in open position) of low-voltage door with recurved rod securely wedges top, middle and bottom for a tight, rigid fit free from vibration. Door handle of cold rolled steel permits easy and convenient operation. A bearing on the handle prevents binding.

F Sturdy, captive hold-open devices hold COMPAD® doors in the open position, then store conveniently in transformer door.

G Low sill height affords greater access to cabling area. Transformer sill is easily removed to facilitate installation. Sill construction combined with the front panels, side panels and middle partition provides a rigid cabinet.

H High-quality, low-voltage bushings with bolt-on blades are standard through 300 kVA and on 500 kVA, 480Y/277. Threaded-stud secondary bushings are furnished on REA units through 300 kVA and 500 kVA, 480Y/277.

I Transformer tank is welded from cover to base for maximum structural strength and leak-free seals. All welds are 100% leaktested.

J The permanent nameplate is conveniently located on the inside surface of the low-voltage door. Nameplate is large and easy to read with cables in place. Permanent serial number identification is also stamped over low-voltage bushings, supplementing serial number on nameplate.

K The filling connection consists of a flange with a one-inch NPT opening to the transformer cover and furnished with a one-inch pipe plug.

L The ANSI tank ground pads consist of one (1) 1/2 to 13-inch tapped hole in 75 to 500 kVA and two (2) 1/2 to 13-inch tapped holes in 750 to 2500 kVA units.

M Liquid-level indication consists of a flange with a 1/2-inch NPT opening welded to the tank wall and a 1/2-inch pipe plug. It is located at the 25C insulating-oil level with this level indicated by stencil marking on the tank wall.

N One-inch drain valve and sampler on all units 75 to 5000 kVA.

O Qualitrol 202 Series (or equal) automatic pressure-relief device.

Standard Features

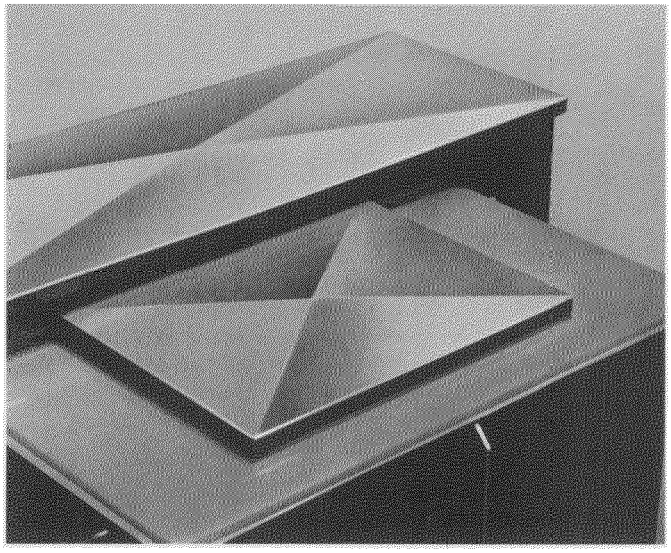
One 7.6-inch by 19-inch handhole in the transformer tank cover is provided on all units. The handhole is sealed with a reusable, one-piece molded nitrile rubber gasket with metal stops to prevent damage to the gasket from overcompression.

Access to the tank handhole is provided only after removing the false cover that is mechanically interlocked with the compartment cover. No nuts or bolts can be removed or loosened without first gaining access to the transformer compartment.

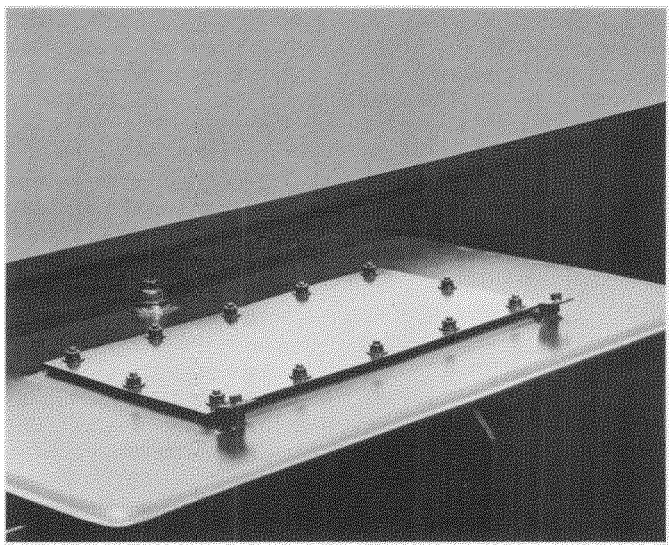
The high-voltage door is held closed by captive stainless-steel bolts, accessible only after the low-voltage door is opened. A planned operation is therefore required prior to gaining entrance to the high-voltage compartment.

The low-voltage door has three-point latching and provisions for padlocking. A captive and recessed pentahead bolt is provided for additional security of the low-voltage door.

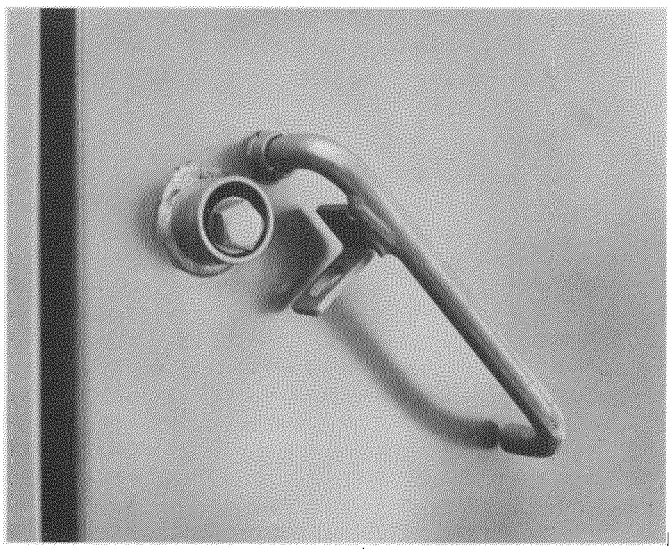
(An optional hexhead bolt is available in place of the standard pentahead bolt when specified.)



False cover over handhole can be easily removed after removing nuts inside cabinet.



Handhole featuring one-piece nitrile gasket with built-in gasket stops.

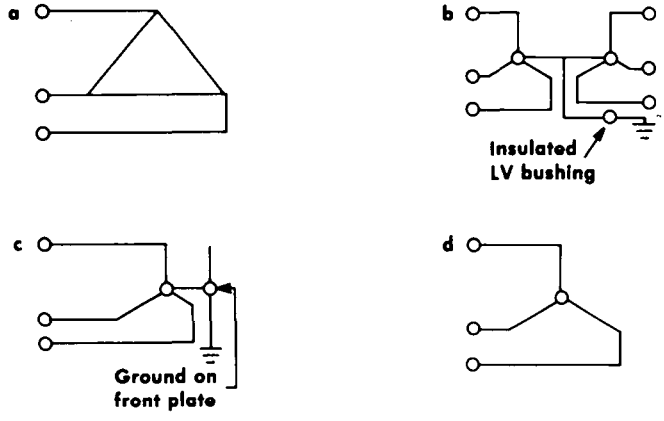


Low-voltage door handle. Padlock cannot be engaged until bolt is seated.

Standard Connections

Units may be: (a) delta-connected; (b) grounded wye-connected having primary neutral connected (bolted) internally to the secondary neutral which is an insulated low-voltage bushing externally grounded to the tank front plate; (c) grounded wye-connected having neutral grounded (bolted) internally to the tank front plate; (d) wye-connected with internally isolated neutral.

It is recommended that the grounded wye (GrdY) rating be specified with the primary neutral connected to the secondary neutral. For wye-wye applications where the secondary neutral cannot be grounded, the recommendation is to provide the transformer with the primary neutral grounded (bolted) internally to the tank front plate.



For livefront radial feed, three high-voltage porcelain bushings are furnished as standard. Line connections H1, H2, and H3 are identified by stencil markings on the tank front plate.

Porcelain high-voltage bushings equipped with tin-plate terminals are furnished on 75-5000 kVA COMPAD® transformers with livefront construction. The bushings are made of wet-process porcelain and are clamped externally to the wall of the transformer tank. Reusable nitrile rubber gaskets seal the bushings to the tank wall and the terminals to the porcelain.

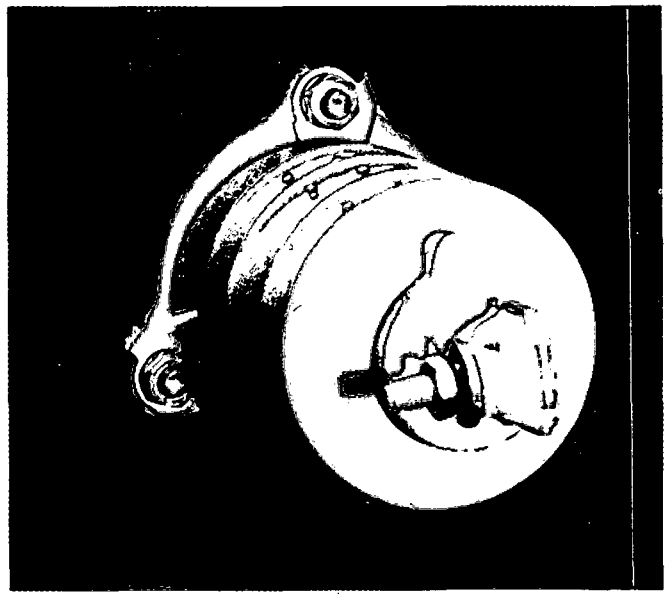
Radial-feed units, 75-500 kVA, have clamp-type terminals for No. 8 through 2/0 cable sizes as shown in photo A. Radial-feed units, 750-5000 kVA, and all loop-feed units, 75-5000 kVA, are equipped with three-hole blade terminals (9/16-inch diameter holes) as shown in photo B. Livefront construction meets the latest revision of ANSI C57.12.22 requirements for padmounted compartmental type, self-cooled, three-phase distribution transformers, 5000 kVA and below.

In both types of bushings, the high-voltage cable terminals are oriented for vertical take-off of primary cables entering the compartment from below.

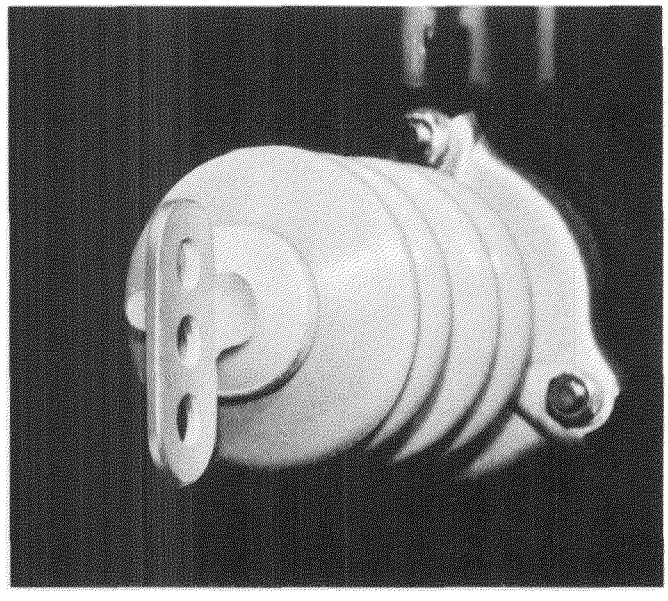
Where separable insulated high-voltage connectors for radial feed are desired on COMPAD transformers, as shown in photo C, GE offers three (3) universal bushing wells for radial feed, six (6) universal bushing wells for loop feed as standard.

The separable insulated high-voltage connector system construction (deadfront) meets the latest revision of ANSI C57.12.26 requirements for padmounted compartmental type, self-cooled, three-phase distribution transformers, 5000 kVA and below.

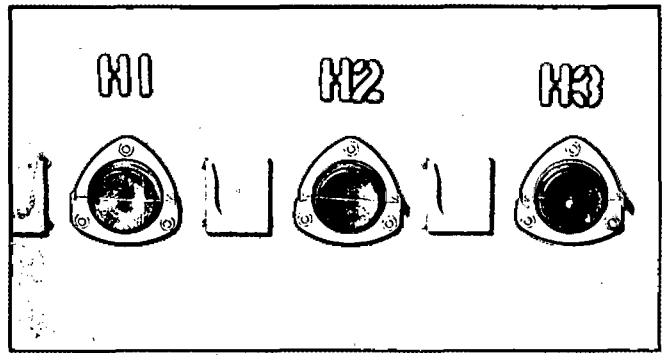
High-voltage Bushings, Live Front



A. Externally clamped high-voltage bushing, 75-500 kVA radial feed only.



B. High-voltage bushing with three-hole blade, 750-5000 kVA radial feed, and 75-5000 kVA loop feed.



C. High-voltage bushing wells, 75-5000 kVA radial feed.

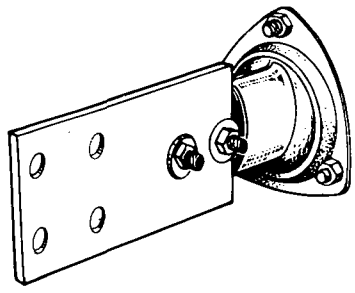
Standard Secondary Bushings Arrangements

The secondary bushing location on the extreme left of the low-voltage compartment can be either; (a) the neutral connection on wye ratings; (b) the common neutral connection (primary and secondary HO-XO) for grounded wye-grounded wye ratings; (c) the 120-Volt midtap connection in one phase of the low-voltage 240-Delta connection; or (d) the low-voltage neutral connection for delta rated high-voltage and grounded wye low-voltage ratings. The neutral bushing is an insulated porcelain bushing with an external ground strap connecting the blade to the tank wall.

The low-voltage bushing terminal is a tin-plated spade-type and is arranged for vertical-takeoff of outgoing cables. The low-voltage "H" blades, having 9/16-inch holes on 1¾-inch centers, are provided with the "H" blades as listed in the following tables as standard.

