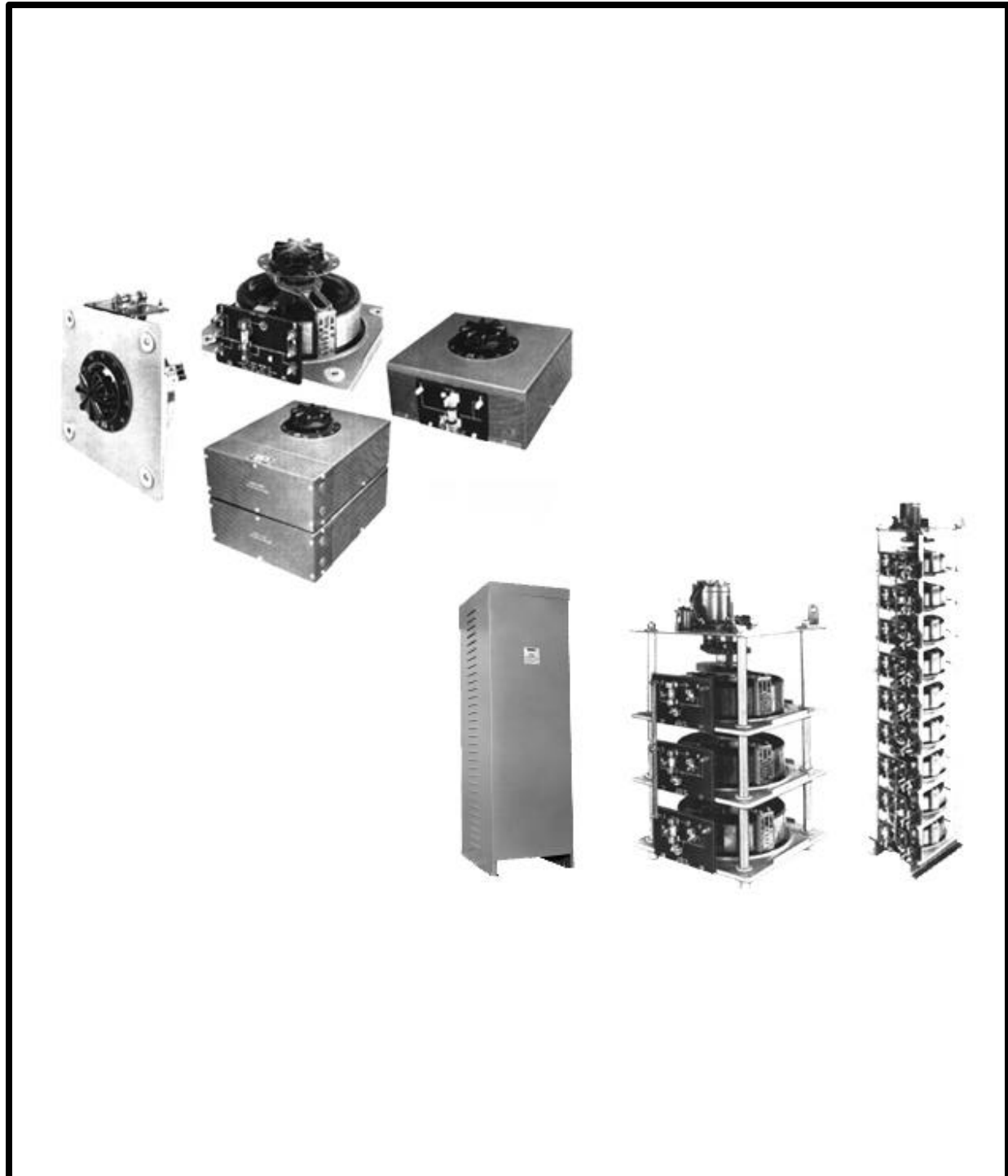


Variable Transformers
Series 5000 • 28.0 to 252.0 Amperes



5000 Series

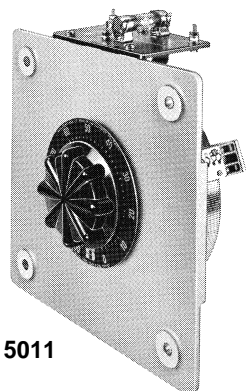
The 5011/5021 Series Variable transformers are designed to control large KVA requirements. The 5011 operates on 120 volts and is rated for constant current of 50 amperes. The 5021 operates on 240 volts and constant current of 28 amperes. The 5011 Series units have coil tapping arrangements allowing output voltage from 0-117% of line voltage, while the 5021 Series allows output voltage from 0 to line voltage or 17% above line voltage. They can be operated at frequencies between 50 and 400 Hertz with a rating at higher than rated frequency.

