

## Industrial Batteries / Network Power

### Sonnenschein A500

»A powerful, universal  
safety package«



## Industrial Batteries

### The powerful range of Network Power

GNB® Industrial Power offers reliable energy storage solutions for critical systems requiring uninterrupted power supply. With a comprehensive product range based on state-of-the-art technologies, GNB delivers the right battery for every application.

The below table is only indicative and depends on the specific customer application. For more information please ask a GNB sales representative.

| Applica-<br>tions                                                                                          | Battery ranges |            |      |      |       |      |                |          |      |          |       |          |               |         |      |      |                    |       |      |  |
|------------------------------------------------------------------------------------------------------------|----------------|------------|------|------|-------|------|----------------|----------|------|----------|-------|----------|---------------|---------|------|------|--------------------|-------|------|--|
|                                                                                                            | Sonnenschein   |            |      |      |       |      |                | Marathon |      | Sprinter |       | Absolyte | Powerfit      | Classic |      |      |                    |       |      |  |
|                                                                                                            | A400/<br>A600  | A400<br>FT | A500 | A700 | SOLAR | RAIL | Power<br>Cycle | M-FT     | L/XL | P/XP     | XP-FT | GP/GX    | S100/<br>S300 | GroE    | OCSM | OPzS | Energy<br>Bloc/OGi | Solar | rail |  |
| Telecom<br>               | ●              | ●          | ●    | ●    |       |      | ●              | ●        | ●    |          | ●     | ●        |               |         | ●    | ●    | ●                  |       |      |  |
| UPS<br>                   | ●              | ●          | ●    | ●    |       |      | ●              | ●        | ●    | ●        | ●     | ●        |               |         | ●    |      | ●                  |       |      |  |
| Emergency<br>lighting<br> | ●              | ●          | ●    | ●    |       |      | ●              | ●        | ●    | ●        | ●     |          | ●             |         |      | ●    | ●                  |       |      |  |
| Security<br>            | ●              |            | ●    | ●    |       |      |                |          |      | ●        | ●     |          | ●             |         | ●    | ●    |                    |       |      |  |
| Utility<br>             | ●              | ●          |      | ●    |       |      | ●              | ●        | ●    |          |       | ●        |               | ●       | ●    | ●    | ●                  |       |      |  |
| Railways<br>            | ●              | ●          | ●    | ●    |       | ●    | ●              | ●        | ●    |          |       | ●        |               |         | ●    |      | ●                  |       | ●    |  |
| Photovoltaic<br>        |                |            |      |      | ●     |      | ●              |          |      |          |       | ●        |               |         |      |      |                    | ●     |      |  |
| Universal<br>           | ●              | ●          | ●    | ●    |       |      | ●              | ●        | ●    | ●        | ●     | ●        | ●             |         | ●    | ●    | ●                  |       |      |  |

### Powerful product brands






- > VRLA batteries (**V**alve **R**egulated **L**ead **A**cid) in which the electrolyte is fixed in an **A**bsorbent **G**lass **M**at (AGM)
- > Excellent high current capability
- > Very economical
- > Maintenance-free (no topping up)



- > VRLA batteries (**V**alve **R**egulated **L**ead **A**cid) in which the electrolyte is fixed in a gel (dryfit® technology)
- > Inventor of Gel technology
- > Highest reliability, even in non-optimal conditions
- > Particularly suitable for cyclic applications
- > Maintenance-free (no topping up)



- > Conventional lead-acid batteries with liquid electrolyte
- > Extreme reliability, proven over decades
- > Low maintenance

## Sonnenschein A500

### Unmatched, high reliability dryfit Gel technology

Batteries of the Sonnenschein A500 range provide high capacities for many different applications. This range has been successfully in use for over twenty years in many installations worldwide. The success of A500 batteries comes from the superior dryfit technology, available in a wide range of models to provide a solution for every power need.

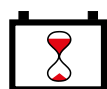
#### Your benefits:

- > **dryfit Gel** – VRLA technology
- > **Lowest energy consumption** – saving costs
- > **Robust design** – resilient in harsh conditions
- > **Proof against deep discharge** – greater long-term energy delivery
- > **Completely recyclable** – low CO<sub>2</sub> footprint



#### Specifications:

- > Nominal capacity 1.20 - 200 Ah C<sub>20</sub>
- > Excellent energy storage capacity combined with high reliability
- > Grid plate construction with high quality lead calcium alloy, specially designed for enhanced energy density
- > Very low gassing due to the internal gas recombination
- > Design life: »10-12 Years – Long Life« according to EURO-BAT 2015 classification
- > Shelf life up to 2 years at 20 °C without recharge due to the very low self discharge rate
- > Superior cycling performance
- > Designed in accordance with IEC 60896-21/-22
- > Approval: UL (Underwriter Laboratories)
- > Trouble-free transport of operational blocks, no restrictions for rail, road, sea and air transportation (IATA, DGR, clause A67)
- > Manufactured in Europe in our ISO 9001 certified production plants



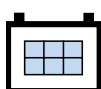
10-12 years  
– Long Life



Nominal  
capacity  
1.20 - 200 Ah



Block battery



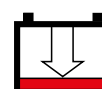
Grid plate



Recyclable



Valve regulated  
lead-acid  
batteries



Proof  
against deep  
discharge



Maintenance  
free (no  
topping up)

# Sonnenschein A500

## Technical Data

### Technical characteristics and data

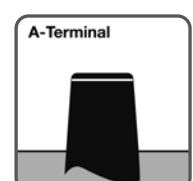
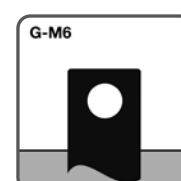
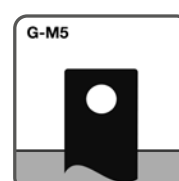
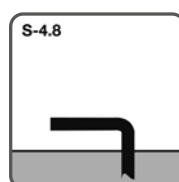
| Type        | Part number     | Nom. voltage V | Nominal capacity C <sub>20</sub> 1.75 Vpc 20°C Ah | Length (l) max. mm | Width (b/w) max. mm | Height up to top of cover (h1) max. mm | Height over terminals (h2) max. mm | Weight*** approx. kg | Internal resistance mOhm | Short circuit current A | Terminal   |
|-------------|-----------------|----------------|---------------------------------------------------|--------------------|---------------------|----------------------------------------|------------------------------------|----------------------|--------------------------|-------------------------|------------|
| A502/10 S   | NGA5020010HS0SA | 2              | 10.0                                              | 52.9               | 50.5                | 94.5                                   | 98.4                               | 0.70                 | 11.2                     | 189                     | S-4.8      |
| A504/3.5 S  | NGA50403D5HS0SA | 4              | 3.50                                              | 90.5               | 34.5                | 60.5                                   | 64.4                               | 0.50                 | 48.0                     | 88.0                    | S-4.8      |
| A506/1.2 S  | NGA50601D2HS0SA | 6              | 1.20                                              | 97.3               | 25.5                | 51.0                                   | 55.6                               | 0.33                 | 165                      | 38.0                    | S-4.8      |
| A506/3.5 S  | NGA50603D5HS0SA | 6              | 3.50                                              | 135                | 34.8                | 60.5                                   | 64.4                               | 0.70                 | 71.0                     | 88.0                    | S-4.8      |
| A506/6.5 S  | NGA50606D5HS0SA | 6              | 6.50                                              | 152                | 34.5                | 94.5                                   | 98.4                               | 1.30                 | 48.0                     | 131                     | S-4.8      |
| A506/10 S*  | NGA5060010HS0SA | 6              | 10.0                                              | 152                | 50.5                | 94.5                                   | 98.4                               | 2.10                 | 34.0                     | 189                     | S-4.8      |
| A508/3.5 S  | NGA50803D5HS0SA | 8              | 3.50                                              | 179                | 34.1                | 60.5                                   | 64.4                               | 1.00                 | 95.0                     | 88.0                    | S-4.8      |
| A512/1.2 S* | NGA51201D2HS0SA | 12             | 1.20                                              | 97.5               | 49.5                | 51.0                                   | 54.9                               | 0.65                 | 330                      | 38.0                    | S-4.8      |
| A512/2 S*   | NGA5120002HS0SA | 12             | 2.00                                              | 179                | 34.1                | 60.5                                   | 64.4                               | 1.00                 | 172                      | 73.0                    | S-4.8      |
| A512/3.5 S* | NGA51203D5HS0SA | 12             | 3.50                                              | 135                | 66.8                | 60.5                                   | 64.4                               | 1.50                 | 142                      | 88.0                    | S-4.8      |
| A512/6.5 S* | NGA51206D5HS0SA | 12             | 6.50                                              | 152                | 65.5                | 94.5                                   | 98.4                               | 2.60                 | 95.0                     | 131                     | S-4.8      |
| A512/10 S*  | NGA5120010HS0SA | 12             | 10.0                                              | 152                | 98.0                | 94.5                                   | 98.4                               | 4.00                 | 66.0                     | 189                     | S-4.8      |
| A512/16 G5* | NGA5120016HS0BA | 12             | 16.0                                              | 181                | 76.0                | 167                                    | 167                                | 6.00                 | 37.8                     | 340                     | G-M5       |
| A512/25 G5* | NGA5120025HS0BA | 12             | 25.0                                              | 167                | 176                 | 126                                    | 126                                | 9.60                 | 28.0                     | 463                     | G-M5       |
| A512/30 G6* | NGA5120030HS0BA | 12             | 30.0                                              | 197                | 132                 | 161                                    | 180                                | 11.1                 | 21.8                     | 586                     | G-M6       |
| A512/40 A*  | NGA5120040HS0CA | 12             | 40.0                                              | 210                | 175                 | 175                                    | 175                                | 14.2                 | 16.5                     | 770                     | A-Terminal |
| A512/40 G6* | NGA5120040HS0BA | 12             | 40.0                                              | 210                | 175                 | 175                                    | 175                                | 14.2                 | 16.5                     | 770                     | G-M6       |
| A512/55 A   | NGA5120055HS0CA | 12             | 55.0                                              | 261                | 135                 | 208                                    | 230                                | 18.1                 | 10.9                     | 1147                    | A-Terminal |
| A512/60 A   | NGA5120060HS0CA | 12             | 60.0                                              | 278                | 175                 | 190                                    | 190                                | 20.3                 | 14.0                     | 936                     | A-Terminal |
| A512/60 G6  | NGA5120060HS0BA | 12             | 60.0                                              | 278                | 175                 | 190                                    | 190                                | 20.3                 | 14.0                     | 936                     | G-M6       |
| A512/65 A   | NGA5120065HS0CA | 12             | 65.0                                              | 353                | 175                 | 190                                    | 190                                | 23.0                 | 8.30                     | 1471                    | A-Terminal |
| A512/65 G6  | NGA5120065HS0BA | 12             | 65.0                                              | 353                | 175                 | 190                                    | 190                                | 23.0                 | 8.30                     | 1471                    | G-M6       |
| A512/85 A*  | NGA5120085HS0CA | 12             | 85.0                                              | 330                | 171                 | 213                                    | 236                                | 29.2                 | 7.40                     | 1693                    | A-Terminal |
| A512/115 A  | NGA5120115HS0CA | 12             | 115                                               | 286                | 269                 | 208                                    | 230                                | 37.5                 | 5.50                     | 2275                    | A-Terminal |
| A512/120 A  | NGA5120120HS0CA | 12             | 120                                               | 513                | 189                 | 195                                    | 219                                | 39.0                 | 5.10                     | 2475                    | A-Terminal |
| A512/140 A  | NGA5120140HS0CA | 12             | 140                                               | 513                | 223                 | 195                                    | 219                                | 47.0                 | 4.10                     | 3132                    | A-Terminal |
| A512/200 A  | NGA5120200HS0CA | 12             | 200                                               | 518                | 274                 | 216                                    | 238                                | 63.5                 | 3.80                     | 3370                    | A-Terminal |

