| | | To | tal loss va | alue | | | Numb | er of acti | ve MDs | | | Computation | onal time | e(ms) | | Standard | d deviation (%) |
|------------------------------|------|---------------------|-------------|---------------------|---------------------|------|---------------------|---------------------|---------------------|---------------------|--------------|-------------|---------------|-----------------|-----------------|----------|-----------------|
| Instance | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | ĞÁ | GGA | GA | GGA |
| SN10K3P50(1) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.00 | 3.00 | 3.00 | 4.40 | 3.00 | 3420 | 417 | 0 | 4 | 3 | 0.00 | 0.00 |
| SN10K3P50(2) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.00 | 3.00 | 3.00 | 3.60 | 3.00 | 3734 | 1697 | 0 | 4 | 4 | 0.00 | 0.00 |
| SN10K3P50(3) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.00 | 3.00 | 3.00 | 4.60 | 3.00 | 286830 | 59 | 0 | 4 | 4 | 0.00 | 0.00 |
| SN10K3P50(4) | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 3.00 | 3.00 | 4.00 | 5.70 | 5.30 | 910472 | 7 | 0 | 3 | 3 | 0.00 | 0.00 |
| SN10K3P50(5) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.00 | 3.00 | 3.00 | 3.10 | 3.00 | 3491 | 1085 | 0 | 4 | 4 | 0.00 | 0.00 |
| SN10K3P50(6) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.00 | 3.00 | 3.00 | 3.90 | 3.00 | 3362 | 177 | 0 | 3 | 3 | 0.00 | 0.00 |
| SN10K3P50(7) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.00 | 5.00 | 7.00 | 7.40 | 6.80 | 2566 | 25 | 5 | 8 | 7 | 0.00 | 0.00 |
| SN10K3P50(8) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.00 | 3.00 | 3.00 | 5.40 | 3.00 | 3082 | 181 | 0 | 3 | 3 | 0.00 | 0.00 |
| SN10K3P50(9) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.00 | 3.00 | 3.00 | 3.50 | 3.00 | 3636 | 615 | 1 | 3 | 4 | 0.00 | 0.00 |
| SN10K3P50(10) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.00 | 5.00 | 5.00 | 6.80 | 5.00 | 3646 | 143 | 0 | 3 | 4 | 0.00 | 0.00 |
| SN10K3P60(1) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.00 | 3.00 | 3.00 | 4.20 | 3.00 | 3391 | 356 | 0 | 3 | 4 | 0.00 | 0.00 |
| SN10K3P60(2) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 4.00 | 4.00 | 5.00 | 4.90 | 4.50 | 3809 | 1526 | 0 | 4 | 4 | 0.00 | 0.00 |
| SN10K3P60(3) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.00 | 5.00 | 6.00 | 6.70 | 5.90 | 3513 | 45 | 0 | 4 | 3 | 0.00 | 0.00 |
| SN10K3P60(4) | 0.07 | 0.07 | 0.11 | 0.07 | 0.07 | 5.00 | 5.00 | 4.00 | 5.20 | 5.10 | 1696 | 6 | 0 | 363 | 379 | 0.00 | 0.00 |
| SN10K3P60(5) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.00 | 3.00 | 3.00 | 4.40 | 3.00 | 3497 | 971 | 0 | 3 | 4 | 0.00 | 0.00 |
| SN10K3P60(6) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 4.00 | 4.00 | 4.00 | 6.30 | 4.00 | 3366 | 148 | 0 | 3 | 4 | 0.00 | 0.00 |
| SN10K3P60(7) | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 7.00 | 7.00 | 7.00 | 7.00 | 7.00 | 2555 | 12 | 1 | 467 | 464 | 0.00 | 0.00 |
| SN10K3P60(8) | 0.00 | 0.00 | 0.60 | 0.00 | 0.00 | 4.00 | 4.00 | 3.00 | 6.30 | 5.60 | 3087 | 160 | 0 | 3 | 3 | 0.00 | 0.00 |
| SN10K3P60(9) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 4.00 | 4.00 | 4.00 | 5.10 | 4.00 | 3604 | 566 | 0 | 3 | 4 | 0.00 | 0.00 |
| SN10K3P60(10) | 0.00 | 0.00 | 0.36 | 0.00 | 0.00 | 7.00 | 7.00 | 6.00 | 9.70 | 9.30 | 3672 | 77 | 0 | 4 | 4 | 0.00 | 0.00 |
| SN10K3P70(1) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 4.00 | 4.00 | 4.00 | 5.80 | 4.00 | 3375 | 237 | 0 | 3 | 3 | 0.00 | 0.00 |
| SN10K3P70(2) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 4.00 | 4.00 | 5.00 | 5.50 | 5.00 | 3754 | 1070 | 0 | 4 | 4 | 0.00 | 0.00 |
| SN10K3P70(3) | 0.00 | 0.00 | 0.24 | 0.00 | 0.00 | 7.00 | 7.00 | 8.00 | 9.40 | 9.50 | 3526 | 20 | 0 | 4 | 4 | 0.00 | 0.00 |
| SN10K3P70(4) | 0.17 | 0.17 | 0.21 | 0.17 | 0.17 | 3.00 | 3.00 | 4.00 | 3.00 | 3.10 | 1704 | 7 | 0 | 321 | 338 | 0.00 | 0.00 |
| SN10K3P70(5) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.00 | 3.00 | 3.00 | 4.70 | 3.00 | 3502 | 711 | 0 | 3 | 3 | 0.00 | 0.00 |
| SN10K3P70(6) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.00 | 5.00 | 5.00 | 7.40 | 5.00 | 3352 | 70 | 0 | 3 | 4 | 0.00 | 0.00 |
| SN10K3P70(7) | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 7.00 | 7.00 | 7.00 | 7.10 | 7.00 | 2565 | 17 | 0 | 446 | 439 | 0.00 | 0.00 |
| SN10K3P70(8) | 0.00 | 0.00 | 0.70 | 0.00 | 0.00 | 5.00 | 5.00 | 3.00 | 7.10 | 6.90 | 3034 3598 | 138 496 | 0 | 3 | 3 | 0.00 | 0.00 |
| SN10K3P70(9) | 0.00 | | 0.00 | 0.00 | 0.00 | 4.00 | 4.00 | 4.00 | 6.60 | | | | 0 | 3 | | | |
| SN10K3P70(10) | 0.02 | 0.02 | 0.70 | 0.02 | 0.02 | 8.00 | 8.00 | 6.00 | 8.30 | 8.10 | 3680 3397 | 88 | 0 | 513 | 555 | 0.00 | 0.00 |
| SN10K3P80(1) SN10K3P80(2) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 4.00 | 4.00 | 4.00 5.00 | 6.60 | 4.00 5.00 | 3397 | 108 690 | | | 3 | 0.00 | 0.00 |
| SN10K3P80(2) SN10K3P80(3) | 0.00 | 0.00 | 0.00 0.75 | 0.00 | 0.00 | 8.00 | 8.00 | 8.00 | 8.40 | $\frac{5.00}{8.20}$ | 3532 | 19 | $\frac{0}{0}$ | $\frac{4}{512}$ | $\frac{4}{528}$ | 0.00 | 0.00 |
| SN10K3P80(3) SN10K3P80(4) | 0.09 | $\frac{0.09}{0.27}$ | 0.75 | $\frac{0.09}{0.27}$ | $\frac{0.09}{0.27}$ | 3.00 | $\frac{8.00}{3.00}$ | 4.00 | 3.00 | $\frac{8.20}{3.10}$ | 3532 1705 | 6 | 0 | 319 | 339 | 0.00 | 0.00 |
| SN10K3P80(4) SN10K3P80(5) | 0.27 | 0.27 | 0.00 | 0.27 | 0.27 | 3.00 | $\frac{3.00}{3.00}$ | $\frac{4.00}{3.00}$ | 5.40 | $\frac{3.10}{3.00}$ | 3471 | 510 | 0 | 319 | 339 | 0.00 | 0.00 |
| SN10K3P80(5) SN10K3P80(6) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 8.00 | 8.00 | 8.00 | $\frac{5.40}{9.70}$ | 8.00 | 3379 | 57 | 0 | $\frac{3}{22}$ | 3 | 0.00 | 0.00 |
| 31110K3P8U(0) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 9.70 | 0.00 | 9918 | 97 | U | 22 | ა | 0.00 | 0.00 |

| | | To | tal loss va | alue | | | Numb | er of acti | ve MDs | | | Computation | onal time | e(ms) | | Standard | l deviation (%) |
|---------------|------|------|-------------|------|------|------|------|------------|--------|------|-------|-------------|-----------|-------|-----|----------|-----------------|
| Instance | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | ĠÁ | GGA | GA | GGA |
| SN10K3P80(7) | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 7.00 | 7.00 | 7.00 | 7.20 | 7.00 | 2524 | 15 | 0 | 439 | 427 | 0.00 | 0.00 |
| SN10K3P80(8) | 0.00 | 0.00 | 0.80 | 0.00 | 0.00 | 6.00 | 6.00 | 3.00 | 9.20 | 8.80 | 3026 | 124 | 0 | 3 | 3 | 0.00 | 0.00 |
| SN10K3P80(9) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 4.00 | 4.00 | 4.00 | 7.40 | 4.00 | 3578 | 342 | 0 | 4 | 3 | 0.00 | 0.00 |
| SN10K3P80(10) | 0.18 | 0.18 | 0.90 | 0.18 | 0.18 | 8.00 | 8.00 | 7.00 | 8.40 | 8.20 | 3689 | 111 | 0 | 517 | 535 | 0.00 | 0.00 |
| SN10K5P50(1) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.00 | 5.00 | 5.00 | 7.70 | 5.00 | 72917 | 11197 | 0 | 4 | 4 | 0.00 | 0.00 |
| SN10K5P50(2) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.00 | 5.00 | 5.00 | 6.20 | 5.00 | 76862 | 50367 | 0 | 4 | 4 | 0.00 | 0.00 |