Adjustable shaft design on manually operated models permits back-of-panel or bench mounting. Terminals are 1/4" screw type. For single and two ganged units, case styles are available in either "C" style, which encloses only the coil, or the "CT" style,

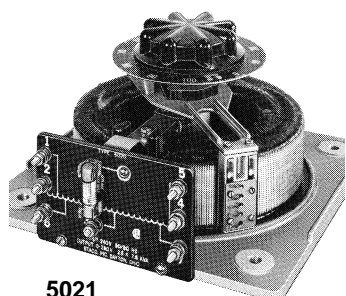
which provides protective housing for both the coil and terminal board. Knockouts are provided in the terminal board housing to accommodate conduit or cable connections. For three ganged and above, we offer our Nema 1, dripproof, fully front accessible "E" enclosure.

Motor-driven models are available from single thru 27 ganged assemblies; cased or uncased (identified with the prefix "M" in the part number). The synchronous motor is designed for operation on 120 volt, 50/60 Hertz, single phase lines and draws approximately 0.3 amperes. To meet a wide range of application requirements, standard motor speeds of 5, 15, 30 and 60 seconds are available depending upon the size of the variable transformer.

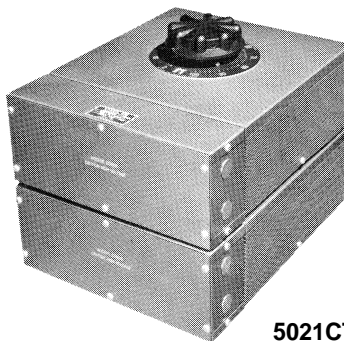
PART NUMBER		WIRING	INPUT		OUTPUT			SHAFT ROTATION FOR VOLTAGE INCREASE	TERMINAL CONNECTIONS For Increasing Voltage As Viewed from Rotor End		SCHE-MATIC (Pg 8 & 9)	NET WEIGHT IN LBS. (MAX)	
MANUALLY OPERATED	MOTOR DRIVEN		VOLTS	HERTZ	VOLTS	MAX AMPS	MAX KVA		INPUT	OUTPUT		MAN-UAL	MOTOR DRIVEN
5011 5011C 5011CT	M5011 M5011C M5011CT	Single Phase	120	50/60	0-140	50	7.0	CW	1-2	1-3	18	57	78
5021 5021C 5021CT	M5021 M5021C M5021CT	Single Phase	240	50/60	0-240	28	6.7	CW	2-4	2-3	19	57	78
					0-280	28	7.8	CCW	4-2	4-3			
			120	50/60	0-280	28*-12 V.D.	3.4†	CCW	2-5	2-3			
5011-2D 5011C-2D 5011CT-2D	M5011-2D M5011C-2D M5011CT-2D	Three Phase Open Delta	120	50/60	0-140	50	12.1	CW	2-1-2	3-1-3	20 & 5	134	155
5011-2P 5011C-2P 5011CT-2P	M5011-2P M5011C-2P M5011CT-2P	Single Phase Parallel	120	50/60	0-140	100	14.0	CW	1-2	1-B	21	136	157
5011-2S 5011C-2S 5011CT-2S	M5011-2S M5011C-2S M5011CT-2S	Single Phase Series	240	50/60	0-280	50	14.0	CW	2-2	3-3	20 & 4	134	155
5021-2D 5021C-2D 5021CT-2D	M5021-2D M5021C-2D M5021CT-2D	Three Phase Open Delta	240	50/60	0-240	28	11.6	CW	4-1-4	3-1-3	20 & 5	134	155
					0-280	28	13.6	CCW	2-1-2	3-1-3			
5021-2P 5021C-2P 5021CT-2P	M5021-2P M5021C-2P M5021CT-2P	Single Phase Parallel	240	50/60	0-240	56	13.4	CW	1-4	1-B	21	136	157
					0-280	56	15.7	CCW	1-2	1-B			
5021-2S 5021C-2S 5021CT-2S	M5021-2S M5021C-2S M5021CT-2S	Single Phase Series	480	50/60	0-480	28	13.5	CW	4-4	3-3	20 & 4	134	155
					0-560	28	15.7	CCW	2-2	3-3			
5011-3P 5011E-3P	M5011-3P M5011E-3P	Single Phase Parallel	120	50/60	0-140	150	21.0	CW	1-2	1-D	22	216	237
5011-3Y 5011E-3Y	M5011-3Y M5011E-3Y	Three Phase Wye	240	60	0-280	50	24.2	CW	2-2-2	3-3-3	20 & 6	212	233