\* VDS approval · \*\* max. load with suitable matching contacts \*\*\* Actual weight may differ by ±5%

### Container, approval, terminal and torque

> **Container:** 1.2 - 16 Ah = ABS  
25 - 200 Ah = Polypropylene (PP)

> **Approval:** Underwriters Laboratories (UL), USA  
VdS (Types see above)  
DIN/Gost/TÜV, Russia  
DNV GL (Germanischer Lloyd)



5 Nm

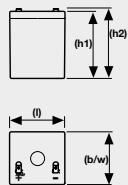
6 Nm

8 Nm

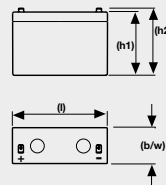
# Sonnenschein A500

## Drawings

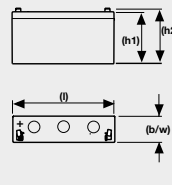
A502/10 S



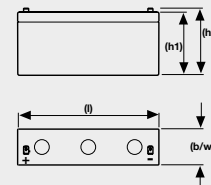
A504/3.5 S



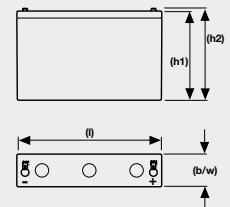
A506/1.2 S



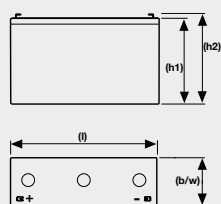
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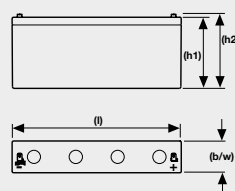
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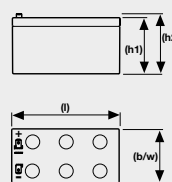
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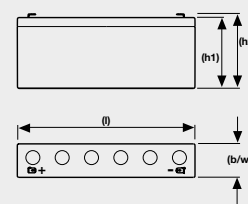
A508/3.5 S



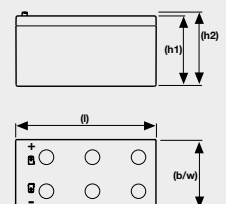
A512/1.2 S



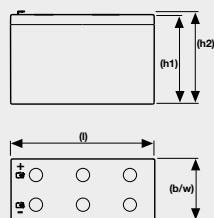
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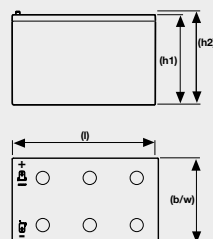
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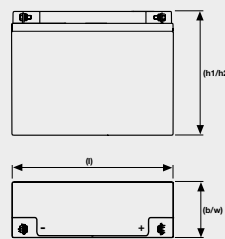
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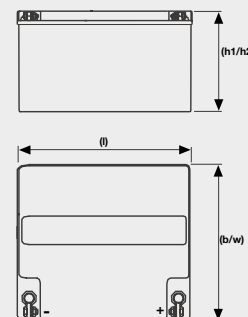
A512/10 S



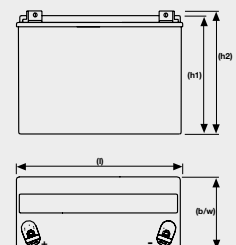
A512/16 G5



A512/25 G5



A512/30 G6

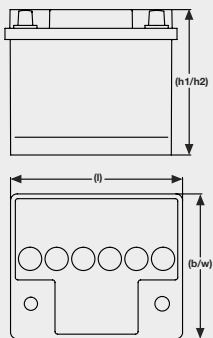


Not to scale!

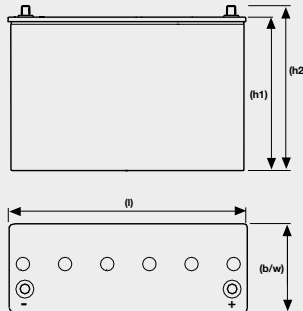
## Sonnenschein A500

### Drawings

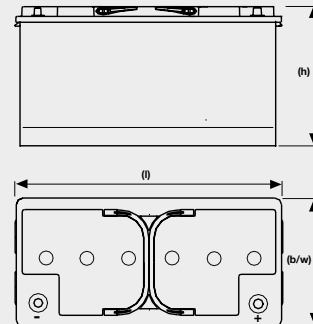
**A512/40 A**  
**(A512/40 G6)\***



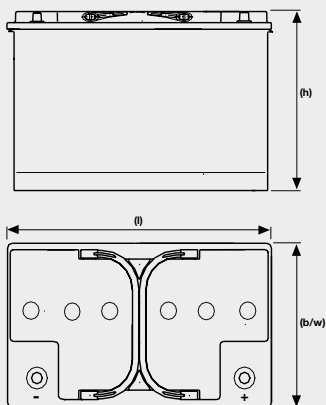
**A512/55 A**



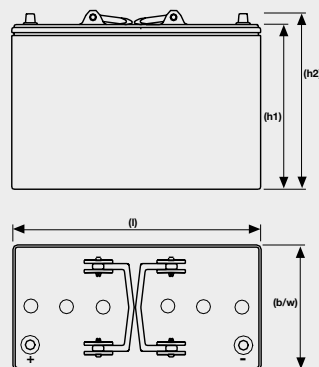
**A512/60 A**  
**(A512/60 G6)\***



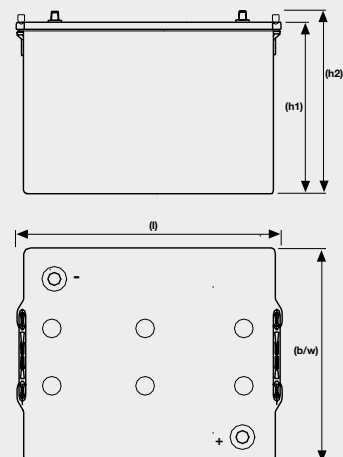
**A512/65 A**  
**(A512/65 G6)\***



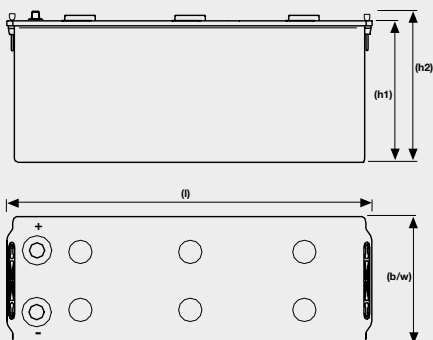
**A512/85 A**



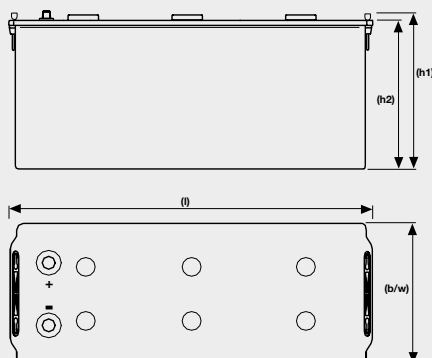
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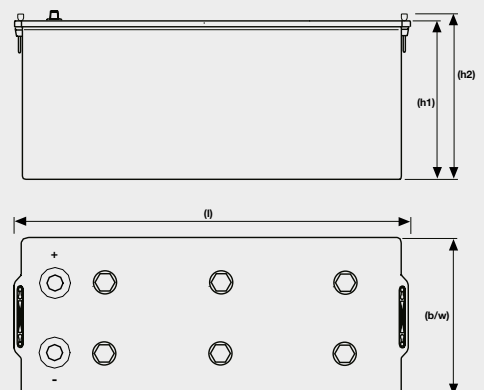
**A512/120 A**



**A512/140 A**



**A512/200 A**



Not to scale! · \* Dimensions are also valid for other terminals.

