

## Oil Cooled & Explosion Proof Cathodic Protection Rectifiers

Heavy-duty, rugged rectifiers for operation under severe conditions



The “oil cooled” cathodic protection rectifiers, are recognized as industry leading in quality, workmanship and service life. Many years of field-proven service have led to the superior design of these rectifiers. Conservative equipment ratings, controlled manufacturing techniques, plus many extra features ensure long and trouble-free operation.

Typical cathodic protection applications for the oil cooled rectifier line include severe environmental conditions due to high humidity, dust, or other situations that would shorten the life of a standard air cooled rectifier.

Explosion proof models are used for Class 1, Group D locations and comply with U.L. Standard 698. While similar to the standard oil cooled rectifiers, the explosion proof units are fitted with special hazardous area fittings to eliminate possibility of an ignition source.

### Standard Features Oil Cooled & Explosion Proof

- Weatherproof to NEMA 3R.
- Heavy duty 11 gauge hot dip galvanized cabinet with hinged top lid and stainless steel hardware.
- External cabinet fins for added strength and cooling.
- Heavy duty, draw-pull, stainless steel cabinet latches.
- Separate instrument compartment with hinged door and stainless steel hardware.
- Separate lift-out component racks for the transformer and rectifier stack.
- Heavy duty transformer with 15% over design for reserve capacity.
- Minimum 18-step voltage control link bar taps.
- Quick-change heavy duty knobs for changing tap link bars.
- Minimum 5/16” diameter, solder tap changing studs
- 3/16” Grade XX, Phenolic panels
- AC Input circuit breaker
- Magnetic AC secondary circuit breakers on all units less than 100 amps (instead of fuses)
- Hoyt, separate analog, 2-1/2” round, volt and amp meters
- Silicon diodes protected by surge suppressors and current limiting breakers < 100 Amps or fuses
- All electrical connection hardware is Nickel Plated and double-nutted or soldered
- Multi-strand, high temperature, insulated flexible wiring
- Terminal block for AC input wires (Non-Hazardous models only)

# Optional Features

## Oil Cooled & Explosion Proof

- Variety of AC voltage inputs, Single Phase, Three Phase, 50 or 60 Hertz
- AC and/or DC High Energy lightning protection
- Efficiency filter chokes.
- Communication filters.
- Meter switches
- Power-on indicator light
- DC failure warning lights
- DC circuit breakers < 100 amps or fuses
- 115 VAC convenience outlet
- Optional cabinet materials, such as stainless steel
- Additional voltage control link bar taps.
- Alternate output control (constant current, constant voltage, constant potential, and constant potential with IR drop free feature.
- Powder coated cabinet finishes over galvanized coating (White or Gray Standard)
- Other options per request of customer.

Type "AO" Standard



Type "AO"  
Three Phase



Type "AO"  
Single Phase



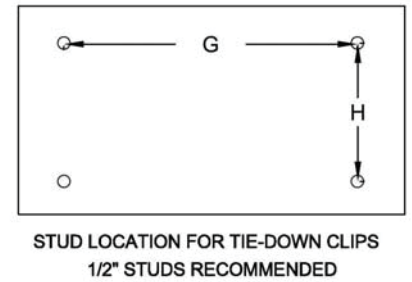
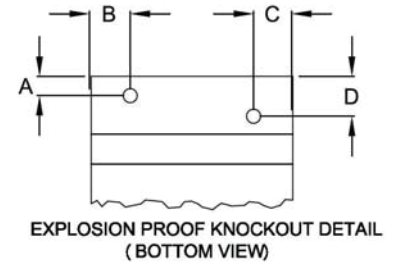
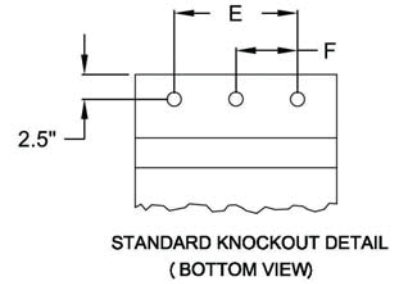
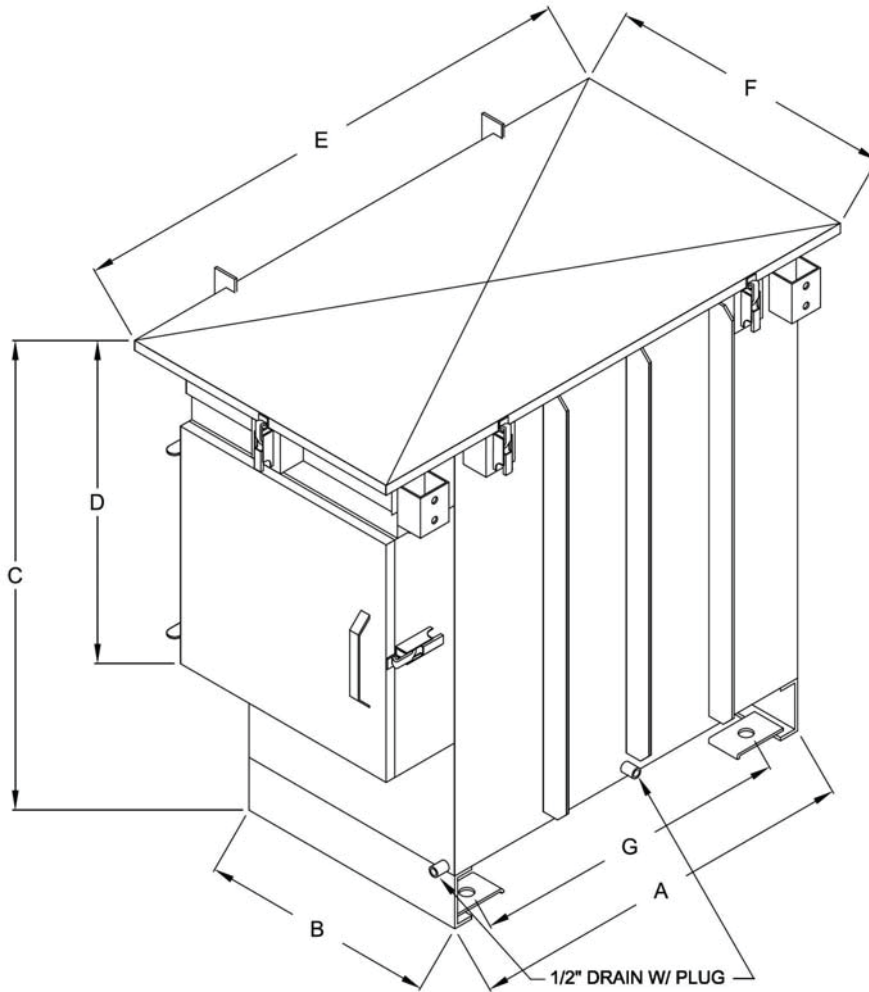
## Cabinet Oil Capacity, Wattage & Weight