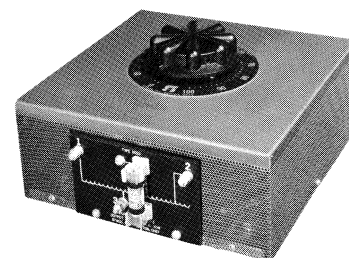
5011



5021



5021CT-2

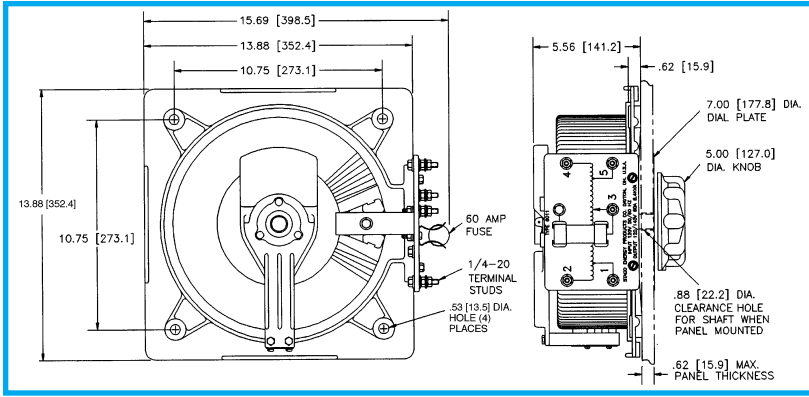


5011C

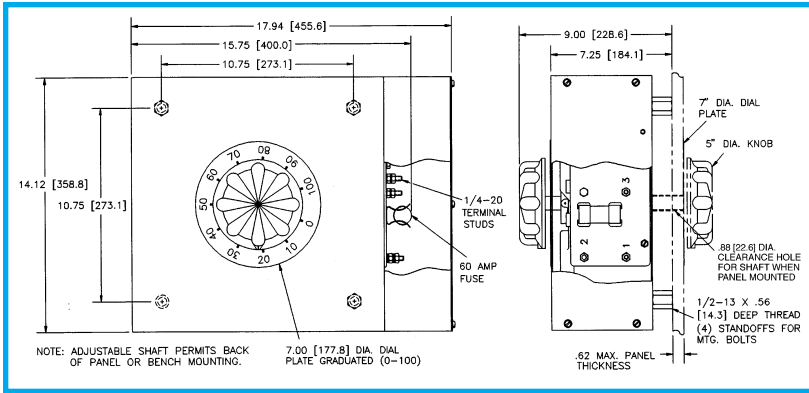
5000 Series

PART NUMBER		WIRING	INPUT		OUTPUT			SHAFT ROTATION FOR VOLTAGE INCREASE	TERMINAL CONNECTIONS For Increasing Voltage As Viewed from Rotor End		SCHEMATIC (Pg 8 & 9)	NET WEIGHT IN LBS. (MAX)	
MANUALLY OPERATED	MOTOR DRIVEN		VOLTS	HERTZ	VOLTS	MAX AMPS	MAX KVA		INPUT	OUTPUT		MANUAL	MOTOR DRIVEN
5021-6D 5021E-6D	M5021-6D M5021E-6D	Three Phase Open Delta	240	50/60	0-240	84	34.9	CW	4-1-4	D-1-D	22 & 5	481	502
				50/60	0-280	84	40.7	CW	2-1-2	D-1-D			
5021-6P 5021E-6P	M5021-6P M5021E-6P	Single Phase Parallel	240	50/60	0-240	168	40.3	CW	1-4	1-D	22	483	504
				50/60	0-280	168	47.0	CW	1-2	1-D			
5021-6PS 5021E-6PS	M5021-6PS M5021E-6PS	Single Phase Series Parallel	480	50/60	0-480	84	40.3	CW	4-4	D-D	22 & 4	481	502
				50/60	0-560	84	47.0	CW	2-2	D-D			
5021-6Y 5021E-6Y	M5021-6Y M5021E-6Y	Three Phase Wye	480	50/60	0-480	56	46.6	CW	4-4-4	B-B-B	21 & 6	479	500
				60	0-560	56	54.3	CW	2-2-2	B-B-B			
5011-7P 5011E-7P	M5011-7P M5011E-7P	Single Phase Parallel	120	50/60	0-140	350	49.0	CW	1-2	1-D	22	563	584
5021-7P 5021E-7P	M5021-7P M5021E-7P	Single Phase Parallel	240	50/60	0-240	196	47.0	CW	1-4	1-D	22	563	584
				50/60	0-280	196	54.9	CW	1-2	1-D			
5011-8D 5011E-8D	M5011-8D M5011E-8D	Three Phase Open Delta	120	50/60	0-140	200	48.4	CW	2-1-2	D-1-D	22 & 5	640	661