| SN10K5P50(3) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.00 | 5.00 | 7.00 | 8.60 | 7.00 | 76946 | 766 | 0 | 4 | 4 | 0.00 | 0.00 |
| SN10K5P50(4) | 0.28 | 0.28 | 1.01 | 0.28 | 0.28 | 6.00 | 6.00 | 4.00 | 6.70 | 6.80 | 51160 | 83 | 0 | 435 | 455 | 0.00 | 0.00 |
| SN10K5P50(5) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.00 | 5.00 | 7.00 | 7.00 | 6.50 | 79555 | 19785 | 0 | 4 | 4 | 0.00 | 0.00 |
| SN10K5P50(6) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.00 | 5.00 | 7.00 | 8.00 | 7.00 | 74404 | 3903 | 0 | 4 | 4 | 0.00 | 0.00 |
| SN10K5P50(7) | 0.18 | 0.18 | 0.76 | 0.18 | 0.18 | 8.00 | 8.00 | 8.00 | 8.40 | 8.70 | 69917 | 1037 | 0 | 576 | 577 | 0.00 | 0.00 |
| SN10K5P50(8) | 0.04 | 0.04 | 0.56 | 0.04 | 0.04 | 8.00 | 8.00 | 5.00 | 8.10 | 8.10 | 57996 | 497 | 0 | 512 | 542 | 0.00 | 0.00 |
| SN10K5P50(9) | 0.00 | 0.00 | 0.05 | 0.00 | 0.00 | 5.00 | 5.00 | 6.00 | 7.30 | 7.40 | 76947 | 14654 | 0 | 4 | 4 | 0.00 | 0.00 |
| SN10K5P50(10) | 0.19 | 0.19 | 0.76 | 0.19 | 0.19 | 8.00 | 8.00 | 6.00 | 8.50 | 8.60 | 73955 | 3412 | 0 | 621 | 632 | 0.00 | 0.00 |
| SN10K5P60(1) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 7.00 | 7.00 | 7.00 | 9.80 | 7.00 | 72975 | 4296 | 0 | 8 | 4 | 0.00 | 0.00 |
| SN10K5P60(2) | 0.00 | 0.00 | 0.17 | 0.00 | 0.00 | 7.00 | 7.00 | 9.00 | 8.90 | 8.60 | 76915 | 33146 | 0 | 4 | 4 | 0.00 | 0.00 |
| SN10K5P60(3) | 0.00 | 0.00 | 0.60 | 0.00 | 0.00 | 9.00 | 9.00 | 8.00 | 9.60 | 9.40 | 77016 | 621 | 0 | 86 | 88 | 0.00 | 0.00 |
| SN10K5P60(4) | 0.51 | 0.51 | 1.31 | 0.51 | 0.51 | 6.00 | 6.00 | 4.00 | 6.80 | 6.00 | 51328 | 82 | 1 | 431 | 452 | 0.00 | 0.00 |
| SN10K5P60(5) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 7.00 | 7.00 | 8.00 | 9.50 | 8.00 | 79704 | 12675 | 0 | 5 | 4 | 0.00 | 0.00 |
| SN10K5P60(6) | 0.00 | 0.00 | 0.60 | 0.00 | 0.00 | 9.00 | 9.00 | 7.00 | 9.70 | 9.80 | 74483 | 3556 | 0 | 121 | 116 | 300.00 | 0.00 |
| SN10K5P60(7) | 0.52 | 0.52 | 1.00 | 0.52 | 0.52 | 8.00 | 8.00 | 8.00 | 8.30 | 8.30 | 69910 | 1322 | 0 | 587 | 597 | 0.00 | 0.00 |
| SN10K5P60(8) | 0.23 | 0.23 | 1.80 | 0.23 | 0.23 | 8.00 | 8.00 | 3.00 | 8.10 | 8.20 | 58201 | 550 | 0 | 512 | 548 | 0.00 | 0.00 |
| SN10K5P60(9) | 0.00 | 0.00 | 0.60 | 0.00 | 0.00 | 8.00 | 8.00 | 7.00 | 9.90 | 9.70 | 77229 | 11940 | 1 | 11 | 18 | 0.00 | 0.00 |
| SN10K5P60(10) | 0.61 | 0.61 | 1.56 | 0.61 | 0.61 | 8.00 | 8.00 | 6.00 | 8.30 | 8.80 | 73816 | 3771 | 0 | 595 | 648 | 0.00 | 0.00 |
| SN10K5P70(1) | 0.04 | 0.04 | 0.79 | 0.04 | 0.04 | 8.00 | 8.00 | 7.00 | 8.60 | 8.10 | 72984 | 3218 | 0 | 580 | 668 | 0.42 | 0.42 |
| SN10K5P70(2) | 0.00 | 0.00 | 0.46 | 0.00 | 0.00 | 7.00 | 7.00 | 9.00 | 9.80 | 9.90 | 76892 | 10804 | 0 | 7 | 7 | 0.00 | 0.00 |
| SN10K5P70(3) | 0.30 | 0.30 | 1.40 | 0.30 | 0.30 | 9.00 | 9.00 | 9.00 | 9.40 | 9.50 | 77431 | 1381 | 0 | 677 | 675 | 0.00 | 0.60 |
| SN10K5P70(4) | 0.71 | 0.71 | 1.61 | 0.71 | 0.71 | 6.00 | 6.00 | 4.00 | 6.90 | 6.20 | 51335 | 76 | 0 | 428 | 454 | 0.00 | 0.00 |
| SN10K5P70(5) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 8.00 | 8.00 | 8.00 | 9.90 | 9.60 | 80488 | 4835 | 0 | 32 | 87 | 0.00 | 0.00 |
| SN10K5P70(6) | 0.15 | 0.15 | 0.70 | 0.15 | 0.15 | 9.00 | 9.00 | 9.00 | 9.10 | 9.10 | 74637 | 3544 | 0 | 601 | 624 | 1.74 | 0.00 |
| SN10K5P70(7) | 0.87 | 0.87 | 1.40 | 0.87 | 0.87 | 8.00 | 8.00 | 8.00 | 8.20 | 8.30 | 69821 | 1310 | 1 | 572 | 562 | 0.00 | 0.00 |
| SN10K5P70(8) | 0.53 | 0.53 | 2.10 | 0.53 | 0.53 | 8.00 | 8.00 | 3.00 | 8.20 | 8.30 | 58140 | 731 | 1 | 526 | 540 | 0.00 | 0.11 |
| SN10K5P70(9) | 0.09 | 0.09 | 0.70 | 0.09 | 0.09 | 9.00 | 9.00 | 8.00 | 9.40 | 9.20 | 77411 | 10871 | 0 | 682 | 738 | 0.00 | 0.00 |
| SN10K5P70(10) | 1.11 | 1.11 | 2.10 | 1.11 | 1.11 | 8.00 | 8.00 | 6.00 | 8.90 | 8.60 | 73839 | 4404 | 0 | 623 | 642 | 0.00 | 0.00 |
| SN10K5P80(1) | 0.14 | 0.14 | 0.99 | 0.14 | 0.14 | 8.00 | 8.00 | 7.00 | 8.00 | 8.20 | 72984 | 3114 | 1 | 574 | 642 | 0.00 | 6.37 |
| SN10K5P80(2) | 0.00 | 0.00 | 0.80 | 0.00 | 0.00 | 8.00 | 8.00 | 9.00 | 9.80 | 9.40 | 76889 | 4891 | 1 | 22 | 26 | 0.00 | 0.00 |
| SN10K5P80(3) | 0.66 | 0.66 | 2.10 | 0.67 | 0.66 | 9.00 | 9.00 | 9.00 | 9.50 | 9.70 | 77287 | 1842 | 0 | 921 | 756 | 1.27 | 0.00 |

| | | То | tal loss va | alue | | | Numb | er of acti | ve MDs | | (| Computatio | nal time | e(ms) | | Standard | d deviation (%) |
|---------------|------|------|-------------|------|------|-------|-------|------------|--------|-------|---------|------------|----------|-------|-----|----------|-----------------|
| Instance | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | ĜÁ | GGA | GA | GGA |
| SN10K5P80(4) | 0.91 | 0.91 | 1.91 | 0.91 | 0.91 | 6.00 | 6.00 | 4.00 | 6.90 | 6.30 | 51281 | 67 | 0 | 428 | 448 | 0.00 | 0.00 |
| SN10K5P80(5) | 0.06 | 0.06 | 0.10 | 0.06 | 0.06 | 8.00 | 8.00 | 8.00 | 8.90 | 8.90 | 80055 | 3087 | 0 | 644 | 770 | 0.81 | 1.08 |
| SN10K5P80(6) | 0.33 | 0.33 | 1.35 | 0.33 | 0.33 | 9.00 | 9.00 | 9.00 | 9.10 | 9.20 | 74628 | 3461 | 0 | 595 | 632 | 0.00 | 0.00 |
| SN10K5P80(7) | 1.27 | 1.27 | 1.80 | 1.27 | 1.27 | 8.00 | 8.00 | 8.00 | 8.10 | 8.20 | 70050 | 1327 | 0 | 565 | 571 | 0.00 | 0.00 |
| SN10K5P80(8) | 0.74 | 0.74 | 2.40 | 0.74 | 0.74 | 7.00 | 7.00 | 3.00 | 7.90 | 7.90 | 58157 | 757 | 0 | 469 | 500 | 0.00 | 0.00 |
| SN10K5P80(9) | 0.41 | 0.41 | 0.80 | 0.41 | 0.41 | 9.00 | 9.00 | 9.00 | 9.40 | 9.30 | 77401 | 13534 | 0 | 680 | 716 | 0.00 | 0.00 |
| SN10K5P80(10) | 1.52 | 1.52 | 2.50 | 1.52 | 1.52 | 8.00 | 8.00 | 7.00 | 8.30 | 8.40 | 73813 | 4323 | 0 | 581 | 622 | 0.00 | 0.00 |
| SN10K7P50(1) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 7.00 | 7.00 | 7.00 | 9.50 | 7.00 | 1483980 | 121018 | 0 | 8 | 4 | 0.00 | 0.00 |
| SN10K7P50(2) | 0.00 | 0.00 | 0.50 | 0.00 | 0.00 | 7.00 | 7.00 | 8.00 | 9.50 | 9.30 | 1549694 | 415262 | 0 | 5 | 6 | 0.00 | 0.00 |
| SN10K7P50(3) | 0.00 | 0.00 | 0.50 | 0.00 | 0.00 | 7.00 | 7.00 | 10.00 | 9.70 | 10.00 | 1509979 | 5547 | 1 | 23 | 25 | 0.00 | 0.00 |
| SN10K7P50(4) | 1.22 | 1.22 | 2.01 | 1.22 | 1.22 | 6.00 | 6.00 | 4.00 | 7.10 | 7.10 | 1062140 | 718 | 0 | 459 | 490 | 0.00 | 0.00 |
| SN10K7P50(5) | 0.00 | 0.00 | 0.07 | 0.00 | 0.00 | 7.00 | 7.00 | 10.00 | 9.00 | 8.50 | 1588862 | 193928 | 0 | 4 | 5 | 0.00 | 0.00 |
| SN10K7P50(6) | 0.04 | 0.04 | 1.00 | 0.04 | 0.04 | 9.00 | 9.00 | 7.00 | 9.30 | 9.10 | 1420978 | 23654 | 0 | 683 | 750 | 0.00 | 0.00 |
| SN10K7P50(7) | 1.08 | 1.08 | 1.76 | 1.08 | 1.08 | 8.00 | 8.00 | 8.00 | 8.30 | 8.40 | 1227853 | 8379 | 0 | 572 | 570 | 0.00 | 0.00 |
| SN10K7P50(8) | 0.85 | 0.85 | 1.56 | 0.85 | 0.85 | 8.00 | 8.00 | 5.00 | 9.00 | 9.20 | 1158548 | 7798 | 0 | 558 | 655 | 0.00 | 0.00 |
| SN10K7P50(9) | 0.00 | 0.00 | 1.05 | 0.00 | 0.00 | 9.00 | 9.00 | 6.00 | 9.70 | 9.60 | 1487427 | 61843 | 0 | 38 | 49 | 0.00 | 0.00 |
| SN10K7P50(10) | 0.67 | 0.67 | 1.76 | 0.67 | 0.67 | 10.00 | 10.00 | 6.00 | 10.00 | 10.00 | 1491942 | 36948 | 0 | 805 | 913 | 0.42 | 0.34 |
| SN10K7P60(1) | 0.15 | 0.15 | 0.94 | 0.15 | 0.15 | 8.00 | 8.00 | 8.00 | 8.50 | 8.10 | 1487352 | 103755 | 0 | 675 | 814 | 1.45 | 0.00 |
| SN10K7P60(2) | 0.00 | 0.00 | 1.37 | 0.00 | 0.01 | 10.00 | 10.00 | 9.00 | 9.90 | 9.70 | 1546085 | 234462 | 1 | 190 | 325 | 300.00 | 152.75 |
