

**SUPPLY LIST OF RECTIFIER EQUIPMENT
FOR CHLOR-ALKALI CELLS & CHLORATE CELLS**



As of September 2003

| No. | Destination | Current (kA DC) | Voltage (V DC) | Total Output | | Delivery | Type of Rectifier |
|------|----------------------------|--------------------|-------------------|---------------|--------|----------|----------------------|
| | | | | Power (kW) | | | |
| * 1 | Japan | 81 X 1 | (4x20.25) unit | 330 | 26,730 | Apr. '74 | THY |
| * 2 | Japan | 81 X 1 | (6x13.5) unit | 400 | 32,400 | June '76 | THY |
| * 3 | Canada | 32.4 X 1 | (3x10.8) unit | 400 | 12,960 | Mar. '78 | THY |
| * 4 | Canada | 10.8 X 1 | unit | 400 | 4,320 | Dec. '78 | THY |
| * 5 | Japan | 30 X 1 | unit | 115 | 3,450 | Nov. '82 | THY |
| * 6 | Japan | 33 X 2 | units | 300 | 19,800 | May '82 | DI |
| * 7 | Japan | 52 X 1 | unit | 125 | 6,500 | Nov. '84 | THY |
| * 8 | Japan | 43.2 X 2 | (4x10.8) units | 365 | 31,536 | Jan. '85 | THY |
| * 9 | Thailand | 32 X 1 | unit | 90 | 2,880 | Jan. '85 | DI |
| * 10 | Japan | 43.2 X 1 | unit | 400 | 17,280 | May '86 | THY |
| * 11 | People's Republic of China | 21.6 X 1 | (2x10.8) unit | 360 | 7,776 | Mar. '86 | THY |
| * 12 | Indonesia | 11.34 X 1 | unit | 345 | 3,912 | Mar. '86 | DI |
| * 13 | People's Republic of China | 21.6 X 1 | (2x10.8) unit | 360 | 7,776 | Sep. '86 | THY |
| * 14 | USA | 21.6 X 2 | (2x10.8) units | 380 | 16,416 | May '86 | THY |
| * 15 | Japan | 52 X 1 | unit | 130 | 6,760 | Jan. '87 | THY |

Notes:

THY ; Thyristor rectifier

DI ; Diode rectifier

* ; For IEM cells

; For chlorate cells

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| | | | | Power (kW) | | | |
| # 16 | Canada | 43 X 1 unit | 465 | 19,995 | | Nov. '86 | THY |
| * 17 | Taiwan | 66 X 2 units | 265 | 34,980 | | Sep. '87 | THY |
| * 18 | Colombia | 80 X 1 unit | 105 | 8,400 | | Jan. '88 | THY |
| 19 | Germany | 65 X 1 unit | 888 | 57,720 | | Mar. '89 | THY |
| 20 | USA | 50 X 2 units | 400 | 40,000 | | June '88 | THY |
| * 21 | USA | 43 X 1 unit | 84 | 3,612 | | Apr. '88 | THY |
| * 22 | People's Republic of China | 40 X 3 units | 430 | 51,600 | | Mar. '89 | THY |
| 23 | Taiwan | 60 X 1 unit | 230 | 13,800 | | Jan. '89 | THY |
| * 24 | Taiwan | 45 X 1 unit | 143 | 6,435 | | Mar. '89 | THY |
| * 25 | People's Republic of China | 21.6 X 1 (2x10.8) unit | 360 | 7,776 | | Sep. '89 | DI |
| * 26 | Thailand | 84 1 unit | 120 | 10,080 | | July '89 | THY |
| * 27 | Japan | 60 X 1 unit | 110 | 6,600 | | July '89 | THY |
| 28 | USA | 100 X 1 unit | 300 | 30,000 | | sep. '89 | THY |
| * 29 | Korea | 53.15 X 2 units | 400 | 42,520 | | Feb. '90 | THY |
| # 30 | Taiwan | 75 1 unit | 65 | 4,875 | | Dec. '89 | THY |
| * 31 | Korea | 40 X 1 unit | 144 | 5,760 | | Dec. '89 | THY |
| # 32 | Japan | 100 X 1 unit | 70 | 7,000 | | Jan. '90 | THY |