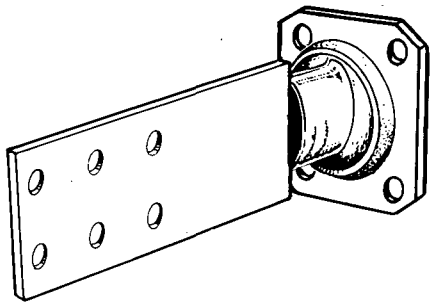
(4) Hole Blades

kVA Rating	Low-Voltage Rating (Volts)
75-300	208Y/120
75-500	240
75-500	480,480Y/277



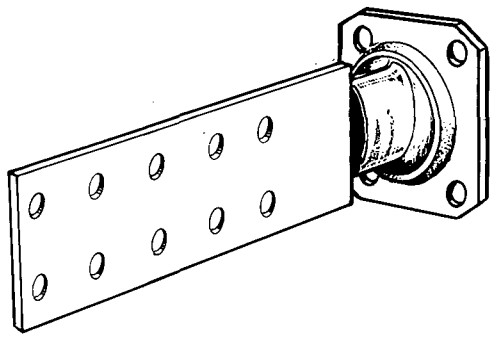
(6) Hole Blades

kVA Rating	Low-Voltage Rating (Volts)
500	208Y/120
750	240
750-1500	480, 480Y/277



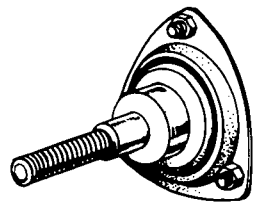
(10) Hole Blades

kVA Rating	Low-Voltage Rating (Volts)
750-1000	208Y/120
1000	240
2000-2500	480, 480Y/277



NOTE : 3000-5000 kVA are normally supplied with 10- to 18-hole low-voltage spades.

REA stud type secondary bushings are available as a standard offering when so specified. Sizes and availability per the following table.



Availability Table

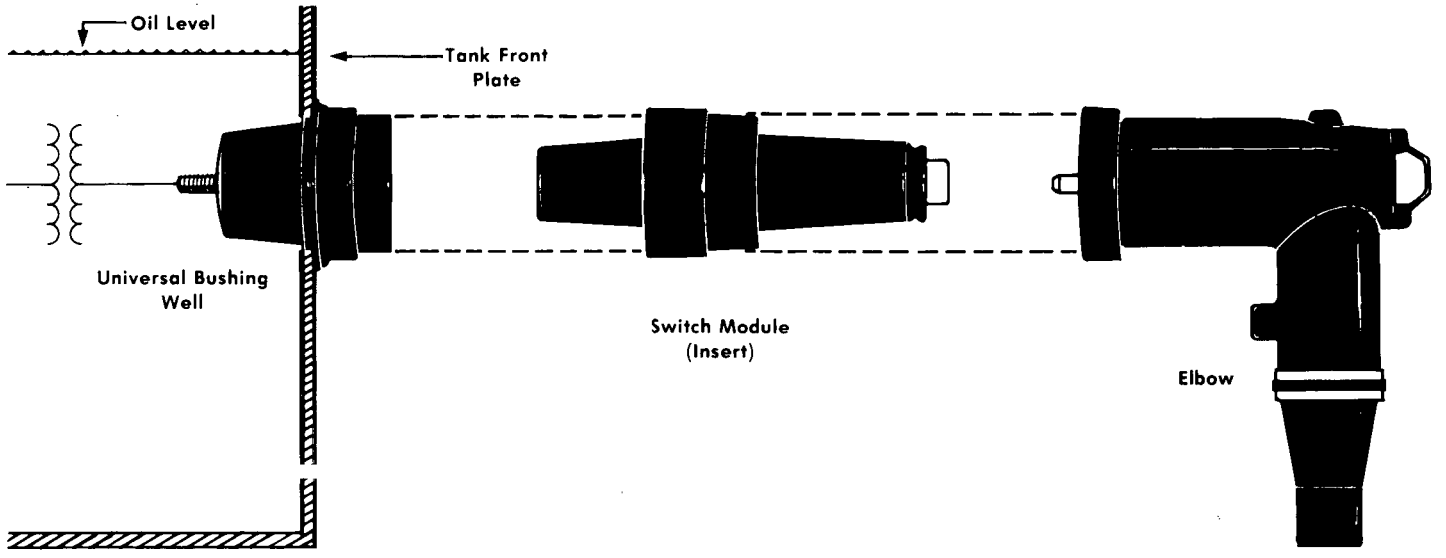
kVA	Voltage Rating	Standard Stud Size (In Inches)
75-150	480 and below	5/8-11 x 1¼
225-300	480 and 480Y/277	5/8-11 x 1¼
225-300	208Y/120	1-14 x 1¼
500	480Y/277	1-14 x 1¾
500	208Y/120	Not Available
750 and above	All Voltages	Not Available

Optional Features and Accessories

SEPARABLE INSULATED HIGH-VOLTAGE CONNECTOR CONSTRUCTION (ANSI C57.12.26)

There are two different deadfront interfaces available in the industry.

200 amp rated devices



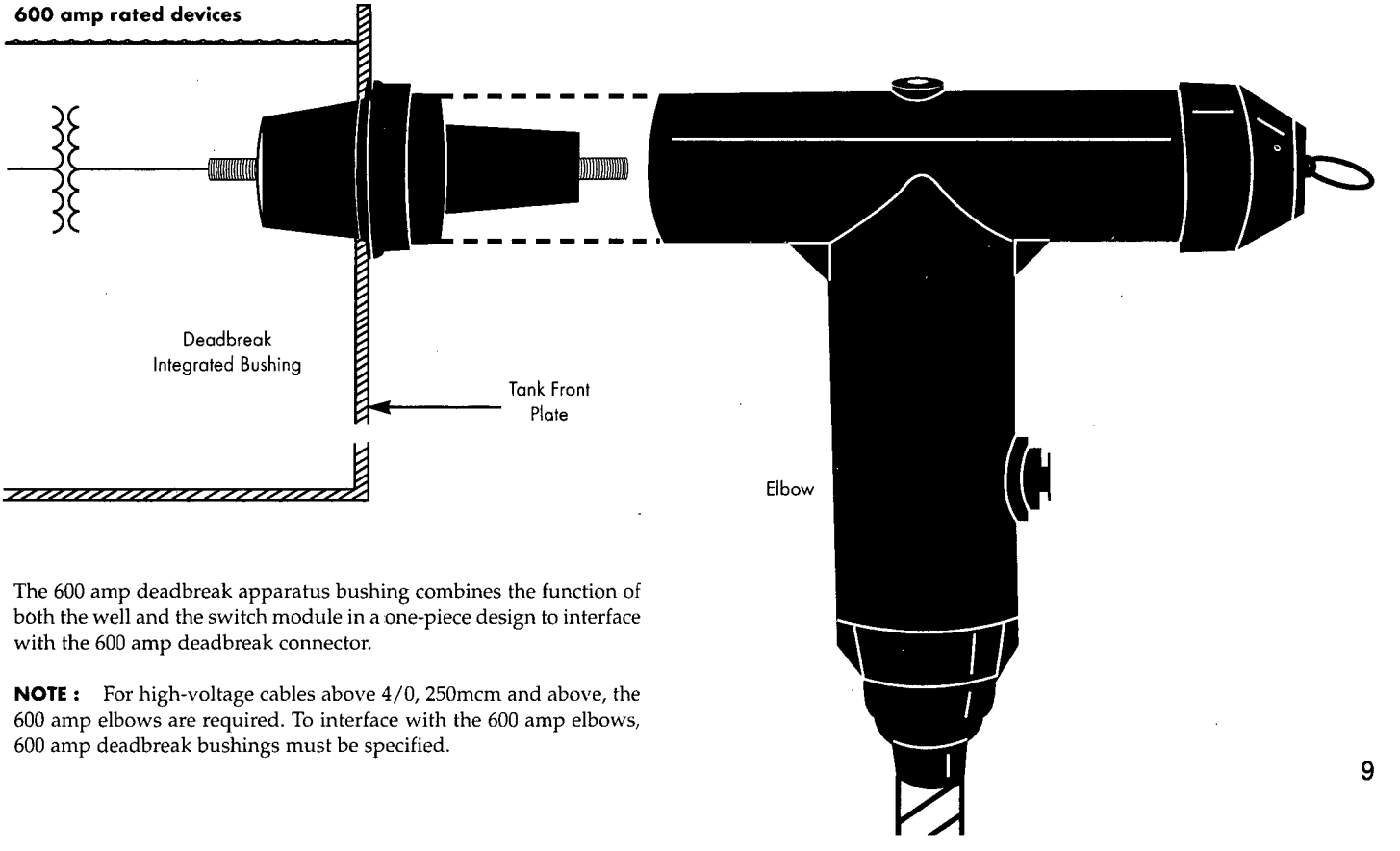
The bushing well is designed for the termination of primary winding leads in liquid-filled padmounted transformers. The bushing mating interface conforms to the ANSI/IEEE Standard 386, latest revision, for separable insulated connectors and will accept inserts complying to the standard.

The switch module is rated 200 amperes and is designed to fit into bushing wells meeting the requirements of Figure 1 of ANSI/IEEE Standard 386, latest revision. The switch module is sized according to the high-voltage rating at either 15 kV class or 25 kV class.

The molded shield elbow interfaces with either the switch module or the integrated bushing to provide the basic connector system. The elbow is sized according to the high-voltage class (15 kV or 25 kV) plus the cable insulation diameter and cable conductor size.

NOTE: 200 amp elbows can accept a maximum high-voltage cable size of 4/0. For high-voltage cables 4/0 and below, specify the 200 amp high-voltage wells to interface with the 200 amp inserts and elbows.

600 amp rated devices



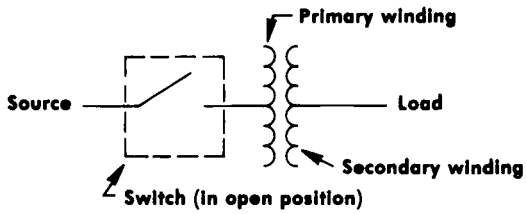
The 600 amp deadbreak apparatus bushing combines the function of both the well and the switch module in a one-piece design to interface with the 600 amp deadbreak connector.

NOTE : For high-voltage cables above 4/0, 250mcm and above, the 600 amp elbows are required. To interface with the 600 amp elbows, 600 amp deadbreak bushings must be specified.

Optional Oil Switching

Radial Feed Switch — 300 amp

The 300 amp radial-feed, two-position internal oil switch is a two-position, gang-operated loadbreak switch, hook stick-operable, that uses a manually charged over-toggle storing spring assembly that is independent of operator speed. The spring-loaded activating mechanism ensures quick loadbreak and loadmake operation. It can be used to de-energize the transformer. The operating handle and nameplate are located in the high-voltage compartment.



Loop-feed Switch — 300 amp

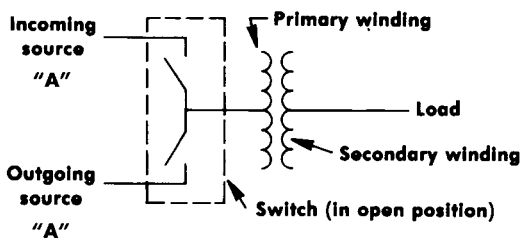
The loop-feed switch arrangement consists of two (2) two-position under-oil gang-operated switches. It may be used for sectionalizing and loop connections such as selection of power sources in a loop-feed primary distribution system; isolating faulted cables or transformers; or isolating transformers for changeout or maintenance. Six high-voltage bushings are furnished with a typical arrangement. Three bushings are identified as "A" source and three as "B" source. Switch positions are as follow:

1. Both pointers in CLOSED position. This position permits loop-feed for adjacent transformers.

2. Left-hand pointer in CLOSED position; right-hand pointer in OPEN position. In this position, only one side of the loop ("A" bushings) is connected to the transformer windings.

3. Left-hand pointer in OPEN position; right-hand pointer in CLOSED position. In this position, only one side of the loop ("B" bushings) is connected to the transformer windings.

4. Both pointers in OPEN position. In this connection, both sides of the loop ("A" and "B" bushings) are disconnected, thereby isolating and de-energizing the transformer windings from the loop-feed system.



Loop/Radial Switch — 300 amp

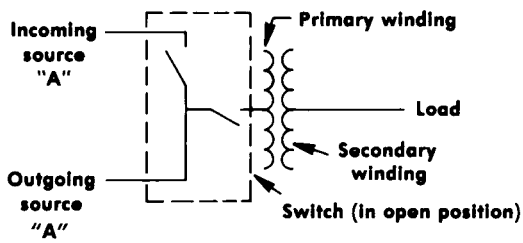
The two (2) two-position loadbreak switches may be provided for use as a combination of the loop and radial switch functions. The combination consists of a transformer switch (Line B) and a LOOP switch (Line A). The positions are as follow:

1. Both pointers in CLOSED position. This position closes the loop by connecting line "A" to line "B" and connects the transformer to the loop.

2. Left-hand pointer in CLOSED position; right-hand pointer in OPEN position. In this position, the transformer is disconnected from the loop and the loop is closed.

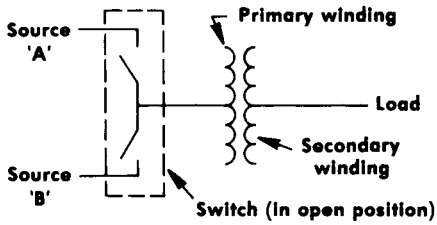
3. Left-hand pointer in OPEN position; right-hand pointer in CLOSED position. In this position, the loop is open and the transformer is connected to source "B".

4. Both pointers in OPEN position. In this connection, the transformer is de-energized and the loop is open.



Alternate-source Switch — 300 amp

The alternate feed switch is used for the selection of either of the two voltage sources to energize the transformer. An interlock on the switch handle allows the transformer to be energized only from one source at a time.