| SN10K7P60(3) | 0.14 | 0.14 | 1.80 | 0.15 | 0.15 | 9.00 | 9.00 | 8.00 | 9.20 | 9.00 | 1512793 | 11279 | 0 | 679 | 711 | 16.82 | 14.37 |
| SN10K7P60(4) | 1.64 | 1.64 | 2.51 | 1.64 | 1.64 | 6.00 | 6.00 | 4.00 | 7.40 | 6.90 | 1062153 | 673 | 0 | 458 | 485 | 0.00 | 0.00 |
| SN10K7P60(5) | 0.01 | 0.01 | 0.76 | 0.01 | 0.01 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 1590441 | 131941 | 0 | 729 | 807 | 40.92 | 42.53 |
| SN10K7P60(6) | 0.49 | 0.49 | 1.80 | 0.49 | 0.49 | 9.00 | 9.00 | 7.00 | 9.30 | 9.30 | 1421982 | 32507 | 0 | 721 | 771 | 0.00 | 0.00 |
| SN10K7P60(7) | 1.61 | 1.61 | 2.20 | 1.61 | 1.61 | 8.00 | 8.00 | 8.00 | 8.60 | 8.40 | 1227892 | 8354 | 0 | 580 | 601 | 0.00 | 0.00 |
| SN10K7P60(8) | 1.32 | 1.32 | 3.00 | 1.32 | 1.32 | 8.00 | 8.00 | 3.00 | 9.40 | 9.20 | 1160288 | 7797 | 0 | 587 | 635 | 0.06 | 0.00 |
| SN10K7P60(9) | 0.16 | 0.16 | 1.80 | 0.16 | 0.16 | 9.00 | 9.00 | 7.00 | 9.50 | 9.30 | 1488861 | 68642 | 0 | 716 | 743 | 0.00 | 0.00 |
| SN10K7P60(10) | 1.26 | 1.26 | 2.76 | 1.26 | 1.27 | 10.00 | 10.00 | 6.00 | 10.00 | 10.00 | 1494218 | 43504 | 0 | 825 | 878 | 0.00 | 0.40 |
| SN10K7P70(1) | 0.52 | 0.52 | 2.19 | 0.52 | 0.52 | 8.00 | 8.00 | 7.00 | 8.90 | 8.70 | 1488917 | 111790 | 0 | 710 | 674 | 0.18 | 0.18 |
| SN10K7P70(2) | 0.13 | 0.13 | 1.86 | 0.14 | 0.14 | 10.00 | 10.00 | 9.00 | 9.90 | 9.90 | 1550381 | 226180 | 0 | 793 | 836 | 12.74 | 13.06 |
| SN10K7P70(3) | 0.55 | 0.55 | 2.80 | 0.55 | 0.55 | 9.00 | 9.00 | 9.00 | 9.20 | 9.10 | 1512227 | 17869 | 1 | 646 | 709 | 0.00 | 0.00 |
| SN10K7P70(4) | 2.04 | 2.04 | 3.01 | 2.04 | 2.04 | 6.00 | 6.00 | 4.00 | 7.00 | 7.10 | 1062926 | 622 | 0 | 455 | 485 | 0.00 | 0.00 |
| SN10K7P70(5) | 0.21 | 0.21 | 0.97 | 0.22 | 0.23 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 1595912 | 183611 | 0 | 851 | 973 | 6.84 | 6.22 |
| SN10K7P70(6) | 1.09 | 1.09 | 2.10 | 1.09 | 1.10 | 9.00 | 9.00 | 9.00 | 9.20 | 9.20 | 1424226 | 47450 | 0 | 705 | 769 | 0.33 | 0.44 |
| SN10K7P70(7) | 2.16 | 2.16 | 2.80 | 2.16 | 2.16 | 8.00 | 8.00 | 8.00 | 8.20 | 8.40 | 1230432 | 8335 | 1 | 568 | 591 | 0.00 | 0.00 |
| SN10K7P70(8) | 1.82 | 1.82 | 3.50 | 1.82 | 1.82 | 8.00 | 8.00 | 3.00 | 9.20 | 9.30 | 1160140 | 7805 | 0 | 546 | 646 | 0.05 | 0.05 |
| SN10K7P70(9) | 0.80 | 0.80 | 2.10 | 0.80 | 0.80 | 9.00 | 9.00 | 8.00 | 9.10 | 9.30 | 1489725 | 129586 | 0 | 699 | 763 | 0.00 | 0.00 |
| SN10K7P70(10) | 1.78 | 1.78 | 3.50 | 1.78 | 1.78 | 10.00 | 10.00 | 6.00 | 10.00 | 10.00 | 1490432 | 43906 | 1 | 804 | 840 | 0.72 | 0.00 |

| | | To | tal loss va | alue | | | Numb | er of acti | ve MDs | | (| Computatio | nal time | (ms) | | Standar | d deviation (%) |
|---------------|------|------|-------------|------|------|-------|-------|------------|--------|-------|----------|------------|----------|------|-----|---------|-----------------|
| Instance | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | ĜÁ | GGA | GA | GGA |
| SN10K7P80(1) | 0.92 | 0.92 | 2.59 | 0.92 | 0.92 | 8.00 | 8.00 | 7.00 | 8.90 | 8.60 | 1487536 | 108175 | 0 | 772 | 672 | 0.08 | 0.12 |
| SN10K7P80(2) | 0.39 | 0.39 | 2.40 | 0.40 | 0.40 | 10.00 | 10.00 | 9.00 | 9.90 | 9.70 | 1549751 | 181407 | 0 | 837 | 826 | 1.91 | 2.88 |
| SN10K7P80(3) | 1.05 | 1.05 | 3.70 | 1.05 | 1.05 | 9.00 | 9.00 | 9.00 | 9.30 | 9.30 | 1512700 | 23547 | 0 | 653 | 685 | 0.00 | 0.00 |
| SN10K7P80(4) | 2.44 | 2.44 | 3.51 | 2.44 | 2.44 | 6.00 | 6.00 | 4.00 | 7.00 | 7.20 | 1064376 | 587 | 0 | 456 | 482 | 0.00 | 0.00 |
| SN10K7P80(5) | 0.53 | 0.53 | 1.27 | 0.55 | 0.57 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 1593622 | 196926 | 0 | 803 | 862 | 3.20 | 2.60 |
| SN10K7P80(6) | 1.64 | 1.64 | 2.95 | 1.65 | 1.66 | 9.00 | 9.00 | 9.00 | 9.90 | 9.80 | 1423352 | 51043 | 0 | 753 | 815 | 1.14 | 1.48 |
| SN10K7P80(7) | 2.76 | 2.76 | 3.40 | 2.76 | 2.76 | 8.00 | 8.00 | 8.00 | 8.50 | 8.40 | 1227674 | 8334 | 0 | 573 | 592 | 0.00 | 0.00 |
| SN10K7P80(8) | 2.26 | 2.26 | 4.00 | 2.26 | 2.26 | 7.00 | 7.00 | 3.00 | 8.00 | 8.30 | 1161013 | 7804 | 0 | 498 | 532 | 0.00 | 0.00 |
| SN10K7P80(9) | 1.33 | 1.33 | 2.40 | 1.33 | 1.34 | 9.00 | 9.00 | 9.00 | 9.10 | 9.00 | 1489067 | 141251 | 0 | 720 | 739 | 0.00 | 0.89 |
| SN10K7P80(10) | 2.34 | 2.34 | 4.10 | 2.36 | 2.34 | 10.00 | 10.00 | 7.00 | 10.00 | 10.00 | 1492297 | 43800 | 0 | 771 | 792 | 1.23 | 0.00 |
| SN10K9P50(1) | 0.72 | 0.72 | 1.00 | 0.72 | 0.72 | 8.00 | 8.00 | 7.00 | 9.00 | 8.60 | 13617064 | 714550 | 1 | 577 | 620 | 0.00 | 0.00 |
| SN10K9P50(2) | 0.45 | 0.45 | 1.50 | 0.45 | 0.45 | 9.00 | 9.00 | 8.00 | 9.00 | 9.00 | 12368164 | 5648665 | 1 | 622 | 687 | 0.00 | 0.00 |
| SN10K9P50(3) | 0.71 | 0.71 | 1.50 | 0.76 | 0.75 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 13101908 | 172081 | 0 | 727 | 827 | 0.41 | 0.00 |
| SN10K9P50(4) | 2.22 | 2.22 | 3.01 | 2.22 | 2.22 | 6.00 | 6.00 | 4.00 | 9.00 | 8.70 | 14180552 | 1749 | 0 | 455 | 487 | 0.00 | 0.00 |
| SN10K9P50(5) | 0.06 | 0.06 | 1.07 | 0.06 | 0.06 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 12164235 | 1186683 | 0 | 748 | 765 | 0.00 | 2.33 |
| SN10K9P50(6) | 0.99 | 0.99 | 2.00 | 0.99 | 0.99 | 9.00 | 9.00 | 7.00 | 9.90 | 9.90 | 12546099 | 352565 | 0 | 729 | 782 | 0.35 | 0.35 |
| SN10K9P50(7) | 2.00 | 2.00 | 2.76 | 2.00 | 2.00 | 8.00 | 8.00 | 8.00 | 9.00 | 9.00 | 12269897 | 54152 | 0 | 579 | 605 | 0.00 | 0.00 |
| SN10K9P50(8) | 1.72 | 1.72 | 2.56 | 1.72 | 1.72 | 8.00 | 8.00 | 5.00 | 9.10 | 9.10 | 12581727 | 34949 | 0 | 594 | 608 | 0.00 | 0.00 |
| SN10K9P50(9) | 0.57 | 0.57 | 2.05 | 0.58 | 0.57 | 9.00 | 9.00 | 6.00 | 9.90 | 10.00 | 13254326 | 1798213 | 1 | 652 | 650 | 6.98 | 0.00 |
| SN10K9P50(10) | 1.08 | 1.08 | 2.76 | 1.08 | 1.08 | 10.00 | 10.00 | 6.00 | 10.00 | 10.00 | 13999914 | 1283548 | 1 | 773 | 784 | 0.00 | 0.00 |
| SN10K9P60(1) | 1.08 | 1.08 | 2.14 | 1.08 | 1.08 | 8.00 | 8.00 | 8.00 | 9.30 | 9.10 | 12980075 | 720001 | 0 | 713 | 783 | 0.36 | 0.22 |
| SN10K9P60(2) | 0.73 | 0.73 | 2.57 | 0.73 | 0.73 | 10.00 | 10.00 | 9.00 | 10.00 | 10.00 | 11030384 | 5525852 | 0 | 726 | 806 | 0.00 | 0.00 |
| SN10K9P60(3) | 1.17 | 1.17 | 3.00 | 1.27 | 1.27 | 10.00 | 10.00 | 8.00 | 10.00 | 10.00 | 11561733 | 179637 | 1 | 691 | 827 | 1.65 | 1.89 |
| SN10K9P60(4) | 2.84 | 2.84 | 3.71 | 2.84 | 2.84 | 6.00 | 6.00 | 4.00 | 9.00 | 9.00 | 12799897 | 1477 | 0 | 461 | 482 | 0.00 | 0.00 |
| SN10K9P60(5) | 0.49 | 0.49 | 1.96 | 0.49 | 0.49 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 11028029 | 2085371 | 0 | 761 | 820 | 0.00 | 0.00 |
| SN10K9P60(6) | 1.63 | 1.63 | 3.00 | 1.63 | 1.63 | 9.00 | 9.00 | 7.00 | 10.00 | 10.00 | 12724138 | 352989 | 0 | 757 | 948 | 0.02 | 0.02 |
| SN10K9P60(7) | 2.71 | 2.71 | 3.40 | 2.71 | 2.71 | 8.00 | 8.00 | 8.00 | 9.10 | 9.20 | 11811915 | 54383 | 0 | 591 | 636 | 0.00 | 0.00 |
| SN10K9P60(8) | 2.34 | 2.34 | 4.20 | 2.34 | 2.34 | 8.00 | 8.00 | 3.00 | 9.30 | 9.30 | 12027495 | 34977 | 1 | 579 | 622 | 0.00 | 0.00 |
| SN10K9P60(9) | 1.03 | 1.03 | 3.00 | 1.03 | 1.03 | 9.00 | 9.00 | 7.00 | 10.00 | 10.00 | 12903898 | 1809361 | 0 | 717 | 758 | 0.00 | 0.00 |