5011-8P 5011E-8P	M5011-8P M5011E-8P	Single Phase Parallel	120	50/60	0-140	400	56.0	CW	1-2	1-D	22	642	663
5011-8PS 5011E-8PS	M5011-8PS M5011E-8PS	Single Phase Series Parallel	240	50/60	0-280	200	56.0	CW	2-2	D-D	22 & 4	640	661
5021-8D 5021E-8D	M5021-8D M5021E-8D	Three Phase Open Delta	240	50/60	0-240	112	46.6	CW	4-1-4	D-1-D	22 & 5	640	661
				50/60	0-280	112	54.3	CW	2-1-2	D-1-D			
5021-8P 5021E-8P	M5021-8P M5021E-8P	Single Phase Parallel	240	50/60	0-240	224	53.8	CW	1-4	1-D	22	642	663
				50/60	0-280	224	62.7	CW	1-2	1-D			
5021-8PS 5021E-8PS	M5021-8PS M5021E-8PS	Single Phase Series Parallel	480	50/60	0-480	112	53.8	CW	4-4	D-D	22 & 4	640	742
				50/60	0-560	112	62.7	CW	2-2	D-D			
5011-9P 5011E-9P	M5011-9P M5011E-9P	Single Phase Parallel	120	50/60	0-140	450	63.0	CW	1-2	1-D	22	721	742
5021-9P 5021E-9P	M5021-9P M5021E-9P	Single Phase Parallel	240	50/60	0-240	252	60.5	CW	1-4	1-D	22	721	742
				50/60	0-280	252	70.6	CW	1-2	1-D			
5021-9Y 5021E-9Y	M5021-9Y M5021E-9Y	Three Phase Wye	480	50/60	0-480	84	69.8	CW	4-4-4	D-D-D	22 & 6	717	738
				60	0-560	84	81.5	CW	2-2-2	D-D-D			
—	M5011-10D M5011E-10D	Three Phase Open Delta	120	50/60	0-140	250	60.6	CW	2-1-2	D-1-D	22 & 5	812	812
—	M5021-10D M5021E-10D	Three Phase Open Delta	240	50/60	0-240	140	58.2	CW	4-1-4	D-1-D	22 & 5	812	812
				50/60	0-280	140	67.9	CW	2-1-2	D-1-D			
—	M5011-10PS M5011E-10PS	Single Phase Series Parallel	240	50/60	0-240	140	58.2	CW	4-1-4	D-1-D	22 & 5	812	812
				50/60	0-280	140	67.9	CW	2-1-2	D-1-D			