### Oil Cooled & Explosion Proof

	Single Phase		Three Phase		
Case Size	Oil Capacity US Gallons	Maximum DC Watts	Shipping Weight	Maximum DC Watts	Shipping Weight
<b>MAO</b>	<b>20</b>	<b>500</b>	<b>200 lbs</b>	<b>-</b>	<b>-</b>
<b>AO</b>	<b>55</b>	<b>501-1900</b>	<b>450 lbs</b>	<b>0-3600</b>	<b>518 lbs</b>
<b>BO</b>	<b>110</b>	<b>1901-3400</b>	<b>594 lbs</b>	<b>3601-6400</b>	<b>660 lbs</b>
<b>CO</b>	<b>165</b>	<b>3401-4250</b>	<b>731 lbs</b>	<b>6401-8000</b>	<b>860 lbs</b>
<b>DO</b>	<b>213</b>	<b>4251-5300</b>	<b>935 lbs</b>	<b>8001-10000</b>	<b>1100 lbs</b>
<b>EO</b>	<b>300</b>	<b>5301-6400</b>	<b>1020 lbs</b>	<b>10001-12000</b>	<b>1200 lbs</b>
<b>FO</b>	<b>465</b>	<b>6401-8500</b>	<b>1200 lbs</b>	<b>12001-16000</b>	<b>1400 lbs</b>
<b>GO</b>	<b>600</b>	<b>8501-10600</b>	<b>1400 lbs</b>	<b>16001-20000</b>	<b>1600 lbs</b>

Each rectifier is custom built and will vary in weight:  
The weights above are approximate.

# Typical Cabinet Dimensions Oil Cooled & Explosion Proof



### Case Dimensions & Stud Location (inches)

### Knockout Detail

Case Size	A	B	C	D	E	F	G	H	A	B	C	D	E	F
* MAO	17.5	15	24.5	20	27	18.25	13	12	3	1.75	3.5	4	8	4
AO	30	18	34.75	25	39.75	22	24.5	15	3	3	3.5	4	8	4
BO	36	21	47	25	46	25	30	18	3	3	3.5	4.25	10	5
CO	48	21	53	25	58	25	42	18	3	3	3.5	4.25	10	5
DO	60	21	53	25	70	25	54	18	3	3	3.5	4.25	10	5
EO	72	21	53	25	82	25	66	18	3	3	3.5	4.25	10	5
FO	84	30.5	53	25	94	34	78	27	3	3	3.5	4.25	10	5
GO	84	30.5	65	25	94	34	78	27	3	3	3.5	4.25	10	5

\* MAO - Shipped with 12" tall stand

# Ordering Code / Model Number

## Oil Cooled & Explosion Proof

### Position #1: Model

O = Standard Line, Oil cooled

### Position #2: Type

S = Standard Rectifier (Manual taps)	P = Constant Potential (solid state)
C = Constant Current (Reactor style)	I = Constant Potential IR free (solid state)
D = Constant Current (Solid state)	M = Multiple Modes (Specify Modes Required)
E = Constant Voltage (Solid state)	V = Variac Control

### Position #3: Cooling

O = Oil Cooled Standard

X = Oil Cooled XP (Hazardous Location) Class 1, Div. 2

### Position #4: Stack Type

I = Silicon (recommended)

E = Selenium

### Position #5: DC Volts

List Maximum DC Voltage Desired

### Position #6: DC Amps

List Maximum DC Amperage Desired

### Position #7: AC Input

AA = 115/230, 1 phase set for 115 vac	AB = 115/230, 1 phase set for 230 vac
BA = 230/460, 1 phase set for 230 vac	BB = 230/460, 1 phase set for 460 vac
CA = 230/460, 3 phase set for 230 vac	CB = 230/460, 3 phase set for 460 vac
EA = 115/460, 1 phase set for 115 vac	EB = 115/460, 1 phase set for 460 vac
G = 115, 1 phase only	D = 208, 3 phase
H = 230, 1 phase only	F = Specify

### Position #8: Special Features

C = AC and DC arrestors	K = DC failure warning light
D = DC arrestor	M = DC breaker (> 100 amps) or fuse
E = AC arrestor	R = 115 VAC convenience outlet*
F = Filter choke	P = Additional voltage control link bar taps
G = Communications filter	S = Multiple rectifiers in one case (qty.)
H = Meter switches*	Q = Other, specify
J = Power On indicator light	

\* = For Standard Oil Cooled Rectifiers Only