| SN10K9P60(10) | 1.83 | 1.83 | 3.96 | 1.83 | 1.83 | 10.00 | 10.00 | 6.00 | 10.00 | 10.00 | 11938540 | 1380720 | 0 | 710 | 789 | 0.00 | 0.00 |
| SN10K9P70(1) | 1.49 | 1.49 | 3.59 | 1.49 | 1.49 | 8.00 | 8.00 | 7.00 | 9.00 | 9.20 | 11853861 | 715750 | 1 | 619 | 702 | 0.00 | 0.00 |
| SN10K9P70(2) | 1.09 | 1.09 | 3.26 | 1.09 | 1.09 | 10.00 | 10.00 | 9.00 | 10.00 | 10.00 | 12965439 | 5050611 | 0 | 719 | 769 | 0.00 | 0.00 |
| SN10K9P70(3) | 1.68 | 1.68 | 4.20 | 1.77 | 1.77 | 9.00 | 9.00 | 9.00 | 9.90 | 10.00 | 12596222 | 175431 | 0 | 755 | 777 | 2.57 | 0.75 |
| SN10K9P70(4) | 3.44 | 3.44 | 4.41 | 3.44 | 3.44 | 6.00 | 6.00 | 4.00 | 9.00 | 8.90 | 13159452 | 1293 | 0 | 458 | 491 | 0.00 | 0.00 |
| SN10K9P70(5) | 1.23 | 1.23 | 2.37 | 1.24 | 1.24 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 12891020 | 3231005 | 0 | 832 | 806 | 0.38 | 0.25 |
| SN10K9P70(6) | 2.34 | 2.34 | 3.50 | 2.43 | 2.43 | 9.00 | 9.00 | 9.00 | 10.00 | 10.00 | 12992554 | 357387 | 1 | 704 | 773 | 0.16 | 0.03 |
| SN10K9P70(7) | 3.48 | 3.48 | 4.20 | 3.48 | 3.48 | 8.00 | 8.00 | 8.00 | 9.20 | 9.10 | 11623221 | 54219 | 0 | 609 | 615 | 0.00 | 0.00 |

| | | To | tal loss va | alue | | | Numb | er of acti | ve MDs | | (| Computatio | nal time | (ms) | | Standard | d deviation (%) |
|---------------|------|------|-------------|------|------|-------|-------|------------|--------|-------|----------|------------|----------|------|-----|----------|-----------------|
| Instance | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | ĞÁ | GGA | GA | GGA |
| SN10K9P70(8) | 2.94 | 2.94 | 4.90 | 2.94 | 2.94 | 8.00 | 8.00 | 3.00 | 9.30 | 9.20 | 13732590 | 35483 | 0 | 610 | 656 | 0.00 | 0.00 |
| SN10K9P70(9) | 1.87 | 1.87 | 3.50 | 1.87 | 1.87 | 9.00 | 9.00 | 8.00 | 10.00 | 10.00 | 14556087 | 1810118 | 1 | 673 | 744 | 0.00 | 0.00 |
| SN10K9P70(10) | 2.54 | 2.54 | 4.90 | 2.69 | 2.69 | 10.00 | 10.00 | 6.00 | 10.00 | 10.00 | 14016180 | 1396715 | 0 | 714 | 811 | 0.00 | 0.00 |
| SN10K9P80(1) | 1.89 | 1.89 | 4.19 | 1.89 | 1.89 | 8.00 | 8.00 | 7.00 | 9.20 | 9.00 | 13570606 | 715924 | 0 | 616 | 670 | 0.00 | 0.00 |
| SN10K9P80(2) | 1.49 | 1.49 | 4.00 | 1.49 | 1.50 | 10.00 | 10.00 | 9.00 | 10.00 | 9.90 | 12314340 | 4236555 | 0 | 723 | 823 | 0.00 | 2.36 |
| SN10K9P80(3) | 2.18 | 2.18 | 5.30 | 2.26 | 2.26 | 9.00 | 9.00 | 9.00 | 10.00 | 10.00 | 11741907 | 153758 | 1 | 706 | 701 | 0.44 | 0.00 |
| SN10K9P80(4) | 4.04 | 4.04 | 5.11 | 4.04 | 4.04 | 6.00 | 6.00 | 4.00 | 9.00 | 8.90 | 12253106 | 1184 | 0 | 462 | 479 | 0.00 | 0.00 |
| SN10K9P80(5) | 1.85 | 1.85 | 2.87 | 1.92 | 1.92 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 12943588 | 3318210 | 0 | 776 | 795 | 0.40 | 0.08 |
| SN10K9P80(6) | 2.99 | 2.99 | 4.55 | 3.17 | 3.17 | 9.00 | 9.00 | 9.00 | 10.00 | 10.00 | 11148316 | 353864 | 0 | 675 | 754 | 0.00 | 0.00 |
| SN10K9P80(7) | 4.28 | 4.28 | 5.00 | 4.28 | 4.28 | 8.00 | 8.00 | 8.00 | 9.30 | 9.00 | 15241884 | 54042 | 0 | 601 | 608 | 0.00 | 0.00 |
| SN10K9P80(8) | 3.54 | 3.54 | 5.60 | 3.54 | 3.54 | 8.00 | 8.00 | 3.00 | 9.40 | 9.40 | 13112409 | 35569 | 0 | 575 | 659 | 0.00 | 0.00 |
| SN10K9P80(9) | 2.66 | 2.66 | 4.00 | 2.66 | 2.66 | 9.00 | 9.00 | 9.00 | 10.00 | 10.00 | 13094856 | 1812326 | 0 | 703 | 763 | 0.18 | 0.20 |
| SN10K9P80(10) | 3.30 | 3.30 | 5.70 | 3.39 | 3.39 | 10.00 | 10.00 | 7.00 | 10.00 | 10.00 | 11458673 | 1377760 | 0 | 693 | 792 | 0.00 | 0.00 |
| SN20K7P50(1) | × | × | 0.00 | 0.00 | 0.00 | × | × | 7.00 | 17.90 | 7.00 | ∞ | ∞ | 0 | 7 | 7 | 0.00 | 0.00 |
| SN20K7P50(2) | × | × | 0.00 | 0.00 | 0.00 | × | × | 7.00 | 12.80 | 7.00 | ∞ | ∞ | 0 | 7 | 7 | 0.00 | 0.00 |
| SN20K7P50(3) | × | × | 0.00 | 0.00 | 0.00 | × | × | 7.00 | 12.10 | 7.00 | ∞ | ∞ | 0 | 7 | 7 | 0.00 | 0.00 |
| SN20K7P50(4) | × | × | 0.00 | 0.00 | 0.00 | × | × | 7.00 | 14.10 | 7.00 | ∞ | ∞ | 0 | 8 | 8 | 0.00 | 0.00 |
| SN20K7P50(5) | × | × | 0.00 | 0.00 | 0.00 | × | × | 7.00 | 14.00 | 7.00 | ∞ | ∞ | 0 | 7 | 7 | 0.00 | 0.00 |
| SN20K7P50(6) | × | × | 0.00 | 0.00 | 0.00 | × | × | 7.00 | 16.10 | 7.00 | ∞ | ∞ | 0 | 6 | 7 | 0.00 | 0.00 |
| SN20K7P50(7) | × | × | 0.00 | 0.00 | 0.00 | × | × | 7.00 | 16.60 | 7.00 | ∞ | ∞ | 1 | 7 | 8 | 0.00 | 0.00 |
| SN20K7P50(8) | × | × | 0.00 | 0.00 | 0.00 | × | × | 7.00 | 17.90 | 7.00 | ∞ | ∞ | 0 | 7 | 7 | 0.00 | 0.00 |
| SN20K7P50(9) | × | × | 0.00 | 0.00 | 0.00 | × | × | 15.00 | 19.20 | 15.00 | ∞ | ∞ | 0 | 28 | 8 | 0.00 | 0.00 |
| SN20K7P50(10) | × | × | 0.00 | 0.00 | 0.00 | × | × | 8.00 | 14.60 | 8.00 | ∞ | ∞ | 0 | 7 | 8 | 0.00 | 0.00 |
| SN20K7P60(1) | × | × | 0.00 | 0.00 | 0.00 | × | × | 8.00 | 19.20 | 8.00 | ∞ | ∞ | 0 | 22 | 7 | 0.00 | 0.00 |
| SN20K7P60(2) | × | × | 0.00 | 0.00 | 0.00 | × | × | 7.00 | 16.80 | 7.00 | ∞ | ∞ | 1 | 7 | 7 | 0.00 | 0.00 |
| SN20K7P60(3) | × | × | 0.00 | 0.00 | 0.00 | × | × | 7.00 | 15.50 | 7.00 | ∞ | ∞ | 0 | 7 | 7 | 0.00 | 0.00 |
| SN20K7P60(4) | × | × | 0.00 | 0.00 | 0.00 | × | × | 8.00 | 17.60 | 8.00 | ∞ | ∞ | 0 | 8 | 8 | 0.00 | 0.00 |
| SN20K7P60(5) | × | × | 0.00 | 0.00 | 0.00 | × | × | 9.00 | 18.90 | 9.00 | ∞ | ∞ | 0 | 7 | 7 | 0.00 | 0.00 |
| SN20K7P60(6) | × | × | 0.13 | 0.00 | 0.00 | × | × | 13.00 | 19.10 | 18.00 | ∞ | ∞ | 0 | 101 | 49 | 0.00 | 0.00 |
| SN20K7P60(7) | × | × | 0.01 | 0.00 | 0.00 | × | × | 16.00 | 19.00 | 17.70 | ∞ | ∞ | 0 | 15 | 20 | 0.00 | 0.00 |
| SN20K7P60(8) | × | × | 0.00 | 0.00 | 0.00 | × | × | 11.00 | 18.80 | 11.00 | ∞ | ∞ | 1 | 32 | 7 | 0.00 | 0.00 |
| SN20K7P60(9) | × | × | 0.35 | 0.00 | 0.00 | × | × | 18.00 | 18.60 | 18.90 | ∞ | ∞ | 1 | 602 | 245 | 300.00 | 0.00 |
| SN20K7P60(10) | × | × | 0.00 | 0.00 | 0.00 | × | × | 17.00 | 18.40 | 16.80 | ∞ | ∞ | 0 | 9 | 8 | 0.00 | 0.00 |
| SN20K7P70(1) | × | × | 0.00 | 0.00 | 0.00 | × | × | 8.00 | 19.00 | 8.00 | ∞ | ∞ | 0 | 55 | 7 | 0.00 | 0.00 |
| SN20K7P70(2) | × | × | 0.00 | 0.00 | 0.00 | × | × | 7.00 | 18.80 | 7.00 | ∞ | ∞ | 0 | 10 | 7 | 0.00 | 0.00 |
| SN20K7P70(3) | × | × | 0.00 | 0.00 | 0.00 | × | × | 7.00 | 18.00 | 7.00 | ∞ | ∞ | 0 | 7 | 7 | 0.00 | 0.00 |
| SN20K7P70(4) | × | × | 0.00 | 0.00 | 0.00 | × | × | 11.00 | 19.30 | 11.00 | ∞ | ∞ | 0 | 23 | 8 | 0.00 | 0.00 |

| | | То | tal loss va | alue | | | Numb | er of activ | ve MDs | | | Computation | onal time | e(ms) | | Standard | deviation (%) |
|----------------|------|------|-------------|------|------|------|------|-------------|--------|-------|----------|-------------|-----------|-------|------|----------|---------------|
| Instance | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | ĞÁ | GGA | GA | GGA |
| SN20K7P70(5) | × | × | 0.00 | 0.00 | 0.00 | × | × | 11.00 | 18.50 | 11.00 | ∞ | ∞ | 0 | 24 | 7 | 0.00 | 0.00 |
| SN20K7P70(6) | × | × | 0.23 | 0.00 | 0.00 | × | × | 14.00 | 19.20 | 17.10 | ∞ | ∞ | 0 | 572 | 585 | 300.00 | 206.00 |
| SN20K7P70(7) | × | × | 0.28 | 0.00 | 0.00 | × | × | 16.00 | 19.10 | 18.70 | ∞ | ∞ | 0 | 81 | 80 | 0.00 | 0.00 |
| SN20K7P70(8) | × | × | 0.03 | 0.00 | 0.00 | × | × | 13.00 | 19.20 | 17.10 | ∞ | ∞ | 0 | 230 | 49 | 0.00 | 0.00 |
| SN20K7P70(9) | × | × | 0.84 | 0.10 | 0.07 | × | × | 18.00 | 18.80 | 18.50 | ∞ | ∞ | 0 | 2488 | 1743 | 37.72 | 51.94 |