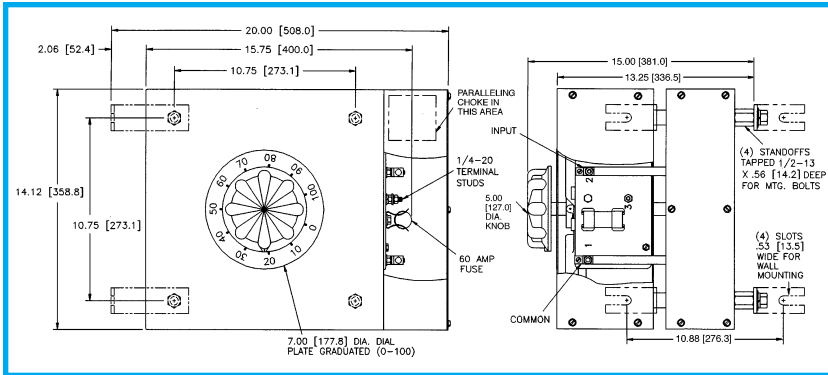
5000/6000 Series



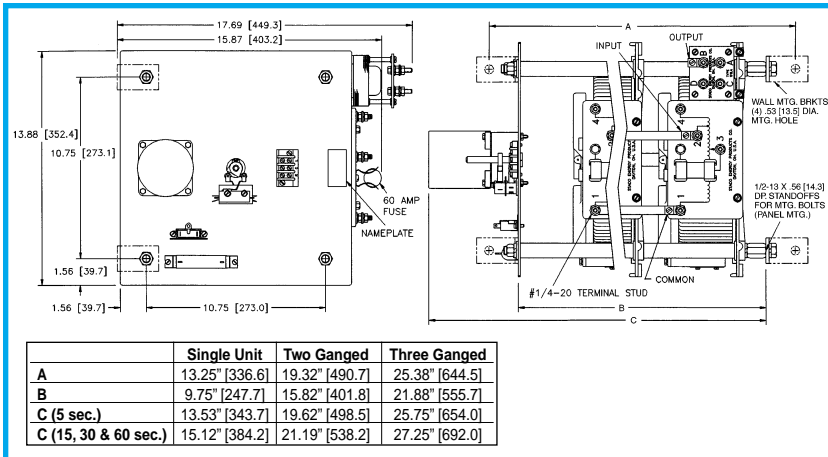
Manual Single, Uncased



Manual Single, Cased

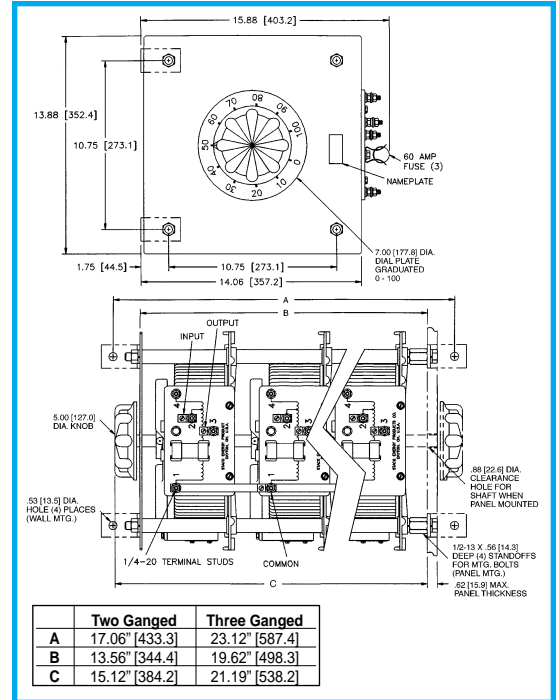


Manual Two-Ganged, Cased



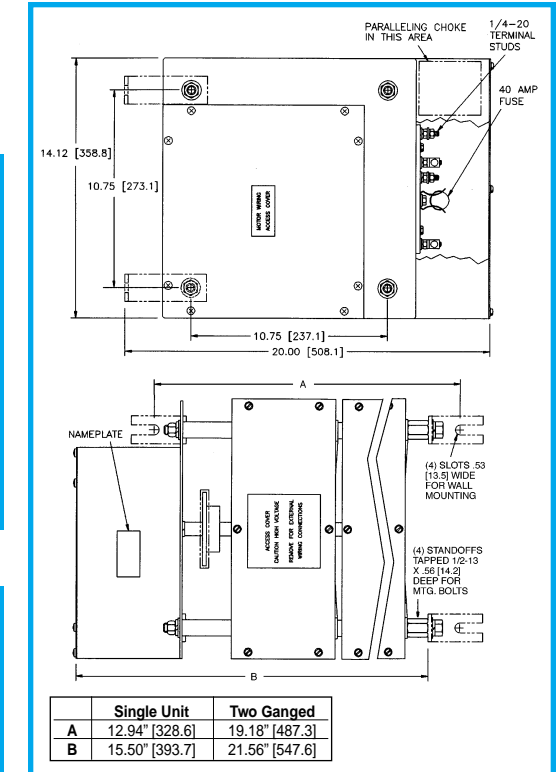
	Single Unit	Two Ganged	Three Ganged
A	13.25" [336.6]	19.32" [490.7]	25.38" [644.5]
B	9.75" [247.7]	15.82" [401.8]	21.88" [555.7]
C (5 sec.)	13.53" [343.7]	19.62" [498.5]	25.75" [654.0]
C (15, 30 & 60 sec.)	15.12" [384.2]	21.19" [538.2]	27.25" [692.0]