## Sonnenschein A500

### Constant current discharge

#### 1.85 Vpc – Discharge in A at 20 °C

| Type       | Part number                  | 5 min | 10 min | 15 min | 20 min | 30 min | 1 h  | 2 h  | 3 h  | 5 h  | 8 h  | 10 h |
|------------|------------------------------|-------|--------|--------|--------|--------|------|------|------|------|------|------|
| A502/10 S  | NGA5020010HS0SA              | 30.0  | 22.0   | 18.0   | 15.0   | 11.2   | 6.40 | 3.90 | 2.80 | 1.80 | 1.18 | 0.96 |
| A504/3.5 S | NGA50403D5HS0SA              | 9.50  | 6.70   | 5.50   | 4.50   | 3.40   | 2.10 | 1.40 | 0.95 | 0.60 | 0.39 | 0.32 |
| A506/1.2 S | NGA50601D2HS0SA              | 3.52  | 2.44   | 1.92   | 1.58   | 1.20   | 0.75 | 0.49 | 0.34 | 0.21 | 0.13 | 0.10 |
| A506/3.5 S | NGA50603D5HS0SA              | 9.50  | 6.70   | 5.50   | 4.50   | 3.40   | 2.10 | 1.40 | 0.95 | 0.60 | 0.39 | 0.32 |
| A506/6.5 S | NGA50606D5HS0SA              | 17.0  | 12.0   | 10.0   | 8.10   | 6.10   | 3.60 | 2.10 | 1.50 | 1.10 | 0.73 | 0.61 |
| A506/10 S  | NGA5060010HS0SA              | 30.0  | 22.0   | 18.0   | 15.0   | 11.2   | 6.40 | 3.90 | 2.80 | 1.80 | 1.18 | 0.96 |
| A508/3.5 S | NGA50803D5HS0SA              | 9.50  | 6.70   | 5.50   | 4.50   | 3.40   | 2.10 | 1.40 | 0.95 | 0.60 | 0.39 | 0.32 |
| A512/1.2 S | NGA51201D2HS0SA              | 3.52  | 2.44   | 1.92   | 1.58   | 1.20   | 0.75 | 0.49 | 0.34 | 0.21 | 0.13 | 0.10 |
| A512/2 S   | NGA5120002HS0SA              | 5.40  | 3.70   | 3.20   | 2.60   | 2.00   | 1.50 | 0.82 | 0.56 | 0.34 | 0.22 | 0.18 |
| A512/3.5 S | NGA51203D5HS0SA              | 9.50  | 6.70   | 5.50   | 4.50   | 3.40   | 2.10 | 1.40 | 0.95 | 0.60 | 0.39 | 0.32 |
| A512/6.5 S | NGA51206D5HS0SA              | 17.0  | 12.0   | 10.0   | 8.10   | 6.10   | 3.60 | 2.10 | 1.50 | 1.10 | 0.73 | 0.61 |
| A512/10 S  | NGA5120010HS0SA              | 30.0  | 22.0   | 18.0   | 15.0   | 11.2   | 6.40 | 3.90 | 2.80 | 1.80 | 1.18 | 0.96 |
| A512/16 G5 | NGA5120016HS0BA              | 40.0  | 29.0   | 24.0   | 20.0   | 15.0   | 9.80 | 6.21 | 4.34 | 2.70 | 1.80 | 1.40 |
| A512/25 G5 | NGA5120025HS0BA              | 41.1  | 36.2   | 29.0   | 24.8   | 20.5   | 13.1 | 8.00 | 5.80 | 3.90 | 2.50 | 2.10 |
| A512/30 G6 | NGA5120030HS0BA              | 60.7  | 49.3   | 44.0   | 36.5   | 28.0   | 18.0 | 10.6 | 7.60 | 4.90 | 3.20 | 2.60 |
| A512/40 A  | NGA5120040HS0CA <sup>1</sup> | 75.0  | 63.0   | 50.0   | 42.0   | 34.0   | 22.0 | 12.0 | 8.80 | 6.40 | 4.30 | 3.50 |
| A512/55 A  | NGA5120055HS0CA              | 99.2  | 83.1   | 70.1   | 59.1   | 46.4   | 32.7 | 18.9 | 13.6 | 9.00 | 6.00 | 4.90 |
| A512/60 A  | NGA5120060HS0CA <sup>1</sup> | 122   | 100    | 82.4   | 69.2   | 54.2   | 33.8 | 21.5 | 15.3 | 9.90 | 6.60 | 5.40 |
| A512/65 A  | NGA5120065HS0CA <sup>1</sup> | 95.8  | 83.1   | 73.9   | 65.8   | 56.4   | 35.8 | 23.0 | 16.6 | 11.0 | 7.40 | 6.10 |
| A512/85 A  | NGA5120085HS0CA              | 168   | 141    | 119    | 100    | 78.0   | 53.0 | 30.0 | 22.0 | 14.2 | 9.40 | 7.70 |
| A512/115 A | NGA5120115HS0CA              | 210   | 179    | 152    | 128    | 100    | 60.0 | 36.0 | 26.0 | 18.0 | 12.0 | 10.1 |
| A512/120 A | NGA5120120HS0CA              | 257   | 201    | 162    | 135    | 104    | 65.5 | 39.3 | 27.8 | 18.1 | 11.9 | 9.80 |
| A512/140 A | NGA5120140HS0CA              | 275   | 220    | 178    | 151    | 118    | 75.1 | 45.7 | 32.5 | 21.3 | 14.0 | 11.5 |
| A512/200 A | NGA5120200HS0CA              | 329   | 274    | 226    | 196    | 160    | 104  | 65.1 | 46.6 | 31.0 | 20.4 | 16.7 |

#### 1.80 Vpc – Discharge in A at 20 °C

| Type       | Part number                  | 5 min | 10 min | 15 min | 20 min | 30 min | 1 h  | 2 h  | 3 h  | 5 h  | 8 h  | 10 h |
|------------|------------------------------|-------|--------|--------|--------|--------|------|------|------|------|------|------|
| A502/10 S  | NGA5020010HS0SA              | 33.0  | 24.0   | 19.0   | 16.0   | 11.9   | 6.80 | 4.10 | 2.90 | 1.90 | 1.23 | 1.00 |
| A504/3.5 S | NGA50403D5HS0SA              | 10.6  | 7.40   | 6.00   | 4.90   | 3.70   | 2.20 | 1.40 | 0.98 | 0.62 | 0.40 | 0.33 |
| A506/1.2 S | NGA50601D2HS0SA              | 3.92  | 2.67   | 2.07   | 1.69   | 1.26   | 0.77 | 0.51 | 0.35 | 0.21 | 0.13 | 0.10 |
| A506/3.5 S | NGA50603D5HS0SA              | 10.6  | 7.40   | 6.00   | 4.90   | 3.70   | 2.20 | 1.40 | 0.98 | 0.62 | 0.40 | 0.33 |
| A506/6.5 S | NGA50606D5HS0SA              | 19.0  | 13.0   | 11.0   | 8.80   | 6.50   | 3.80 | 2.20 | 1.60 | 1.10 | 0.75 | 0.63 |
| A506/10 S  | NGA5060010HS0SA              | 33.0  | 24.0   | 19.0   | 16.0   | 11.9   | 6.80 | 4.10 | 2.90 | 1.90 | 1.23 | 1.00 |
| A508/3.5 S | NGA50803D5HS0SA              | 10.6  | 7.40   | 6.00   | 4.90   | 3.70   | 2.20 | 1.40 | 0.98 | 0.62 | 0.40 | 0.33 |
| A512/1.2 S | NGA51201D2HS0SA              | 3.92  | 2.67   | 2.07   | 1.69   | 1.26   | 0.77 | 0.51 | 0.35 | 0.21 | 0.13 | 0.10 |
| A512/2 S   | NGA5120002HS0SA              | 6.20  | 4.20   | 3.40   | 2.80   | 2.10   | 1.50 | 0.86 | 0.58 | 0.36 | 0.23 | 0.19 |
| A512/3.5 S | NGA51203D5HS0SA              | 10.6  | 7.40   | 6.00   | 4.90   | 3.70   | 2.20 | 1.40 | 0.98 | 0.62 | 0.40 | 0.33 |
| A512/6.5 S | NGA51206D5HS0SA              | 19.0  | 13.0   | 11.0   | 8.80   | 6.50   | 3.80 | 2.20 | 1.60 | 1.10 | 0.75 | 0.63 |
| A512/10 S  | NGA5120010HS0SA              | 33.0  | 24.0   | 19.0   | 16.0   | 11.9   | 6.80 | 4.10 | 2.90 | 1.90 | 1.23 | 1.00 |
| A512/16 G5 | NGA5120016HS0BA              | 47.0  | 33.0   | 27.0   | 22.0   | 16.0   | 10.2 | 6.43 | 4.40 | 2.80 | 1.80 | 1.50 |
| A512/25 G5 | NGA5120025HS0BA              | 46.1  | 38.8   | 32.1   | 27.0   | 21.3   | 13.8 | 8.30 | 6.00 | 4.00 | 2.60 | 2.20 |
| A512/30 G6 | NGA5120030HS0BA              | 75.5  | 54.8   | 47.2   | 39.9   | 30.0   | 19.1 | 11.2 | 7.90 | 5.10 | 3.30 | 2.70 |
| A512/40 A  | NGA5120040HS0CA <sup>1</sup> | 86.0  | 69.0   | 57.0   | 47.0   | 36.0   | 23.0 | 13.0 | 9.20 | 6.70 | 4.40 | 3.60 |
| A512/55 A  | NGA5120055HS0CA              | 114   | 89.8   | 78.7   | 65.3   | 50.2   | 34.2 | 19.5 | 14.0 | 9.20 | 6.10 | 5.00 |
| A512/60 A  | NGA5120060HS0CA <sup>1</sup> | 145   | 108    | 91.9   | 75.9   | 58.1   | 35.5 | 22.3 | 15.8 | 10.3 | 6.80 | 5.60 |
| A512/65 A  | NGA5120065HS0CA <sup>1</sup> | 120   | 100    | 88.1   | 75.4   | 60.4   | 38.6 | 24.3 | 17.4 | 11.5 | 7.50 | 6.20 |
| A512/85 A  | NGA5120085HS0CA              | 193   | 154    | 135    | 112    | 85.0   | 56.0 | 32.0 | 23.0 | 14.7 | 9.80 | 8.00 |
| A512/115 A | NGA5120115HS0CA              | 244   | 192    | 170    | 140    | 107    | 64.0 | 38.0 | 27.0 | 18.0 | 13.0 | 10.4 |
| A512/120 A | NGA5120120HS0CA              | 293   | 221    | 178    | 147    | 112    | 69.5 | 40.9 | 28.9 | 18.6 | 12.3 | 10.2 |
| A512/140 A | NGA5120140HS0CA              | 315   | 244    | 198    | 166    | 128    | 79.7 | 47.7 | 33.8 | 22.0 | 14.5 | 11.9 |
| A512/200 A | NGA5120200HS0CA              | 381   | 313    | 258    | 222    | 176    | 110  | 68.1 | 48.5 | 32.0 | 21.1 | 17.3 |

<sup>1</sup> Discharge data are also valid for other terminals/containers.

