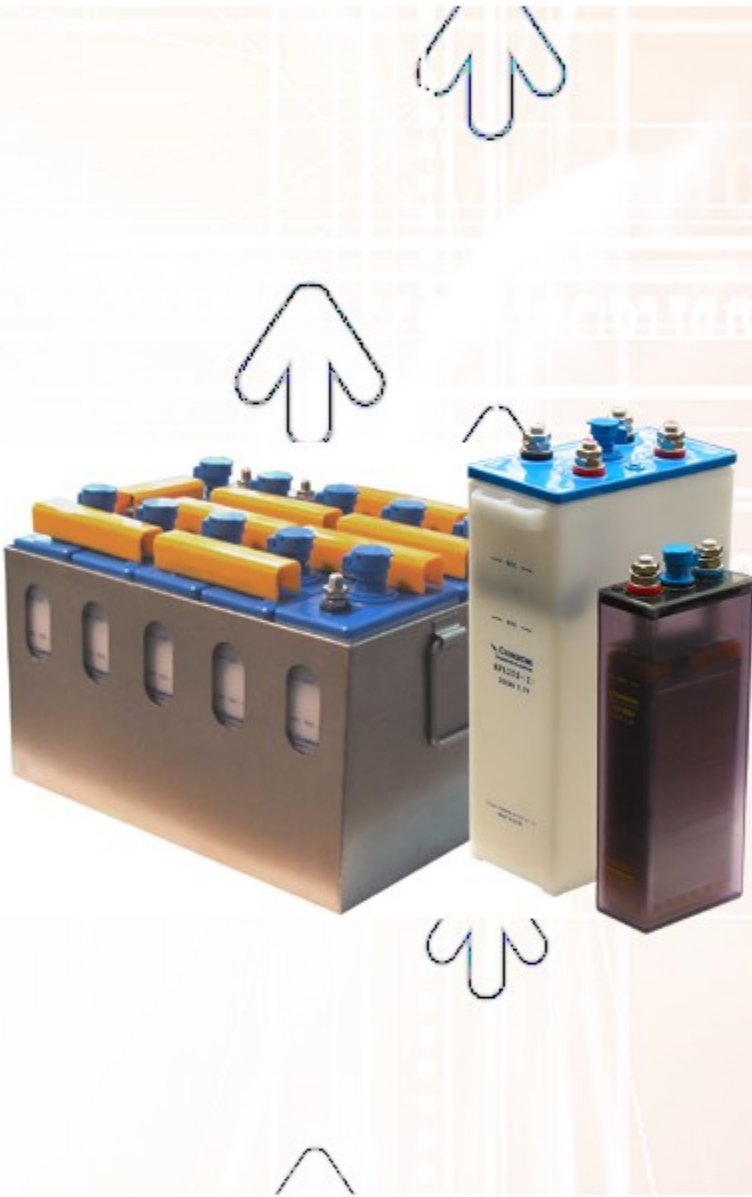


# KPH Ni-Cd Battery



August 2019

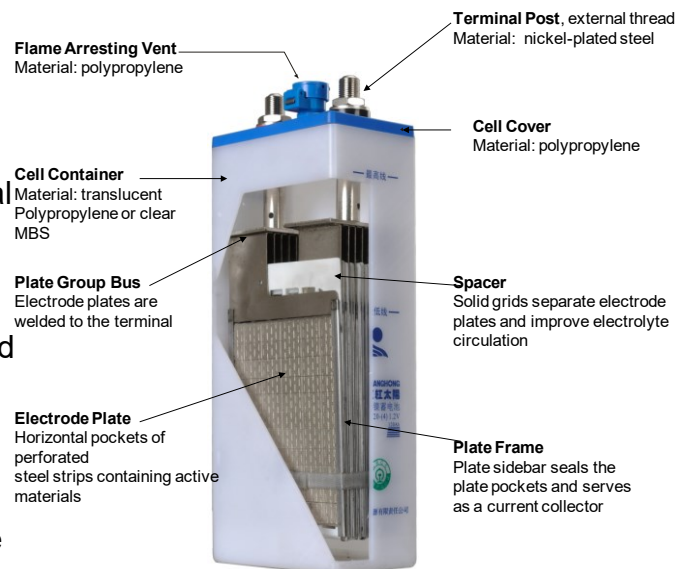


**Qualmega** KPH Series nickel cadmium batteries are designed for general industrial applications where absolute reliability is a necessity. Service-proven pocket-plate technology ensures long uninterrupted battery life without the risk of sudden loss of power.