| SN20K7P70(10) | × | × | 0.27 | 0.00 | 0.00 | × | × | 17.00 | 18.90 | 17.80 | ∞ | ∞ | 0 | 38 | 36 | 0.00 | 0.00 |
| SN20K7P80(1) | × | × | 0.00 | 0.00 | 0.00 | × | × | 8.00 | 18.80 | 8.00 | ∞ | ∞ | 0 | 61 | 7 | 0.00 | 0.00 |
| SN20K7P80(2) | × | × | 0.00 | 0.00 | 0.00 | × | × | 7.00 | 19.50 | 7.00 | ∞ | ∞ | 0 | 26 | 7 | 0.00 | 0.00 |
| SN20K7P80(3) | × | × | 0.00 | 0.00 | 0.00 | × | × | 7.00 | 17.90 | 7.00 | ∞ | ∞ | 0 | 9 | 7 | 0.00 | 0.00 |
| SN20K7P80(4) | × | × | 0.00 | 0.00 | 0.00 | × | × | 16.00 | 19.20 | 16.00 | ∞ | ∞ | 0 | 76 | 8 | 0.00 | 0.00 |
| SN20K7P80(5) | × | × | 0.11 | 0.00 | 0.00 | × | × | 15.00 | 19.30 | 18.40 | ∞ | ∞ | 1 | 46 | 40 | 0.00 | 0.00 |
| SN20K7P80(6) | × | × | 1.60 | 0.07 | 0.09 | × | × | 10.00 | 17.40 | 15.60 | ∞ | ∞ | 0 | 1751 | 1363 | 57.07 | 36.93 |
| SN20K7P80(7) | × | × | 1.17 | 0.00 | 0.00 | × | × | 17.00 | 18.00 | 17.50 | ∞ | ∞ | 0 | 268 | 234 | 0.00 | 0.00 |
| SN20K7P80(8) | × | × | 0.57 | 0.03 | 0.02 | × | × | 13.00 | 18.60 | 16.00 | ∞ | ∞ | 0 | 1524 | 1496 | 120.32 | 99.97 |
| SN20K7P80(9) | × | × | 1.60 | 0.37 | 0.38 | × | × | 19.00 | 19.40 | 19.30 | ∞ | ∞ | 0 | 2505 | 2203 | 10.13 | 13.18 |
| SN20K7P80(10) | × | × | 0.80 | 0.00 | 0.00 | × | × | 18.00 | 18.70 | 18.60 | ∞ | ∞ | 0 | 88 | 87 | 0.00 | 0.00 |
| SN20K10P50(1) | × | × | 0.08 | 0.00 | 0.00 | × | × | 13.00 | 18.50 | 17.80 | ∞ | ∞ | 0 | 149 | 70 | 0.00 | 0.00 |
| SN20K10P50(2) | × | × | 0.00 | 0.00 | 0.00 | × | × | 10.00 | 17.60 | 10.00 | ∞ | ∞ | 1 | 7 | 8 | 0.00 | 0.00 |
| SN20K10P50(3) | × | × | 0.00 | 0.00 | 0.00 | × | × | 10.00 | 16.00 | 10.00 | ∞ | ∞ | 0 | 8 | 8 | 0.00 | 0.00 |
| SN20K10P50(4) | × | × | 0.00 | 0.00 | 0.00 | × | × | 10.00 | 18.80 | 10.00 | ∞ | ∞ | 0 | 8 | 9 | 0.00 | 0.00 |
| SN20K10P50(5) | × | × | 0.00 | 0.00 | 0.00 | × | × | 11.00 | 19.40 | 11.00 | ∞ | ∞ | 0 | 19 | 8 | 0.00 | 0.00 |
| SN20K10P50(6) | × | × | 0.50 | 0.00 | 0.00 | × | × | 11.00 | 18.50 | 17.90 | ∞ | ∞ | 0 | 170 | 52 | 0.00 | 0.00 |
| SN20K10P50(7) | × | × | 0.00 | 0.00 | 0.00 | × | × | 12.00 | 18.60 | 12.00 | ∞ | ∞ | 0 | 49 | 8 | 0.00 | 0.00 |
| SN20K10P50(8) | × | × | 0.06 | 0.00 | 0.00 | × | × | 14.00 | 18.70 | 16.60 | ∞ | ∞ | 1 | 163 | 177 | 0.00 | 0.00 |
| SN20K10P50(9) | × | × | 1.50 | 0.15 | 0.13 | × | × | 15.00 | 18.90 | 18.40 | ∞ | ∞ | 0 | 2354 | 2656 | 39.38 | 25.48 |
| SN20K10P50(10) | × | × | 0.00 | 0.00 | 0.00 | × | × | 11.00 | 18.50 | 11.00 | ∞ | ∞ | 0 | 19 | 8 | 0.00 | 0.00 |
| SN20K10P60(1) | × | × | 0.36 | 0.01 | 0.00 | × | × | 15.00 | 18.30 | 19.00 | ∞ | ∞ | 0 | 930 | 171 | 198.63 | 0.00 |
| SN20K10P60(2) | × | × | 0.00 | 0.00 | 0.00 | × | × | 11.00 | 19.30 | 11.00 | ∞ | ∞ | 0 | 86 | 8 | 0.00 | 0.00 |
| SN20K10P60(3) | × | × | 0.00 | 0.00 | 0.00 | × | × | 10.00 | 19.50 | 10.00 | ∞ | ∞ | 0 | 25 | 8 | 0.00 | 0.00 |
| SN20K10P60(4) | × | × | 0.00 | 0.00 | 0.00 | × | × | 13.00 | 19.00 | 13.00 | ∞ | ∞ | 0 | 173 | 9 | 0.00 | 0.00 |
| SN20K10P60(5) | × | × | 0.60 | 0.00 | 0.00 | × | × | 15.00 | 18.70 | 18.60 | ∞ | ∞ | 1 | 367 | 389 | 0.00 | 300.00 |
| SN20K10P60(6) | × | × | 1.93 | 0.12 | 0.13 | × | × | 13.00 | 16.80 | 17.00 | ∞ | ∞ | 0 | 1877 | 1987 | 21.98 | 28.80 |
| SN20K10P60(7) | × | × | 0.99 | 0.00 | 0.00 | × | × | 20.00 | 18.80 | 18.90 | ∞ | ∞ | 0 | 687 | 828 | 300.00 | 0.00 |
| SN20K10P60(8) | × | × | 1.80 | 0.11 | 0.12 | × | × | 11.00 | 18.20 | 17.30 | ∞ | ∞ | 0 | 1796 | 1869 | 35.81 | 26.62 |
| SN20K10P60(9) | × | × | 2.15 | 0.63 | 0.68 | × | × | 18.00 | 19.30 | 19.10 | ∞ | ∞ | 0 | 2778 | 2695 | 10.72 | 9.67 |
| SN20K10P60(10) | × | × | 1.80 | 0.00 | 0.00 | × | × | 17.00 | 19.30 | 18.90 | ∞ | ∞ | 0 | 239 | 375 | 0.00 | 0.00 |
| SN20K10P70(1) | × | × | 0.72 | 0.07 | 0.10 | × | × | 15.00 | 18.70 | 16.10 | ∞ | ∞ | 1 | 2345 | 1547 | 59.85 | 11.36 |

| | | To | tal loss va | alue | | | Numb | er of activ | ve MDs | | | Computation | nal time | e(ms) | | Standard | deviation (%) |
|----------------|------|------|-------------|------|------|------|------|-------------|--------|-------|----------|-------------|----------|-------|------|----------|---------------|
| Instance | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | ĜÁ | GGA | GA | GGA |
| SN20K10P70(2) | × | × | 0.00 | 0.00 | 0.00 | × | × | 12.00 | 18.90 | 12.00 | ∞ | ∞ | 0 | 314 | 8 | 0.00 | 0.00 |
| SN20K10P70(3) | × | × | 0.00 | 0.00 | 0.00 | × | × | 10.00 | 19.20 | 10.00 | ∞ | ∞ | 1 | 71 | 8 | 0.00 | 0.00 |
| SN20K10P70(4) | × | × | 0.03 | 0.00 | 0.00 | × | × | 20.00 | 19.10 | 19.90 | ∞ | ∞ | 1 | 894 | 287 | 0.00 | 0.00 |
| SN20K10P70(5) | × | × | 1.16 | 0.00 | 0.00 | × | × | 16.00 | 18.20 | 18.30 | ∞ | ∞ | 0 | 909 | 921 | 200.00 | 286.21 |
| SN20K10P70(6) | × | × | 2.33 | 0.49 | 0.54 | × | × | 14.00 | 17.10 | 16.40 | ∞ | ∞ | 0 | 2020 | 2237 | 10.10 | 14.16 |
| SN20K10P70(7) | × | × | 1.56 | 0.03 | 0.07 | × | × | 20.00 | 19.40 | 19.70 | ∞ | ∞ | 0 | 2155 | 2648 | 48.65 | 83.30 |
| SN20K10P70(8) | × | × | 2.13 | 0.46 | 0.52 | × | × | 13.00 | 19.30 | 17.30 | ∞ | ∞ | 0 | 2543 | 1736 | 12.62 | 10.49 |
| SN20K10P70(9) | × | × | 2.94 | 1.31 | 1.33 | × | × | 18.00 | 19.30 | 19.10 | ∞ | ∞ | 0 | 2481 | 2730 | 3.50 | 3.39 |
| SN20K10P70(10) | × | × | 2.37 | 0.00 | 0.00 | × | × | 17.00 | 19.40 | 19.20 | ∞ | ∞ | 0 | 772 | 694 | 300.00 | 300.00 |
| SN20K10P80(1) | × | × | 1.03 | 0.41 | 0.50 | × | × | 15.00 | 18.90 | 16.10 | ∞ | ∞ | 0 | 2172 | 1543 | 12.54 | 2.26 |
| SN20K10P80(2) | × | × | 0.00 | 0.00 | 0.00 | × | × | 13.00 | 18.90 | 13.00 | ∞ | ∞ | 1 | 320 | 8 | 0.00 | 0.00 |
| SN20K10P80(3) | × | × | 0.00 | 0.00 | 0.00 | × | × | 10.00 | 19.20 | 10.00 | ∞ | ∞ | 0 | 109 | 8 | 0.00 | 0.00 |
| SN20K10P80(4) | × | × | 1.96 | 0.03 | 0.03 | × | × | 18.00 | 19.70 | 19.10 | ∞ | ∞ | 0 | 2380 | 2274 | 98.48 | 130.93 |
| SN20K10P80(5) | × | × | 2.08 | 0.05 | 0.07 | × | × | 17.00 | 17.80 | 17.60 | ∞ | ∞ | 0 | 1632 | 2154 | 104.98 | 89.75 |
| SN20K10P80(6) | × | × | 4.00 | 1.08 | 1.05 | × | × | 10.00 | 17.70 | 16.80 | ∞ | ∞ | 0 | 2242 | 2267 | 6.73 | 9.57 |
| SN20K10P80(7) | × | × | 3.57 | 0.33 | 0.34 | × | × | 17.00 | 20.00 | 19.90 | ∞ | ∞ | 0 | 2428 | 2672 | 26.88 | 36.59 |
| SN20K10P80(8) | × | × | 2.97 | 1.03 | 0.99 | × | × | 13.00 | 18.10 | 16.70 | ∞ | ∞ | 0 | 2199 | 2111 | 10.81 | 6.07 |
| SN20K10P80(9) | × | × | 4.00 | 2.02 | 2.02 | × | × | 19.00 | 19.40 | 19.00 | ∞ | ∞ | 1 | 2302 | 2635 | 1.72 | 3.39 |
| SN20K10P80(10) | × | × | 3.20 | 0.07 | 0.07 | × | × | 18.00 | 18.40 | 17.70 | ∞ | ∞ | 0 | 2487 | 2052 | 40.83 | 83.27 |
| SN20K14P50(1) | × | × | 2.08 | 0.32 | 0.30 | × | × | 13.00 | 18.90 | 19.00 | ∞ | ∞ | 0 | 2511 | 3105 | 17.87 | 18.28 |
| SN20K14P50(2) | × | × | 0.00 | 0.00 | 0.00 | × | × | 14.00 | 19.00 | 14.00 | ∞ | ∞ | 0 | 45 | 9 | 0.00 | 0.00 |
| SN20K14P50(3) | × | × | 0.00 | 0.00 | 0.00 | × | × | 14.00 | 19.20 | 14.00 | ∞ | ∞ | 1 | 19 | 9 | 0.00 | 0.00 |
| SN20K14P50(4) | × | × | 0.26 | 0.00 | 0.00 | × | × | 18.00 | 19.10 | 18.90 | ∞ | ∞ | 1 | 364 | 193 | 0.00 | 0.00 |
| SN20K14P50(5) | × | × | 1.00 | 0.00 | 0.01 | × | × | 17.00 | 18.40 | 18.40 | ∞ | ∞ | 0 | 528 | 610 | 0.00 | 300.00 |
| SN20K14P50(6) | × | × | 2.50 | 0.66 | 0.66 | × | × | 11.00 | 18.40 | 18.30 | ∞ | ∞ | 0 | 2067 | 2011 | 13.09 | 11.43 |
