

MGM



TRANSFORMER COMPANY

ISO 9001
CERTIFIED



**MEETS TP-1
EFFICIENCY**

600 V Class, Dry Type, General Purpose Distribution Transformers

MGM TRANSFORMER COMPANY
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**Other
Products**



Dry Substation
(Bulletin 30)



Liquid Substation
(Bulletin 40)

BULLETIN 10

GENERAL INFORMATION

MGM Dry type transformers are designed, manufactured and tested in accordance with all applicable NEMA, ANSI and IEEE standards.

MGM 600 Volt class transformers are UL and CUL listed in accordance to standards UL506 and ULI561 and are classified as isolation transformers.

ENCLOSURES

MGM ventilated transformers utilize a NEMA 2 rated drip proof metal enclosure with natural draft ventilation. MGM dual rated enclosures are suitable for indoor or outdoor applications and are standard on all models except the 225, 300, and 500 kVA transformers (optional Weather-shield Kits are available for these units).

VOLTAGE TAPS

Taps will compensate for the high or low line voltages.

MGM 600 Volt class transformers are provided with 6 primary taps:
 2@ 2-1/2% FCAN
 4@ 2-1/2% FCBN

Single Phase TP-I Stock Transformer		
KVA	Z%	TP-I Efficiency
10	4.80	N/A
15	4.58	97.70
25	4.68	98.00
37.5	4.70	98.20
50	4.93	98.30
75	5.88	98.50
100	6.19	98.60

Connection Legend
 YS = 480D - 208Y/120
 DS = 480D - 240D/120CT
 CS = 240D - 208Y/120

STANDARD FEATURES

- NEMA TPI Energy Efficient
- UL 506, UL 1561 Listed
- Aluminum Windings
- 60 Hz
- Electrostatic Shield
- Min. 60 dB Common Mode Noise Attenuation (Single shield)
- 150°C Temperature Rise
- ANSI C57.12.01
- Seismic Zone IV Compliant

COMMON OPTIONS

- Copper Windings
- Outdoor NEMA-3R Kit
- 80° & 115°C Temperature Rise
- K-Factor; up to K-30
- Wall Mount Brackets (15 - 112.5 KVA)
- 50 Hz; 50/60 Hz
- Totally Enclosed Non Ventilated (not UL listed)
- Any Voltage Arrangement
- Stainless Steel Case
- Reduced Sound Level

SOUND LEVELS

MGM 600 Volt class general purpose dry type transformers are designed to meet NEMA ST-20 sound levels.

NEMA standard sound levels

KVA	dB Level
0-9	40
10-50	45
51-150	50
151-300	55
301-500	60

TESTING AND QUALITY ASSURANCE

As part of our quality assurance process, all 600 Volt MGM Transformers go through a rigorous ANSI/IEEE test plan to ensure optimum performance. These tests include:

- Winding resistance test
- Turn ratio test
- Polarity and phase relation test
- No load losses and exciting current test
- Impedance and load loss test
- Applied potential test

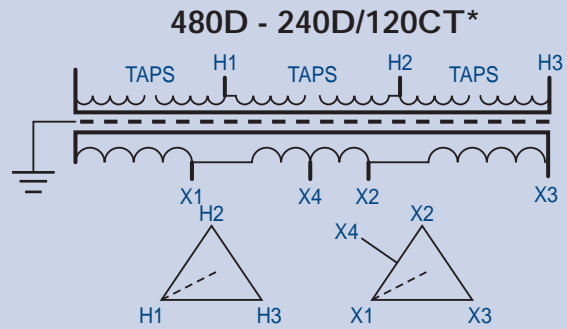
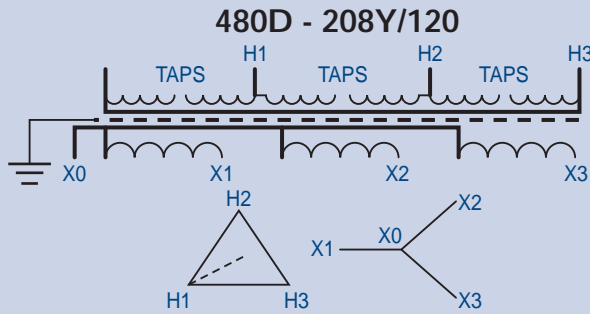
Three Phase TP-I Stock Transformer			
KVA	Connection	Z%	TP-I Efficiency
15	YS DS CS	4.95	97.00
30	YS DS CS	6.30	97.50
45	YS DS CS	6.47	97.70
75	YS DS CS	5.62	98.00
112.5	YS DS CS	5.96	98.20
150	YS DS CS	6.61	98.30
225	YS DS CS	6.20 5.83	98.50
300	YS DS CS	6.18	98.60
500	YS DS CS	6.19	98.70

Note: Impedance values are typical NOT guaranteed.