KPH Series batteries are suitable for high discharge rate applications (30 minutes and below) such as switchgear tripping, diesel engine starting, UPS, etc.

## Product Features:

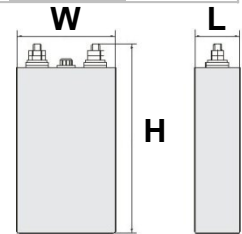
- Proven pocket-plate nickel-cadmium technology
- 50 years of experience in developing and manufacturing nickel-cadmium batteries.
- High tolerance to electrical abuses such as overcharge and overdischarge
- High tolerance to rough handling and mechanical abuse due to strong components and robust construction
- Trouble-free long cycle life
- No risk of sudden death due to the chemistry and the cell structure
- Wide operating temperature:  $-40^{\circ}\text{C}$  to  $50^{\circ}\text{C}$
- Generous electrolyte reserve for long maintenance intervals
- Clear (MBS) or translucent (PP) plastic cell case for easy electrolyte level inspection
- Plastic grid spacers eliminate separator deterioration problem
- Custom cell dimensions available
- 20 years service life in stationary applications
- Conforms to IEC60623



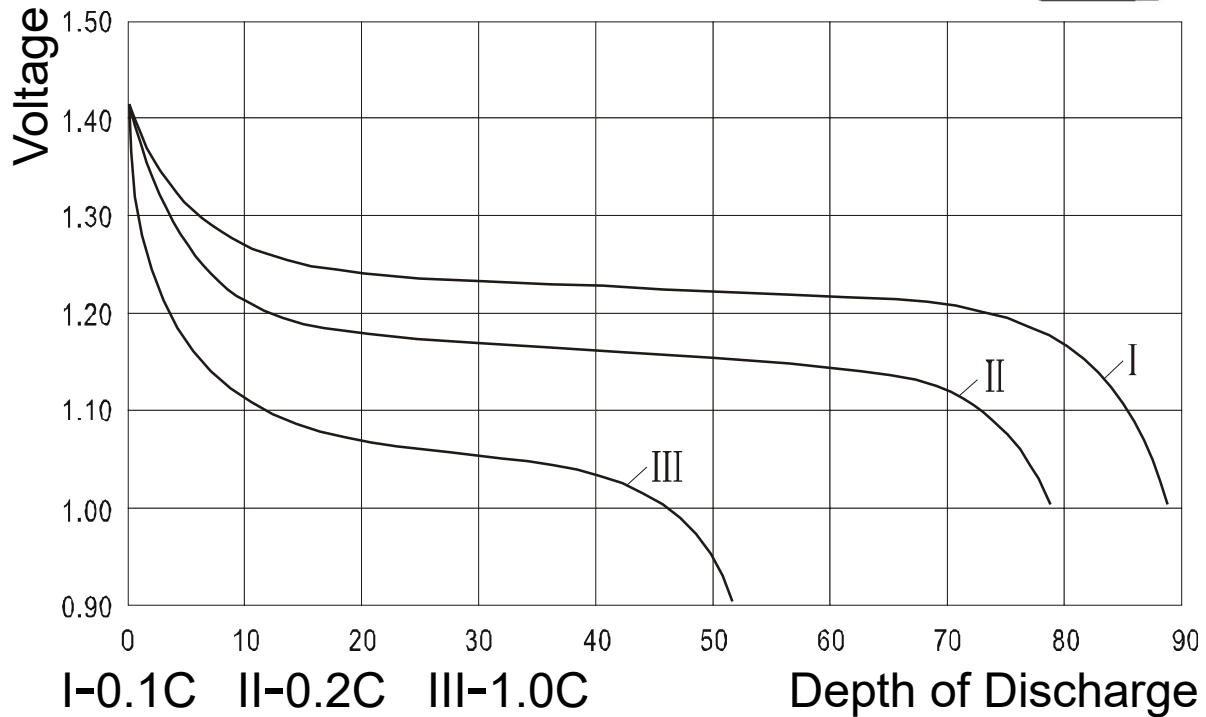
**Qualmega** nickel-cadmium batteries are manufactured by **Sichuan Changhong Battery Co., Ltd. (SCBC)**, the largest industrial nickel-cadmium battery manufacturer in China. Established for over five decades, SCBC specializes in developing and manufacturing industrial alkaline rechargeable batteries. It currently supplies their high quality batteries to railroad, aviation and industrial markets throughout the world. SCBC is ISO 9001 certified.