| SN20K14P50(7) | × | × | 0.76 | 0.01 | 0.02 | × | × | 19.00 | 18.50 | 19.30 | ∞ | ∞ | 0 | 998 | 1321 | 200.64 | 173.77 |
| SN20K14P50(8) | × | × | 2.06 | 0.80 | 0.83 | × | × | 14.00 | 18.50 | 18.60 | ∞ | ∞ | 0 | 2263 | 2548 | 13.28 | 15.17 |
| SN20K14P50(9) | × | × | 3.50 | 1.14 | 1.13 | × | × | 15.00 | 19.30 | 19.20 | ∞ | ∞ | 0 | 2503 | 2815 | 7.57 | 4.61 |
| SN20K14P50(10) | × | × | 1.50 | 0.05 | 0.06 | × | × | 14.00 | 18.90 | 18.90 | ∞ | ∞ | 1 | 1883 | 2406 | 116.46 | 48.69 |
| SN20K14P60(1) | × | × | 2.76 | 0.95 | 0.91 | × | × | 15.00 | 18.90 | 18.80 | ∞ | ∞ | 0 | 2735 | 2705 | 6.30 | 9.90 |
| SN20K14P60(2) | × | × | 0.36 | 0.01 | 0.00 | × | × | 20.00 | 18.70 | 19.20 | ∞ | ∞ | 1 | 1305 | 229 | 293.96 | 0.00 |
| SN20K14P60(3) | × | × | 0.01 | 0.00 | 0.00 | × | × | 18.00 | 18.50 | 17.30 | ∞ | ∞ | 0 | 1014 | 117 | 200.00 | 0.00 |
| SN20K14P60(4) | × | × | 1.25 | 0.04 | 0.08 | × | × | 19.00 | 19.70 | 18.90 | ∞ | ∞ | 0 | 2244 | 2238 | 102.11 | 73.04 |
| SN20K14P60(5) | × | × | 3.00 | 0.21 | 0.21 | × | × | 15.00 | 18.10 | 18.00 | ∞ | ∞ | 0 | 2512 | 2380 | 20.59 | 12.89 |
| SN20K14P60(6) | × | × | 4.33 | 1.30 | 1.27 | × | × | 13.00 | 18.90 | 18.60 | ∞ | ∞ | 0 | 2346 | 2804 | 6.40 | 6.02 |
| SN20K14P60(7) | × | × | 3.39 | 0.36 | 0.39 | × | × | 20.00 | 19.70 | 19.60 | ∞ | ∞ | 1 | 2758 | 3036 | 18.38 | 21.71 |
| SN20K14P60(8) | × | × | 4.20 | 1.77 | 1.78 | × | × | 11.00 | 18.70 | 18.50 | ∞ | ∞ | 0 | 2353 | 2986 | 4.40 | 6.77 |

| | | To | tal loss va | alue | | | Numb | er of activ | ve MDs | | | Computation | nal time | e(ms) | | Standard | deviation (%) |
|----------------|------|------|-------------|------|------|------|------|-------------|--------|-------|----------|-------------|----------|-------|------|----------|---------------|
| Instance | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | ĞÁ | GGA | GA | GGA |
| SN20K14P60(9) | × | × | 4.55 | 2.08 | 2.05 | × | × | 18.00 | 19.40 | 19.40 | ∞ | ∞ | 0 | 2538 | 3042 | 2.75 | 5.14 |
| SN20K14P60(10) | × | × | 4.20 | 0.43 | 0.44 | × | × | 17.00 | 19.00 | 18.90 | ∞ | ∞ | 0 | 2515 | 2697 | 19.19 | 17.07 |
| SN20K14P70(1) | × | × | 3.52 | 1.76 | 1.76 | × | × | 15.00 | 18.50 | 18.70 | ∞ | ∞ | 0 | 2630 | 3013 | 6.74 | 7.10 |
| SN20K14P70(2) | × | × | 1.05 | 0.06 | 0.05 | × | × | 20.00 | 19.70 | 19.30 | ∞ | ∞ | 0 | 1976 | 2196 | 101.73 | 78.52 |
| SN20K14P70(3) | × | × | 0.15 | 0.00 | 0.00 | × | × | 18.00 | 18.90 | 18.60 | ∞ | ∞ | 0 | 1063 | 167 | 300.00 | 0.00 |
| SN20K14P70(4) | × | × | 2.83 | 0.46 | 0.50 | × | × | 20.00 | 19.90 | 19.40 | ∞ | ∞ | 0 | 3137 | 3312 | 14.50 | 16.23 |
| SN20K14P70(5) | × | × | 3.96 | 0.89 | 0.90 | × | × | 16.00 | 18.20 | 18.20 | ∞ | ∞ | 1 | 2420 | 2896 | 12.65 | 6.08 |
| SN20K14P70(6) | × | × | 5.13 | 2.18 | 2.21 | × | × | 14.00 | 18.50 | 18.70 | ∞ | ∞ | 0 | 2255 | 2456 | 4.63 | 4.04 |
| SN20K14P70(7) | × | × | 4.36 | 1.15 | 1.21 | × | × | 20.00 | 19.70 | 19.70 | ∞ | ∞ | 0 | 2820 | 2609 | 8.43 | 5.41 |
| SN20K14P70(8) | × | × | 4.93 | 2.95 | 2.94 | × | × | 13.00 | 18.80 | 18.40 | ∞ | ∞ | 1 | 2379 | 2716 | 2.74 | 2.28 |
| SN20K14P70(9) | × | × | 5.74 | 3.11 | 3.14 | × | × | 18.00 | 19.70 | 19.80 | ∞ | ∞ | 1 | 2487 | 2846 | 2.57 | 1.89 |
| SN20K14P70(10) | × | × | 5.17 | 1.04 | 1.09 | × | × | 17.00 | 19.00 | 18.50 | ∞ | ∞ | 0 | 2407 | 2637 | 8.93 | 6.58 |
| SN20K14P80(1) | × | × | 4.23 | 2.65 | 2.64 | × | × | 15.00 | 18.00 | 18.20 | ∞ | ∞ | 0 | 2920 | 3046 | 4.41 | 2.83 |
| SN20K14P80(2) | × | × | 1.97 | 0.22 | 0.22 | × | × | 19.00 | 19.90 | 19.50 | ∞ | ∞ | 0 | 2726 | 2101 | 52.70 | 47.44 |
| SN20K14P80(3) | × | × | 0.35 | 0.08 | 0.01 | × | × | 18.00 | 18.10 | 18.00 | ∞ | ∞ | 1 | 1572 | 682 | 122.58 | 288.48 |
| SN20K14P80(4) | × | × | 5.16 | 0.99 | 0.97 | × | × | 18.00 | 19.60 | 19.50 | ∞ | ∞ | 1 | 2994 | 3103 | 11.40 | 11.21 |
| SN20K14P80(5) | × | × | 5.28 | 1.64 | 1.62 | × | × | 17.00 | 19.10 | 18.50 | ∞ | ∞ | 0 | 2595 | 2668 | 4.64 | 2.65 |
| SN20K14P80(6) | × | × | 7.20 | 3.11 | 3.06 | × | × | 10.00 | 18.90 | 18.70 | ∞ | ∞ | 1 | 2399 | 2503 | 2.78 | 2.20 |
| SN20K14P80(7) | × | × | 6.77 | 1.92 | 1.91 | × | × | 17.00 | 19.80 | 19.90 | ∞ | ∞ | 0 | 3063 | 2953 | 3.88 | 4.70 |
| SN20K14P80(8) | × | × | 6.17 | 3.96 | 3.98 | × | × | 13.00 | 18.60 | 18.00 | ∞ | ∞ | 0 | 2660 | 1983 | 3.32 | 2.15 |
| SN20K14P80(9) | × | × | 7.20 | 4.31 | 4.28 | × | × | 19.00 | 19.20 | 19.20 | ∞ | ∞ | 0 | 2367 | 2729 | 2.17 | 2.07 |
| SN20K14P80(10) | × | × | 6.40 | 1.64 | 1.61 | × | × | 18.00 | 19.00 | 19.00 | ∞ | ∞ | 0 | 2370 | 2628 | 4.64 | 3.10 |
| SN20K17P50(1) | × | × | 3.58 | 1.05 | 1.07 | × | × | 13.00 | 20.00 | 20.00 | ∞ | ∞ | 0 | 2845 | 3077 | 5.79 | 4.35 |
| SN20K17P50(2) | × | × | 1.26 | 0.13 | 0.17 | × | × | 15.00 | 19.50 | 19.30 | ∞ | ∞ | 0 | 2236 | 2151 | 48.21 | 49.33 |
| SN20K17P50(3) | × | × | 0.76 | 0.00 | 0.00 | × | × | 16.00 | 19.30 | 19.60 | ∞ | ∞ | 0 | 208 | 244 | 0.00 | 0.00 |
| SN20K17P50(4) | × | × | 1.76 | 0.23 | 0.24 | × | × | 18.00 | 19.70 | 19.90 | ∞ | ∞ | 0 | 2340 | 2574 | 41.55 | 32.25 |
| SN20K17P50(5) | × | × | 2.50 | 0.41 | 0.45 | × | × | 17.00 | 19.50 | 19.50 | ∞ | ∞ | 0 | 2113 | 2482 | 18.52 | 15.28 |
| SN20K17P50(6) | × | × | 4.00 | 1.86 | 1.92 | × | × | 11.00 | 18.90 | 18.70 | ∞ | ∞ | 0 | 2250 | 2197 | 3.61 | 4.35 |
| SN20K17P50(7) | × | × | 2.26 | 0.34 | 0.43 | × | × | 19.00 | 18.80 | 19.20 | ∞ | ∞ | 1 | 2198 | 2756 | 26.13 | 16.44 |
| SN20K17P50(8) | × | × | 3.56 | 1.76 | 1.73 | × | × | 14.00 | 19.90 | 20.00 | ∞ | ∞ | 0 | 2623 | 2936 | 5.38 | 4.91 |
| SN20K17P50(9) | × | × | 5.00 | 1.72 | 1.77 | × | × | 15.00 | 19.40 | 19.20 | ∞ | ∞ | 0 | 2648 | 3020 | 7.02 | 5.50 |
| SN20K17P50(10) | × | × | 3.00 | 1.04 | 1.08 | × | × | 14.00 | 19.00 | 19.20 | ∞ | ∞ | 0 | 2201 | 2286 | 5.06 | 7.20 |
| SN20K17P60(1) | × | × | 4.56 | 2.13 | 1.97 | × | × | 15.00 | 20.00 | 20.00 | ∞ | ∞ | 0 | 2742 | 2883 | 4.62 | 4.03 |
| SN20K17P60(2) | × | × | 2.16 | 0.57 | 0.50 | × | × | 20.00 | 19.70 | 20.00 | ∞ | ∞ | 0 | 2733 | 3110 | 12.06 | 11.49 |
| SN20K17P60(3) | × | × | 1.81 | 0.17 | 0.20 | × | × | 18.00 | 19.00 | 19.20 | ∞ | ∞ | 0 | 2747 | 2508 | 18.17 | 16.08 |
| SN20K17P60(4) | × | × | 3.05 | 0.77 | 0.77 | × | × | 19.00 | 20.00 | 20.00 | ∞ | ∞ | 1 | 2852 | 3178 | 6.34 | 4.95 |
| SN20K17P60(5) | × | × | 4.80 | 1.03 | 1.01 | × | × | 15.00 | 19.80 | 20.00 | ∞ | ∞ | 0 | 2733 | 2891 | 7.63 | 9.08 |

| | | To | tal loss va | alue | | | Numb | er of activ | ve MDs | | | Computation | nal time | e(ms) | | Standar | d deviation (%) |
|----------------|------|------|-------------|------|------|------|------|-------------|--------|-------|----------|-------------|----------|-------|------|---------|-----------------|
| Instance | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | ĜÁ | GGA | GA | GGA |
| SN20K17P60(6) | × | × | 6.13 | 2.88 | 2.84 | × | × | 13.00 | 18.90 | 18.70 | ∞ | ∞ | 0 | 2405 | 2475 | 2.42 | 3.56 |
| SN20K17P60(7) | × | × | 5.19 | 1.28 | 1.27 | × | × | 20.00 | 19.60 | 19.70 | ∞ | ∞ | 0 | 2713 | 3079 | 8.09 | 9.27 |
| SN20K17P60(8) | × | × | 6.00 | 3.05 | 3.12 | × | × | 11.00 | 20.00 | 20.00 | ∞ | ∞ | 1 | 3111 | 2855 | 2.98 | 3.60 |