Optional Oil Switching

Loop Switch with ON/OFF Radial Switch

This combination combines the functions of the loop-switch operations, allowing the transformer to be de-energized and allowing either loop to be de-energized.

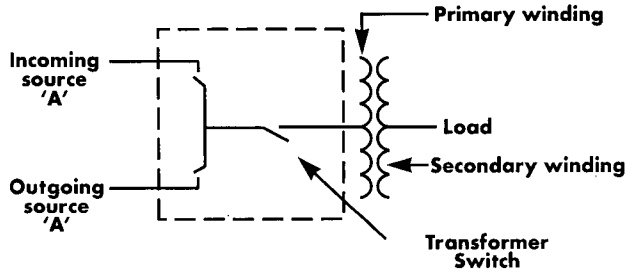


TABLE 2
Oil Switch Ratings

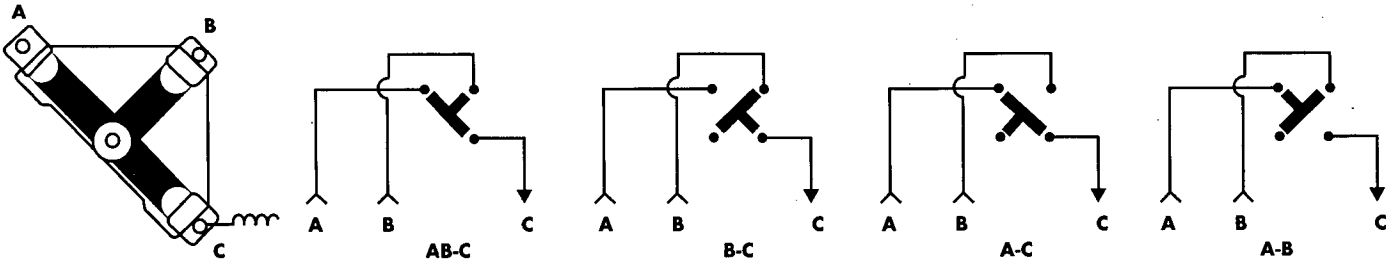
	Two-position		"T" Blade/"V" Blade	
Maximum kV	38	15	25	35
kV BIL	150	95	125	150
One-minute withstand	70	34	40	50
Maximum continuous and loadbreak amps	300	600	300	200
Momentary and fault close				
RMS-SYM-amps	12000	10000	10000	10000
RMS-ASYM-amps	19000	10000	10000	10000

'T' Blade Sectionalizing Switch

The "T" blade hot stick-operable sectionalizing switch rotates 360 degrees in either direction for alternate-source selection. A spring-loaded activating mechanism ensures quick loadbreak action and positive contact engagement through all positions. Switching can be accomplished in 1/2 to 1/3 cycles, which minimizes power outages.

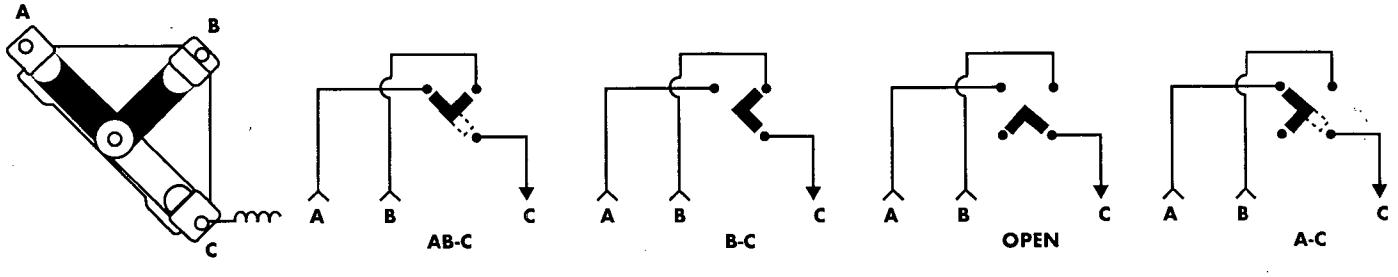
"T" Blade Switch allows the loop to be energized while the transformer is de-energized.

'T' Blade Functions



'V' Blade Function

"V" Blade Switch allows the loop plus the transformer to be de-energized at the same time.



NOTE: Internal switching is not available with silicone fluid.

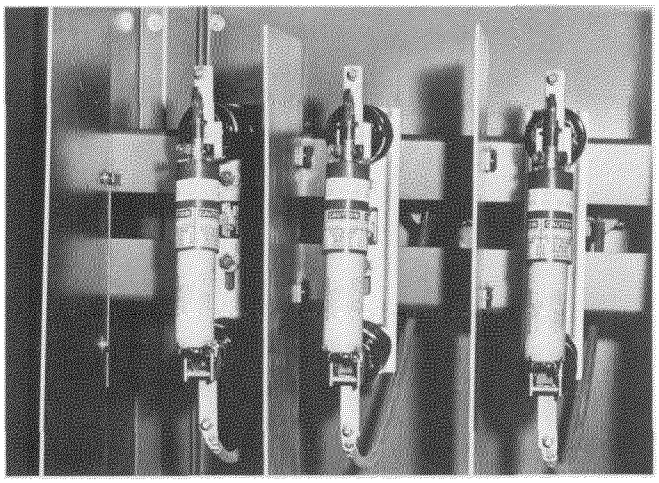
Optional Radial Air Switch

Fused air switches or blade disconnects can be located in the primary cabinet. The fuses are current-limiting type with an interrupting capacity of 50,000 amps, and are individually operable with a hook stick. The fuse supports are mounted on rigid support rails that extend across the compartment in front of the primary bushings. Non-hygroscopic barriers are placed phase-to-phase and phase-to-ground to increase the effective air dielectric.

NOTES: 1. Fuse selection is based on 30C outside ambient and a minimum loading of 145% for eight (8) hours following 100% load for eight (8) hours. In addition, each fuse tabulated meets minimum inrush requirements of 12xN for 0.1 second and 25xN for 0.01 second.

2. The heavy line in the tabulation is drawn to the right of the largest available fuse that meets the above requirements. If the customer is willing to accept reduced overloads, fuses to the right of the line may be used to extend the range. The reduced overload is indicated. Inrush requirements are met.

3. Parallel fuses are designeated by "2x" in TABLE 3.



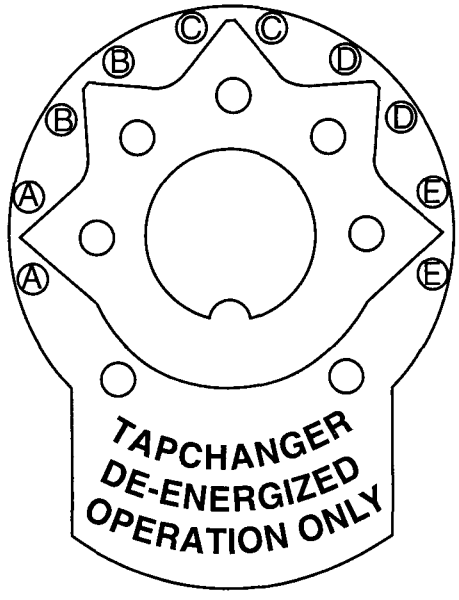
Radial feed fused air switches.

TABLE 3
FUSE APPLICATION AIR SWITCH

Voltage		FUSE kV	75 kVA	112.5 kVA	150 kVA	225 kVA	300 kVA	500 kVA	750 kVA	1000 kVA	1500 kVA	2000 kVA	2500 kVA
2300	2300Y	4.3	25	45	65	100	2x65	2x100 1.4	-	-	-	-	-
2400	2400Y	4.3	25	45	65	100	2x65	2x100 1.4	-	-	-	-	-
4160	4160Y	4.3	18	25	35	45	65	2x50	2x100	2x100 1.3	-	-	-
4800	4800Y	5.5	12	18	25	40	65	2x50	2x75	2x75 1.3	-	-	-
7200	7200Y	8.3	10	18	18	30	40	2x30	2x40 1.4	-	-	-	-
8320	8320Y	8.3	8	12	18	25	30	2x25	2x40	2x40 1.3	-	-	-
12000	12000Y	15.5	8	10	12	18	25	40	2x30	2x40	-	-	-
12470	12470Y	15.5	6	10	12	18	20	40	2x25	2x40	2x40 1.3	-	-
13200	13200Y	15.5	6	10	10	18	20	40	2x25	2x40	2x40 1.3	-	-
13800	13800Y	15.5	6	10	10	12	18	30	2x25	2x30	2x40 1.4	-	-
14400	14400Y	15.5	6	10	10	12	18	30	2x25	2x30	2x40 1.4	-	-
16340	16340Y	-	-	-	-	-	-	-	-	-	-	-	-
22900		-	-	-	-	-	-	-	-	-	-	-	-
4160GrdY/2400		4.3	18	25	35	45	65	2x50	2x100	2x100 1.3	-	-	-
7200GrdY/4160		4.3	10	12	18	25	35	65	2x65	2x65	2x100 1.4	-	-
8320GrdY/4800		5.5	8	12	18	25	30	50	2x40	2x50	2x75 1.4	-	-
12000GrdY/6930		8.3	8	8	12	18	25	40	2x30	2x40	-	-	-
12470GrdY/7200		8.3	6	8	12	18	20	40	2x25	2x40	2x40 1.3	-	-
13200GrdY/7620		8.3	6	8	10	18	20	40	2x25	2x40	2x40 1.3	-	-
13800GrdY/7970		8.3	6	8	10	18	18	30	2x25	2x30	2x40 1.3	-	-
14400GrdY/8320		8.3	6	8	10	18	18	30	2x25	2x30	2x40 1.4	-	-
20780GrdY/12000		15.5	3	6	8	10	12	20	30	2x25	2x30	2x40	2x40 1.3
24940GrdY/14400		15.5	3	6	6	10	12	18	25	40	2x25	2x40	2x40 1.4

Optional Accessories

Tap-changer Control



A tap-changer control for external operation is a standard feature on all COMPAD® transformers whenever taps are furnished. The control switch is located either in the high-voltage or low-voltage compartments. The five-position, 150 amp tap-changer positions are easily changed by pulling out the spring-loaded handle, turning it to the desired position, and allowing the pointer to drop into the slotted index plate. The padlockable operating handle provides greater leverage and can be operated by hook stick or by hand. The tap-changer is for de-energized operation ONLY.

NOTE : 150 amp tap-changer is standard. A 300 amp tap-changer is available for applications greater than 150 amps.

Dual-voltage or Delta-wye Switch

When dual voltage (series-multiple or delta-wye) is specified, the control handle is brought out through the front plate for external operation when the transformer is DE-ENERGIZED. This feature allows an economical means of uprating to higher system voltage, as well as eliminating the need for replacing transformers when changing system voltage.

The padlockable, hot stick-operable control handle is spring-loaded, providing a positive indication of voltage switching. It is normally located in the high-voltage compartment and provides external operation, eliminating the necessity of opening the transformer to change links on a terminal board.

Optional Accessories

EXPULSION FUSES (FAULT-SENSING)

Primary oil-immersed expulsion fuses are sized at approximately three times rated primary current. Their function is to remove a faulted transformer from the line in the remote case of an internal failure. Access to the fuses is through a 7.6 by 19-inch handhole located in the tank cover. See TABLE 3 for IC rating of the fuses. For application data, see TABLE 4 (below).

TABLE 3
Expulsion Fuse Interrupting Ratings

Voltage	Amperes Asymmetrical
2400	5000
4800	5000
7200	3500
14400	2000
23000	1500

TABLE 4
Minimum Continuous Rating - 3.0 X Normal
Internal High Voltage Fuse Application Chart.