# Qualmega KPH General Specifications:

| Cell Type | Capacity (C5 Ah) | Dimensions |     |       |      |        |      | Weight              |      |                  |       | Terminal | Cell Case Material |
|-----------|------------------|------------|-----|-------|------|--------|------|---------------------|------|------------------|-------|----------|--------------------|
|           |                  | Length     |     | Width |      | Height |      | Without Electrolyte |      | With Electrolyte |       |          |                    |
|           |                  | mm         | in  | mm    | in   | mm     | in   | kg                  | lb.  | kg               | lb.   |          |                    |
| KPH10     | 10               | 48         | 1.9 | 81    | 3.2  | 245    | 9.6  | 1.5                 | 3.3  | 1.8              | 4.0   | M10      | MBS                |
| KPH20     | 20               | 68         | 2.7 | 134   | 5.3  | 245    | 9.6  | 2.4                 | 5.3  | 3.0              | 6.6   | M10      | PP                 |
| KPH30     | 30               | 70         | 2.8 | 134   | 5.3  | 285    | 11.2 | 3.0                 | 6.6  | 4.0              | 8.8   | M10      | MBS                |
| KPH40     | 40               | 80         | 3.1 | 141   | 5.6  | 370    | 14.6 | 4.0                 | 8.8  | 6.0              | 13.2  | M10      | PP                 |
| KPH50     | 50               | 80         | 3.1 | 141   | 5.6  | 370    | 14.6 | 4.6                 | 10.1 | 6.2              | 13.6  | M10      | PP                 |
| KPH60     | 60               | 80         | 3.1 | 141   | 5.6  | 370    | 14.6 | 5.0                 | 11.0 | 6.5              | 14.3  | M10      | PP                 |
| KPH70     | 70               | 106        | 4.2 | 164   | 6.5  | 345    | 13.6 | 6.5                 | 14.3 | 9.0              | 19.8  | M20      | PP                 |
| KPH80     | 80               | 106        | 4.2 | 164   | 6.5  | 345    | 13.6 | 7.5                 | 16.5 | 9.5              | 20.9  | M20      | PP                 |
| KPH100    | 100              | 106        | 4.2 | 164   | 6.5  | 345    | 13.6 | 8.0                 | 17.6 | 10.0             | 22.1  | M20      | PP                 |
| KPH120    | 120              | 164        | 6.5 | 167   | 6.6  | 345    | 13.6 | 10.5                | 23.2 | 14.0             | 30.9  | M20      | PP                 |
| KPH150    | 150              | 138        | 5.4 | 276   | 10.9 | 420    | 16.5 | 14.5                | 32.0 | 19.5             | 43.0  | M16      | PP                 |
| KPH180    | 180              | 138        | 5.4 | 276   | 10.9 | 420    | 16.5 | 18.0                | 39.7 | 20.5             | 45.2  | M16      | PP                 |
| KPH200    | 200              | 176        | 6.9 | 291   | 11.5 | 510    | 20.1 | 22.0                | 48.5 | 34.5             | 76.1  | M20      | MBS                |
| KPH250    | 250              | 176        | 6.9 | 291   | 11.5 | 510    | 20.1 | 25.0                | 55.1 | 36.0             | 79.4  | M20      | MBS                |
| KPH300    | 300              | 176        | 6.9 | 291   | 11.5 | 510    | 20.1 | 27.5                | 60.6 | 36.7             | 80.9  | M20      | MBS                |
| KPH350    | 350              | 186        | 7.3 | 398   | 15.7 | 570    | 22.4 | 32.0                | 70.6 | 54.0             | 119.1 | M20      | MBS                |
| KPH400    | 400              | 186        | 7.3 | 398   | 15.7 | 570    | 22.4 | 36.0                | 79.4 | 56.0             | 123.5 | M20      | MBS                |
| KPH500    | 500              | 186        | 7.3 | 398   | 15.7 | 570    | 22.4 | 40.0                | 88.2 | 59.0             | 130.1 | M20      | MBS                |