## Sonnenschein A500

### Constant current discharge

#### 1.75 Vpc – Discharge in A at 20 °C

| Type       | Part number                  | 5 min | 10 min | 15 min | 20 min | 30 min | 1 h  | 2 h  | 3 h  | 5 h  | 8 h  | 10 h |
|------------|------------------------------|-------|--------|--------|--------|--------|------|------|------|------|------|------|
| A502/10 S  | NGA5020010HSOSA              | 35.0  | 26.0   | 20.0   | 17.0   | 12.3   | 6.90 | 4.20 | 3.00 | 1.90 | 1.25 | 1.02 |
| A504/3.5 S | NGA50403D5HSOSA              | 11.3  | 7.90   | 6.20   | 5.10   | 3.80   | 2.30 | 1.40 | 0.99 | 0.62 | 0.41 | 0.34 |
| A506/1.2 S | NGA50601D2HSOSA              | 4.12  | 2.82   | 2.15   | 1.74   | 1.30   | 0.78 | 0.51 | 0.35 | 0.22 | 0.13 | 0.10 |
| A506/3.5 S | NGA50603D5HSOSA              | 11.3  | 7.90   | 6.20   | 5.10   | 3.80   | 2.30 | 1.40 | 0.99 | 0.62 | 0.41 | 0.34 |
| A506/6.5 S | NGA50606D5HSOSA              | 20.0  | 14.0   | 11.0   | 9.20   | 6.80   | 3.90 | 2.30 | 1.60 | 1.10 | 0.76 | 0.63 |
| A506/10 S  | NGA5060010HSOSA              | 35.0  | 26.0   | 20.0   | 17.0   | 12.3   | 6.90 | 4.20 | 3.00 | 1.90 | 1.25 | 1.02 |
| A508/3.5 S | NGA50803D5HSOSA              | 11.3  | 7.90   | 6.20   | 5.10   | 3.80   | 2.30 | 1.40 | 0.99 | 0.62 | 0.41 | 0.34 |
| A512/1.2 S | NGA51201D2HSOSA              | 4.12  | 2.82   | 2.15   | 1.74   | 1.30   | 0.78 | 0.51 | 0.35 | 0.22 | 0.13 | 0.10 |
| A512/2 S   | NGA5120002HSOSA              | 6.80  | 4.60   | 3.50   | 2.90   | 2.20   | 1.50 | 0.87 | 0.59 | 0.36 | 0.24 | 0.19 |
| A512/3.5 S | NGA51203D5HSOSA              | 11.3  | 7.90   | 6.20   | 5.10   | 3.80   | 2.30 | 1.40 | 0.99 | 0.62 | 0.41 | 0.34 |
| A512/6.5 S | NGA51206D5HSOSA              | 20.0  | 14.0   | 11.0   | 9.20   | 6.80   | 3.90 | 2.30 | 1.60 | 1.10 | 0.76 | 0.63 |
| A512/10 S  | NGA5120010HSOSA              | 35.0  | 26.0   | 20.0   | 17.0   | 12.3   | 6.90 | 4.20 | 3.00 | 1.90 | 1.25 | 1.02 |
| A512/16 G5 | NGA5120016HSOBA              | 51.0  | 36.0   | 28.0   | 23.0   | 17.0   | 10.4 | 6.53 | 4.50 | 2.90 | 1.80 | 1.54 |
| A512/25 G5 | NGA5120025HSOBA              | 54.2  | 41.4   | 34.5   | 28.6   | 21.9   | 14.2 | 8.50 | 6.10 | 4.00 | 2.70 | 2.20 |
| A512/30 G6 | NGA5120030HSOBA              | 84.7  | 60.3   | 49.0   | 42.0   | 31.3   | 19.7 | 11.5 | 8.10 | 5.20 | 3.40 | 2.80 |
| A512/40 A  | NGA5120040HSOCA <sup>1</sup> | 103   | 74.0   | 61.0   | 50.0   | 37.0   | 24.0 | 13.0 | 9.40 | 6.80 | 4.50 | 3.70 |
| A512/55 A  | NGA5120055HSOCA              | 139   | 99.0   | 84.3   | 69.5   | 52.5   | 35.0 | 19.9 | 14.2 | 9.30 | 6.20 | 5.10 |
| A512/60 A  | NGA5120060HSOCA <sup>1</sup> | 168   | 118    | 98.3   | 80.4   | 60.5   | 36.4 | 22.7 | 16.1 | 10.4 | 6.90 | 5.60 |
| A512/65 A  | NGA5120065HSOCA <sup>1</sup> | 140   | 111    | 95.7   | 81.9   | 63.8   | 40.0 | 24.9 | 17.8 | 11.7 | 7.60 | 6.30 |
| A512/85 A  | NGA5120085HSOCA              | 226   | 169    | 144    | 120    | 90.0   | 58.0 | 33.0 | 23.0 | 15.0 | 9.90 | 8.10 |
| A512/115 A | NGA5120115HSOCA              | 282   | 204    | 179    | 148    | 112    | 66.0 | 39.0 | 28.0 | 19.0 | 13.0 | 10.5 |
| A512/120 A | NGA5120120HSOCA              | 330   | 235    | 188    | 155    | 116    | 71.6 | 41.9 | 29.5 | 19.0 | 12.6 | 10.5 |
| A512/140 A | NGA5120140HSOCA              | 357   | 264    | 211    | 176    | 133    | 82.3 | 48.9 | 34.5 | 22.3 | 14.8 | 12.2 |
| A512/200 A | NGA5120200HSOCA              | 437   | 349    | 282    | 237    | 183    | 115  | 70.0 | 49.7 | 32.3 | 21.5 | 17.7 |

#### 1.70 Vpc – Discharge in A at 20 °C

| Type       | Part number                  | 5 min | 10 min | 15 min | 20 min | 30 min | 1 h  | 2 h  | 3 h  | 5 h  | 8 h  | 10 h |
|------------|------------------------------|-------|--------|--------|--------|--------|------|------|------|------|------|------|
| A502/10 S  | NGA5020010HSOSA              | 37.0  | 27.0   | 20.0   | 17.0   | 12.6   | 7.00 | 4.20 | 3.00 | 1.90 | 1.25 | 1.02 |
| A504/3.5 S | NGA50403D5HSOSA              | 12.1  | 8.30   | 6.30   | 5.20   | 3.90   | 2.30 | 1.40 | 1.00 | 0.63 | 0.41 | 0.34 |
| A506/1.2 S | NGA50601D2HSOSA              | 4.32  | 2.91   | 2.19   | 1.77   | 1.31   | 0.79 | 0.52 | 0.35 | 0.22 | 0.13 | 0.10 |
| A506/3.5 S | NGA50603D5HSOSA              | 12.1  | 8.30   | 6.30   | 5.20   | 3.90   | 2.30 | 1.40 | 1.00 | 0.63 | 0.41 | 0.34 |
| A506/6.5 S | NGA50606D5HSOSA              | 21.0  | 15.0   | 12.0   | 9.50   | 6.90   | 3.90 | 2.30 | 1.60 | 1.10 | 0.76 | 0.63 |
| A506/10 S  | NGA5060010HSOSA              | 37.0  | 27.0   | 20.0   | 17.0   | 12.6   | 7.00 | 4.20 | 3.00 | 1.90 | 1.25 | 1.02 |
| A508/3.5 S | NGA50803D5HSOSA              | 12.1  | 8.30   | 6.30   | 5.20   | 3.90   | 2.30 | 1.40 | 1.00 | 0.63 | 0.41 | 0.34 |
| A512/1.2 S | NGA51201D2HSOSA              | 4.32  | 2.91   | 2.19   | 1.77   | 1.31   | 0.79 | 0.52 | 0.35 | 0.22 | 0.13 | 0.10 |
| A512/2 S   | NGA5120002HSOSA              | 7.40  | 4.80   | 3.60   | 3.00   | 2.20   | 1.50 | 0.88 | 0.60 | 0.37 | 0.24 | 0.19 |
| A512/3.5 S | NGA51203D5HSOSA              | 12.1  | 8.30   | 6.30   | 5.20   | 3.90   | 2.30 | 1.40 | 1.00 | 0.63 | 0.41 | 0.34 |
| A512/6.5 S | NGA51206D5HSOSA              | 21.0  | 15.0   | 12.0   | 9.50   | 6.90   | 3.90 | 2.30 | 1.60 | 1.10 | 0.76 | 0.63 |
| A512/10 S  | NGA5120010HSOSA              | 37.0  | 27.0   | 20.0   | 17.0   | 12.6   | 7.00 | 4.20 | 3.00 | 1.90 | 1.25 | 1.02 |
| A512/16 G5 | NGA5120016HSOBA              | 54.0  | 39.0   | 30.0   | 24.0   | 17.0   | 10.5 | 6.57 | 4.60 | 2.92 | 1.80 | 1.54 |
| A512/25 G5 | NGA5120025HSOBA              | 61.7  | 43.3   | 36.1   | 29.6   | 22.4   | 14.4 | 8.60 | 6.20 | 4.10 | 2.70 | 2.20 |
| A512/30 G6 | NGA5120030HSOBA              | 92.0  | 64.3   | 50.1   | 43.3   | 32.0   | 20.0 | 11.6 | 8.20 | 5.30 | 3.40 | 2.80 |
| A512/40 A  | NGA5120040HSOCA <sup>1</sup> | 115   | 79.0   | 64.0   | 52.0   | 38.0   | 24.0 | 13.0 | 9.50 | 6.80 | 4.50 | 3.70 |
| A512/55 A  | NGA5120055HSOCA              | 151   | 106    | 86.8   | 72.0   | 53.9   | 35.5 | 20.1 | 14.3 | 9.30 | 6.20 | 5.10 |
| A512/60 A  | NGA5120060HSOCA <sup>1</sup> | 178   | 125    | 101    | 82.6   | 61.6   | 36.9 | 22.9 | 16.2 | 10.4 | 6.90 | 5.60 |
| A512/65 A  | NGA5120065HSOCA <sup>1</sup> | 158   | 121    | 104    | 86.2   | 65.9   | 40.6 | 25.1 | 17.9 | 11.7 | 7.60 | 6.30 |
| A512/85 A  | NGA5120085HSOCA              | 244   | 182    | 149    | 125    | 93.0   | 59.0 | 33.0 | 23.0 | 15.1 | 9.90 | 8.10 |
| A512/115 A | NGA5120115HSOCA              | 310   | 215    | 183    | 153    | 114    | 67.0 | 39.0 | 28.0 | 19.0 | 13.0 | 10.5 |
| A512/120 A | NGA5120120HSOCA              | 367   | 249    | 196    | 161    | 119    | 73.1 | 42.7 | 29.9 | 19.2 | 12.8 | 10.5 |
| A512/140 A | NGA5120140HSOCA              | 397   | 282    | 222    | 183    | 137    | 84.1 | 49.9 | 35.1 | 22.6 | 15.0 | 12.2 |
| A512/200 A | NGA5120200HSOCA              | 486   | 380    | 300    | 251    | 191    | 117  | 71.4 | 50.6 | 32.8 | 21.8 | 17.7 |

<sup>1</sup> Discharge data are also valid for other terminals/containers.