Voltage		FUSE kV	75 kVA	112.5 kVA	150 kVA	225 kVA	300 kVA	500 kVA	750 kVA	1000 kVA	1500 kVA	2000 kVA	2500 kVA
2400	2400Y	8.3	$30_{3.3}$	$31_{3.8}$	$31_{2.8}$	$32_{3.4}$	$33_{3.0}$	$34_{3.0}$	$36_{3.8}$	$36_{2.8}$	-	-	-
4160	4160Y	8.3	$9_{2.9}$	$11_{2.9}$	$30_{2.9}$	$31_{3.3}$	$32_{4.4}$	$33_{3.7}$	$34_{3.5}$	$35_{3.6}$	$36_{3.3}$	-	-
4800	4800Y	8.3	$9_{3.3}$	$10_{2.8}$	$30_{3.3}$	$31_{3.8}$	$31_{2.8}$	$32_{3.1}$	$33_{2.9}$	$34_{3.0}$	$36_{3.8}$	$36_{2.8}$	-
7200	7200Y	8.3	$7_{3.1}$	$9_{3.3}$	$10_{3.1}$	$30_{3.3}$	$31_{4.2}$	$32_{4.6}$	$32_{3.1}$	$33_{3.2}$	$34_{3.0}$	$35_{3.1}$	$36_{3.4}$
8320	8320Y	8.3	$6_{3.0}$	$8_{3.1}$	$9_{2.9}$	$11_{2.9}$	$30_{2.9}$	$31_{2.9}$	$32_{3.6}$	$33_{3.7}$	$34_{3.5}$	$35_{3.6}$	$35_{2.9}$
12000	12000Y	15.5	$5_{3.5}$	$7_{3.4}$	$8_{3.2}$	$9_{2.9}$	$11_{3.0}$	$31_{4.2}$	$31_{2.8}$	$32_{3.8}$	$33_{3.6}$	$34_{3.8}$	$34_{3.0}$
12470	12470Y	15.5	$4_{2.8}$	$6_{2.8}$	$8_{3.3}$	$9_{3.0}$	$11_{3.1}$	$31_{4.4}$	$31_{2.9}$	$32_{4.0}$	$33_{3.7}$	$33_{2.8}$	$34_{3.2}$
13200	13200Y	15.5	$4_{2.9}$	$6_{2.9}$	$7_{2.8}$	$9_{3.2}$	$10_{2.9}$	$31_{4.7}$	$31_{3.1}$	$32_{4.2}$	$32_{2.8}$	$33_{3.0}$	$34_{3.3}$
13800	13800Y	15.5	$4_{3.1}$	$6_{3.1}$	$7_{2.9}$	$9_{3.3}$	$10_{3.0}$	$30_{2.9}$	$31_{3.3}$	$32_{4.4}$	$32_{2.9}$	$33_{3.1}$	$34_{3.5}$
14400	14400Y	15.5	$4_{3.2}$	$5_{2.8}$	$7_{3.0}$	$9_{3.5}$	$10_{3.1}$	$30_{3.0}$	$31_{3.4}$	$32_{4.6}$	$32_{3.1}$	$33_{3.2}$	$34_{3.6}$
16340	16340Y	15.5	$3_{3.0}$	$5_{3.2}$	$7_{3.4}$	$8_{2.9}$	$9_{3.0}$	$30_{3.4}$	$31_{3.8}$	$31_{2.9}$	$32_{3.5}$	$33_{3.7}$	$33_{2.9}$
22900		23	$2_{3.1}$	$4_{3.4}$	$5_{3.4}$	$7_{3.2}$	$8_{3.1}$	$10_{3.0}$	-	-	-	-	-
4160GrdY/2400		8.3	$9_{2.9}$	$11_{2.9}$	$30_{2.9}$	$31_{3.3}$	$32_{4.4}$	$33_{3.7}$	$34_{3.5}$	$35_{3.6}$	$36_{3.3}$	-	-
7200GrdY/4160		8.3	$7_{3.1}$	$9_{3.3}$	$10_{3.1}$	$30_{3.3}$	$31_{4.2}$	$32_{4.6}$	$32_{3.1}$	$33_{3.2}$	$34_{3.0}$	$35_{3.1}$	$36_{3.4}$
8320GrdY/4800		8.3	$6_{3.0}$	$8_{3.1}$	$9_{2.9}$	$11_{2.9}$	$30_{2.9}$	$31_{2.9}$	$32_{3.6}$	$33_{3.7}$	$34_{3.5}$	$35_{3.6}$	$35_{2.9}$
12000GrdY/6930		8.3	$4_{2.8}$	$6_{2.9}$	$8_{3.3}$	$10_{3.5}$	$11_{3.1}$	$31_{4.2}$	$31_{2.8}$	$32_{3.8}$	$33_{3.6}$	$34_{3.8}$	$34_{3.0}$
12470GrdY/7200		8.3	$4_{2.9}$	$6_{3.0}$	$8_{2.4}$	$9_{2.9}$	$11_{3.2}$	$31_{4.4}$	$31_{2.9}$	$32_{4.0}$	$33_{3.7}$	$33_{2.8}$	$34_{3.2}$
13200GrdY/7620		8.3	$4_{3.1}$	$6_{3.2}$	$7_{2.9}$	$9_{3.0}$	$10_{2.9}$	$31_{4.7}$	$31_{3.1}$	$32_{4.2}$	$32_{2.8}$	$33_{3.0}$	$34_{3.3}$
13800GrdY/7970		8.3	$4_{3.2}$	$5_{2.8}$	$7_{3.0}$	$9_{3.2}$	$10_{3.0}$	$30_{2.9}$	$31_{3.3}$	$32_{4.4}$	$32_{2.9}$	$33_{3.1}$	$34_{3.5}$
14400GrdY/8320		8.3	$4_{3.3}$	$5_{2.9}$	$7_{3.1}$	$9_{3.3}$	$10_{3.1}$	$30_{3.0}$	$31_{3.4}$	$32_{4.6}$	$32_{3.1}$	$33_{3.2}$	$34_{3.6}$
20780GrdY/12000		15.5	$2_{2.8}$	$4_{3.1}$	$5_{3.1}$	$7_{2.9}$	$8_{2.8}$	$11_{3.1}$	$30_{2.9}$	$31_{3.7}$	$32_{4.4}$	$32_{3.3}$	$33_{3.7}$
24940GrdY/14400		15.5	$2_{3.3}$	$3_{3.0}$	$4_{2.8}$	$6_{2.8}$	$8_{3.4}$	$10_{3.2}$	$30_{3.2}$	$31_{4.0}$	$31_{2.9}$	$32_{4.0}$	$32_{3.2}$
34500GrdY/19920		23	$1_{3.3}$	$2_{3.1}$	$3_{3.1}$	$5_{3.4}$	$6_{2.9}$	$8_{2.8}$	$10_{3.0}$	-	-	-	-

NOTES: 1. Upper number is fuse curve.

2. Lower number is times normal current fuse will carry for 300 seconds in 150° oil.

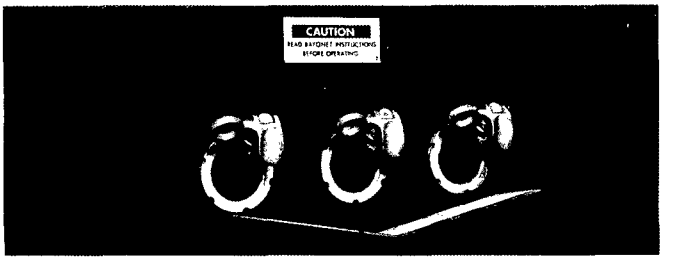
Optional Accessories

BAYONET FUSING

The GE BAYONET fusing devise is an externally removable fuse-holder available with either a fault-sensing or an overload-sensing expulsion fuse. The fuseholder is hot stick-operable and is capable of breaking transformer load current.

Fuses are removable without lifting hood.

Drip shields to contain oil are standard with bayonet fuses.



Bayonet Overload Sensing Fuse Chart, Phase-to-phase Voltage (kV)

kVA	2.4	4.16	4.8	8.32	12.0	12.47	13.2	13.8 14.4	20.8	22.9**	24.9**
75	C12	C10	C10	C08	C05	C05	C05	C05	C03	C03	C03
112.5	C14	C12	C10	C08	C08	C08	C08	C08	C05	C05	C05
150	C14	C12	C12	C10	C08	C08	C08	C08	C05	C05	C05
225	C18	C14	C14	C12	C10	C10	C10	C10	C08	C08	C08
300	C18	C14	C14	C12	C10	C10	C10	C10	C08	C08	C08
500	-	C18	C18	C14	C12	C12	C12	C12	C10	C10	C10
750	-	C18*	C18*	C18	C14	C14	C14	C14	C12*	C12	C12
1000	-	-	-	C18	C14*	C14*	C14*	C14*	C12*	C12	C12
1500	-	-	-	-	-	C18	C18	C18	C14	C14	C14

NOTES: 1. Applications based on 200% of transformer loading for two hours and 160% loading for seven hours based on thermal characteristics of transformers.

2. Application meets inrush requirements of 12 times transformer rated current for 0.1 second.

*Use will result in some loss of overload capacity.

**Must be GrdY/GrdY system with less than 50% delta loading or delta voltages 17000.

Bayonet Fault-sensing Fuse Chart

kVA	2.4	4.16	4.8	8.32	12.0	12.47	13.2	13.8 14.4	20.8†	22.0†	24.94†
75	C12	C10	C08	C06	C06	C06	C06	C06	C04	C04	C04
112.5	C12	C10	C10	C08	C06	C06	C06	C06	C06	C04	C04
150	C14	C12	C12	C10	C08	C08	C08	C08	C06	C06	C06
225	C16	C14	C12	C10	C10	C10	C10	C08	C08	C08	C06
300	C17	C14	C14	C12	C10	C10	C10	C10	C08	C08	C08
500	-	C17	C16	C14	C12	C12	C12	C12	C10	C10	C10
750	-	-	C17	C16	C14	C14	C14	C14	C12	C12	C12
1000	-	-	-	C17	C16	C16	C14	C14	C14	C12	C12
1500	-	-	-	-	C17	C17	C17	C16	C14	C14	C14
2000	-	-	-	-	-	-	C17	C17	C16	C16	C16
2500	-	-	-	-	-	-	-	-	C17	C17	C16

†Not to be used at voltages greater than 17000 for delta configuration or 24940GrdY/14400. (Must be GrdY/GrdY system with less than 50% delta loading.)

Overload Sensing

Fuse No.	Isolation Link
C03	A01
C05	A02
C08	A03
C10	A05
C12	A06
C14	A07
C16	A07
C18	A07

Fault Sensing

Fuse No.	Isolation Link
C04	A01
C06	A01
C08	A02
C10	A03
C12	A03
C14	A03
C16	A05
C17	A05

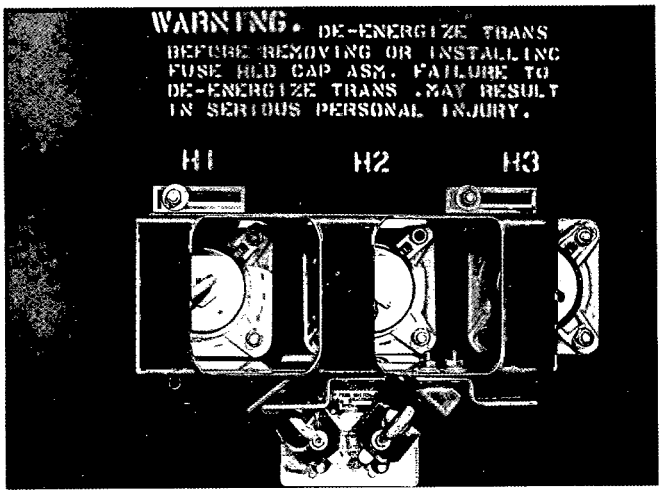
Optional Accessories

NON-LOADBREAK DRY-WELL CURRENT-LIMITING FUSEHOLDER

This feature combines the proven interrupting capability of general-purpose, current-limiting fuses in air-insulated, oil-sealed, dry-well fuseholders. These fuseholders are available on both live-front and on units equipped with separable insulated high-voltage connectors, and are easily operable with a hotstick. The non-loadbreak fuseholder assembly has an integral warning notice and safety baffle to warn against removal of the fuse while transformer is energized. The non-loadbreak fuseholders can also be mechanically interlocked with a load-break switch (as shown).

Once transformer is DE-ENERGIZED by operation of load-break switch, safety baffle can be moved permitting easy access to fuses.

Non-loadbreak fuseholders are available at maximum voltage ratings of 8.3, 15.2 and 21.1 kV, and with impulse withstands of 95-, 125-, and 150-kV BIL respectively.



Non-loadbreak dry-well fuseholders with baffle and switch interlock in closed position.

Non-loadbreak Dry-well Fuse Application Chart

System Voltage	Fuse kV	Amps per kVA											
		75	112	150	225	300	500	750	1000	1500	2000	2500	3000
2400, 2400Y	4.3	35	45	65	100	2x65	2x100	-	-	-	-	-	-
4160, 4160Y	4.3	18	25	35	45	65	2x65	2x75	-	-	-	-	-
4800, 4800Y	5.5	18	20	30	40	65	2x65	2x65	-	-	-	-	-
7200, 7200Y	8.3	6	12	18	25	30	50	2x40	-	-	-	-	-
8320, 8320Y	8.3	6	12	18	20	30	50	2x40	2x50	-	-	-	-
12000, 12000Y	15.5	6	6	8	18	20	30	50	2x30	2x50	-	-	-
12470, 12470Y	15.5	6	6	8	18	20	30	50	2x30	2x50	-	-	-
13200, 13200Y	15.5	6	6	8	12	20	30	50	2x30	2x50	-	-	-
13800, 13800Y	15.5	6	6	8	12	20	30	50	2x30	2x50	-	-	-
14400, 14400Y	15.5	6	6	8	12	20	30	50	2x30	2x50	-	-	-
16340, 16340Y	23	3	6	6	12	12	25	40	2x25	2x40	-	-	-
2290 @	23	3	6	6	6	12	18	25	40	2x25	2x40	-	-
4160GY/2400	4.3	18	25	35	45	65	2x65	2x75	-	-	-	-	-
7200GY/4160	4.3	10	18	18	35	35	65	100	2x65	2x100	-	-	-
8320GY/4800	5.5	8	12	18	25	30	50	75	2x65	2x75	-	-	-
12000GY/6930	8.3	6	6	8	18	20	30	50	2x30	2x50	-	-	-
12470GY/7200	8.3	6	6	8	18	20	30	50	2x30	2x50	-	-	-
13200GY/7620	8.3	6	6	8	12	20	30	50	2x30	2x50	-	-	-
13800GY/7970	8.3	6	6	8	12	20	30	50	2x30	2x50	-	-	-
14400GY/8320	8.3	6	6	8	12	20	30	50	2x30	2x50	-	-	-
20780GY/12000	15.5	3	6	6	6	12	20	25	40	2x25	2x40	2x50	-
24940GY/14400	15.5	3	6	6	6	12	18	25	40	2x25	2x40	2x50	2x50
34500GY/19920	23	3	3	3	6	6	12	18	20	40	2x25	2x30	2x40

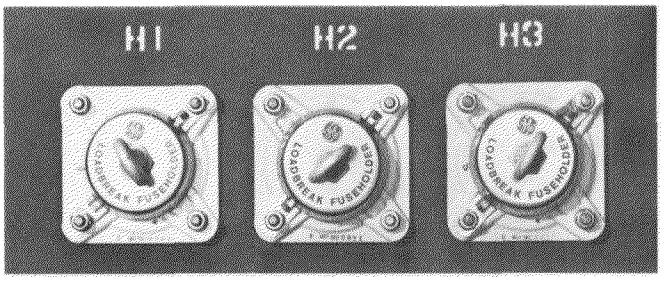
NOTES:
1. Fuse selection based on 30C outside ambient and a loading of 150% for eight hours following 100% load.
2. Each fuse meets inrush requirements of 12xN for 0.1 second.
3. Oil switch with parallel fuseholders refer to the factory.
4. Parallel fuses are designated by "2x" in above table.