## Discharge Performance at $-18^{\circ}\text{C}$ [ $0^{\circ}\text{F}$ ]:



# Qualmege KPH Cell Performance

Available amperes at 20 °C

Discharge current is for fully charged cells

Final voltage: 1.14 V/cell

| Cell Type | Cs<br>Ah | Hours |      |      |      |      |      |      | Minutes |      |      |      |      |      |      | Seconds |      |  |
|-----------|----------|-------|------|------|------|------|------|------|---------|------|------|------|------|------|------|---------|------|--|
|           |          | 10    | 8    | 5    | 3    | 2    | 1.5  | 1    | 30      | 20   | 15   | 10   | 5    | 1    | 30   | 5       | 1    |  |
| KPH10     | 10       | 0.98  | 1.17 | 1.75 | 3.02 | 4.41 | 5.71 | 7.52 | 10.0    | 11.7 | 12.9 | 14.3 | 17.6 | 27.3 | 31.9 | 38.8    | 42.6 |  |
| KPH20     | 20       | 1.96  | 2.34 | 3.50 | 6.00 | 8.80 | 11.4 | 15.0 | 20.1    | 23.3 | 25.8 | 28.7 | 35.1 | 54.6 | 63.8 | 77.6    | 85.1 |  |
| KPH30     | 30       | 2.94  | 3.50 | 5.30 | 9.10 | 13.3 | 17.1 | 22.6 | 30.1    | 35.0 | 38.7 | 43.0 | 52.7 | 81.9 | 95.7 | 116     | 127  |  |
| KPH40     | 40       | 3.92  | 4.70 | 7.50 | 12.1 | 17.7 | 22.9 | 30.4 | 41.2    | 47.9 | 52.8 | 58.5 | 71.5 | 111  | 129  | 160     | 168  |  |
| KPH50     | 50       | 4.90  | 5.90 | 9.40 | 15.1 | 22.2 | 28.7 | 38.1 | 51.5    | 59.9 | 66.0 | 73.0 | 89.0 | 139  | 161  | 201     | 210  |  |
| KPH60     | 60       | 5.88  | 7.10 | 11.2 | 18.1 | 26.6 | 34.4 | 45.7 | 61.7    | 71.9 | 79.0 | 88.0 | 107  | 166  | 193  | 241     | 252  |  |
| KPH70     | 70       | 6.86  | 8.30 | 13.0 | 21.1 | 31.0 | 40.1 | 53.3 | 72.0    | 84.0 | 92.0 | 102  | 125  | 194  | 225  | 281     | 294  |  |
| KPH80     | 80       | 7.84  | 9.40 | 15.0 | 24.2 | 35.4 | 46.0 | 61.0 | 82.0    | 96.0 | 106  | 117  | 143  | 222  | 257  | 321     | 336  |  |
| KPH100    | 100      | 9.80  | 11.8 | 18.7 | 30.2 | 44.0 | 57.0 | 76.0 | 103     | 120  | 132  | 146  | 179  | 277  | 321  | 401     | 420  |  |
| KPH120    | 120      | 11.8  | 14.2 | 22.4 | 36.2 | 53.2 | 69.0 | 91.0 | 123     | 144  | 158  | 175  | 214  | 333  | 386  | 481     | 504  |  |
| KPH150    | 150      | 14.7  | 17.7 | 28.1 | 45.3 | 66.5 | 86.0 | 114  | 155     | 180  | 198  | 219  | 269  | 415  | 481  | 601     | 630  |  |
| KPH200    | 200      | 19.7  | 23.4 | 35.0 | 60.4 | 88.2 | 114  | 150  | 201     | 233  | 258  | 287  | 351  | 547  | 638  | 776     | 851  |  |
| KPH250    | 250      | 24.5  | 29.5 | 46.8 | 76.0 | 111  | 143  | 190  | 257     | 300  | 330  | 365  | 447  | 692  | 802  | 1002    | 1050 |  |
| KPH300    | 300      | 29.4  | 35.4 | 56.1 | 90.0 | 132  | 171  | 225  | 301     | 347  | 381  | 418  | 506  | 755  | 865  | 1022    | 1102 |  |
| KPH350    | 350      | 34.3  | 41.3 | 65.5 | 106  | 155  | 201  | 266  | 360     | 420  | 462  | 511  | 626  | 969  | 1123 | 1403    | 1470 |  |
| KPH400    | 400      | 39.2  | 47.2 | 74.8 | 121  | 177  | 229  | 304  | 412     | 479  | 528  | 585  | 715  | 1110 | 1290 | 1600    | 1680 |  |
| KPH500    | 500      | 49.2  | 59.0 | 94.0 | 151  | 222  | 287  | 381  | 515     | 599  | 659  | 731  | 893  | 1390 | 1610 | 2010    | 2100 |  |