## Sonnenschein A500

### Constant current discharge

#### 1.65 Vpc – Discharge in A at 20 °C

| Type       | Part number                  | 5 min | 10 min | 15 min | 20 min | 30 min | 1 h  | 2 h  | 3 h  | 5 h  | 8 h  | 10 h |
|------------|------------------------------|-------|--------|--------|--------|--------|------|------|------|------|------|------|
| A502/10 S  | NGA5020010HS0SA              | 39.0  | 28.0   | 21.0   | 17.0   | 12.7   | 7.10 | 4.30 | 3.00 | 1.90 | 1.25 | 1.02 |
| A504/3.5 S | NGA50403D5HS0SA              | 12.7  | 8.50   | 6.50   | 5.30   | 3.90   | 2.30 | 1.40 | 1.01 | 0.63 | 0.41 | 0.34 |
| A506/1.2 S | NGA50601D2HS0SA              | 4.52  | 2.96   | 2.22   | 1.79   | 1.32   | 0.80 | 0.52 | 0.36 | 0.22 | 0.13 | 0.10 |
| A506/3.5 S | NGA50603D5HS0SA              | 12.7  | 8.50   | 6.50   | 5.30   | 3.90   | 2.30 | 1.40 | 1.01 | 0.63 | 0.41 | 0.34 |
| A506/6.5 S | NGA50606D5HS0SA              | 23.0  | 15.0   | 12.0   | 9.60   | 7.00   | 4.00 | 2.30 | 1.60 | 1.10 | 0.76 | 0.63 |
| A506/10 S  | NGA5060010HS0SA              | 39.0  | 28.0   | 21.0   | 17.0   | 12.7   | 7.10 | 4.30 | 3.00 | 1.90 | 1.25 | 1.02 |
| A508/3.5 S | NGA50803D5HS0SA              | 12.7  | 8.50   | 6.50   | 5.30   | 3.90   | 2.30 | 1.40 | 1.01 | 0.63 | 0.41 | 0.34 |
| A512/1.2 S | NGA51201D2HS0SA              | 4.52  | 2.96   | 2.22   | 1.79   | 1.32   | 0.80 | 0.52 | 0.36 | 0.22 | 0.13 | 0.10 |
| A512/2 S   | NGA5120002HS0SA              | 7.80  | 4.90   | 3.70   | 3.00   | 2.20   | 1.50 | 0.88 | 0.60 | 0.37 | 0.24 | 0.19 |
| A512/3.5 S | NGA51203D5HS0SA              | 12.7  | 8.50   | 6.50   | 5.30   | 3.90   | 2.30 | 1.40 | 1.01 | 0.63 | 0.41 | 0.34 |
| A512/6.5 S | NGA51206D5HS0SA              | 23.0  | 15.0   | 12.0   | 9.60   | 7.00   | 4.00 | 2.30 | 1.60 | 1.10 | 0.76 | 0.63 |
| A512/10 S  | NGA5120010HS0SA              | 39.0  | 28.0   | 21.0   | 17.0   | 12.7   | 7.10 | 4.30 | 3.00 | 1.90 | 1.25 | 1.02 |
| A512/16 G5 | NGA5120016HS0BA              | 58.0  | 41.0   | 30.0   | 24.0   | 18.0   | 10.6 | 6.61 | 4.60 | 2.92 | 1.80 | 1.54 |
| A512/25 G5 | NGA5120025HS0BA              | 67.5  | 45.4   | 37.1   | 30.2   | 22.7   | 14.4 | 8.60 | 6.20 | 4.10 | 2.70 | 2.20 |
| A512/30 G6 | NGA5120030HS0BA              | 98.9  | 67.0   | 51.1   | 44.0   | 32.4   | 20.1 | 11.7 | 8.20 | 5.30 | 3.40 | 2.80 |
| A512/40 A  | NGA5120040HS0CA <sup>1</sup> | 121   | 82.0   | 66.0   | 53.0   | 39.0   | 24.0 | 13.0 | 9.50 | 6.80 | 4.50 | 3.70 |
| A512/55 A  | NGA5120055HS0CA              | 161   | 112    | 88.4   | 73.6   | 54.7   | 35.7 | 20.2 | 14.4 | 9.30 | 6.20 | 5.10 |
| A512/60 A  | NGA5120060HS0CA <sup>1</sup> | 185   | 130    | 102    | 83.2   | 61.7   | 37.1 | 23.0 | 16.2 | 10.4 | 6.90 | 5.60 |
| A512/65 A  | NGA5120065HS0CA <sup>1</sup> | 178   | 129    | 108    | 88.8   | 67.0   | 40.9 | 25.2 | 17.9 | 11.7 | 7.60 | 6.30 |
| A512/85 A  | NGA5120085HS0CA              | 259   | 192    | 152    | 128    | 94.0   | 59.0 | 33.0 | 24.0 | 15.1 | 9.90 | 8.10 |
| A512/115 A | NGA5120115HS0CA              | 332   | 222    | 186    | 156    | 116    | 67.0 | 39.0 | 28.0 | 19.0 | 13.0 | 10.5 |
| A512/120 A | NGA5120120HS0CA              | 387   | 260    | 201    | 165    | 122    | 74.0 | 43.1 | 30.1 | 19.2 | 12.8 | 10.5 |
| A512/140 A | NGA5120140HS0CA              | 423   | 294    | 229    | 189    | 141    | 85.4 | 50.3 | 35.4 | 22.6 | 15.0 | 12.2 |
| A512/200 A | NGA5120200HS0CA              | 531   | 395    | 313    | 262    | 198    | 120  | 72.1 | 51.0 | 32.8 | 21.8 | 17.7 |

#### 1.60 Vpc – Discharge in A at 20 °C

| Type       | Part number                  | 5 min | 10 min | 15 min | 20 min | 30 min | 1 h  | 2 h  | 3 h  | 5 h  | 8 h  | 10 h |
|------------|------------------------------|-------|--------|--------|--------|--------|------|------|------|------|------|------|
| A502/10 S  | NGA5020010HS0SA              | 42.0  | 29.0   | 21.0   | 17.0   | 12.8   | 7.10 | 4.30 | 3.00 | 1.90 | 1.25 | 1.02 |
| A504/3.5 S | NGA50403D5HS0SA              | 13.1  | 8.70   | 6.50   | 5.30   | 3.90   | 2.30 | 1.40 | 1.01 | 0.63 | 0.41 | 0.34 |
| A506/1.2 S | NGA50601D2HS0SA              | 4.66  | 3.00   | 2.24   | 1.80   | 1.33   | 0.80 | 0.52 | 0.36 | 0.22 | 0.13 | 0.10 |
| A506/3.5 S | NGA50603D5HS0SA              | 13.1  | 8.70   | 6.50   | 5.30   | 3.90   | 2.30 | 1.40 | 1.01 | 0.63 | 0.41 | 0.34 |
| A506/6.5 S | NGA50606D5HS0SA              | 24.0  | 16.0   | 12.0   | 9.70   | 7.00   | 4.00 | 2.30 | 1.60 | 1.10 | 0.76 | 0.63 |
| A506/10 S  | NGA5060010HS0SA              | 42.0  | 29.0   | 21.0   | 17.0   | 12.8   | 7.10 | 4.30 | 3.00 | 1.90 | 1.25 | 1.02 |
| A508/3.5 S | NGA50803D5HS0SA              | 13.1  | 8.70   | 6.50   | 5.30   | 3.90   | 2.30 | 1.40 | 1.01 | 0.63 | 0.41 | 0.34 |
| A512/1.2 S | NGA51201D2HS0SA              | 4.66  | 3.00   | 2.24   | 1.80   | 1.33   | 0.80 | 0.52 | 0.36 | 0.22 | 0.13 | 0.10 |
| A512/2 S   | NGA5120002HS0SA              | 8.20  | 5.00   | 3.70   | 3.10   | 2.20   | 1.50 | 0.89 | 0.60 | 0.37 | 0.24 | 0.19 |
| A512/3.5 S | NGA51203D5HS0SA              | 13.1  | 8.70   | 6.50   | 5.30   | 3.90   | 2.30 | 1.40 | 1.01 | 0.63 | 0.41 | 0.34 |
| A512/6.5 S | NGA51206D5HS0SA              | 24.0  | 16.0   | 12.0   | 9.70   | 7.00   | 4.00 | 2.30 | 1.60 | 1.10 | 0.76 | 0.63 |
| A512/10 S  | NGA5120010HS0SA              | 42.0  | 29.0   | 21.0   | 17.0   | 12.8   | 7.10 | 4.30 | 3.00 | 1.90 | 1.25 | 1.02 |
| A512/16 G5 | NGA5120016HS0BA              | 61.0  | 42.0   | 31.0   | 25.0   | 18.0   | 10.7 | 6.62 | 4.61 | 2.92 | 1.80 | 1.54 |
| A512/25 G5 | NGA5120025HS0BA              | 71.8  | 46.9   | 37.7   | 30.7   | 22.9   | 14.5 | 8.60 | 6.20 | 4.10 | 2.70 | 2.20 |
| A512/30 G6 | NGA5120030HS0BA              | 105   | 68.7   | 51.8   | 44.4   | 32.6   | 20.1 | 11.7 | 8.20 | 5.30 | 3.40 | 2.80 |
| A512/40 A  | NGA5120040HS0CA <sup>1</sup> | 127   | 85.0   | 67.0   | 54.0   | 39.0   | 24.0 | 13.0 | 9.50 | 6.80 | 4.50 | 3.70 |
| A512/55 A  | NGA5120055HS0CA              | 169   | 116    | 89.3   | 74.6   | 55.2   | 35.8 | 20.2 | 14.4 | 9.30 | 6.20 | 5.10 |
| A512/60 A  | NGA5120060HS0CA <sup>1</sup> | 191   | 133    | 103    | 83.5   | 61.8   | 37.2 | 23.0 | 16.2 | 10.4 | 6.90 | 5.60 |
| A512/65 A  | NGA5120065HS0CA <sup>1</sup> | 193   | 135    | 110    | 90.3   | 67.7   | 41.1 | 25.2 | 18.0 | 11.7 | 7.60 | 6.30 |
| A512/85 A  | NGA5120085HS0CA              | 273   | 199    | 155    | 130    | 95.0   | 60.0 | 33.0 | 24.0 | 15.1 | 9.90 | 8.10 |
| A512/115 A | NGA5120115HS0CA              | 343   | 227    | 187    | 158    | 117    | 68.0 | 40.0 | 28.0 | 19.0 | 13.0 | 10.5 |
| A512/120 A | NGA5120120HS0CA              | 409   | 267    | 205    | 168    | 124    | 74.7 | 43.3 | 30.2 | 19.2 | 12.8 | 10.5 |
| A512/140 A | NGA5120140HS0CA              | 452   | 303    | 235    | 193    | 143    | 86.3 | 50.6 | 35.4 | 22.6 | 15.0 | 12.2 |
| A512/200 A | NGA5120200HS0CA              | 581   | 411    | 323    | 269    | 202    | 121  | 72.4 | 51.1 | 32.8 | 21.8 | 17.7 |

<sup>1</sup> Discharge data are also valid for other terminals/containers.

