

PULSE ELECTRO-CHEMICAL RECTIFIER

Programmable/Feedback controlled

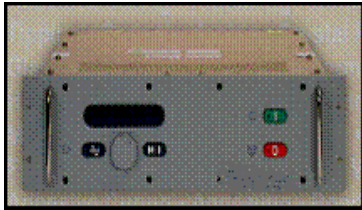
MPPR-Series

Introduction:

MPPR series of high current/low voltages pulse rectifiers are designed for achieving optimum results in following electrometallurgical applications... 1. Electroplating and electroforming 2.Electropolishing 3.Electromachining 4.Electrowimmming 5. Anodizing 6.Electrolysis 7. Electro-discharge machining/wire-cutting, A.F.M., AEDG. These pulse rectifier unit contains programmable ampere-minute controller, space mark controller, digital volt/ampere meter with RS-232 port which enable the user to online assess/monitor the process parameter and control the quality and quantity of deposit with high degree of repeatability, accuracy all the time as well energy efficient. Only for this reason, our pulse rectifiers are the first choice of any industrial/research application. This rectifier could be operated in parallel. Company offers tailor made solution to custom requirement.

Operating Principle:

These pulse rectifiers incorporate the compact high frequency ac/dc converter, which ensure low voltage/current ripple. Pulse rectifiers are able to bring in uniform deposit/remove with improved grain structure exhibiting high level of deposit hardness, reflectivity on account of the fact that current delivered is in quantified manner which allows the restricted style growth of grain during every Pulse of current thus ensuring an improved uniform dense deposit that is further enhanced during deplating period when over/under deposition, either grain spread wise or height wise are marginalized, thus bringing a highly dense, less porous and uniform deposit with better engineering properties like porosity, hardness, corrosion resistance, reflectivity etc. This ability of pulse rectifier makes it possible to deposit/remove a thin coating with reasonable hardness. With conventional rectifier, non uniform thickness layer are which have different air trapping below coating which develops differential potential cell. A portion of cell having less air or more material will become anodic in due course of time and will imitate a specific form of corrosion there by weakening the coated layer. This will slowly blisters or will result in surface crack, resulting in destruction of coating. Normally such phenomenon does not exist with pulse coating. On account of pulse mode periodic output of rectifier, it is possible to achieve multi metal coating in alloy form with high deposit efficiency, quality.



MPPR-0800200



MPPR-0800500



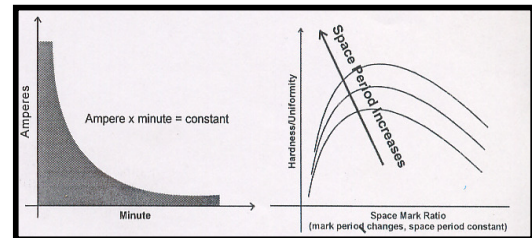
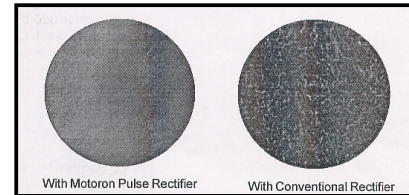
MPPR-0800050

Electrical specification for Pulse Rectifier:

Model	Watts	Volts	Current	Switching frequency k.hz	cooling	Model	Watts	Volts	Current	Switching frequency k.hz	Cooling
MPPR-0800015	120.0	8.0	15.0	05-50	Air	MPPR-0802000	16000.0	8.0	2000.0	05-50	Air
MPPR-0800025	200.0	8.0	25.0	05-50	Air	MPPR-0804000	32000.0	8.0	4000.0	05-50	Air
MPPR-0800050	400.0	8.0	50.0	05-50	Air	MPPR-0806000	48000.0	8.0	6000.0	05-50	Air
MPPR-0800100	800.0	8.0	100.0	05-50	Air	MPPR-0808000	64000.0	8.0	8000.0	05-50	Air
MPPR-0800200	1600.0	8.0	200.0	05-50	Air	MPPR-0810000	80000.0	8.0	10000.0	05-50	Air
MPPR-0800500	4000.0	8.0	500.0	05-50	Air	MPPR-0815000	120000.0	8.0	15000.0	05-50	Air
MPPR-0801000	8000.0	8.0	1000.0	05-50	Air	MPPR-0820000	160000.0	8.0	20000.0	05-50	Air

High Frequency pulse rectifier Specification:

Operating voltage 220 volts, 1/3 phase, 40-60 Hz
 Output current/voltage 0-8.0/0-40 Volts/0-80.0 volts/0-200 volts 500,000 amps (max)
 Voltage/current ripple 10 micro volts-noload/ 100 micro volt-full load
 Operating frequency 5.0-200 K.Hz
 Voltage/current control accuracy 99.9% of set point
 Resolution 0.1 volts/amps D.C.
 Repeatability 100 percent
 Response time 0.5-1.1 mill-seconds
 Interface Signal 0.0-12.0 volts D.C. (proportional to output voltage)
 Voltage control range as in tables
 Repletion rate: 10 Hz (may be amended)
 SPACE-MARK RATIO 1:3 to 1:9(option)
 Pulse-on time (Ton): 5 µs to 2000 µs -continuous
 Pulse-off time (Toff): 1 ms to 100 ms-continuous
 Voltage/current Pulse height control: 10-100%
 Control options 1.cascade feedback control with soft start
 2. Constant voltage/current with external adjustment.
 Display Voltage/current/space mark/ampere-minute
 in 3½ red glow LED display
 Protection over voltage/short ckt.