Final voltage: 1.10 V/cell

| Cell Type | Cs<br>Ah | Hours |      |      |      |      |      |      | Minutes |      |      |      |      |      |      | Seconds |      |  |
|-----------|----------|-------|------|------|------|------|------|------|---------|------|------|------|------|------|------|---------|------|--|
|           |          | 10    | 8    | 5    | 3    | 2    | 1.5  | 1    | 30      | 20   | 15   | 10   | 5    | 1    | 30   | 5       | 1    |  |
| KPH10     | 10       | 1.00  | 1.23 | 1.94 | 3.15 | 4.63 | 6.05 | 8.61 | 13.3    | 15.4 | 17.2 | 19.1 | 22.8 | 34.5 | 39.8 | 48.9    | 52.1 |  |
| KPH20     | 20       | 2.00  | 2.46 | 3.88 | 6.30 | 9.26 | 12.1 | 17.2 | 26.6    | 30.8 | 34.4 | 38.2 | 45.6 | 69.1 | 79.6 | 97.8    | 104  |  |
| KPH30     | 30       | 3.00  | 3.69 | 5.82 | 9.45 | 13.9 | 18.2 | 25.8 | 39.9    | 46.2 | 51.6 | 57.3 | 68.4 | 104  | 119  | 147     | 156  |  |
| KPH40     | 40       | 4.00  | 4.90 | 7.77 | 12.6 | 18.5 | 24.2 | 34.5 | 53.3    | 61.6 | 68.7 | 76.4 | 91.4 | 138  | 160  | 196     | 208  |  |
| KPH50     | 50       | 5.06  | 6.13 | 9.71 | 15.8 | 23.2 | 30.3 | 43.1 | 66.7    | 77.1 | 85.9 | 96.0 | 114  | 173  | 200  | 245     | 260  |  |
| KPH60     | 60       | 6.07  | 7.35 | 11.7 | 18.9 | 27.8 | 36.3 | 51.7 | 80.0    | 92.4 | 103  | 115  | 137  | 207  | 240  | 294     | 312  |  |
| KPH70     | 70       | 7.08  | 8.58 | 13.6 | 22.1 | 32.4 | 42.4 | 60.3 | 93.4    | 108  | 120  | 134  | 160  | 242  | 280  | 343     | 364  |  |
| KPH80     | 80       | 8.09  | 9.80 | 15.5 | 25.2 | 37.0 | 48.4 | 68.9 | 107     | 123  | 137  | 153  | 183  | 276  | 320  | 392     | 416  |  |
| KPH100    | 100      | 10.1  | 12.3 | 19.4 | 31.5 | 46.3 | 60.5 | 86.1 | 133     | 154  | 172  | 191  | 228  | 345  | 400  | 490     | 521  |  |
| KPH120    | 120      | 12.1  | 14.7 | 23.3 | 37.8 | 55.6 | 72.6 | 103  | 160     | 185  | 206  | 229  | 274  | 415  | 480  | 588     | 625  |  |
| KPH150    | 150      | 15.2  | 18.5 | 29.1 | 47.3 | 69.5 | 90.8 | 129  | 200     | 232  | 258  | 287  | 342  | 518  | 601  | 736     | 786  |  |
| KPH200    | 200      | 20.3  | 24.7 | 38.9 | 63.1 | 92.8 | 122  | 173  | 268     | 310  | 346  | 384  | 458  | 692  | 798  | 980     | 1045 |  |
| KPH250    | 250      | 25.4  | 30.8 | 48.5 | 78.9 | 116  | 152  | 216  | 334     | 388  | 430  | 480  | 572  | 868  | 1010 | 1236    | 1321 |  |
| KPH300    | 300      | 30.4  | 37.1 | 58.6 | 94.8 | 141  | 185  | 262  | 403     | 468  | 520  | 578  | 690  | 1048 | 1198 | 1479    | 1569 |  |
| KPH350    | 350      | 35.4  | 43.2 | 68.2 | 114  | 168  | 218  | 310  | 471     | 543  | 610  | 674  | 804  | 1220 | 1424 | 1725    | 1846 |  |
| KPH400    | 400      | 40.5  | 49.2 | 77.9 | 128  | 188  | 246  | 348  | 539     | 621  | 692  | 770  | 921  | 1388 | 1610 | 1972    | 2094 |  |
| KPH500    | 500      | 50.6  | 61.4 | 97.4 | 162  | 238  | 309  | 438  | 671     | 776  | 863  | 966  | 1148 | 1739 | 2010 | 2462    | 2623 |  |