| SN20K17P60(9) | × | × | 6.35 | 3.00 | 2.91 | × | × | 18.00 | 19.90 | 20.00 | ∞ | ∞ | 0 | 2570 | 3160 | 3.03 | 2.54 |
| SN20K17P60(10) | × | × | 6.00 | 1.74 | 1.71 | × | × | 17.00 | 19.10 | 19.50 | ∞ | ∞ | 0 | 2509 | 2608 | 4.08 | 2.78 |
| SN20K17P70(1) | × | × | 5.62 | 3.22 | 3.18 | × | × | 15.00 | 20.00 | 20.00 | ∞ | ∞ | 0 | 2668 | 2818 | 3.95 | 3.44 |
| SN20K17P70(2) | × | × | 3.15 | 1.39 | 1.44 | × | × | 20.00 | 19.90 | 19.80 | ∞ | ∞ | 1 | 2754 | 2599 | 5.15 | 7.19 |
| SN20K17P70(3) | × | × | 2.25 | 0.85 | 0.87 | × | × | 18.00 | 19.20 | 18.20 | ∞ | ∞ | 0 | 2755 | 2299 | 18.60 | 5.38 |
| SN20K17P70(4) | × | × | 4.93 | 1.77 | 1.71 | × | × | 20.00 | 20.00 | 20.00 | ∞ | ∞ | 0 | 2660 | 3164 | 4.65 | 3.18 |
| SN20K17P70(5) | × | × | 6.06 | 2.12 | 2.14 | × | × | 16.00 | 19.70 | 20.00 | ∞ | ∞ | 0 | 2658 | 3132 | 4.27 | 4.72 |
| SN20K17P70(6) | × | × | 7.23 | 4.09 | 4.09 | × | × | 14.00 | 18.90 | 18.80 | ∞ | ∞ | 1 | 2760 | 2466 | 2.10 | 1.63 |
| SN20K17P70(7) | × | × | 6.46 | 2.58 | 2.62 | × | × | 20.00 | 19.50 | 19.70 | ∞ | ∞ | 0 | 2967 | 2699 | 2.18 | 3.41 |
| SN20K17P70(8) | × | × | 7.03 | 4.46 | 4.49 | × | × | 13.00 | 19.90 | 19.90 | ∞ | ∞ | 0 | 2401 | 2695 | 1.69 | 1.85 |
| SN20K17P70(9) | × | × | 7.84 | 4.38 | 4.33 | × | × | 18.00 | 19.90 | 20.00 | ∞ | ∞ | 0 | 3048 | 2867 | 1.17 | 2.13 |
| SN20K17P70(10) | × | × | 7.27 | 2.55 | 2.50 | × | × | 17.00 | 19.10 | 19.00 | ∞ | ∞ | 1 | 2396 | 2851 | 2.95 | 2.86 |
| SN20K17P80(1) | × | × | 6.63 | 4.34 | 4.27 | × | × | 15.00 | 20.00 | 20.00 | ∞ | ∞ | 0 | 2784 | 2871 | 2.77 | 3.08 |
| SN20K17P80(2) | × | × | 4.37 | 2.24 | 2.19 | × | × | 19.00 | 19.80 | 20.00 | ∞ | ∞ | 0 | 2672 | 2565 | 3.28 | 1.81 |
| SN20K17P80(3) | × | × | 2.75 | 1.37 | 1.43 | × | × | 18.00 | 18.70 | 17.80 | ∞ | ∞ | 1 | 2441 | 1995 | 7.93 | 5.66 |
| SN20K17P80(4) | × | × | 7.56 | 2.59 | 2.60 | × | × | 18.00 | 20.00 | 20.00 | ∞ | ∞ | 0 | 2951 | 3497 | 1.80 | 2.00 |
| SN20K17P80(5) | × | × | 7.68 | 3.11 | 3.11 | × | × | 17.00 | 19.70 | 19.90 | ∞ | ∞ | 1 | 3063 | 3208 | 2.99 | 2.89 |
| SN20K17P80(6) | × | × | 9.60 | 5.12 | 5.20 | × | × | 10.00 | 18.90 | 18.90 | ∞ | ∞ | 0 | 2705 | 2443 | 1.29 | 1.45 |
| SN20K17P80(7) | × | × | 9.17 | 3.78 | 3.75 | × | × | 17.00 | 19.90 | 20.00 | ∞ | ∞ | 0 | 2901 | 3123 | 2.29 | 1.32 |
| SN20K17P80(8) | × | × | 8.57 | 5.65 | 5.66 | × | × | 13.00 | 19.50 | 19.60 | ∞ | ∞ | 0 | 2200 | 2306 | 1.68 | 1.36 |
| SN20K17P80(9) | × | × | 9.60 | 5.73 | 5.80 | × | × | 19.00 | 20.00 | 20.00 | ∞ | ∞ | 0 | 2787 | 2783 | 1.25 | 1.41 |
| SN20K17P80(10) | × | × | 8.80 | 3.23 | 3.22 | × | × | 18.00 | 19.10 | 18.70 | ∞ | ∞ | 0 | 2520 | 2997 | 2.33 | 2.63 |
| SN30K10P50(1) | × | × | 0.00 | 0.00 | 0.00 | × | × | 10.00 | 24.60 | 10.00 | ∞ | ∞ | 0 | 9 | 10 | 0.00 | 0.00 |
| SN30K10P50(2) | × | × | 0.00 | 0.00 | 0.00 | × | × | 10.00 | 26.40 | 10.00 | ∞ | ∞ | 1 | 10 | 10 | 0.00 | 0.00 |
| SN30K10P50(3) | × | × | 0.00 | 0.00 | 0.00 | × | × | 10.00 | 27.80 | 10.00 | ∞ | ∞ | 0 | 11 | 11 | 0.00 | 0.00 |
| SN30K10P50(4) | × | × | 0.00 | 0.00 | 0.00 | × | × | 10.00 | 23.00 | 10.00 | ∞ | ∞ | 1 | 10 | 10 | 0.00 | 0.00 |
| SN30K10P50(5) | × | × | 0.00 | 0.00 | 0.00 | × | × | 10.00 | 27.80 | 10.00 | ∞ | ∞ | 0 | 12 | 11 | 0.00 | 0.00 |
| SN30K10P50(6) | × | × | 0.00 | 0.00 | 0.00 | × | × | 10.00 | 26.30 | 10.00 | ∞ | ∞ | 1 | 11 | 11 | 0.00 | 0.00 |
| SN30K10P50(7) | × | × | 0.00 | 0.00 | 0.00 | × | × | 10.00 | 22.20 | 10.00 | ∞ | ∞ | 0 | 10 | 11 | 0.00 | 0.00 |
| SN30K10P50(8) | × | × | 0.00 | 0.00 | 0.00 | × | × | 10.00 | 26.00 | 10.00 | ∞ | ∞ | 0 | 10 | 11 | 0.00 | 0.00 |
| SN30K10P50(9) | × | × | 0.50 | 0.00 | 0.00 | × | × | 12.00 | 27.40 | 26.70 | ∞ | ∞ | 0 | 418 | 174 | 0.00 | 0.00 |
| SN30K10P50(10) | × | × | 0.00 | 0.00 | 0.00 | × | × | 10.00 | 26.80 | 10.00 | ∞ | ∞ | 0 | 10 | 11 | 0.00 | 0.00 |
| SN30K10P60(1) | × | × | 0.00 | 0.00 | 0.00 | × | × | 10.00 | 28.70 | 10.00 | ∞ | ∞ | 1 | 23 | 10 | 0.00 | 0.00 |
| SN30K10P60(2) | × | × | 0.00 | 0.00 | 0.00 | × | × | 10.00 | 28.80 | 10.00 | ∞ | ∞ | 0 | 33 | 10 | 0.00 | 0.00 |

| | | То | tal loss va | alue | | | Numb | er of acti | ve MDs | | | Computation | onal time | e(ms) | | Standard | deviation (%) |
|----------------|------|------|-------------|------|------|------|------|------------|--------|-------|----------|-------------|-----------|-------|------|----------|---------------|
| Instance | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | GA | GGA |
| SN30K10P60(3) | × | × | 0.00 | 0.00 | 0.00 | × | × | 13.00 | 28.80 | 13.00 | ∞ | ∞ | 0 | 51 | 11 | 0.00 | 0.00 |
| SN30K10P60(4) | × | × | 0.00 | 0.00 | 0.00 | × | × | 11.00 | 28.50 | 11.00 | ∞ | ∞ | 0 | 11 | 10 | 0.00 | 0.00 |
| SN30K10P60(5) | × | × | 0.00 | 0.00 | 0.00 | × | × | 16.00 | 28.30 | 16.00 | ∞ | ∞ | 0 | 93 | 11 | 0.00 | 0.00 |
| SN30K10P60(6) | × | × | 0.00 | 0.00 | 0.00 | × | × | 16.00 | 28.50 | 16.00 | ∞ | ∞ | 0 | 82 | 11 | 0.00 | 0.00 |
| SN30K10P60(7) | × | × | 0.00 | 0.00 | 0.00 | × | × | 10.00 | 28.50 | 10.00 | ∞ | ∞ | 1 | 14 | 10 | 0.00 | 0.00 |
| SN30K10P60(8) | × | × | 0.00 | 0.00 | 0.00 | × | × | 11.00 | 29.10 | 11.00 | ∞ | ∞ | 1 | 35 | 10 | 0.00 | 0.00 |
| SN30K10P60(9) | × | × | 0.60 | 0.02 | 0.02 | × | × | 19.00 | 26.70 | 20.90 | ∞ | ∞ | 0 | 1464 | 1996 | 167.53 | 28.96 |
| SN30K10P60(10) | × | × | 0.00 | 0.00 | 0.00 | × | × | 11.00 | 29.30 | 11.00 | ∞ | ∞ | 1 | 29 | 11 | 0.00 | 0.00 |
| SN30K10P70(1) | × | × | 0.00 | 0.00 | 0.00 | × | × | 10.00 | 27.90 | 10.00 | ∞ | ∞ | 0 | 142 | 10 | 0.00 | 0.00 |
| SN30K10P70(2) | × | × | 0.00 | 0.00 | 0.00 | × | × | 10.00 | 27.50 | 10.00 | ∞ | ∞ | 0 | 151 | 10 | 0.00 | 0.00 |
| SN30K10P70(3) | × | × | 0.00 | 0.00 | 0.00 | × | × | 14.00 | 28.20 | 14.00 | ∞ | ∞ | 0 | 267 | 10 | 0.00 | 0.00 |
| SN30K10P70(4) | × | × | 0.00 | 0.00 | 0.00 | × | × | 11.00 | 28.10 | 11.00 | ∞ | ∞ | 0 | 59 | 10 | 0.00 | 0.00 |
| SN30K10P70(5) | × | × | 0.00 | 0.00 | 0.00 | × | × | 16.00 | 28.60 | 16.00 | ∞ | ∞ | 0 | 300 | 11 | 0.00 | 0.00 |
| SN30K10P70(6) | × | × | 0.00 | 0.00 | 0.00 | × | × | 16.00 | 28.00 | 16.00 | ∞ | ∞ | 0 | 371 | 11 | 0.00 | 0.00 |
| SN30K10P70(7) | × | × | 0.00 | 0.00 | 0.00 | × | × | 10.00 | 28.00 | 10.00 | ∞ | ∞ | 0 | 29 | 11 | 0.00 | 0.00 |
| SN30K10P70(8) | × | × | 0.00 | 0.00 | 0.00 | × | × | 17.00 | 29.10 | 17.00 | ∞ | ∞ | 0 | 178 | 11 | 0.00 | 0.00 |
| SN30K10P70(9) | × | × | 1.30 | 0.30 | 0.41 | × | × | 24.00 | 26.80 | 25.10 | ∞ | ∞ | 0 | 3577 | 2608 | 46.91 | 15.29 |
| SN30K10P70(10) | × | × | 0.00 | 0.00 | 0.00 | × | × | 12.00 | 28.00 | 12.00 | ∞ | ∞ | 0 | 177 | 11 | 0.00 | 0.00 |
| SN30K10P80(1) | × | × | 0.00 | 0.00 | 0.00 | × | × | 10.00 | 27.50 | 10.00 | ∞ | ∞ | 0 | 219 | 10 | 0.00 | 0.00 |
| SN30K10P80(2) | × | × | 0.00 | 0.00 | 0.00 | × | × | 10.00 | 27.80 | 10.00 | ∞ | ∞ | 1 | 228 | 10 | 0.00 | 0.00 |
| SN30K10P80(3) | × | × | 0.00 | 0.00 | 0.00 | × | × | 16.00 | 28.80 | 16.00 | ∞ | ∞ | 1 | 388 | 10 | 0.00 | 0.00 |
| SN30K10P80(4) | × | × | 0.00 | 0.00 | 0.00 | × | × | 11.00 | 28.40 | 11.00 | ∞ | ∞ | 0 | 114 | 10 | 0.00 | 0.00 |