Optional Accessories

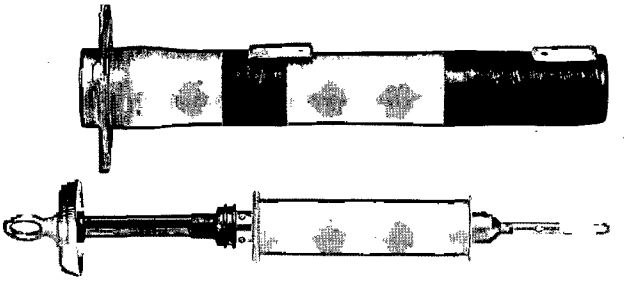
LOADBREAK DRY-WELL FUSEHOLDER

This fuseholder is similar to the non-loadbreak model with the addition of an integral loadbreak switching device. The switching device utilizes the rod-and-bore principle to accomplish loadbreak within the fuseholder.

Available ratings are 8.3 kV (maximum) at 95-kV BIL and 15.2 kV (maximum) at 125-kV BIL.



Loadbreak dry-well fuseholders.



Draw out assemblies for loadbreak dry-well fuseholders.

Loadbreak Dry-well Fuse Application Chart

System Voltage	Fuse kV	Amps per kVA 75	112	150	225	300	500	750	1000	1500	2000	2500	3000
2400, 2400Y	4.3	35	45	65	100	2x65	2x100	-	-	-	-	-	-
4160, 4160Y	4.3	18	25	35	45	65	2x65	2x75	-	-	-	-	-
4800, 4800Y	5.5	18	20	30	40	65	2x65	2x65	-	-	-	-	-
7200, 7200Y	8.3	6	12	18	25	30	50	2x40	-	-	-	-	-
8320, 8320Y	8.3	6	12	18	20	30	50	2x40	2x50	-	-	-	-
12000, 12000Y	15.5	6	6	8	18	20	30	50	2x30	2x50	-	-	-
12470, 12470Y	15.5	6	6	8	18	20	30	50	2x30	2x50	-	-	-
13200, 13200Y	15.5	6	6	8	12	20	30	50	2x30	2x50	-	-	-
13800, 13800Y	15.5	6	6	8	12	20	30	50	2x30	2x50	-	-	-
14400, 14400Y	15.5	6	6	8	12	20	30	50	2x30	2x50	-	-	-
16340, 16340Y	23	3	6	6	12	12	25	40	2x25	2x40	-	-	-
2290 @	23	3	6	6	6	12	18	25	40	2x25	2x40	-	-
4160GY/2400	4.3	18	25	35	45	65	2x65	2x75	-	-	-	-	-
7200GY/4160	4.3	10	18	18	35	35	65	100	2x65	2x100	-	-	-
8320GY/4800	5.5	8	12	18	25	30	50	75	2x65	2x75	-	-	-
12000GY/6930	8.3	6	6	8	18	20	30	50	2x30	2x50	-	-	-
12470GY/7200	8.3	6	6	8	18	20	30	50	2x30	2x50	-	-	-
13200GY/7620	8.3	6	6	8	12	20	30	50	2x30	2x50	-	-	-
13800GY/7970	8.3	6	6	8	12	20	30	50	2x30	2x50	-	-	-
14400GY/8320	8.3	6	6	8	12	20	30	50	2x30	2x50	-	-	-
20780GY/12000	15.5	3	6	6	6	12	20	25	40	2x25	2x40	2x50	-
24940GY/14400	15.5	3	6	6	6	12	18	25	40	2x25	2x40	2x50	2x50
34500GY/19920	23	3	3	3	6	6	12	18	20	40	2x25	2x30	2x40

NOTES:
1. Fuse selection based on 30C outside ambient and a loading of 150% for eight hours following 100% load.
2. Each fuse meets inrush requirements of 12xN for 0.1 second.
3. Oil switch with parallel fuseholders refer to the factory.
4. Parallel fuses are designated by "2x" in above table.

Optional Accessories

OIL SUBMERSIBLE PROTECTOR

The Oil Submersible Protector (OSP) is a partial range current-limiting fuse that is used in series with an expulsion fuse to provide full range protection. The OSP is designed to clear high-current faults (up to 50,000 amperes symmetrical) and the expulsion link to clear low-current faults. These fuses are located under oil beneath the transformer handhole. Either internal expulsion fuses or "bayonets" are available as the series expulsion fuse.

The bayonet or the internal expulsion fuse is available for replacement. The OSP fuse is not available for replacement without removing the main tank cover.

OSP/Bayonet Fuse Application Chart
GE T-Series OSP Current-limiting Fuses in Series with Load-sensing Bayonet Expulsion Fuses

Voltage	FUSE kV	75 kVA	112.5 kVA	150 kVA	225 kVA	300 kVA	500 kVA	750 kVA	1000 kVA	1500 kVA	2000 kVA	2500 kVA
2400 2400Y	8.3	$^{12}_{150}$	$^{12}_{200}$	$^{14}_{200}$	$^{16}_{350}$	$^{17}_{400}$	-	-	-	-	-	-
4160 4160Y	8.3	$^{10}_{80}$	$^{12}_{150}$	$^{12}_{150}$	$^{14}_{2x125}$	$^{14}_{175}$	$^{17}_{400}$	$^{17}_{400}$	-	-	-	-
4800 4800Y	8.3	$^{10}_{80}$	$^{10}_{80}$	$^{12}_{150}$	$^{14}_{2x125}$	$^{14}_{2x25}$	$^{17}_{400}$	$^{17}_{400}$	-	-	-	-
7200 7200	8.3	$^{8}_{50}$	$^{8}_{65}$	$^{12}_{150}$	$^{12}_{150}$	$^{12}_{150}$	$^{14}_{175}$	$^{16}_{200}$	$^{17}_{350}$	-	-	-
8320 8320Y	8.3	$^{8}_{50}$	$^{8}_{65}$	$^{10}_{80}$	$^{12}_{150}$	$^{12}_{150}$	$^{14}_{2x125}$	-	-	-	-	-
12000 12000Y	15.5	$^{5}_{40}$	$^{8}_{50}$	$^{8}_{50}$	$^{10}_{80}$	$^{10}_{80}$	$^{12}_{150}$	$^{14}_{2x125}$	$^{14}_{2x125}$	$^{16}_{200}$	-	-
12470 12470Y	15.5	$^{5}_{40}$	$^{8}_{50}$	$^{8}_{50}$	$^{10}_{80}$	$^{10}_{80}$	$^{12}_{150}$	$^{14}_{2x125}$	$^{14}_{2x125}$	$^{16}_{200}$	-	-
13200 13200Y	15.5	$^{5}_{40}$	$^{8}_{50}$	$^{8}_{50}$	$^{10}_{80}$	$^{10}_{80}$	$^{12}_{150}$	$^{14}_{2x125}$	$^{14}_{2x125}$	$^{16}_{200}$	$^{17}_{350}$	-
13800 13800Y	15.5	$^{5}_{40}$	$^{8}_{50}$	$^{8}_{50}$	$^{10}_{80}$	$^{10}_{80}$	$^{12}_{150}$	$^{14}_{2x125}$	$^{14}_{2x125}$	$^{16}_{200}$	$^{17}_{350}$	-
14400 14400Y	15.5	$^{5}_{40}$	$^{8}_{50}$	$^{8}_{50}$	$^{10}_{80}$	$^{10}_{80}$	$^{12}_{150}$	$^{14}_{2x125}$	$^{14}_{2x125}$	$^{16}_{200}$	$^{17}_{350}$	-
16340 16340Y	15.5	$^{3}_{40}$	$^{5}_{40}$	$^{5}_{40}$	$^{8}_{50}$	$^{8}_{50}$	$^{10}_{80}$	$^{12}_{150}$	$^{12}_{150}$	-	-	-
22900	23	$^{3}_{40}$	$^{5}_{40}$	$^{5}_{40}$	$^{8}_{50}$	$^{8}_{50}$	$^{8}_{50}$	-	-	-	-	-
4160GrdY/2400	8.3	$^{10}_{80}$	$^{12}_{150}$	$^{12}_{150}$	$^{14}_{2x125}$	-	-	-	-	-	-	-
7200Grdy/4160	8.3	$^{8}_{50}$	$^{8}_{65}$	$^{12}_{150}$	$^{12}_{150}$	$^{12}_{150}$	-	-	-	-	-	-
8320GrdY/4800	8.3	$^{8}_{50}$	$^{8}_{65}$	$^{10}_{80}$	$^{12}_{150}$	$^{12}_{150}$	$^{14}_{2x125}$	-	-	-	-	-
12000GrdY/6930	8.3	$^{5}_{40}$	$^{8}_{50}$	$^{8}_{50}$	$^{10}_{80}$	$^{10}_{80}$	$^{12}_{150}$	$^{14}_{2x125}$	$^{14}_{2x125}$	$^{16}_{200}$	-	-
12470GrdY/7200	8.3	$^{5}_{40}$	$^{8}_{50}$	$^{8}_{50}$	$^{10}_{80}$	$^{10}_{80}$	$^{12}_{150}$	$^{14}_{2x125}$	$^{14}_{2x125}$	$^{16}_{200}$	-	-
13200GrdY7620	8.3	$^{5}_{40}$	$^{8}_{50}$	$^{8}_{50}$	$^{10}_{80}$	$^{10}_{80}$	$^{12}_{150}$	$^{14}_{2x125}$	$^{14}_{2x125}$	$^{16}_{200}$	$^{17}_{350}$	-
13800GrdY/7970	8.3	$^{5}_{40}$	$^{8}_{50}$	$^{8}_{50}$	$^{10}_{80}$	$^{10}_{80}$	$^{12}_{150}$	$^{14}_{2x125}$	$^{14}_{2x125}$	$^{16}_{200}$	$^{17}_{350}$	-
14400GrdY/8320	8.3	$^{5}_{40}$	$^{8}_{50}$	$^{8}_{50}$	$^{10}_{80}$	$^{10}_{80}$	$^{12}_{150}$	$^{14}_{2x125}$	$^{14}_{2x125}$	$^{16}_{200}$	$^{17}_{350}$	-
20780GrdY/12000	15.5	$^{3}_{40}$	$^{5}_{40}$	$^{5}_{40}$	$^{8}_{40}$	$^{8}_{40}$	$^{10}_{80}$	$^{12}_{150}$	$^{12}_{150}$	-	-	-
22860GrdY/13200	15.5	$^{3}_{40}$	$^{5}_{40}$	$^{5}_{40}$	$^{8}_{40}$	$^{8}_{40}$	$^{10}_{80}$	$^{12}_{150}$	$^{12}_{150}$	-	-	-
24940GrdY/14400	15.5	$^{3}_{40}$	$^{5}_{40}$	$^{5}_{40}$	$^{8}_{40}$	$^{8}_{40}$	$^{10}_{80}$	$^{12}_{150}$	$^{12}_{150}$	-	-	-
34500GrdY/19920	23	$^{3}_{40}$	$^{3}_{40}$	$^{5}_{40}$	$^{5}_{40}$	$^{5}_{40}$	$^{8}_{50}$	$^{8}_{50}$	-	-	-	-

NOTES: The upper number in the box is either the load-sensing bayonet fuse or the expulsion fuse model number.

The lower number in the box is the back-up oil-immersed, current-limiting fuse (OSP) number.

The OSP fusing is not available on dual-voltage units.

Optional Accessories

OSP/Expulsion Fuse Application Chart
GE T-Series OSP Current Limiting Fuses In Series With Internal Current-sensing Expulsion Fuses