Final voltage: 1.05 V/cell

| Cell Type | Cs<br>Ah | Hours |      |      |      |      |      |      | Minutes |      |      |      |      |      |      | Seconds |      |  |
|-----------|----------|-------|------|------|------|------|------|------|---------|------|------|------|------|------|------|---------|------|--|
|           |          | 10    | 8    | 5    | 3    | 2    | 1.5  | 1    | 30      | 20   | 15   | 10   | 5    | 1    | 30   | 5       | 1    |  |
| KPH10     | 10       | 1.02  | 1.24 | 1.97 | 3.23 | 4.72 | 6.26 | 8.98 | 16.1    | 19.7 | 21.6 | 24.3 | 28.8 | 43.2 | 49.4 | 60.9    | 65.7 |  |
| KPH20     | 20       | 2.04  | 2.48 | 3.94 | 6.46 | 9.44 | 12.5 | 18.0 | 32.2    | 39.4 | 43.2 | 48.2 | 57.6 | 86.4 | 99.2 | 121     | 132  |  |
| KPH30     | 30       | 3.06  | 3.72 | 5.91 | 9.69 | 14.3 | 18.8 | 26.9 | 48.3    | 59.1 | 64.8 | 72.9 | 88.2 | 128  | 150  | 180     | 191  |  |
| KPH40     | 40       | 4.08  | 5.01 | 7.92 | 13.0 | 19.2 | 25.1 | 36.4 | 65.3    | 80.2 | 88.0 | 99.7 | 118  | 175  | 200  | 245     | 266  |  |
| KPH50     | 50       | 5.10  | 6.25 | 9.90 | 16.2 | 24.0 | 31.4 | 45.5 | 81.6    | 100  | 110  | 125  | 147  | 219  | 250  | 307     | 332  |  |
| KPH60     | 60       | 6.12  | 7.50 | 11.9 | 19.4 | 28.7 | 37.7 | 54.6 | 97.9    | 120  | 132  | 150  | 177  | 263  | 300  | 368     | 398  |  |
| KPH70     | 70       | 7.14  | 8.75 | 13.9 | 22.7 | 33.5 | 44.0 | 63.7 | 114     | 140  | 154  | 175  | 206  | 306  | 350  | 430     | 465  |  |
| KPH80     | 80       | 8.16  | 10.0 | 15.8 | 25.9 | 38.3 | 50.2 | 72.8 | 131     | 160  | 176  | 199  | 235  | 350  | 400  | 491     | 531  |  |
| KPH100    | 100      | 10.2  | 12.5 | 19.8 | 32.4 | 47.9 | 62.8 | 91.0 | 163     | 200  | 220  | 249  | 294  | 438  | 500  | 614     | 664  |  |
| KPH120    | 120      | 12.2  | 15.0 | 23.8 | 38.9 | 57.5 | 75.4 | 109  | 196     | 241  | 264  | 299  | 353  | 525  | 600  | 736     | 797  |  |
| KPH150    | 150      | 15.3  | 18.8 | 29.7 | 48.6 | 71.9 | 94.2 | 137  | 245     | 300  | 330  | 374  | 441  | 657  | 750  | 921     | 996  |  |
| KPH200    | 200      | 20.6  | 25.1 | 39.6 | 64.8 | 95.8 | 126  | 182  | 326     | 400  | 440  | 498  | 588  | 876  | 1000 | 1228    | 1328 |  |
| KPH250    | 250      | 25.8  | 31.3 | 49.5 | 81.0 | 120  | 157  | 228  | 408     | 500  | 550  | 623  | 735  | 1095 | 1250 | 1535    | 1660 |  |
| KPH300    | 300      | 30.9  | 37.5 | 59.4 | 97.2 | 144  | 188  | 273  | 489     | 600  | 660  | 747  | 882  | 1314 | 1550 | 1842    | 1992 |  |
| KPH350    | 350      | 36.1  | 43.8 | 69.3 | 115  | 170  | 220  | 319  | 571     | 700  | 770  | 872  | 1030 | 1535 | 1750 | 2149    | 2324 |  |
| KPH400    | 400      | 41.2  | 50.2 | 79.4 | 132  | 194  | 256  | 369  | 659     | 808  | 887  | 1004 | 1188 | 1388 | 1610 | 1972    | 2094 |  |
| KPH500    | 500      | 51.4  | 62.5 | 99.6 | 168  | 246  | 320  | 461  | 822     | 1010 | 1112 | 1263 | 1482 | 2210 | 2516 | 3088    | 3336 |  |