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| * 33 | Korea | 68 X 1 unit | 106 | 7,208 | | May '90 | THY |
| * 34 | USA | 147 X 4 units | 407 | 239,316 | | Apr. '90 | THY |
| * 35 | Canada | 70 X 2 units | 290 | 40,600 | | Mar. '90 | THY |
| # 36 | Canada | 150 X 1 unit | 250 | 37,500 | | Oct. '90 | THY |
| # 37 | Canada | 67.5 X 1 unit | 452 | 30,510 | | Nov. '90 | THY |
| # 38 | USA | 80 X 1 unit | 330 | 26,400 | | Aug. '90 | THY |
| # 39 | USA | 105 X 1 unit | 311 | 32,655 | | Jan. '91 | THY |
| 40 | USA | 67.5 X 2 units | 340 | 45,900 | | May '91 | THY |
| # 41 | USA | 65 X 1 unit | 156 | 10,140 | | June '91 | THY |
| 42 | USA | 72 X 1 unit | 860 | 61,920 | | Aug. '91 | THY |
| * 43 | Malaysia | 33 X 2 units | 132 | 8,712 | | June '91 | THY |
| * 44 | Japan | 40 X 1 unit | 450 | 18,000 | | Oct. '91 | THY |
| * 45 | Japan | 36 X 1 unit | 220 | 7,920 | | Mar. '92 | THY |
| # 46 | USA | 83 X 1 unit | 105 | 8,715 | | Mar. '93 | THY |
| # 47 | Indonesia | 62 X 2 units | 154 | 19,096 | | June '93 | THY |
| * 48 | Vietnam | 69 X 1 units | 202 | 13,938 | | Aug. '93 | THY |
| * 49 | Japan | 11.5 X 1 unit | 220 | 2,530 | | July '94 | THY |

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| * 50 | Korea | 17 X 1 unit | 370 | 6,290 | | July '94 | THY |
| * 51 | Japan | 11.5 X 1 unit | 220 | 2,530 | | Aug. '95 | THY |
| * 52 | Japan | 73 X 1 unit | 360 | 26,280 | | Oct. '95 | THY |
| * 53 | Korea | 17 X 1 unit | 490 | 8,330 | | Nov. '95 | THY |
| * 54 | People's Republic of China | 16.5 X 2 units | 360 | 11,880 | | Nov. '95 | THY |
| * 55 | Malaysia | 22.68 X 1 unit | 371 | 8,414 | | May '96 | THY |
| * 56 | Japan | 49.5 (3x16.5) X 1 unit | 500 | 24,750 | | May '96 | THY |
| # 57 | Indonesia | 66 X 1 unit | 157 | 10,362 | | Nov. '96 | THY |
| * 58 | Japan | 16.4 X 4 units | 570 | 37,392 | | Oct. '96 | THY |
| * 59 | Thailand | 75 X 2 units | 220 | 33,000 | | Nov. '96 | THY |
| * 60 | Japan | 25 X 1 unit | 403 | 10,075 | | May '97 | THY |
| * 61 | Japan | 42 X 1 unit | 315 | 13,230 | | May '97 | THY |
| * 62 | People's Republic of China | 59 X 3 units | 295 | 52,215 | | July '97 | THY |
| * 63 | Korea | 25 X 4 units | 550 | 55,000 | | June '97 | THY |
| * 64 | Canada | 72 X 1 unit | 860 | 61,920 | | Jan. '97 | THY |
| * 65 | Japan | 87.5 X 4 units | 330 | 115,500 | | June '97 | THY |
| * 66 | Taiwan | 108 (8x13.5) X 4 units | 430 | 185,760 | | Dec. '97 | THY |