## Sonnenschein A500

### Constant power discharge

#### 1.85 Vpc – Discharge in W/block at 20 °C

| Type       | Part number                  | 3 min | 5 min | 10 min | 15 min | 20 min | 30 min | 45 min | 1 h  | 1.5 h |
|------------|------------------------------|-------|-------|--------|--------|--------|--------|--------|------|-------|
| A502/10 S  | NGA5020010HS0SA              | 56.0  | 50.0  | 41.0   | 33.0   | 27.0   | 20.0   | 16.0   | 13.0 | 9.00  |
| A504/3.5 S | NGA50403D5HS0SA              | 41.0  | 34.0  | 26.0   | 21.0   | 17.0   | 13.0   | 11.0   | 9.00 | 6.00  |
| A506/1.2 S | NGA50601D2HS0SA              | 21.4  | 17.2  | 12.2   | 10.3   | 8.60   | 6.60   | 4.90   | 4.00 | 3.00  |
| A506/3.5 S | NGA50603D5HS0SA              | 62.0  | 51.0  | 38.0   | 32.0   | 26.0   | 20.0   | 16.0   | 13.0 | 9.00  |
| A506/6.5 S | NGA50606D5HS0SA              | 120   | 100   | 73.0   | 60.0   | 51.0   | 38.0   | 28.0   | 23.0 | 16.0  |
| A506/10 S  | NGA5060010HS0SA              | 167   | 149   | 124    | 98.0   | 80.0   | 60.0   | 49.0   | 39.0 | 28.0  |
| A508/3.5 S | NGA50803D5HS0SA              | 83.0  | 68.0  | 51.0   | 42.0   | 35.0   | 27.0   | 22.0   | 17.0 | 12.0  |
| A512/1.2 S | NGA51201D2HS0SA              | 42.7  | 34.4  | 24.3   | 20.7   | 17.2   | 13.2   | 9.80   | 8.00 | 5.90  |
| A512/2 S   | NGA5120002HS0SA              | 74.0  | 60.0  | 44.0   | 36.0   | 30.0   | 23.0   | 17.0   | 14.0 | 10.0  |
| A512/3.5 S | NGA51203D5HS0SA              | 124   | 102   | 77.0   | 63.0   | 52.0   | 40.0   | 33.0   | 26.0 | 18.0  |
| A512/6.5 S | NGA51206D5HS0SA              | 240   | 200   | 146    | 120    | 102    | 76.0   | 56.0   | 46.0 | 32.0  |
| A512/10 S  | NGA5120010HS0SA              | 335   | 298   | 248    | 195    | 160    | 120    | 98.0   | 78.0 | 56.0  |
| A512/16 G5 | NGA5120016HS0BA              | 485   | 433   | 352    | 295    | 252    | 192    | 150    | 119  | 87.0  |
| A512/25 G5 | NGA5120025HS0BA              | 535   | 463   | 387    | 324    | 278    | 225    | 170    | 140  | 105   |
| A512/30 G6 | NGA5120030HS0BA              | 857   | 751   | 568    | 479    | 400    | 310    | 251    | 200  | 144   |
| A512/40 A  | NGA5120040HS0CA <sup>1</sup> | 958   | 848   | 703    | 578    | 490    | 395    | 300    | 243  | 178   |
| A512/55 A  | NGA5120055HS0CA              | 1348  | 1172  | 922    | 844    | 718    | 572    | 457    | 367  | 269   |
| A512/60 A  | NGA5120060HS0CA <sup>1</sup> | 1618  | 1414  | 1096   | 963    | 807    | 625    | 459    | 369  | 271   |
| A512/65 A  | NGA5120065HS0CA <sup>1</sup> | 1180  | 1113  | 991    | 861    | 763    | 659    | 500    | 411  | 307   |
| A512/85 A  | NGA5120085HS0CA              | 1979  | 1802  | 1527   | 1310   | 1118   | 905    | 690    | 565  | 425   |
| A512/115 A | NGA5120115HS0CA              | 2808  | 2531  | 2009   | 1705   | 1439   | 1155   | 872    | 702  | 512   |
| A512/120 A | NGA5120120HS0CA              | 3350  | 2862  | 2300   | 1895   | 1583   | 1200   | 938    | 757  | 583   |
| A512/140 A | NGA5120140HS0CA              | 3674  | 3172  | 2549   | 2101   | 1755   | 1330   | 1040   | 839  | 647   |
| A512/200 A | NGA5120200HS0CA              | 4690  | 4102  | 3449   | 2843   | 2375   | 1800   | 1408   | 1135 | 875   |

#### 1.80 Vpc – Discharge in W/block at 20 °C

| Type       | Part number                  | 3 min | 5 min | 10 min | 15 min | 20 min | 30 min | 45 min | 1 h  | 1.5 h |
|------------|------------------------------|-------|-------|--------|--------|--------|--------|--------|------|-------|
| A502/10 S  | NGA5020010HS0SA              | 56.0  | 53.0  | 44.0   | 35.0   | 29.0   | 21.0   | 17.0   | 14.0 | 10.0  |
| A504/3.5 S | NGA50403D5HS0SA              | 45.0  | 38.0  | 28.0   | 22.0   | 19.0   | 14.0   | 11.0   | 9.00 | 6.00  |
| A506/1.2 S | NGA50601D2HS0SA              | 23.5  | 19.1  | 13.3   | 10.9   | 9.10   | 6.90   | 5.10   | 4.10 | 3.00  |
| A506/3.5 S | NGA50603D5HS0SA              | 68.0  | 57.0  | 42.0   | 33.0   | 28.0   | 21.0   | 17.0   | 13.0 | 10.0  |
| A506/6.5 S | NGA50606D5HS0SA              | 128   | 112   | 80.0   | 63.0   | 54.0   | 40.0   | 30.0   | 24.0 | 17.0  |
| A506/10 S  | NGA5060010HS0SA              | 168   | 159   | 131    | 104    | 86.0   | 64.0   | 51.0   | 41.0 | 29.0  |
| A508/3.5 S | NGA50803D5HS0SA              | 91.0  | 76.0  | 56.0   | 44.0   | 37.0   | 28.0   | 23.0   | 18.0 | 13.0  |
| A512/1.2 S | NGA51201D2HS0SA              | 47.0  | 38.3  | 26.5   | 21.7   | 18.1   | 13.7   | 10.2   | 8.20 | 6.00  |
| A512/2 S   | NGA5120002HS0SA              | 83.0  | 68.0  | 49.0   | 38.0   | 32.0   | 24.0   | 18.0   | 15.0 | 11.0  |
| A512/3.5 S | NGA51203D5HS0SA              | 136   | 114   | 84.0   | 66.0   | 56.0   | 42.0   | 34.0   | 27.0 | 19.0  |
| A512/6.5 S | NGA51206D5HS0SA              | 256   | 224   | 160    | 126    | 108    | 80.0   | 60.0   | 48.0 | 34.0  |
| A512/10 S  | NGA5120010HS0SA              | 336   | 318   | 261    | 209    | 172    | 128    | 101    | 81.0 | 59.0  |
| A512/16 G5 | NGA5120016HS0BA              | 584   | 485   | 384    | 309    | 269    | 203    | 156    | 124  | 90.0  |
| A512/25 G5 | NGA5120025HS0BA              | 623   | 555   | 418    | 360    | 303    | 240    | 180    | 146  | 109   |
| A512/30 G6 | NGA5120030HS0BA              | 1036  | 850   | 637    | 517    | 433    | 330    | 264    | 210  | 151   |
| A512/40 A  | NGA5120040HS0CA <sup>1</sup> | 1092  | 1007  | 758    | 646    | 538    | 415    | 318    | 255  | 186   |
| A512/55 A  | NGA5120055HS0CA              | 1555  | 1362  | 1014   | 888    | 777    | 606    | 478    | 382  | 278   |
| A512/60 A  | NGA5120060HS0CA <sup>1</sup> | 1955  | 1634  | 1181   | 1041   | 873    | 669    | 489    | 390  | 283   |
| A512/65 A  | NGA5120065HS0CA <sup>1</sup> | 1459  | 1316  | 1109   | 989    | 851    | 693    | 544    | 441  | 327   |
| A512/85 A  | NGA5120085HS0CA              | 2279  | 2132  | 1684   | 1487   | 1245   | 970    | 740    | 600  | 447   |
| A512/115 A | NGA5120115HS0CA              | 3189  | 2873  | 2190   | 1888   | 1569   | 1209   | 926    | 739  | 535   |
| A512/120 A | NGA5120120HS0CA              | 3763  | 3276  | 2543   | 2027   | 1720   | 1285   | 966    | 794  | 608   |
| A512/140 A | NGA5120140HS0CA              | 4127  | 3631  | 2819   | 2246   | 1906   | 1424   | 1070   | 880  | 674   |
| A512/200 A | NGA5120200HS0CA              | 5268  | 4695  | 3815   | 3040   | 2580   | 1928   | 1449   | 1191 | 912   |

<sup>1</sup> Discharge data are also valid for other terminals/containers.