Available amperes at 20 °C

Discharge current is for fully charged cells

Final voltage: 1.00 V/cell

| Cell Type | C <sub>5</sub><br>Ah | Hours |      |      |      |      |      |      | Minutes |      |      |      |      | Seconds |      |      |      |
|-----------|----------------------|-------|------|------|------|------|------|------|---------|------|------|------|------|---------|------|------|------|
|           |                      | 10    | 8    | 5    | 3    | 2    | 1.5  | 1    | 30      | 20   | 15   | 10   | 5    | 1       | 30   | 5    | 1    |
| KPH10     | 10                   | 1.03  | 1.26 | 2.00 | 3.27 | 4.84 | 6.37 | 9.33 | 16.4    | 22.3 | 25.6 | 29.4 | 35.2 | 50.4    | 58.1 | 73.1 | 80.3 |
| KPH20     | 20                   | 2.06  | 2.52 | 4.00 | 6.54 | 9.68 | 12.6 | 18.6 | 32.8    | 44.6 | 51.2 | 58.8 | 70.4 | 100     | 116  | 146  | 171  |
| KPH30     | 30                   | 3.09  | 3.78 | 6.00 | 9.90 | 14.6 | 19.3 | 28.2 | 51.3    | 69.6 | 78.7 | 90.0 | 109  | 155     | 178  | 223  | 245  |
| KPH40     | 40                   | 4.12  | 5.05 | 8.00 | 13.2 | 19.5 | 25.7 | 37.6 | 68.4    | 92.8 | 105  | 120  | 145  | 206     | 237  | 297  | 326  |
| KPH50     | 50                   | 5.15  | 6.31 | 10.0 | 16.4 | 24.4 | 32.1 | 47.0 | 85.5    | 116  | 132  | 150  | 181  | 258     | 296  | 372  | 408  |
| KPH60     | 60                   | 6.18  | 7.58 | 12.0 | 19.7 | 29.3 | 38.5 | 56.4 | 103     | 139  | 158  | 180  | 217  | 309     | 355  | 446  | 489  |
| KPH70     | 70                   | 7.21  | 8.84 | 14.0 | 23.0 | 34.2 | 44.9 | 65.8 | 120     | 162  | 185  | 210  | 253  | 361     | 414  | 520  | 571  |
| KPH80     | 80                   | 8.24  | 10.1 | 16.0 | 26.3 | 39.0 | 51.3 | 75.2 | 137     | 186  | 211  | 240  | 290  | 412     | 473  | 595  | 652  |
| KPH100    | 100                  | 10.3  | 12.6 | 20.0 | 32.9 | 48.8 | 64.2 | 94.0 | 171     | 232  | 264  | 300  | 362  | 515     | 592  | 743  | 816  |
| KPH120    | 120                  | 12.4  | 15.2 | 24.0 | 39.5 | 58.6 | 77.0 | 113  | 205     | 278  | 316  | 360  | 435  | 618     | 710  | 892  | 979  |
| KPH150    | 150                  | 15.5  | 18.9 | 30.0 | 49.4 | 73.2 | 96.3 | 141  | 257     | 348  | 396  | 450  | 543  | 773     | 888  | 1115 | 1224 |
| KPH200    | 200                  | 20.6  | 25.2 | 40.0 | 65.8 | 97.6 | 128  | 188  | 342     | 464  | 528  | 600  | 724  | 1030    | 1184 | 1436 | 1632 |
| KPH250    | 250                  | 25.8  | 31.5 | 50.0 | 82.3 | 122  | 161  | 235  | 428     | 580  | 660  | 750  | 905  | 1288    | 1480 | 1858 | 2040 |
| KPH300    | 300                  | 30.9  | 37.8 | 60.0 | 98.7 | 146  | 193  | 282  | 513     | 696  | 792  | 900  | 1086 | 1545    | 1776 | 2229 | 2448 |
| KPH350    | 350                  | 36.1  | 44.1 | 70.0 | 115  | 171  | 225  | 329  | 599     | 812  | 924  | 1050 | 1267 | 1803    | 2072 | 2600 | 2856 |
| KPH400    | 400                  | 41.3  | 50.5 | 80.0 | 132  | 195  | 257  | 376  | 684     | 928  | 1056 | 1200 | 1448 | 2060    | 2368 | 2972 | 3264 |
| KPH500    | 500                  | 51.7  | 63.2 | 101  | 166  | 246  | 324  | 474  | 859     | 1166 | 1326 | 1510 | 1820 | 2592    | 2974 | 3734 | 4096 |