Motor Driven, Single, Two and Three-Ganged, Uncased



Manual Two and Three-Ganged, Uncased

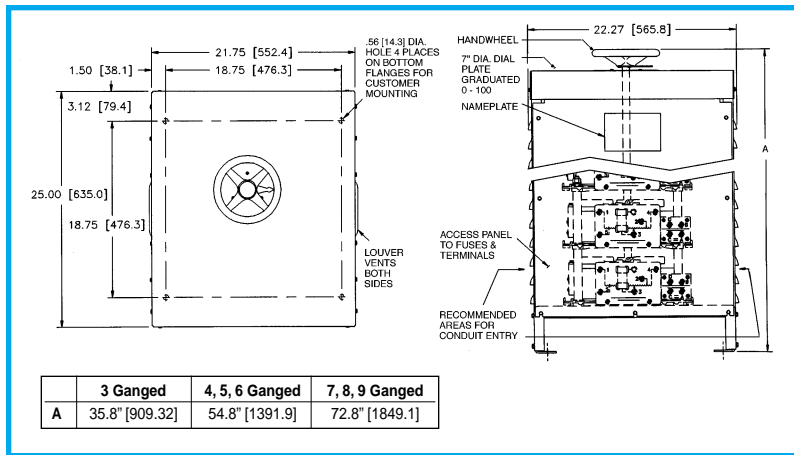
	Two Ganged	Three Ganged
A	17.06" [433.3]	23.12" [587.4]
B	13.56" [344.4]	19.62" [498.3]
C	15.12" [384.2]	21.19" [538.2]



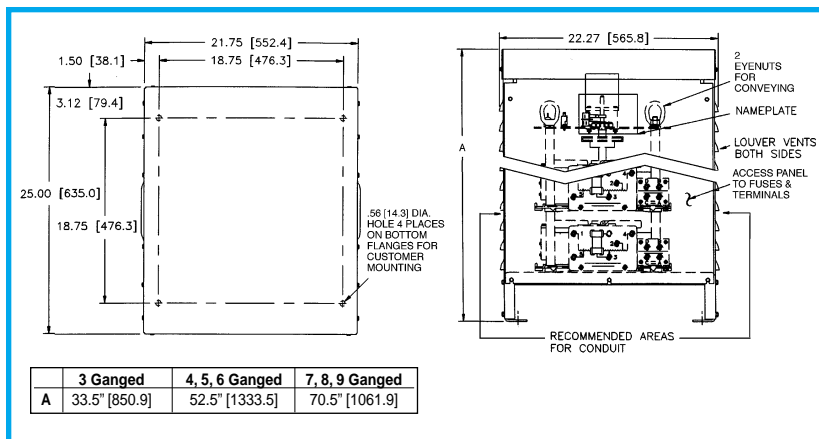
Motor Driven, Single and Two-Ganged, Cased

	Single Unit	Two Ganged
A	12.94" [328.6]	19.18" [487.3]
B	15.50" [393.7]	21.56" [547.6]