## Sonnenschein A500

### Constant power discharge

#### 1.75 Vpc – Discharge in W/block at 20 °C

| Type       | Part number                  | 3 min | 5 min | 10 min | 15 min | 20 min | 30 min | 45 min | 1 h  | 1.5 h |
|------------|------------------------------|-------|-------|--------|--------|--------|--------|--------|------|-------|
| A502/10 S  | NGA5020010HSOSA              | 60.0  | 58.0  | 45.0   | 36.0   | 30.0   | 22.0   | 17.0   | 14.0 | 10.0  |
| A504/3.5 S | NGA50403D5HSOSA              | 49.0  | 41.0  | 30.0   | 23.0   | 20.0   | 15.0   | 12.0   | 9.00 | 6.00  |
| A506/1.2 S | NGA50601D2HSOSA              | 25.1  | 20.7  | 14.0   | 11.1   | 9.30   | 7.00   | 5.20   | 4.20 | 3.00  |
| A506/3.5 S | NGA50603D5HSOSA              | 73.0  | 62.0  | 45.0   | 35.0   | 29.0   | 22.0   | 18.0   | 14.0 | 10.0  |
| A506/6.5 S | NGA50606D5HSOSA              | 138   | 121   | 86.0   | 66.0   | 57.0   | 42.0   | 30.0   | 24.0 | 17.0  |
| A506/10 S  | NGA5060010HSOSA              | 181   | 173   | 135    | 109    | 90.0   | 66.0   | 51.0   | 42.0 | 30.0  |
| A508/3.5 S | NGA50803D5HSOSA              | 97.0  | 82.0  | 60.0   | 46.0   | 39.0   | 29.0   | 23.0   | 18.0 | 13.0  |
| A512/1.2 S | NGA51201D2HSOSA              | 50.1  | 41.4  | 28.0   | 22.2   | 18.6   | 14.0   | 10.3   | 8.30 | 6.10  |
| A512/2 S   | NGA5120002HSOSA              | 91.0  | 75.0  | 52.0   | 40.0   | 33.0   | 25.0   | 18.0   | 15.0 | 11.0  |
| A512/3.5 S | NGA51203D5HSOSA              | 146   | 123   | 89.0   | 69.0   | 59.0   | 44.0   | 35.0   | 27.0 | 19.0  |
| A512/6.5 S | NGA51206D5HSOSA              | 276   | 242   | 172    | 132    | 114    | 84.0   | 60.0   | 48.0 | 34.0  |
| A512/10 S  | NGA5120010HSOSA              | 361   | 346   | 270    | 219    | 179    | 132    | 103    | 83.0 | 60.0  |
| A512/16 G5 | NGA5120016HSOBA              | 636   | 534   | 407    | 322    | 280    | 209    | 159    | 126  | 91.0  |
| A512/25 G5 | NGA5120025HSOBA              | 689   | 616   | 454    | 385    | 320    | 248    | 185    | 150  | 111   |
| A512/30 G6 | NGA5120030HSOBA              | 1118  | 951   | 690    | 538    | 453    | 341    | 271    | 214  | 153   |
| A512/40 A  | NGA5120040HSOCA <sup>1</sup> | 1226  | 1074  | 822    | 691    | 569    | 432    | 326    | 261  | 189   |
| A512/55 A  | NGA5120055HSOCA              | 1799  | 1496  | 1102   | 917    | 813    | 626    | 489    | 388  | 281   |
| A512/60 A  | NGA5120060HSOCA <sup>1</sup> | 2267  | 1837  | 1274   | 1071   | 915    | 693    | 505    | 400  | 288   |
| A512/65 A  | NGA5120065HSOCA <sup>1</sup> | 1757  | 1591  | 1223   | 1083   | 914    | 721    | 567    | 457  | 336   |
| A512/85 A  | NGA5120085HSOCA              | 2561  | 2292  | 1847   | 1557   | 1329   | 1018   | 768    | 621  | 460   |
| A512/115 A | NGA5120115HSOCA              | 3642  | 3101  | 2374   | 1986   | 1653   | 1255   | 956    | 759  | 547   |
| A512/120 A | NGA5120120HSOCA              | 4237  | 3552  | 2627   | 2134   | 1800   | 1334   | 989    | 815  | 622   |
| A512/140 A | NGA5120140HSOCA              | 4647  | 3937  | 2912   | 2365   | 1995   | 1479   | 1096   | 904  | 689   |
| A512/200 A | NGA5120200HSOCA              | 5932  | 5092  | 3941   | 3201   | 2700   | 2002   | 1484   | 1223 | 933   |

#### 1.70 Vpc – Discharge in W/block at 20 °C

| Type       | Part number                  | 3 min | 5 min | 10 min | 15 min | 20 min | 30 min | 45 min | 1 h  | 1.5 h |
|------------|------------------------------|-------|-------|--------|--------|--------|--------|--------|------|-------|
| A502/10 S  | NGA5020010HSOSA              | 64.0  | 60.0  | 46.0   | 38.0   | 31.0   | 22.0   | 17.0   | 14.0 | 10.0  |
| A504/3.5 S | NGA50403D5HSOSA              | 53.0  | 44.0  | 31.0   | 24.0   | 20.0   | 15.0   | 12.0   | 9.00 | 7.00  |
| A506/1.2 S | NGA50601D2HSOSA              | 26.8  | 21.9  | 14.4   | 11.2   | 9.40   | 7.10   | 5.20   | 4.20 | 3.10  |
| A506/3.5 S | NGA50603D5HSOSA              | 80.0  | 66.0  | 46.0   | 36.0   | 30.0   | 22.0   | 18.0   | 14.0 | 10.0  |
| A506/6.5 S | NGA50606D5HSOSA              | 150   | 126   | 88.0   | 68.0   | 58.0   | 42.0   | 31.0   | 24.0 | 17.0  |
| A506/10 S  | NGA5060010HSOSA              | 193   | 180   | 139    | 113    | 92.0   | 67.0   | 52.0   | 42.0 | 30.0  |
| A508/3.5 S | NGA50803D5HSOSA              | 106   | 88.0  | 61.0   | 48.0   | 40.0   | 30.0   | 24.0   | 19.0 | 13.0  |
| A512/1.2 S | NGA51201D2HSOSA              | 53.7  | 43.7  | 28.8   | 22.4   | 18.8   | 14.1   | 10.4   | 8.40 | 6.10  |
| A512/2 S   | NGA5120002HSOSA              | 99.0  | 80.0  | 53.0   | 41.0   | 34.0   | 25.0   | 19.0   | 15.0 | 11.0  |
| A512/3.5 S | NGA51203D5HSOSA              | 159   | 131   | 92.0   | 72.0   | 60.0   | 45.0   | 35.0   | 28.0 | 20.0  |
| A512/6.5 S | NGA51206D5HSOSA              | 300   | 252   | 176    | 136    | 116    | 84.0   | 62.0   | 48.0 | 34.0  |
| A512/10 S  | NGA5120010HSOSA              | 385   | 360   | 278    | 226    | 185    | 135    | 103    | 84.0 | 60.0  |
| A512/16 G5 | NGA5120016HSOBA              | 688   | 573   | 418    | 331    | 285    | 212    | 161    | 127  | 91.0  |
| A512/25 G5 | NGA5120025HSOBA              | 776   | 652   | 482    | 395    | 330    | 253    | 187    | 151  | 112   |
| A512/30 G6 | NGA5120030HSOBA              | 1214  | 1037  | 726    | 558    | 465    | 347    | 274    | 216  | 155   |
| A512/40 A  | NGA5120040HSOCA <sup>1</sup> | 1391  | 1157  | 870    | 719    | 587    | 441    | 331    | 264  | 191   |
| A512/55 A  | NGA5120055HSOCA              | 1912  | 1624  | 1163   | 935    | 834    | 636    | 493    | 392  | 283   |
| A512/60 A  | NGA5120060HSOCA <sup>1</sup> | 2406  | 2022  | 1348   | 1088   | 940    | 707    | 514    | 405  | 290   |
| A512/65 A  | NGA5120065HSOCA <sup>1</sup> | 1959  | 1739  | 1322   | 1142   | 954    | 739    | 577    | 464  | 340   |
| A512/85 A  | NGA5120085HSOCA              | 2900  | 2486  | 1993   | 1607   | 1381   | 1045   | 786    | 634  | 469   |
| A512/115 A | NGA5120115HSOCA              | 4106  | 3361  | 2511   | 2030   | 1703   | 1281   | 971    | 770  | 553   |
| A512/120 A | NGA5120120HSOCA              | 4536  | 3800  | 2690   | 2201   | 1849   | 1365   | 1008   | 830  | 632   |
| A512/140 A | NGA5120140HSOCA              | 4974  | 4211  | 2981   | 2440   | 2050   | 1513   | 1117   | 920  | 700   |
| A512/200 A | NGA5120200HSOCA              | 6350  | 5446  | 4034   | 3302   | 2774   | 2048   | 1512   | 1245 | 948   |

<sup>1</sup> Discharge data are also valid for other terminals/containers.