These specifications are general and may vary from process to process..

Two numerals after MPPR indicates voltage of pulse rectifier and last five digit Indicates current. All dimensions are in inches.

MOTORON SEMICONDUCTORS CORPORATION

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MPPR-Series

Electrical specification for Pulse Rectifier for Electrodeposition:

Model	Watts	Volts	Current	Switching frequency K.hz	Cooling	Model	Watts	Volts	Current	Switching frequency K.hz	Cooling
MPPR-00800015	120.0	8.0	15.0	05-50	Air	MPPR-00802000	16000.0	8.0	2000.0	05-50	Air
MPPR-00800025	200.0	8.0	25.0	05-50	Air	MPPR-00804000	32000.0	8.0	4000.0	05-50	Air
MPPR-00800050	400.0	8.0	50.0	05-50	Air	MPPR-00806000	48000.0	8.0	6000.0	05-50	Air
MPPR-00800100	800.0	8.0	100.0	05-50	Air	MPPR-00808000	64000.0	8.0	8000.0	05-50	Air
MPPR-00800200	1600.0	8.0	200.0	05-50	Air	MPPR-00810000	80000.0	8.0	10000.0	05-50	Air
MPPR-00800500	4000.0	8.0	500.0	05-50	Air	MPPR-00815000	120000.0	8.0	15000.0	05-50	Air
MPPR-00801000	8000.0	8.0	1000.0	05-50	Air	MPPR-00820000	160000.0	8.0	20000.0	05-50	Air

Electrical specification for Pulse Rectifier for Anodizing:

Model	Watts	Volts	Current	Switching frequency k.hz	Cooling	Model	Watts	Volts	Current	Switching frequency k.hz	Cooling
MPAR-04000015	120.0	40.0	15.0	05-50	Air	MPAR-04002000	16000.0	40.0	2000.0	05-50	Air
MPAR-04000025	200.0	40.0	25.0	05-50	Air	MPAR-04004000	32000.0	40.0	4000.0	05-50	Air
MPAR-04000050	400.0	40.0	50.0	05-50	Air	MPAR-04006000	48000.0	40.0	6000.0	05-50	Air
MPAR-04000100	800.0	40.0	100.0	05-50	Air	MPAR-04008000	64000.0	40.0	8000.0	05-50	Air
MPAR-04000200	1600.0	40.0	200.0	05-50	Air	MPAR-04010000	80000.0	40.0	10000.0	05-50	Air
MPAR-04000500	4000.0	40.0	500.0	05-50	Air	MPAR-04015000	120000.0	40.0	15000.0	05-50	Air
MPAR-04001000	8000.0	40.0	1000.0	05-50	Air	MPAR-04020000	160000.0	40.0	20000.0	05-50	Air

Electrical specification for Pulse Rectifier for Electrolysis:

Model	Watts	Volts/option	Current	Switching frequency k.hz	Cooling	Model	Watts	Volts/option	Current	Switching frequency k.hz	Cooling
MPELR-04001000	8000.0	40.0	1000.0	05-50	Air	MPELR-02000000	0160000	40.0	020000.0	05-50	Air
MPELR-04002000	16000.0	40.0	2000.0	05-50	Air	MPELR-50500000	2500000	50.0	050000.0	05-50	Air
MPELR-04004000	32000.0	40.0	4000.0	05-50	Air	MPELR-60800000	4800000	60.0	080000.0	05-50	Air
MPELR-04006000	48000.0	40.0	6000.0	05-50	Air	MPELR-80100000	8000000	80.0	100000.0	05-50	Air
MPELR-04008000	64000.0	40.0	8000.0	05-50	Air	MPELR-80200000	20000000	80.0	200000.0	05-50	Air
MPELR-04010000	80000.0	40.0	10000.0	05-50	Air	MPELR-80400000	40000000	80.0	400000.0	05-50	Air
MPELR-04015000	120000.0	40.0	15000.0	05-50	Air	MPELR-80800000	80000000	80.0	800000.0	05-50	Air

Electrical specification for Pulse Rectifier for Electromachining:

Model	Watts	Volts/option	Current	Switching frequency k.hz	Cooling	Model	Watts	Volts/option	Current	Switching frequency k.hz	Cooling
MEMR-0400100	04000.0	40.0	00100.0	05-50	Air	MEMR-006005000	250000	060.0	05000.0	05-50	Air
MEMR-0400200	08000.0	40.0	00200.0	05-50	Air	MEMR-006008000	480000	060.0	08000.0	05-50	Air
MEMR-0400400	16000.0	40.0	00400.0	05-50	Air	MEMR-008010000	800000	080.0	10000.0	05-50	Air
MEMR-0400600	24000.0	40.0	00600.0	05-50	Air	MEMR-010020000	2000000	080.0	20000.0	05-50	Air
MEMR-0400800	32000.0	40.0	00800.0	05-50	Air	MEMR-010040000	4000000	100.0	40000.0	05-50	Air
MEMR-0401000	40000.0	40.0	01000.0	05-50	Air	MEMR-010080000	8000000	100.0	80000.0	05-50	Air
MEMR-0401500	60000.0	40.0	01500.0	05-50	Air	MEMR-080000100	8000000	800.0	00100.0	40-80	Air
MEMR-006002000	016000	060.0	02000.0	05-50	Air	MEMR-080000200	16000000	800.0	00200.0	40-80	Air

Electrical specification for Pulse Rectifier for Electro-Discharge machining:

Model	Watts	Volts/option	Current	Switching frequency k.hz	Cooling	Model	Watts	Volts/option	Current	Switching frequency k.hz	Cooling
MEDMR-0600100	04000.0	60.0	00100.0	05-50	Air	MEDMR-008005000	250000	080.0	05000.0	05-50	Air
MEDMR-0600200	08000.0	60.0	00200.0	05-50	Air	MEDMR-008008000	480000	080.0	08000.0	05-50	Air
MEDMR-0600400	16000.0	60.0	00400.0	05-50	Air	MEDMR-008010000	800000	080.0	10000.0	05-50	Air
MEDMR-0600600	24000.0	60.0	00600.0	05-50	Air	MEDMR-010020000	2000000	100.0	20000.0	05-50	Air
MEDMR-0800080	32000.0	80.0	00800.0	05-50	Air	MEDMR-010040000	4000000	100.0	40000.0	05-50	Air
MEDMR-0801000	40000.0	80.0	01000.0	05-50	Air	MEDMR-010080000	8000000	100.0	80000.0	05-50	Air
MEDMR-0801500	60000.0	80.0	01500.0	05-50	Air	MEDMR-020000100	8000000	200.0	00100.0	40-80	Air
MEDMR-1002000	016000	80.0	02000.0	05-50	Air	MEDMR-020000200	16000000	200.0	00200.0	40-80	Air

Common Pulse Rectifier dimension :(INCH):

Electrodeposition rectifier		Anodizing rectifier		Electrolysis rectifier		Electromachining/Discharge rectifier	
MPPR-08000015	08X06X06	MPAR-04000015	20x18x18	MPER-04000005	08X06X06	MEMR-04000025	18x16x16
MPPR-08000025	12x08x08	MPAR-040000025	20x18x18	MPER-04000010	12X08X08	MEMR-04000050	20x18x16
MPPR-08000050	12x10x10	MPAR-040000050	14x12x12	MPER-04000015	12X08X08	MEMR-0400100	20x18x18
MPPR-0800100	14x12x10	MPAR-04000100	18x16x16	MPER-04000025	12X10X10	MEMR-0600200	20x18x18
MPPR-0800200	16x14x12	MPAR-04000200	14x14x14	MPER-04000050	14x12x12	MEMR-0600400	22x20x20
MPPR-0800400	18x16x14	MPAR-04000400	18x16x16	MPER-0400100	18x16x16	MEMR-0801000	24x20x20
MPPR-0801000	16x14x14	MPAR-04001000	20x16x16	MPER-0400200	20X18X18	MEMR-0901500	32x24x24
MPPR-0802000	18x14x12	MPAR-04002000	22x18x18	MPER-0400400	22X20X18	MEMR-1002000	32x24x24-2
MPPR-0805000	20x16x14	MPAR-04005000	24x18x18	MPER-0400800	20x16x16	MEMR-1004000	32x24x24-3
MPPR-0810000	20X18x14-2	MPAR-05010000	24X18X18-2	MPER-0402000	22x18x18	MEDMR-1001000	32x24x24-2
MPPR-0820000	20X18X14-3	MPAR-05020000	24X18X18-4	MPER-0404000	24x18x18	MEDMR-0202000	32x24x24-3
MPPR-0850000	20X18X14-3	MPAR-05050000	32X24X24-2	MPER-0408000	24x20x16	MEDMR-0204000	32x24x24-4

THREE numerals after product code indicate volt and remaining indicate current. All dimensions are in inches.

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