Final voltage: 0.85 V/cell

| Cell Type | C <sub>5</sub><br>Ah | Minutes |      | Seconds |      |      |      |      |      |
|-----------|----------------------|---------|------|---------|------|------|------|------|------|
|           |                      | 5       | 3    | 90      | 60   | 30   | 10   | 5    | 1    |
| KPH10     | 10                   | 57.0    | 72.0 | 89.0    | 97.0 | 109  | 118  | 125  | 136  |
| KPH20     | 20                   | 124     | 159  | 190     | 207  | 225  | 246  | 257  | 281  |
| KPH30     | 30                   | 194     | 236  | 286     | 310  | 334  | 369  | 387  | 421  |
| KPH40     | 40                   | 246     | 309  | 350     | 378  | 413  | 446  | 467  | 522  |
| KPH50     | 50                   | 271     | 343  | 384     | 415  | 455  | 490  | 512  | 573  |
| KPH60     | 60                   | 345     | 401  | 470     | 498  | 550  | 595  | 624  | 680  |
| KPH70     | 70                   | 473     | 524  | 607     | 668  | 712  | 767  | 788  | 866  |
| KPH80     | 80                   | 540     | 599  | 694     | 763  | 814  | 877  | 900  | 990  |
| KPH100    | 100                  | 595     | 676  | 778     | 831  | 920  | 979  | 1025 | 1110 |
| KPH120    | 120                  | 646     | 753  | 857     | 887  | 1033 | 1083 | 1161 | 1248 |
| KPH150    | 150                  | 907     | 1008 | 1161    | 1237 | 1369 | 1441 | 1485 | 1664 |
| KPH200    | 200                  | 1129    | 1260 | 1417    | 1501 | 1643 | 1766 | 1842 | 2040 |
| KPH250    | 250                  | 1383    | 1544 | 1727    | 1845 | 2009 | 2162 | 2245 | 2478 |
| KPH300    | 300                  | 1660    | 1853 | 2072    | 2214 | 2411 | 2594 | 2694 | 2974 |
| KPH350    | 350                  | 1826    | 2038 | 2279    | 2435 | 2652 | 2853 | 2963 | 3271 |
| KPH400    | 400                  | 2008    | 2242 | 2507    | 2679 | 2917 | 3139 | 3260 | 3599 |
| KPH500    | 500                  | 2209    | 2466 | 2758    | 2947 | 3209 | 3453 | 3586 | 3958 |

Final voltage: 0.65 V/cell

| Cell Type | C <sub>5</sub><br>Ah | Minutes |      | Seconds |      |      |      |      |      |
|-----------|----------------------|---------|------|---------|------|------|------|------|------|
|           |                      | 5       | 3    | 90      | 60   | 30   | 10   | 5    | 1    |
| KPH10     | 10                   | 64.0    | 93.0 | 121     | 133  | 147  | 159  | 165  | 179  |
| KPH20     | 20                   | 120     | 200  | 250     | 273  | 295  | 321  | 335  | 361  |
| KPH30     | 30                   | 239     | 317  | 384     | 415  | 446  | 489  | 511  | 554  |
| KPH40     | 40                   | 284     | 407  | 485     | 518  | 561  | 600  | 632  | 688  |
| KPH50     | 50                   | 311     | 454  | 532     | 570  | 617  | 655  | 694  | 755  |
| KPH60     | 60                   | 405     | 520  | 632     | 670  | 734  | 793  | 820  | 876  |
| KPH70     | 70                   | 526     | 714  | 824     | 908  | 949  | 1031 | 1056 | 1141 |
| KPH80     | 80                   | 602     | 814  | 945     | 1042 | 1086 | 1179 | 1210 | 1308 |
| KPH100    | 100                  | 665     | 887  | 1049    | 1127 | 1258 | 1324 | 1380 | 1495 |
| KPH120    | 120                  | 730     | 954  | 1159    | 1201 | 1476 | 1498 | 1548 | 1688 |
| KPH150    | 150                  | 1030    | 1369 | 1597    | 1693 | 1867 | 1955 | 2011 | 2190 |
| KPH200    | 200                  | 1402    | 1718 | 1946    | 2059 | 2257 | 2398 | 2493 | 2701 |
| KPH250    | 250                  | 1673    | 2114 | 2373    | 2526 | 2749 | 2938 | 3032 | 3290 |
| KPH300    | 300                  | 2008    | 2537 | 2848    | 3031 | 3299 | 3526 | 3638 | 3948 |
| KPH350    | 350                  | 2209    | 2790 | 3133    | 3334 | 3629 | 3879 | 4002 | 4343 |
| KPH400    | 400                  | 2430    | 3069 | 3446    | 3667 | 3992 | 4267 | 4402 | 4777 |
| KPH500    | 500                  | 2673    | 3376 | 3790    | 4034 | 4391 | 4694 | 4842 | 5255 |



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