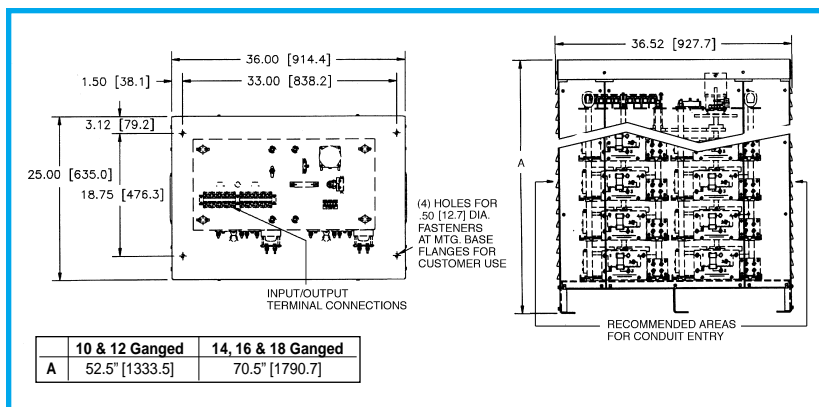
5000/6000 Series



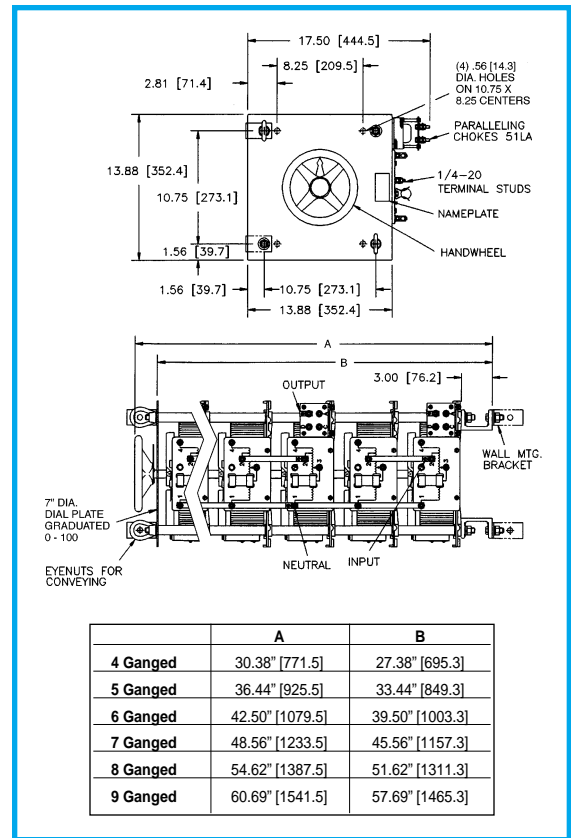
Manual Three to Nine-Ganged, Cased



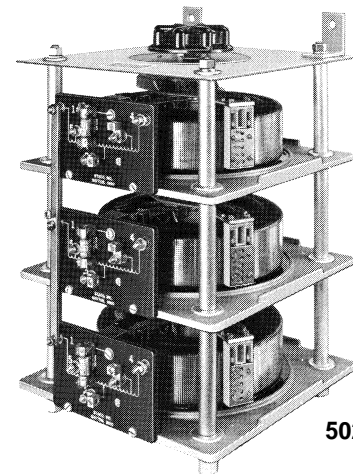
Motor-Driven Three to Nine-Ganged, Cased