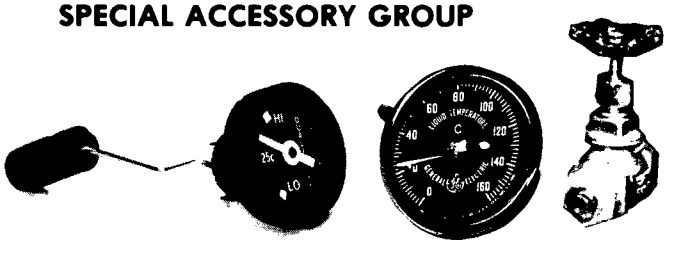
Voltage		FUSE kV	75 kVA	112.5 kVA	150 kVA	225 kVA	300 kVA	500 kVA	750 kVA	1000 kVA	1500 kVA	2000 kVA	2500 kVA
2400	2400Y	8.3	$^{10}_{100}$	$^{30}_{100}$	$^{31}_{150}$	$^{32}_{200}$	$^{32}_{200}$	-	$^{34}_{2x150}$	-	-	-	-
4160	4160Y	8.3	$^{7}_{65}$	$^{9}_{80}$	$^{10}_{80}$	$^{31}_{100}$	$^{31}_{150}$	$^{32}_{200}$	$^{33}_{2x125}$	$^{33}_{2x125}$	$^{34}_{2x150}$	-	-
4800	4800Y	8.3	$^{7}_{65}$	$^{8}_{65}$	$^{10}_{80}$	$^{31}_{100}$	$^{31}_{125}$	$^{32}_{200}$	$^{33}_{2x125}$	$^{33}_{2x125}$	$^{34}_{2x150}$	-	-
7200	7200Y	8.3	$^{5}_{40}$	$^{7}_{65}$	$^{8}_{65}$	$^{10}_{80}$	$^{11}_{80}$	$^{31}_{100}$	$^{32}_{200}$	$^{32}_{200}$	$^{33}_{2x125}$	$^{34}_{2x150}$	$^{34}_{2x150}$
8320	8320Y	8.3	$^{4}_{40}$	$^{6}_{50}$	$^{7}_{65}$	$^{9}_{65}$	$^{10}_{80}$	$^{31}_{100}$	$^{32}_{200}$	$^{32}_{200}$	$^{33}_{2x125}$	$^{33}_{2x125}$	$^{34}_{2x150}$
12000	12000Y	15.5	$^{3}_{40}$	$^{5}_{40}$	$^{6}_{40}$	$^{7}_{50}$	$^{9}_{65}$	$^{11}_{80}$	$^{31}_{100}$	$^{31}_{100}$	$^{32}_{150}$	$^{33}_{2x125}$	$^{33}_{2x125}$
12470	12470Y	15.5	$^{3}_{40}$	$^{5}_{40}$	$^{6}_{40}$	$^{7}_{50}$	$^{8}_{65}$	$^{11}_{80}$	$^{31}_{100}$	$^{31}_{100}$	$^{32}_{150}$	$^{33}_{2x125}$	$^{33}_{2x125}$
13200	13200Y	15.5	$^{3}_{40}$	$^{5}_{40}$	$^{6}_{40}$	$^{7}_{50}$	$^{8}_{65}$	$^{10}_{65}$	$^{31}_{100}$	$^{31}_{100}$	$^{32}_{150}$	$^{33}_{2x125}$	$^{33}_{2x125}$
13800	13800Y	15.5	$^{3}_{40}$	$^{4}_{40}$	$^{5}_{40}$	$^{7}_{50}$	$^{8}_{65}$	$^{10}_{65}$	$^{31}_{100}$	$^{31}_{100}$	$^{32}_{150}$	$^{33}_{2x125}$	$^{33}_{2x125}$
14400	14400Y	15.5	$^{3}_{40}$	$^{4}_{40}$	$^{5}_{40}$	$^{7}_{50}$	$^{8}_{65}$	$^{10}_{65}$	$^{31}_{100}$	$^{31}_{100}$	$^{31}_{125}$	$^{32}_{150}$	$^{33}_{2x125}$
16340	16340Y	15.5	$^{2}_{40}$	$^{4}_{40}$	$^{5}_{40}$	$^{6}_{40}$	$^{7}_{50}$	$^{9}_{65}$	$^{31}_{100}$	$^{31}_{100}$	$^{31}_{125}$	$^{32}_{150}$	$^{33}_{2x125}$
22900		23	$^{2}_{40}$	$^{3}_{40}$	$^{4}_{40}$	$^{5}_{40}$	$^{6}_{40}$	$^{8}_{50}$	$^{9}_{65}$	$^{10}_{65}$	-	-	-
4160GrdY/2400		8.3	$^{7}_{65}$	$^{9}_{80}$	$^{10}_{80}$	$^{31}_{100}$	$^{31}_{150}$	$^{32}_{200}$	$^{33}_{2x125}$	$^{33}_{2x125}$	$^{34}_{2x150}$	-	-
7200GrdY/4160		8.3	$^{5}_{40}$	$^{7}_{65}$	$^{8}_{65}$	$^{10}_{80}$	$^{11}_{80}$	$^{31}_{100}$	$^{32}_{200}$	$^{32}_{200}$	$^{33}_{2x125}$	$^{34}_{2x150}$	-
8320GrdY/4800		8.3	$^{4}_{40}$	$^{6}_{50}$	$^{7}_{65}$	$^{9}_{65}$	$^{10}_{80}$	$^{31}_{100}$	$^{32}_{200}$	$^{32}_{200}$	$^{33}_{2x125}$	$^{33}_{2x125}$	$^{34}_{2x150}$
12000GrdY/6930		8.3	$^{3}_{40}$	$^{5}_{40}$	$^{6}_{40}$	$^{7}_{50}$	$^{9}_{65}$	$^{11}_{80}$	$^{31}_{100}$	$^{31}_{100}$	$^{32}_{200}$	$^{33}_{2x125}$	$^{33}_{2x125}$
12470GrdY/7200		8.3	$^{3}_{40}$	$^{5}_{40}$	$^{6}_{40}$	$^{7}_{50}$	$^{8}_{65}$	$^{11}_{80}$	$^{31}_{100}$	$^{31}_{100}$	$^{32}_{200}$	$^{33}_{2x125}$	$^{33}_{2x125}$
13200GrdY/7620		8.3	$^{3}_{40}$	$^{5}_{40}$	$^{6}_{40}$	$^{7}_{50}$	$^{8}_{65}$	$^{10}_{80}$	$^{31}_{100}$	$^{31}_{100}$	$^{32}_{200}$	$^{33}_{2x125}$	$^{33}_{2x125}$
13800GrdY/7970		8.3	$^{3}_{40}$	$^{4}_{40}$	$^{5}_{40}$	$^{7}_{50}$	$^{8}_{65}$	$^{10}_{80}$	$^{31}_{100}$	$^{31}_{100}$	$^{32}_{200}$	$^{32}_{200}$	$^{33}_{2x125}$
14400GrdY/8320		8.3	$^{3}_{40}$	$^{4}_{40}$	$^{5}_{40}$	$^{7}_{50}$	$^{8}_{65}$	$^{10}_{80}$	$^{31}_{100}$	$^{31}_{100}$	$^{31}_{125}$	$^{32}_{200}$	$^{33}_{2x125}$
20780GrdY/12000		15.5	$^{2}_{40}$	$^{3}_{40}$	$^{4}_{40}$	$^{5}_{40}$	$^{6}_{40}$	$^{8}_{65}$	$^{10}_{65}$	$^{30}_{80}$	$^{31}_{100}$	$^{31}_{125}$	$^{32}_{150}$
22860GrdY/13200		15.5	$^{2}_{40}$	$^{3}_{40}$	$^{4}_{40}$	$^{5}_{40}$	$^{6}_{40}$	$^{8}_{65}$	$^{9}_{65}$	$^{11}_{80}$	$^{31}_{100}$	$^{31}_{125}$	$^{31}_{125}$
24940GrdY/14400		15.5	$^{2}_{40}$	$^{2}_{40}$	$^{3}_{40}$	$^{5}_{40}$	$^{5}_{40}$	$^{8}_{65}$	$^{9}_{65}$	$^{11}_{80}$	$^{31}_{100}$	$^{31}_{125}$	$^{31}_{125}$
34500GrdY/19920		23	$^{1}_{40}$	$^{2}_{40}$	$^{2}_{40}$	$^{3}_{40}$	$^{5}_{40}$	$^{6}_{40}$	$^{8}_{40}$	$^{9}_{65}$	$^{10}_{65}$	-	-

NOTES: The upper number in the box is either the load-sensing bayonet fuse or the expulsion fuse model number.

The lower number in the box is the back-up oil-immersed, current-limiting fuse (OSP) number.

The OSP fusing is not available on dual-voltage units.

SPECIAL ACCESSORY GROUP



This accessory group includes the dial-type thermometer, liquid-level gage, one-inch drain valve, one-half inch sampling device and provision for vacuum-pressure gage. These are available as a complete group or as individual items. A description of each is covered under items 1-5.

1. Dial-type Thermometer

This thermometer is direct stem-mounted in a closed well, located on the frontplate of the transformer to indicate the top-liquid temperature. The well is threaded into a ½-inch NPT fitting that is welded to the transformer tank wall so that the thermometer can be removed without breaking the tank seal. The thermometer has a slave-hand which is moved by the indicating hand to indicate maximum temperature. The thermometer dial reads 0° through 120° C.

Optional Accessories

2. Liquid-level Gage

This gage has a vertical face and is gasket mounted to the front plate of the transformer, inside the low-voltage compartment. The liquid-level gage dial reads LO-25C-HI.

3. Drain Valve

This is a one-inch globe-type valve furnished with a half-inch NPT standard pipe plug in the outer end. It is furnished as a standard on all units.

4. Sampling Device

This device is threaded into the one-half inch NPT opening normally occupied by the drain plug. In addition to serving as a plug, it provides for quick and easy sampling of the transformer oil. This sampler, when furnished, is located in the end of the drain valve. It is furnished as a standard on 750-2500 kVA units, optional on units rated 500 kVA and below.

5. Provision for Vacuum-pressure Gage

This consists of a flange with one-quarter inch NPT opening welded to the tank wall in the air space above the oil and is supplied with a one-quarter inch pipe plug.

6. ANSI Tank Ground Pads

Two-hole tank ground pads supplied on all kVA sizes. They are stainless-steel with an unpainted surface. One pad is located in the high-voltage compartment and one in the low-voltage compartment. Each pad has two (2) ½ to 13-inch tapped holes on 1¾-inch centers.

7. Pressure Vacuum Gage

This gage is located in the low-voltage compartment above the bushings in the air space. This gage measures the internal pressure with dial readings from -10 PSIG to +10 PSIG.

8. Automatic Pressure Relief Device

The pressure relief device is located on the low-voltage tank wall above the bushings in the air space. This device relieves excessive internal tank pressure. The device opens at 10 PSIG ± 2 PSIG and reseals at a positive pressure.

9. Internal Lightening Arrestors

GE metal oxide distribution-type arrestors are housed and directly connected inside the transformer tank. These arrestors meet the requirements of ANSI C62.11, latest revision, and NEMA LA1, latest revision.

This arrestor concept enhances reliability through the elimination of external environment-related failure factors. Padmounted transformers and underground cable are adequately protected economically, while maintaining the integrity of ANSI C57.12.26 for separable insulated high-voltage connector construction.

The kV ratings normally supplied are listed in the following table.

Lightning Arrestors

Lightning arrestors with HV ratings are normally supplied when transformer is ordered "with arrestors." Other ratings of lightning arrestors will be supplied upon request.

High Voltage (Line-to-Line)	Transformer Primary Connection			
	Delta (Arrestor kV)		Grd-Wye (Arrestor kV)	
	External	Internal	External	Internal
2400	3	3	3	3
4160	6	6	3	3
4800	6	6	6	6
12000	12	12	9	10
12470	15	15	9	10
13200§	15	15	10	10
13800	15	15	10	12
14400	15	15	12	15
22900GrdY	-	-	18	18
24940GrdY	-	-	21	18
34500GrdY	-	-	27	27

§ Most systems with this voltage are connected wye with a solid grounded neutral, and arrestor indicated will provide maximum protection in such cases.

10. External Lightning Arrestors

Distribution-type direct connected lightning arrestors are supplied through 35 kV grounded wye on live-front designs only and when three-phase COMPAD® is ordered with arrestors. Unless otherwise specified, the kV rating of the arrestor normally supplied is listed in the above table.

11. Elbow Valve Arrestor

An elbow valve arrestor (available from others) provides surge protection for underground distribution circuits where transformers with separable insulated high-voltage connectors are utilized. Three would be used on radially fed six-bushing pad-mounted transformers utilizing the other three separable insulated high-voltage connectors for the incoming line.

12. Current Transformer Provisions

GE type JAB-O and JKY-O current transformers are designed to fit the low-voltage bushings, therefore provisions for these are standard.

Provisions for other types of current transformers or potential transformers consist of a plate mounted below the low-voltage bushings.

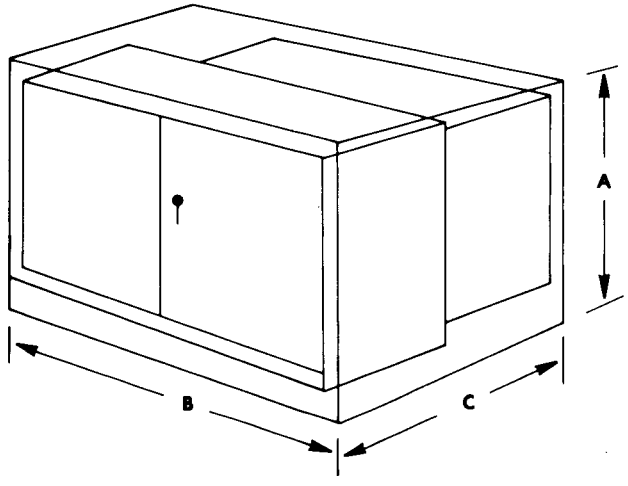
When provisions for both current and potential transformers are required, we offer a plate below the secondary bushings for the current transformers and a plate above the secondary bushings for the potential transformers.

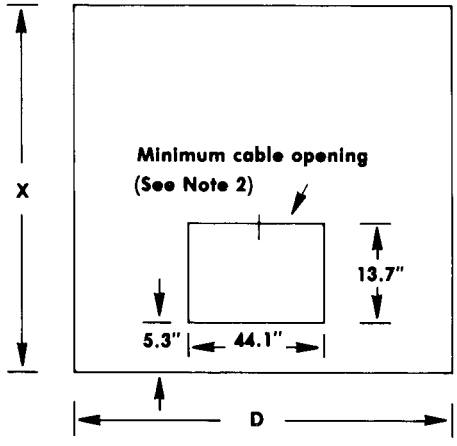
13. Molded-Case Circuit Breakers

A single-mounted, secondary molded-case circuit breaker with a maximum rating of 3000 amperes is available on all COMPAD transformers. The breaker is channel-mounted in the low-voltage compartment.

Panelboards containing molded-case circuit breakers are also available where application requirements do not exceed 1200 amperes and a "27X" maximum height. For space restrictions or further information consult GE's Electrical Distribution and Control Sales Division.

Mechanical and Electrical Data





NOTES:

1. In some cases (particularly larger kVAs), the radiation will extend beyond the pad. If this is not acceptable, substitute the "B" and "C" dimensions for the "D" and "X" dimensions, respectively, to determine an optimum pad size.
2. High- and low-voltage compartments are **not** symmetrical. Since cable opening shown is minimum, adequate space may not be available on some configurations.

Maximum Dimensions +						
Dimensions in Inches						
kVA	A	B	C	D	X	Max. Weight
75	87	83	54	86	52	4400
112.5	87	83	56	86	52	4500
150	87	83	58	86	52	4600
225	87	83	62	86	52	4800
300	87	87	67	86	55	5300
500	87	87	73	86	58	7000
750	87	89	77	86	59	8000
1000	87	91	77	86	60	9400
1500	87	91	84	86	61	10600
2000	89	93	85	86	65	13000
2500	89	93	85	86	67	15200

+ Not approved for installation

2. High- and low-voltage compartments are **not** symmetrical, and since cable opening shown is minimum, adequate space may not be available on some configurations.