## Sonnenschein A500

### Constant power discharge

#### 1.65 Vpc – Discharge in W/block at 20 °C

| Type       | Part number                  | 3 min | 5 min | 10 min | 15 min | 20 min | 30 min | 45 min | 1 h  | 1.5 h |
|------------|------------------------------|-------|-------|--------|--------|--------|--------|--------|------|-------|
| A502/10 S  | NGA5020010HS0SA              | 68.0  | 62.0  | 47.0   | 38.0   | 31.0   | 23.0   | 17.0   | 14.0 | 10.0  |
| A504/3.5 S | NGA50403D5HS0SA              | 57.0  | 46.0  | 31.0   | 24.0   | 20.0   | 15.0   | 12.0   | 9.00 | 7.00  |
| A506/1.2 S | NGA50601D2HS0SA              | 28.2  | 22.6  | 14.7   | 11.2   | 9.50   | 7.10   | 5.20   | 4.20 | 3.10  |
| A506/3.5 S | NGA50603D5HS0SA              | 85.0  | 68.0  | 47.0   | 36.0   | 30.0   | 23.0   | 18.0   | 14.0 | 10.0  |
| A506/6.5 S | NGA50606D5HS0SA              | 160   | 129   | 90.0   | 69.0   | 59.0   | 43.0   | 31.0   | 25.0 | 18.0  |
| A506/10 S  | NGA5060010HS0SA              | 205   | 186   | 142    | 114    | 93.0   | 68.0   | 52.0   | 42.0 | 30.0  |
| A508/3.5 S | NGA50803D5HS0SA              | 113   | 91.0  | 62.0   | 49.0   | 41.0   | 30.0   | 24.0   | 19.0 | 13.0  |
| A512/1.2 S | NGA51201D2HS0SA              | 56.4  | 45.3  | 29.4   | 22.5   | 18.9   | 14.2   | 10.5   | 8.40 | 6.10  |
| A512/2 S   | NGA5120002HS0SA              | 103   | 82.0  | 54.0   | 41.0   | 34.0   | 25.0   | 19.0   | 15.0 | 11.0  |
| A512/3.5 S | NGA51203D5HS0SA              | 170   | 137   | 93.0   | 73.0   | 61.0   | 45.0   | 35.0   | 28.0 | 20.0  |
| A512/6.5 S | NGA51206D5HS0SA              | 320   | 258   | 180    | 138    | 118    | 86.0   | 62.0   | 50.0 | 36.0  |
| A512/10 S  | NGA5120010HS0SA              | 410   | 371   | 283    | 229    | 187    | 136    | 104    | 84.0 | 61.0  |
| A512/16 G5 | NGA5120016HS0BA              | 741   | 601   | 423    | 335    | 288    | 213    | 161    | 128  | 92.0  |
| A512/25 G5 | NGA5120025HS0BA              | 854   | 693   | 501    | 400    | 335    | 255    | 188    | 152  | 112   |
| A512/30 G6 | NGA5120030HS0BA              | 1310  | 1095  | 746    | 569    | 471    | 351    | 276    | 217  | 155   |
| A512/40 A  | NGA5120040HS0CA <sup>1</sup> | 1514  | 1235  | 902    | 729    | 597    | 446    | 333    | 265  | 192   |
| A512/55 A  | NGA5120055HS0CA              | 2005  | 1726  | 1204   | 945    | 845    | 642    | 496    | 394  | 284   |
| A512/60 A  | NGA5120060HS0CA <sup>1</sup> | 2548  | 2176  | 1404   | 1098   | 954    | 715    | 519    | 409  | 292   |
| A512/65 A  | NGA5120065HS0CA <sup>1</sup> | 2139  | 1853  | 1395   | 1171   | 976    | 749    | 582    | 466  | 341   |
| A512/85 A  | NGA5120085HS0CA              | 3115  | 2719  | 2109   | 1663   | 1410   | 1060   | 797    | 642  | 474   |
| A512/115 A | NGA5120115HS0CA              | 4304  | 3582  | 2603   | 2057   | 1732   | 1296   | 980    | 776  | 557   |
| A512/120 A | NGA5120120HS0CA              | 4847  | 4002  | 2761   | 2246   | 1883   | 1387   | 1022   | 843  | 640   |
| A512/140 A | NGA5120140HS0CA              | 5316  | 4435  | 3060   | 2489   | 2087   | 1538   | 1133   | 934  | 709   |
| A512/200 A | NGA5120200HS0CA              | 6786  | 5736  | 4142   | 3369   | 2825   | 2081   | 1533   | 1264 | 959   |

#### 1.60 Vpc – Discharge in W/block at 20 °C

| Type       | Part number                  | 3 min | 5 min | 10 min | 15 min | 20 min | 30 min | 45 min | 1 h  | 1.5 h |
|------------|------------------------------|-------|-------|--------|--------|--------|--------|--------|------|-------|
| A502/10 S  | NGA5020010HS0SA              | 73.0  | 63.0  | 48.0   | 38.0   | 31.0   | 23.0   | 17.0   | 14.0 | 10.0  |
| A504/3.5 S | NGA50403D5HS0SA              | 59.0  | 46.0  | 32.0   | 25.0   | 20.0   | 15.0   | 12.0   | 9.00 | 7.00  |
| A506/1.2 S | NGA50601D2HS0SA              | 29.2  | 23.1  | 14.8   | 11.3   | 9.50   | 7.10   | 5.20   | 4.20 | 3.10  |
| A506/3.5 S | NGA50603D5HS0SA              | 89.0  | 69.0  | 47.0   | 37.0   | 31.0   | 23.0   | 18.0   | 14.0 | 10.0  |
| A506/6.5 S | NGA50606D5HS0SA              | 168   | 132   | 92.0   | 70.0   | 59.0   | 43.0   | 31.0   | 25.0 | 18.0  |
| A506/10 S  | NGA5060010HS0SA              | 218   | 190   | 144    | 115    | 94.0   | 68.0   | 52.0   | 42.0 | 30.0  |
| A508/3.5 S | NGA50803D5HS0SA              | 119   | 93.0  | 63.0   | 49.0   | 41.0   | 30.0   | 24.0   | 19.0 | 13.0  |
| A512/1.2 S | NGA51201D2HS0SA              | 58.4  | 46.2  | 29.7   | 22.5   | 19.0   | 14.2   | 10.5   | 8.40 | 6.20  |
| A512/2 S   | NGA5120002HS0SA              | 106   | 84.0  | 55.0   | 42.0   | 34.0   | 25.0   | 19.0   | 15.0 | 11.0  |
| A512/3.5 S | NGA51203D5HS0SA              | 178   | 139   | 95.0   | 74.0   | 61.0   | 45.0   | 36.0   | 28.0 | 20.0  |
| A512/6.5 S | NGA51206D5HS0SA              | 336   | 264   | 184    | 140    | 118    | 86.0   | 62.0   | 50.0 | 36.0  |
| A512/10 S  | NGA5120010HS0SA              | 437   | 381   | 287    | 231    | 188    | 136    | 104    | 85.0 | 61.0  |
| A512/16 G5 | NGA5120016HS0BA              | 783   | 621   | 426    | 338    | 289    | 214    | 162    | 128  | 92.0  |
| A512/25 G5 | NGA5120025HS0BA              | 908   | 725   | 514    | 403    | 339    | 256    | 189    | 153  | 113   |
| A512/30 G6 | NGA5120030HS0BA              | 1393  | 1121  | 755    | 576    | 474    | 352    | 276    | 218  | 156   |
| A512/40 A  | NGA5120040HS0CA <sup>1</sup> | 1577  | 1299  | 923    | 735    | 603    | 449    | 334    | 266  | 192   |
| A512/55 A  | NGA5120055HS0CA              | 2107  | 1800  | 1231   | 957    | 851    | 645    | 498    | 395  | 285   |
| A512/60 A  | NGA5120060HS0CA <sup>1</sup> | 2680  | 2279  | 1439   | 1104   | 963    | 719    | 522    | 410  | 293   |
| A512/65 A  | NGA5120065HS0CA <sup>1</sup> | 2315  | 1976  | 1443   | 1183   | 987    | 754    | 584    | 468  | 342   |
| A512/85 A  | NGA5120085HS0CA              | 3264  | 2923  | 2190   | 1700   | 1427   | 1069   | 804    | 648  | 477   |
| A512/115 A | NGA5120115HS0CA              | 4467  | 3755  | 2665   | 2073   | 1750   | 1306   | 985    | 780  | 560   |
| A512/120 A | NGA5120120HS0CA              | 5135  | 4156  | 2812   | 2276   | 1906   | 1403   | 1032   | 852  | 646   |
| A512/140 A | NGA5120140HS0CA              | 5631  | 4606  | 3117   | 2522   | 2113   | 1555   | 1144   | 945  | 716   |
| A512/200 A | NGA5120200HS0CA              | 7189  | 5957  | 4218   | 3413   | 2860   | 2104   | 1548   | 1279 | 969   |

<sup>1</sup> Discharge data are also valid for other terminals/containers.

## Battery Service – Energy Solutions

Keeping your business on the move

### GNB® is the Expert

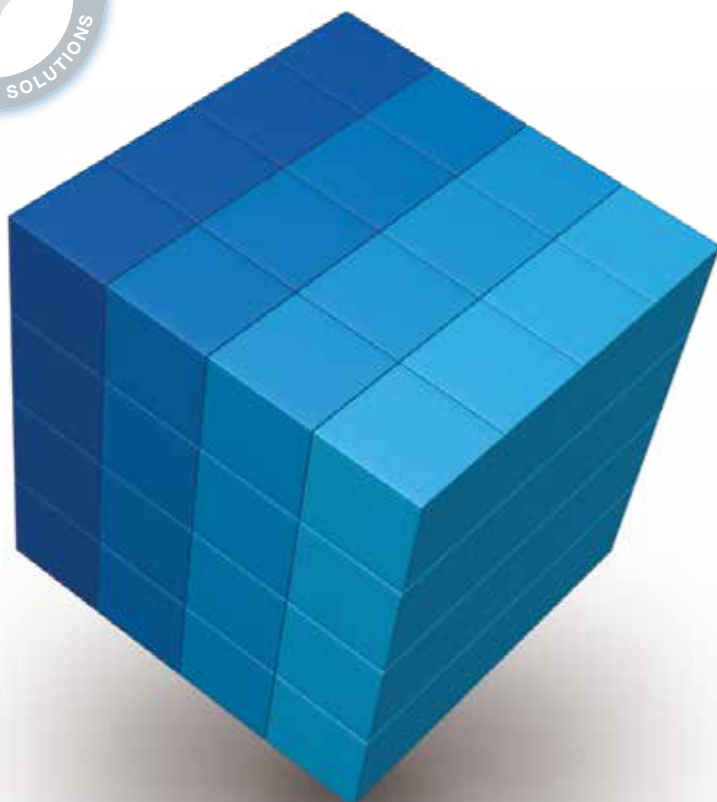
Who could do this job better than the professionals of a company with more than 100 years of experience in battery development, production and application?

**Leave the responsibility for the maintenance of your batteries and chargers to the professionals: a GNB service contract provides you with exceptional economic advantages through time savings, cost savings and safety!**



### Installation of Batteries and Systems for Network Power

- > Development of complete turnkey solutions from the design concept to installation and commissioning.
- > Installation according to legal and safety regulations including CE certification by approved installation technicians.
- > Training and certification of external installation technicians according to CE regulations.



- ✦ Inspection Contract
- ✦ Maintenance Contract
- ✦ Lifetime Warranty Contract
- ✦ Full Service Contract



**»GNB Service –**  
*individualized, professional  
 and all over Europe!«*

## Notes

## Notes



**Exide Technologies**, with operations in more than 80 countries, is one of the world's largest producers and recyclers of lead-acid batteries. Exide Technologies provides a comprehensive and customized range of stored electrical energy solutions. Based on over 120 years of experience in the development of innovative technologies, Exide Technologies is an esteemed partner of OEMs and serves the spare parts market for industrial and automotive applications.

**GNB Industrial Power** – A division of Exide Technologies – offers an extensive range of storage products and services, including solutions for telecommunication systems, railway applications, mining, photovoltaic (solar energy), uninterrupted power supply (UPS), electrical power generation and distribution, fork lifts and electric vehicles.

**Exide Technologies** takes pride in its commitment to a better environment. An integrated approach to manufacturing, distributing and recycling of lead-acid batteries has been developed to ensure a safe and responsible life cycle for all of its products.

**GNB® INDUSTRIAL POWER** devises enduring energy concepts that convince with efficiency, flexibility and profitability.