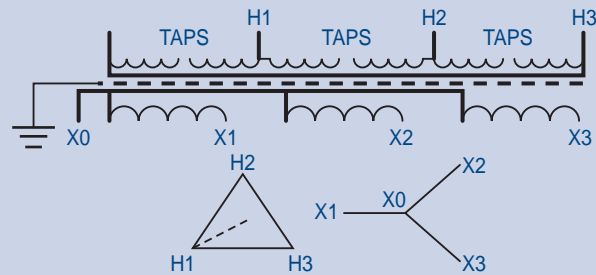
WIRING DIAGRAM / VOLTAGE TAPS

Three Phase, 15 kVA - 500 kVA



CONNECT TAPS		PRIMARY VOLTAGE	
15 - 150 kVA	225 - 500 kVA	480	240
H1,H2,H3 - 7	4-5	504	252
H1,H2,H3 - 6	4-6	492	246
H1,H2,H3 - 5	3-5	480	240
H1,H2,H3 - 4	3-6	468	234
H1,H2,H3 - 3	2-6	456	228
H1,H2,H3 - 2	3-7	444	222
H1,H2,H3 - 1	2-7	432	216

Three Phase, 15 kVA - 75 kVA 240D - 208Y/120

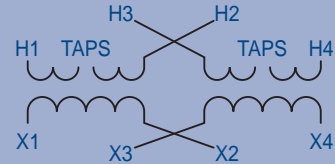


* 120 volt single phase output can be obtained between X1 and X4 (5% of capacity) & X2 and X4 (5% of capacity).
 If maximum of 10% single phase output is used, three phase capacity is reduced by 15%.
 X4 to be grounded for single phase neutral connection.
 If X4 is grounded - NO other phase (X1, X2, X3) or primary phases H1, H2, H3 should be grounded.
 Voltage between X4-X3 will be 208V - often referred as high leg.

Single Phase, 10 kVA - 100 kVA 240 X 480 - 120/240

HV LINKS ACROSS H2-H3		
VOLTAGE	CONNECT TAPS	
504	3-4	7-8
492	3-4	6-8
480	2-4	6-8
468	3-5	6-8
456	3-5	7-9
444	2-5	7-9
432	2-5	6-9

HV LINKS ACROSS H2-H3 & H2-H4		
VOLTAGE	CONNECT TAPS	
252	3-4	7-8
240	3-4	6-8
228	3-5	7-9
216	2-5	6-9

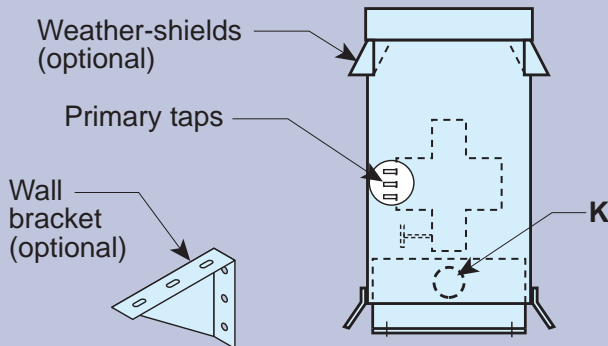
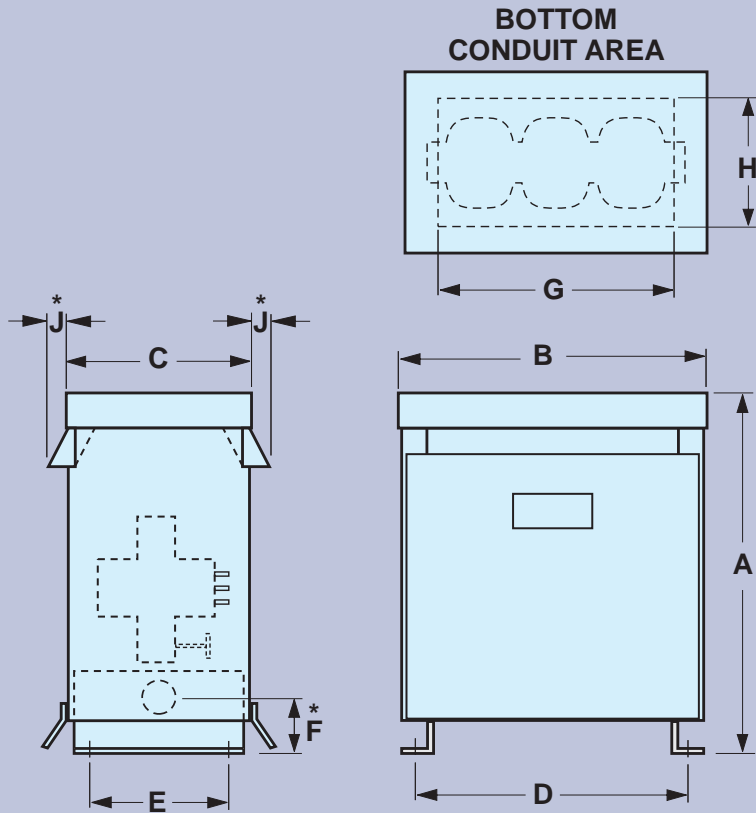