Typical Impedance	
kVA	% Impedance
75	2.20
112.5	2.40
150	2.80
225	2.80
300	3.00
500	3.30
*750-2500	5.75

***ANSI Standards allow a 7½% tolerance.**

Guide Form Specification — Three-phase Pad-mounted Transformer Equipped with Separable Insulated High-voltage Connectors

Rating

Three-phase – Self-cooled
☐ Oil-immersed; ☐ R'Temp; ☐ Silicone
☐ 60 Hertz, ☐ 50 Hertz
☐ 65C Rise, ☐ 55/65C Rise

Select one

75 kVA ☐	500 kVA ☐	2500 kVA ☐
112.5 kVA ☐	750 kVA ☐	3000 kVA ☐
150 kVA ☐	1000 kVA ☐	3750 kVA ☐
225 kVA ☐	1500 kVA ☐	5000 kVA ☐
300 kVA ☐	2000 kVA ☐	

Select one

Primary voltage: _____ volts

Connected: Ground wye (preferred) ☐
Delta ☐

Select one

Primary taps: None ☐
Four 2½% below ☐
Two 2½% above and two 2½% below ☐

The tap changer control is for de-energized operation only and must be externally operable with a hotstick and requires at least two operator actions to change taps. The preferable location for the control is in the primary compartment.

Select one

Secondary voltage: _____ volts

Connected: Wye (preferred) ☐
Delta ☐

General Construction Features

Units shall be constructed in accordance with ANSI Standard C57.12.26 (latest revision).

All characteristics, definitions, terminology, and voltage designations and tests, except as otherwise specified herein, shall be in accordance with the following American National Standard Requirements, Terminology, and Test Code for Distribution, Power, and Regulating Transformers:

General Requirements, C57.12.00 (IEEE Std 462) (latest revision).
Terminal Markings and Connections, C57.12.70 (latest revision).
Terminology, C57.12.80, including Supplement C57.12.80a (latest revision).
Test Code, C57.12.90 (IEEE Std. 262) (latest revision).

The pad-mounted, compartmental-type transformer shall consist of the transformer tank with high- and low-voltage cable terminating compartment. The transformer tank and compartment shall be assembled as an integral unit for mounting on a pad. There shall be no exposed screws, bolts, or other fastening devices which are externally removable. There shall be no openings through which foreign objects such as sticks, rods, or wires might contact live parts. There shall be means for padlocking the compartment door(s). The construction shall limit the entry of water (other than flood water) into the compartment so as not to impair the operation of the transformer.

Full-height, air-filled incoming and outgoing terminal compartments with hinged doors shall be located side-by-side separated by a steel barrier, with the incoming compartment on the left. The high-voltage (incoming) compartment will be accessible only after the door to the low-voltage (outgoing) compartment has been opened. To facilitate making connections and permit cable pulling, the doors and compartment hood shall be removable. Removable door sill on compartments shall be provided to permit rolling or skidding of unit into place over conduit studs in foundation.

The compartments will have hinged doors equipped for latching in the open position. The high-voltage compartment door will have a fastening device which is accessible only through the low-voltage compartment.

The hinge assemblies shall be made of corrosion-resistant material. Stainless-steel hinge pins of 3/8-inch minimum diameter will be provided.

Both compartment doors must be capable of being secured with a single padlock having a maximum ½-inch diameter shackle.

Lifting provisions in accordance with ANSI Standards shall be provided.

Jacking and rolling provisions shall be provided.

The instruction nameplate is to be located in the low-voltage portion of the compartment and shall be readable with cables in place. Where the nameplate is mounted on a removable part, the manufacturer's name and transformer serial number shall be permanently affixed to a non-removable part.

Transformer tank shall be sealed-tank construction with a welded main cover.

A bolted tamper-resistant handhole shall be provided in the tank cover for access to internal connections.

Provisions for tank grounding shall be supplied in both the high-voltage and low-voltage compartments. These provisions shall consist of:

(1) 500 kVA and below: 1/2-13 UNC tapped hole 7/16-inch deep.
(2) 750 kVA and above: (2) 1/2-13 UNC tapped holes 1/2-inch deep.

Low-voltage bushings shall be tinned, spade-type with 9/16-inch holes spaced on 1 ¾-inch centers in accordance with the Latest Revisions of ANSI.

For wye-wye connected units the high-voltage and low-voltage neutrals shall be connected internally and brought out through a bushing located in the secondary compartment.

Unless otherwise specified, the incoming primary section shall be equipped with three 200-ampere bushing wells in accordance with ANSI Standard C119.2.

Optional Primary (separable insulated high-voltage connector) bushings:

A. Three (3) 200-ampere bushing wells equipped with 200-ampere loadbreak switch modules.
B. Three (3) 200-ampere loadbreak integrated bushings (combines the functions of bushing well and switch module).
C. Three (3) 600-ampere deadbreak bushings.

Optional primary (separable insulated high-voltage connector) bushings for looped primary cable systems or primary selective systems:

A. Six (6) 200-ampere bushing wells in accordance with ANSI Standard C119.2.
B. Six (6) 200-ampere bushing wells equipped with 200-ampere loadbreak switch modules.
C. Six (6) 200-ampere loadbreak integrated bushings (combines the functions of bushing well and switch module).
D. Six (6) 600-ampere deadbreak bushings.

The following accessories are to be provided on all units.

(1) One-inch filling provision.
(2) One-inch drain provision.
(3) Liquid level indication.

Guide Form Specification — Three-phase Pad-mounted Transformer Equipped with Separable Insulated High-voltage Connectors

Optional Equipment
(To be indicated on inquiry)
Overcurrent Protection

(Only ONE of the following can be specified) Check preceding fuse charts for availability.

Select only one (if desired) **Overcurrent Protection**

☐ Three internally mounted, oil-immersed, expulsion fuses accessible through the tank handhole.

☐ Three Bayonet-type, oil-immersed, expulsion fuses accessible through the primary compartment. The fuses shall be removable using a hot stick, (without disassembly of the primary cabinet) for external replacement of fuse cartridges.

☐ Three current-limiting fuses in NON-LOADBREAK, dry-well fuseholders. The fuseholder must accept either GE or McGraw Edison general-purpose, distribution current-limiting fuses with an interrupting capacity of 50,000 amperes. The fuseholders shall be located in the primary compartment and be hot-stick operable for external replacement of the fuses.

☐ Three current-limiting fuses in LOADBREAK, dry-well fuseholders. The fuseholder must accept either GE or McGraw Edison general-purpose, distribution current-limiting fuses with an interrupting capacity of 50,000 amperes. The fuseholders shall be located in the primary compartment and be hot-stick operable for external replacement of the fuses. The loadbreak fuseholder must be capable of interrupting a minimum of 100 amperes.

☐ A combination of oil-immersed, current-limiting fuses and internally mounted, oil-immersed, expulsion fuses coordinated to provide full-range protection with the expulsion fuse clearing low-current faults and the current-limiting fuse clearing high-current faults up to 50,000 amperes.

☐ A combination of oil-immersed, current-limiting fuses and Bayonet oil-immersed, expulsion fuses coordinated to provide full range protection with the expulsion fuse clearing low-current faults and the current-limiting fuse clearing high-current faults up to 50,000 amperes.

Radial Feed Switch — 300 amp

☐ Provide an internal, oil-immersed, gang-operated, two-position (ON/OFF), loadbreak, manually operated switch. The switch must be capable of switching transformer full-load current. The switch handle shall be located in the primary compartment and must be hot stick-operable.

Loop-feed Switch — 300 amp

☐ Provide one loop-feed, internal, oil-immersed, gang-operated, loadbreak, manually operated switch for a looped primary cable system. The switch shall be either two (2) two-position switches or a four-position switch. The switch must be capable of switching 200, 400 or 600 amperes to permit sectionalizing of the looped system. The switch handles shall be located in the primary compartment and must be hot stick-operable. Six primary bushings will be provided.

Loop/Radial Switch - 300 amp

☐ Provide switch consisting of two (2) two-position, oil-immersed, loadbreak, manually operated switches combining the loop- and radial-switch functions consisting of a transformer switch and a loop switch.

Alternate-source Switch — 300 amp

☐ Provide a primary selective switch to permit energizing transformer from either of two primary sources (but not both). The alternate source switch shall consist of two internal, oil-immersed, gang-operated, two-position (ON/OFF), manually operated, loadbreak switches with a mechanical interlock to prevent closing both sources. The switch must be capable of switching transformer full-load current. The switch handles shall be located in the primary compartment and must be hot stick-operable. Six primary bushings will be provided.

Loop Switch with ON/OFF Radial Switch

☐ This combination unites the functions of the loop-switch operations, allowing the transformer to be de-energized and allowing either loop to be de-energized.

'T' Blade, 'V' Blade Sectionalizing Switches

☐ "T" Blade Switch allows the loop to be energized while the transformer is de-energized.

☐ "V" Blade Switch allows the loop plus the transformer to be de-energized at the same time.

Additional Accessories
ANY of the following accessories can be specified:

Select items required

☐ One-inch drain valve and sampler (standard on 750 kVA and above).

☐ Special accessory group consisting of:
a. One-inch drain valve and sampler,
b. Dial-type thermometer,
c. Liquid-level gauge and
d. Provisions (1/4" NPT) for vacuum/pressure gauge.

☐ Pressure-vacuum gauge.

☐ Internal lightning arrestors.

☐ Single, secondary, molded-case circuit breaker with a maximum rating of 3000 amperes; channel mounted in the low-voltage compartment. (Accessories mounted in low-voltage compartment may be covered by this device.)

☐ Molded-case circuit-breaker panel board for 1200 amperes maximum and "27X" maximum height; channel mounted in the low-voltage compartment. (Accessories mounted in low-voltage compartment may be covered by this device.)

☐ Low-voltage busway entrance through secondary compartment cover. See page 26 for details.

Guide Form Specification — Live-front Three-phase Pad-mounted Transformer Equipped for Application

Rating

Three-phase – Self-cooled
☐ Oil-immersed; ☐ R'Temp; ☐ Silicone
☐ 60 Hertz, ☐ 50 Hertz
☐ 65C Rise, ☐ 55/60C Rise

Select one

75 kVA ☐	500 kVA ☐	2500 kVA ☐
112.5 kVA ☐	750 kVA ☐	3000 kVA ☐
150 kVA ☐	1000 kVA ☐	3750 kVA ☐
225 kVA ☐	1500 kVA ☐	5000 kVA ☐
300 kVA ☐	2000 kVA ☐	

Select one

Primary voltage: _____ volts

Connected: Ground wye (preferred) ..... ☐
Delta ..... ☐

Select one

Primary taps: None ..... ☐
Four 2½% below ..... ☐
Two 2½% above and two 2½% below ..... ☐

The tap changer control is for de-energized operation only and must be externally operable with a hot stick and requires at least two operator actions to change taps. The preferable location for the control is in the primary compartment.

Select one

Secondary voltage: _____ volts

Connected: Wye (preferred) ..... ☐
Delta ..... ☐

General Construction Features

Units shall be constructed in accordance with ANSI Standard C57.12.22 (latest revision).

All characteristics, definitions, terminology, and voltage designations and tests, except as otherwise specified herein, shall be in accordance with the following American National Standard Requirements, Terminology, and Test Code for Distribution, Power, and Regulating Transformers:

General Requirements C57.12.00 (IEEE Std. 462) (latest revision).

Terminal Markings and Connections, C57.12.70 (latest revision).

Terminology, C57.12.80, including Supplement C57.12.80a (latest revision).

Test Code, C57.12.90 (IEEE Std. 262) (latest revision).

The pad-mounted, compartmental-type transformer shall consist of the transformer tank with high- and low-voltage cable terminating compartment. The transformer tank and compartment shall be assembled as an integral unit for mounting on a pad. There shall be no exposed screws, bolts, or other fastening devices which are externally removable. There shall be no openings through which foreign objects such as sticks, rods, or wires might contact live parts. There shall be means for padlocking the compartment door(s). The construction shall limit the entry of water (other than flood water) into the compartment so as not to impair the operation of the transformer.

Full-height, air-filled incoming and outgoing terminal compartments with hinged doors shall be located side-by-side separated by a steel barrier, with the incoming compartment on the left. The high-voltage (incoming) compartment will be accessible only after the door to the low-voltage (outgoing) compartment has been opened. To facilitate making connections and permit cable pulling, the doors and compartment hood shall be removable. Removable door sill on compartments shall be provided to permit rolling or skidding of unit into place over conduit studs in foundation.

The compartments will have hinged doors equipped for latching in the open position. The high-voltage compartment door will have a fastening device which is accessible only through the low-voltage compartment.

The hinge assemblies shall be made of corrosion-resistant material. Stainless-steel hinge pins of 3/8-inch minimum diameter will be provided.

Both compartment doors must be capable of being secured with a single padlock having a maximum ½-inch diameter shackle.

Lifting provisions in accordance with ANSI Standards shall be provided.

Jacking and rolling provisions shall be provided.

The instruction nameplate is to be located in the low-voltage portion of the compartment and shall be readable with cables in place. Where the nameplate is mounted on a removable part, the manufacturer's name and transformer serial number shall be permanently affixed to a non-removable part.

Transformer tank shall be sealed-tank construction with a welded main cover.

A bolted tamper-resistant handhole shall be provided in the tank cover for access to internal connections.

Provisions for tank grounding shall be supplied in both the high-voltage and low-voltage compartments. These provisions shall consist of:

(1) 500 kVA and below: 1/2-13 UNC tapped hole 7/16-inch deep.

(2) 750 kVA and above: (2) 1/2-13 UNC tapped holes 1/2-inch deep.

Low-voltage bushings shall be tinned, spade-type with 9/16-inch holes spaced on 1 ¾-inch centers in accordance with the Latest Revisions of ANSI.

For wye-wye connected units the high-voltage and low-voltage neutrals shall be connected internally and brought out through a bushing located in the secondary compartment.