Motor-Driven 10, 12, 14, 16 & 18-Ganged Open Delta and Parallel, Cased



Manual Four to Nine-Ganged, Uncased



5021-3Y

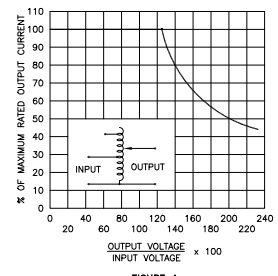
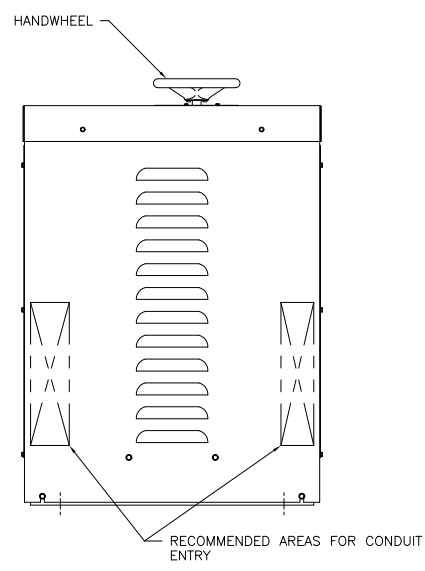
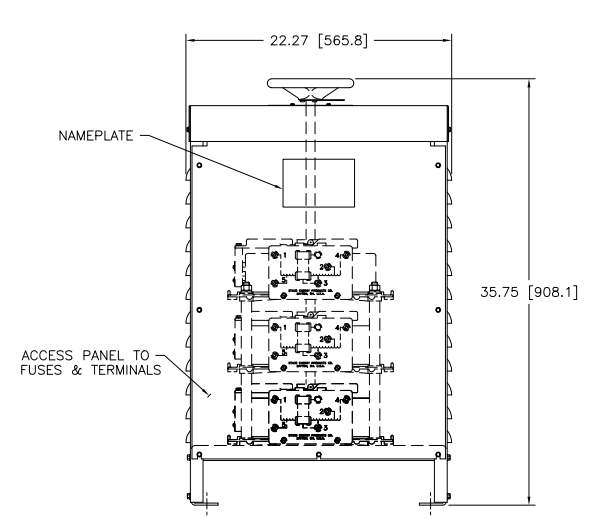
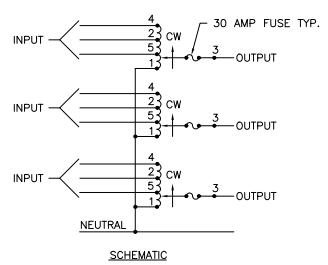
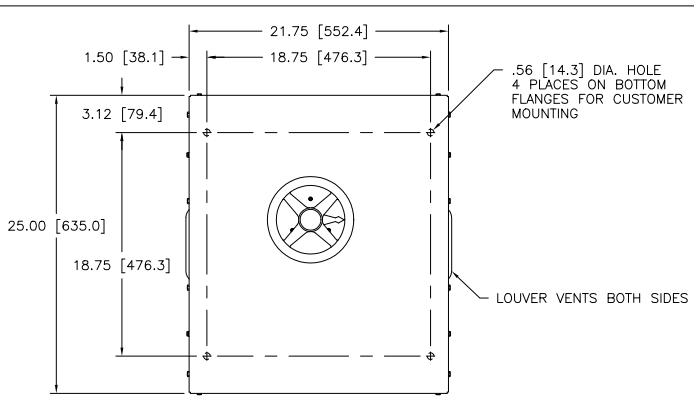


FIGURE A
 MAXIMUM OUTPUT CURRENT OF ANY DUAL INPUT VOLTAGE OR VOLTAGE DOUBLER UNIT OPERATED AT LOWER INPUT VOLTAGE.

* MAXIMUM OUTPUT CURRENT IN OUTPUT VOLTAGE RANGE FROM 0 TO 25 PERCENT ABOVE LINE VOLTAGE. AT HIGHER OUTPUT VOLTAGES, OUTPUT CURRENT MUST BE REDUCED ACCORDING TO RATING CURVE (SEE FIGURE A).

++ MAXIMUM KVA AT MAXIMUM OUTPUT AND CORRESPONDING DE-RATED CURRENT. MAXIMUM KVA AT LOWER OUTPUT VOLTAGES MAY BE CALCULATED FROM RATING CURVE, (SEE FIGURE A).

V.D. = VOLTAGE DOUBLER.

WIRING	INPUT		OUTPUT		SHAFT ROTATION FOR VOLTAGE INCREASE	TERMINAL CONNECTIONS FOR INCREASING VOLTAGE AS VIEWED FROM TOP	
	VOLTS	HERTZ	VOLTS	CONSTANT CURRENT LOAD		INPUT	OUTPUT
				MAX. AMPS			
THREE PHASE WYE	480	50/60	0-480	28	23.3	CW	4-4-4 3-3-3
		60	0-560	28	27.2	CW	2-2-2 3-3-3
	240	60	0-560	28-12 V.D.	11.8 ++	CW	5-5-5 3-3-3

UNLESS OTHERWISE SPECIFIED, TOLERANCE IS:
 DIMENSIONS IN INCHES: FRACTIONS ±.005, DECIMALS ±.001, ANGLES ±1°
 DIMENSIONS IN MILLIMETERS: FRACTIONS ±.13, DECIMALS ±.025, ANGLES ±.5°

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DESIGNER: S.A. SMITH
 DATE: 12/29/94
 CHECKED: S.A. SMITH
 DATE: 12/29/94
 SCALE: 2.5=1
 SHEET 1 OF 1

SPECIFICATION CONTROL DRAWING
 VARIABLE TRANSFORMER
 5021E-3Y

DAYTON, OHIO U.S.A.

031-7455