LV	CONNECT LINKS	CONNECT LINES
240	X2 - X3	X1 - X4
120/240	**X2 - X3	**X1 - X2/X3 - X4
120	X1 - X3, X2 - X4	X1 - X4

** Three (3) wire operation, X2-X3 to be grounded for neutral.

3ø, 480V D PRIMARY				3ø, 240V D PRIMARY		1ø, 240 x 480 PRI.		
KVA	Secondary		Weight (Lbs)	Secondary 208Y/120V	Weight (Lbs)	KVA	Secondary 120/240V	Weight (Lbs)
	208Y/120 V	240D/120 CT						
15	HT15A3B2SH	HT15A3K2SH	230	HT15C3B2SH	225	10	HS10C3B2SH	175
30	HT30A3B2SH	HT30A3K2SH	340	HT30C3B2SH	325	15	HS15C3B2SH	205
45	HT45A3B2SH	HT45A3K2SH	405	HT45C3B2SH	390	25	HS25C3B2SH	270
75	HT75A3B2SH	HT75A3K2SH	575	HT75C3B2SH	525	37.5	HS37C3B2SH	345
112.5	HT112A3B2SH	HT112A3K2SH	725			50	HS50C3B2SH	385
150	HT150A3B2SH	HT150A3K2SH	860			75	HS75C3B2SH	530
225	HT225A3B2SH	HT225A3K2SH	1,375			100	HS100C3B2SH	645
300	HT300A3B2SH	HT300A3K2SH	1,600					
500	HT500A3B2SH	HT500A3K2SH	2,850					

2-2.5% FCAN & 4-2.5% FCBN - An MGM Standard.



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KVA	DIMENSIONS (Inches)										Wall Bracket	Weather Shield	Enclosure
	A	B	C	D	E	F	G	H	J	K			
9 - 15	28	21	14	18 ¹ / ₂	11 ¹ / ₂	-	17	10	-	-	WB1	-	GPA
30 - 45	32	26 ¹ / ₂	17	23	14	-	22	13	-	-	WB1	-	GPB
75	38 ¹ / ₂	28 ¹ / ₂	20	28 ¹ / ₂	17 ¹ / ₂	-	26	16 ¹ / ₂	-	-	WB2	-	GPB+
112.5	40 ¹ / ₂	31 ¹ / ₂	21 ³ / ₄	28 ¹ / ₂	19	-	26	16 ¹ / ₂	-	-	WB2	-	GPC
150	40 ¹ / ₂	36 ¹ / ₂	21 ³ / ₄	33 ¹ / ₂	19	-	31	16 ¹ / ₂	-	-	-	-	GPC+
* 225 - 300	51 ¹ / ₂	40 ¹ / ₂	26 ¹ / ₂	37	21	10 ¹ / ₂	35	19	4 ⁵ / ₈	5"	-	RH5	GPD
* 500	66	50 ¹ / ₂	32	47 ¹ / ₂	24	11 ³ / ₄	44	24	4 ⁵ / ₈	2-5"	-	RH6	GPE

GPA, GPB, GPB+, GPC, & GPC+ - Dual Rated Indoor/Outdoor design.

* Weather-shield kits are needed for outdoor application on GPD and GPE enclosures.