Unless otherwise specified, the incoming primary section shall be equipped with three primary (live-front) porcelain bushings. The bushing terminals shall be:

(1). 500 kVA and below: clamp-type terminals for #8 solid through 2/0 stranded cable.

(2). 750 kVA and above: three-hole blade terminals.

The terminals shall be oriented for vertical cabling from below.

The following Accessories are to be provided on all units.

(1). One-inch filling provision.

(2). One-inch drain provision.

(3). Liquid-level indication.

Guide Form Specification — Live-front Three-phase Pad-mounted Transformer Equipped for Application

Optional Equipment
(To be indicated on inquiry)
Overcurrent Protection

(Only ONE of the following can be specified) Check preceding fuse charts for availability.

Select only one (If desired) **Overcurrent Protection**

- ☐ Three internally mounted, oil-immersed, expulsion fuses accessible through the tank handhole.
- ☐ Three Bayonet-type, oil-immersed, expulsion fuses accessible through the primary compartment. The fuses shall be removable using a hot-stick, (without disassembly of the primary cabinet) for external replacement of fuse cartridges.
- ☐ Three current-limiting fuses in NON-LOADBREAK, dry-well fuseholders. The fuseholder must accept either GE or McGraw Edison general-purpose, distribution current-limiting fuses with an interrupting capacity of 50,000 amperes. The fuseholders shall be located in the primary compartment and be hot-stick operable for external replacement of the fuses.
- ☐ Three current-limiting fuses in LOADBREAK, dry-well fuseholders. The fuseholder must accept either GE or McGraw Edison general-purpose, distribution current-limiting fuses with an interrupting capacity of 50,000 amperes. The fuseholders shall be located in the primary compartment and be hot-stick operable for external replacement of the fuses. The loadbreak fuseholder must be capable of interrupting a minimum of 100 amperes.
- ☐ A combination of oil-immersed, current-limiting fuses and internally mounted, oil-immersed, expulsion fuses coordinated to provide full-range protection with the expulsion fuse clearing low-current faults and the current-limiting fuse clearing high-current faults up to 50,000 amperes.
- ☐ A combination of oil-immersed, current-limiting fuses and Bayonet oil-immersed, expulsion fuses coordinated to provide full range protection with the expulsion fuse clearing low-current faults and the current-limiting fuse clearing high-current faults up to 50,000 amperes.
- ☐ An Arc Strangler® fused switch assembly consisting of single-pole units equipped with McGraw-Edison type NX® current-limiting fuse/switch capable of breaking 200 amperes of load current and interrupting up to 50,000 amperes of fault current. (Do not specify when specifying oil switches).

Radial Feed Switch — 300 amp

- ☐ Provide an internal, oil-immersed, gang-operated, two-position (ON/OFF), loadbreak, manually operated switch. The switch must be capable of switching transformer full-load current. The switch handle shall be located in the primary compartment and must be hot stick-operable.

Loop-feed Switch — 300 amp

- ☐ Provide one loop-feed, internal, oil-immersed, gang-operated, loadbreak, manually operated switch for a looped primary cable system. The switch shall be either two (2) two-position switches or a four-position switch. The switch must be capable of switching 200, 400 or 600 amperes to permit sectionalizing of the looped system. The switch handles shall be located in the primary compartment and must be hot stick-operable. Six primary bushings will be provided.

Loop/Radial Switch - 300 amp

- ☐ Provide switch consisting of two (2) two-position, oil-immersed, loadbreak, manually operated switches combining the loop- and radial-switch functions consisting of a transformer switch and a loop switch.

Alternate-source Switch — 300 amp

- ☐ Provide a primary selective switch to permit energizing transformer from either of two primary sources (but not both). The alternate source switch shall consist of two internal, oil-immersed, gang-operated, two-position (ON/OFF), manually operated, loadbreak switches with a mechanical interlock to prevent closing both sources. The switch must be capable of switching transformer full-load current. The switch handles shall be located in the primary compartment and must be hot stick-operable. Six primary bushings will be provided.

Loop Switch with ON/OFF Radial Switch

- ☐ This combination unites the functions of the loop-switch operations, allowing the transformer to be de-energized and allowing either loop to be de-energized.

'T' Blade, 'V' Blade Sectionalizing Switches

- ☐ "T" Blade Switch allows the loop to be energized while the transformer is de-energized.
- ☐ "V" Blade Switch allows the loop plus the transformer to be de-energized at the same time.

Additional Accessories
ANY of the following accessories can be specified:

Select items required

- ☐ One-inch drain valve and sampler (standard on 750 kVA and above).
- ☐ Special accessory group consisting of:
  a. One-inch drain valve and sampler,
  b. Dial-type thermometer,
  c. Liquid-level gauge and
  d. Provisions (1/4" NPT) for vacuum/pressure gauge.
- ☐ Pressure-vacuum gauge.
- ☐ Internal lightning arrestors.
- ☐ External lightning arrestors.
- ☐ Single, secondary, molded-case circuit breaker with a maximum rating of 3000 amperes; channel mounted in the low-voltage compartment. (Accessories mounted in low-voltage compartment may be covered by this device.)
- ☐ Molded-case circuit-breaker panel board for 1200 amperes maximum and "27X" maximum height; channel mounted in the low-voltage compartment. (Accessories mounted in low-voltage compartment may be covered by this device.)
- ☐ Low-voltage busway entrance through secondary compartment cover. See page 26 for details.

Outline and Typical Mechanical Data

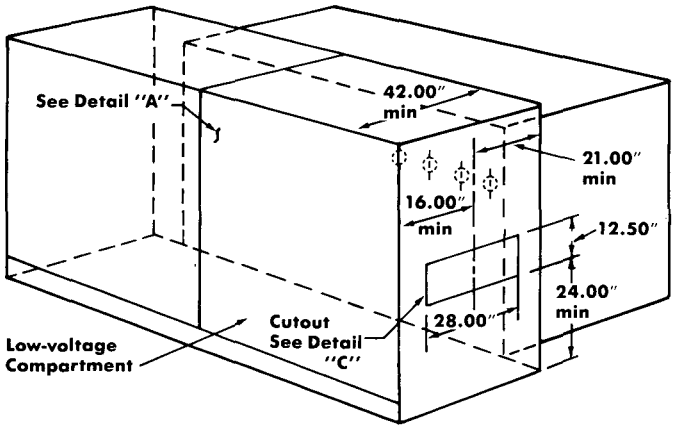
Low-voltage Bus-Duct Entrance Provisions for Three-phase Pad-mounted Transformers 75-2500 Kva

NOTES: 1. Not available in combination with panelboard secondary.

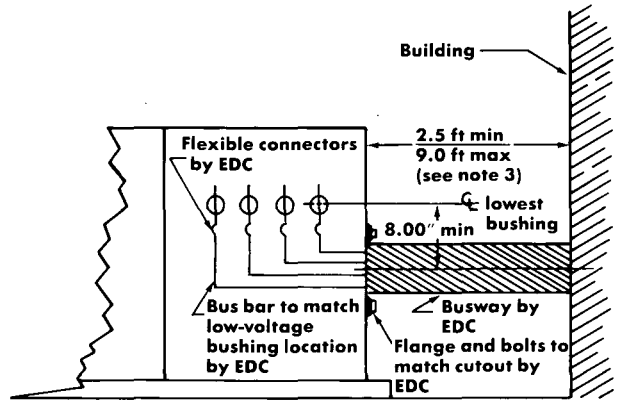
2. Details shown are for coordination with GE Electrical Distribution and Control Sales busway only.

3. Transformer cabinet will support reasonable weight. However, the user is cautioned to use discretion in the assembly and employ separate support means when the need is evident.

SIDE ENTRANCE

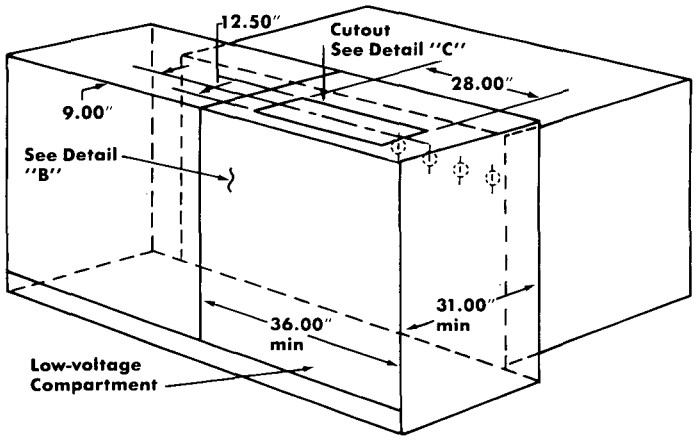


Low-voltage bus-duct top entrance

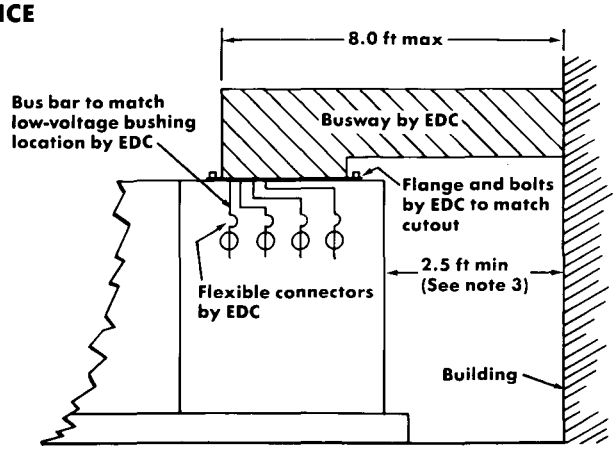


Detail "A"

TOP ENTRANCE



Low-voltage bus-duct side entrance

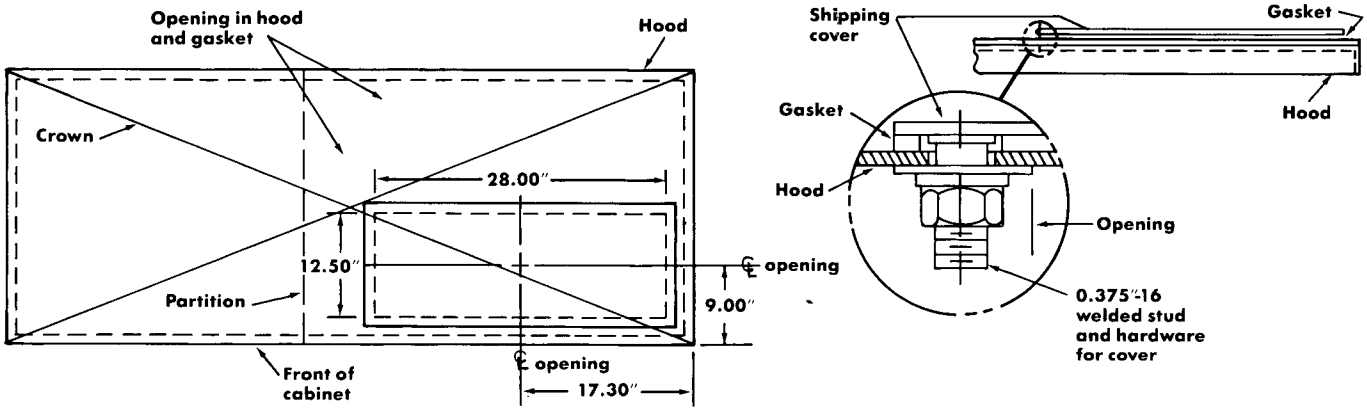


Detail "B"

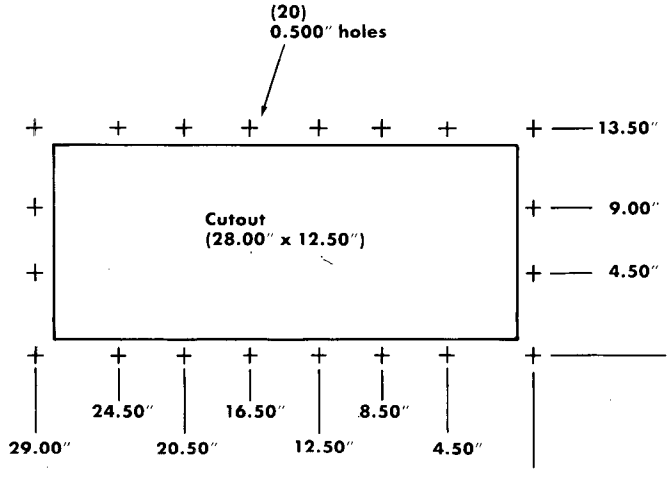
Outline and Typical Mechanical Data

Bus Duct Entrance Provisions

TYPICAL ENTRANCE DETAILS (Top Shown)



BOLT HOLE PATTERN FOR TOP AND SIDE ENTRANCE



Important Features

- Less flammable R'Temp or silicone insulation available as options.
- Test reports by transformer serial number.
- Steel barrier between high- and low-voltage compartments.
- Bolted-on handhole cover with tamper-resistant hood standard on transformer tank cover.
- Zinc-oxide under-oil distribution lightning arrestors mounted inside transformer tank.
- Five-legged core construction.
- Optional low-loss, high-efficiencies design flexibility to decrease total owning costs.

Standards and References

Padmounted transformers / three-phase / 75-5000 kVA

American National Standards Institute (ANSI)

ANSI C57.12.22 (latest revision)	Requirements for livefront, padmounted, compartmental-type, self-cooled, three-phase distribution transformers, 2500 kVA and below.
ANSI C57.12.26 (latest revision)	Requirements for deadfront padmounted compartmental-type, self-cooled, three-phase distribution transformers, 2500 kVA and below.
ANSI C57.12.00	General requirements for liquid-immersed, distribution, power-regulating transformers.
ANSI C57.12.90	IEEE standard test code for liquid-immersed distribution, power and regulating transformers and IEEE guide for short-circuit testing of distribution and power transformers.

GE Commercial Transformer

General Electric Company
Commercial Transformer Operation
7000 Bert Kouns Industrial Loop
Shreveport, LA 71129-3008

GET6859A 6/96 (10M)