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| | | | | Power (kW) | | | |
| * 67 | USA | 31 X 4 units | 532 | 65,968 | | Dec. '97 | THY |
| * 68 | Korea | 24.3 X 3 units | 354 | 25,807 | | Mar. '98 | THY |
| # 69 | Canada | 155 X 1 unit | 88 | 13,640 | | Apr. '98 | THY |
| 70 | USA | 130 X 1 unit | 225 | 29,250 | | Feb. '98 | THY |
| 71 | USA | 40 X 3 units | 710 | 85,200 | | Apr. '98 | THY |
| * 72 | Japan | 42 X 2 units | 220 | 18,480 | | Mar. '98 | THY |
| * 73 | USA | 133 X 2 units | 750 | 199,500 | | Aug. '98 | DI |
| * 74 | Japan | 30 X 1 unit | 80 | 2,400 | | July '98 | THY |
| * 75 | Thailand | 14.5 X 2 units | 530 | 15,370 | | Nov. '98 | THY |
| * 76 | Argentina | 15.84 X 3 units | 555 | 26,374 | | Aug. '98 | THY |
| * 77 | Japan | 66 X 3 units (3x22) | 600 | 118,800 | | July '99 | THY |
| * 78 | Japan | 22 X 1 unit | 110 | 2,420 | | June '99 | THY |
| * 79 | Japan | 70 X 1 unit | 260 | 18,200 | | Aug. '99 | THY |
| * 80 | Taiwan | 129.6 X 2 units (8x16.2) | 425 | 110,160 | | May '00 | THY |
| * 81 | Korea | 17 X 1 unit | 660 | 11,220 | | Apr. '00 | THY |
| * 82 | Korea | 18 X 1 unit | 380 | 6,840 | | May '00 | THY |
| 83 | USA | 72 X 2 units | 860 | 123,840 | | Aug. '00 | THY |
| # 84 | Indonesia | 12 X 1 unit | 162.5 | 1,950 | | May '00 | THY |

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| | | | | Power (kW) | | | |
| # 85 | Indonesia | 12 X 1 unit | 162.5 | 1,950 | | May '00 | THY |
| # 86 | Canada | 30 X 1 unit | 480 | 14,400 | | Aug. '00 | THY |
| * 87 | Vietnam | 20 X 1 unit | 470 | 9,400 | | Sep. '00 | THY |
| * 88 | Japan | 140 X 1 unit | 238 | 33,320 | | Aug. '00 | THY |
| * 89 | Japan | 42 X 1 unit | 315 | 13,230 | | June, '01 | THY |
| # 90 | Canada | 155 X 1 unit | 165 | 25,575 | | Aug. '01 | THY |
| # 91 | Canada | 95 X 1 unit | 480 | 45,600 | | Sep. '01 | THY |
| * 92 | Germany | 121.2 (4x30.3) X 2 units | 520 | 126,048 | | Apr. '02 | THY |
| * 93 | Japan | 85 X 1 unit | 250 | 21,250 | | Sep. '01 | THY |
| * 94 | USA | 100 X 2 units | 170 | 34,000 | | Feb. '02 | THY |
| * 95 | Korea | 25 (2x12.5) X 1 unit | 550 | 13,750 | | May '02 | THY |
| * 96 | Thailand | 14.5 X 1 unit | 530 | 7,685 | | Nov. '02 | THY |
| 97 | Germany | 72 X 1 unit | 950 | 68,400 | | Jan. '03 | THY |
| 98 | USA | 72 X 2 units | 860 | 123,840 | | Jan. '03 | THY |
| 99 | Brazil | 72 X 1 unit | 860 | 61,920 | | Jan. '03 | THY |
| * 100 | People's Republic of China | 16.5 X 1 unit | 510 | 8,415 | | Apr. '03 | THY |
| * 101 | Korea | 18 X 1 unit | 380 | 6,840 | | Apr. '03 | THY |

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| | | | | Power (kW) | | | |
| * 102 | Japan | 73 X 1 unit | 645 | 47,085 | | Under mfg. | THY |
| # 103 | People's Republic of China | 48 X 2 units | 335 | 32,160 | | Under mfg. | THY |
| # 104 | Indonesia | 84.5 X 1 unit | 261 | 22,055 | | Under mfg. | THY |
| # 105 | Indonesia | 63.5 X 1 unit | 173 | 10,986 | | Under mfg. | THY |
| Total | | 9041.74 kA | | 3,428,964 kW | | | |

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