| SN30K10P80(5) | × | × | 0.00 | 0.00 | 0.00 | × | × | 27.00 | 28.20 | 27.00 | ∞ | ∞ | 0 | 537 | 11 | 0.00 | 0.00 |
| SN30K10P80(6) | × | × | 0.00 | 0.00 | 0.00 | × | × | 24.00 | 28.10 | 24.00 | ∞ | ∞ | 0 | 703 | 11 | 0.00 | 0.00 |
| SN30K10P80(7) | × | × | 0.00 | 0.00 | 0.00 | × | × | 10.00 | 27.40 | 10.00 | ∞ | ∞ | 0 | 76 | 10 | 0.00 | 0.00 |
| SN30K10P80(8) | × | × | 0.03 | 0.00 | 0.00 | × | × | 20.00 | 28.50 | 24.90 | ∞ | ∞ | 1 | 281 | 107 | 0.00 | 0.00 |
| SN30K10P80(9) | × | × | 3.57 | 0.76 | 0.74 | × | × | 16.00 | 28.40 | 27.50 | ∞ | ∞ | 0 | 3600 | 3850 | 7.36 | 6.47 |
| SN30K10P80(10) | × | × | 0.00 | 0.00 | 0.00 | × | × | 13.00 | 28.40 | 13.00 | ∞ | ∞ | 0 | 266 | 11 | 0.00 | 0.00 |
| SN30K15P50(1) | × | × | 0.00 | 0.00 | 0.00 | × | × | 15.00 | 28.30 | 15.00 | ∞ | ∞ | 1 | 62 | 11 | 0.00 | 0.00 |
| SN30K15P50(2) | × | × | 0.00 | 0.00 | 0.00 | × | × | 15.00 | 28.00 | 15.00 | ∞ | ∞ | 0 | 206 | 12 | 0.00 | 0.00 |
| SN30K15P50(3) | × | × | 0.00 | 0.00 | 0.00 | × | × | 17.00 | 28.40 | 17.00 | ∞ | ∞ | 0 | 246 | 12 | 0.00 | 0.00 |
| SN30K15P50(4) | × | × | 0.00 | 0.00 | 0.00 | × | × | 15.00 | 27.90 | 15.00 | ∞ | ∞ | 1 | 38 | 12 | 0.00 | 0.00 |
| SN30K15P50(5) | × | × | 0.00 | 0.00 | 0.00 | × | × | 19.00 | 28.40 | 19.00 | ∞ | ∞ | 0 | 274 | 12 | 0.00 | 0.00 |
| SN30K15P50(6) | × | × | 0.00 | 0.00 | 0.00 | × | × | 17.00 | 27.40 | 17.00 | ∞ | ∞ | 1 | 360 | 12 | 0.00 | 0.00 |
| SN30K15P50(7) | × | × | 0.00 | 0.00 | 0.00 | × | × | 15.00 | 28.80 | 15.00 | ∞ | ∞ | 0 | 16 | 12 | 0.00 | 0.00 |
| SN30K15P50(8) | × | × | 0.00 | 0.00 | 0.00 | × | × | 19.00 | 27.80 | 19.00 | ∞ | ∞ | 0 | 296 | 12 | 0.00 | 0.00 |
| SN30K15P50(9) | × | × | 3.00 | 0.30 | 0.29 | × | × | 12.00 | 27.40 | 27.90 | ∞ | ∞ | 0 | 3809 | 4258 | 41.92 | 23.84 |

| | | То | tal loss va | alue | | | Numb | er of acti | ve MDs | | | Computation | onal time | e(ms) | | Standard | l deviation (%) |
|----------------|------|------|-------------|------|------|------|------|------------|--------|-------|----------|-------------|-----------|-------|------|----------|-----------------|
| Instance | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | ĞÁ | GGA | GA | GGA |
| SN30K15P50(10) | × | × | 0.00 | 0.00 | 0.00 | × | × | 15.00 | 28.70 | 15.00 | ∞ | ∞ | 0 | 115 | 12 | 0.00 | 0.00 |
| SN30K15P60(1) | × | × | 0.35 | 0.00 | 0.00 | × | × | 18.00 | 26.60 | 26.90 | ∞ | ∞ | 0 | 1004 | 124 | 0.00 | 0.00 |
| SN30K15P60(2) | × | × | 0.00 | 0.01 | 0.00 | × | × | 19.00 | 26.10 | 19.00 | ∞ | ∞ | 1 | 1610 | 12 | 197.15 | 0.00 |
| SN30K15P60(3) | × | × | 0.60 | 0.01 | 0.00 | × | × | 21.00 | 27.50 | 26.90 | ∞ | ∞ | 0 | 1534 | 447 | 224.09 | 300.00 |
| SN30K15P60(4) | × | × | 0.00 | 0.00 | 0.00 | × | × | 18.00 | 27.20 | 18.00 | ∞ | ∞ | 0 | 827 | 12 | 300.00 | 0.00 |
| SN30K15P60(5) | × | × | 1.20 | 0.00 | 0.01 | × | × | 26.00 | 27.10 | 27.10 | ∞ | ∞ | 0 | 1444 | 1627 | 300.00 | 153.05 |
| SN30K15P60(6) | × | × | 1.13 | 0.03 | 0.01 | × | × | 24.00 | 25.80 | 25.80 | ∞ | ∞ | 0 | 2660 | 2201 | 100.05 | 101.49 |
| SN30K15P60(7) | × | × | 0.00 | 0.00 | 0.00 | × | × | 16.00 | 27.30 | 16.00 | ∞ | ∞ | 1 | 717 | 12 | 0.00 | 0.00 |
| SN30K15P60(8) | × | × | 0.17 | 0.02 | 0.00 | × | × | 21.00 | 27.00 | 26.30 | ∞ | ∞ | 1 | 1747 | 81 | 125.53 | 0.00 |
| SN30K15P60(9) | × | × | 3.60 | 0.97 | 1.02 | × | × | 19.00 | 28.80 | 27.60 | ∞ | ∞ | 1 | 4790 | 4234 | 12.52 | 10.29 |
| SN30K15P60(10) | × | × | 0.00 | 0.01 | 0.00 | × | × | 21.00 | 25.00 | 21.00 | ∞ | ∞ | 1 | 1862 | 12 | 143.60 | 0.00 |
| SN30K15P70(1) | × | × | 0.70 | 0.02 | 0.00 | × | × | 18.00 | 26.80 | 25.20 | ∞ | ∞ | 1 | 2183 | 771 | 180.88 | 200.15 |
| SN30K15P70(2) | × | × | 0.00 | 0.05 | 0.00 | × | × | 25.00 | 25.90 | 25.00 | ∞ | ∞ | 0 | 2659 | 12 | 127.51 | 0.00 |
| SN30K15P70(3) | × | × | 0.73 | 0.07 | 0.00 | × | × | 29.00 | 26.70 | 28.40 | ∞ | ∞ | 0 | 3316 | 569 | 78.11 | 0.00 |
| SN30K15P70(4) | × | × | 0.00 | 0.00 | 0.00 | × | × | 18.00 | 28.10 | 18.00 | ∞ | ∞ | 1 | 916 | 12 | 0.00 | 0.00 |
| SN30K15P70(5) | × | × | 1.53 | 0.06 | 0.06 | × | × | 26.00 | 26.90 | 26.40 | ∞ | ∞ | 1 | 3545 | 3952 | 74.53 | 87.87 |
| SN30K15P70(6) | × | × | 1.67 | 0.17 | 0.16 | × | × | 24.00 | 28.40 | 27.20 | ∞ | ∞ | 0 | 4732 | 4380 | 42.75 | 22.83 |
| SN30K15P70(7) | × | × | 0.00 | 0.00 | 0.00 | × | × | 17.00 | 27.90 | 17.00 | ∞ | ∞ | 0 | 684 | 12 | 0.00 | 0.00 |
| SN30K15P70(8) | × | × | 2.10 | 0.06 | 0.03 | × | × | 25.00 | 27.20 | 26.90 | ∞ | ∞ | 0 | 2400 | 2652 | 120.82 | 134.98 |
| SN30K15P70(9) | × | × | 4.80 | 2.03 | 1.92 | × | × | 24.00 | 29.10 | 29.40 | ∞ | ∞ | 0 | 4716 | 4672 | 5.23 | 5.77 |
| SN30K15P70(10) | × | × | 0.25 | 0.02 | 0.00 | × | × | 24.00 | 26.50 | 25.10 | ∞ | ∞ | 0 | 2902 | 494 | 139.19 | 0.00 |
| SN30K15P80(1) | × | × | 0.80 | 0.07 | 0.05 | × | × | 23.00 | 27.70 | 24.80 | ∞ | ∞ | 0 | 3479 | 2872 | 100.43 | 36.98 |
| SN30K15P80(2) | × | × | 0.35 | 0.08 | 0.00 | × | × | 25.00 | 27.10 | 25.90 | ∞ | ∞ | 1 | 3428 | 535 | 91.68 | 0.00 |
| SN30K15P80(3) | × | × | 2.15 | 0.38 | 0.13 | × | × | 29.00 | 27.10 | 27.10 | ∞ | ∞ | 1 | 5007 | 3538 | 43.47 | 41.17 |
| SN30K15P80(4) | × | × | 0.00 | 0.04 | 0.00 | × | × | 20.00 | 27.10 | 20.00 | ∞ | ∞ | 0 | 1785 | 12 | 200.47 | 0.00 |
| SN30K15P80(5) | × | × | 3.57 | 0.26 | 0.20 | × | × | 29.00 | 27.90 | 28.00 | ∞ | ∞ | 0 | 5297 | 4519 | 36.80 | 65.25 |
| SN30K15P80(6) | × | × | 3.43 | 0.55 | 0.59 | × | × | 27.00 | 28.60 | 28.00 | ∞ | ∞ | 0 | 4600 | 4400 | 16.49 | 15.41 |
| SN30K15P80(7) | × | × | 0.00 | 0.00 | 0.00 | × | × | 17.00 | 27.10 | 17.00 | ∞ | ∞ | 1 | 1294 | 12 | 300.00 | 0.00 |
| SN30K15P80(8) | × | × | 3.26 | 0.12 | 0.17 | × | × | 25.00 | 27.70 | 25.30 | ∞ | ∞ | 0 | 4131 | 3809 | 76.69 | 68.32 |
| SN30K15P80(9) | × | × | 7.57 | 3.06 | 2.99 | × | × | 16.00 | 29.50 | 29.50 | ∞ | ∞ | 0 | 5535 | 5080 | 4.55 | 3.00 |
| SN30K15P80(10) | × | × | 1.64 | 0.11 | 0.04 | × | × | 20.00 | 26.50 | 23.70 | ∞ | ∞ | 1 | 3634 | 3249 | 123.73 | 78.45 |
| SN30K20P50(1) | × | × | 0.50 | 0.02 | 0.00 | × | × | 21.00 | 27.80 | 28.70 | ∞ | ∞ | 1 | 2183 | 326 | 135.70 | 0.00 |
| SN30K20P50(2) | × | × | 0.50 | 0.03 | 0.01 | × | × | 27.00 | 27.60 | 28.10 | ∞ | ∞ | 0 | 1680 | 1191 | 246.26 | 220.63 |
| SN30K20P50(3) | × | × | 0.25 | 0.00 | 0.00 | × | × | 28.00 | 28.20 | 28.10 | ∞ | ∞ | 1 | 902 | 339 | 0.00 | 0.00 |
| SN30K20P50(4) | × | × | 0.00 | 0.00 | 0.00 | × | × | 20.00 | 28.20 | 20.00 | ∞ | ∞ | 1 | 573 | 13 | 0.00 | 0.00 |
| SN30K20P50(5) | × | × | 2.00 | 0.03 | 0.01 | × | × | 22.00 | 28.60 | 27.70 | ∞ | ∞ | 1 | 3286 | 1925 | 78.73 | 160.26 |
| SN30K20P50(6) | × | × | 1.50 | 0.00 | 0.00 | × | × | 23.00 | 27.60 | 27.20 | ∞ | ∞ | 1 | 1209 | 806 | 0.00 | 300.00 |

| | | То | tal loss va | alue | | | Numb | er of activ | ve MDs | | | Computation | onal time | e(ms) | | Standard | deviation (%) |
|----------------|------|------|-------------|------|------|------|------|-------------|--------|-------|----------|-------------|-----------|-------|------|----------|---------------|
| Instance | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | ĞÁ | GGA | GA | GGA |
| SN30K20P50(7) | × | × | 0.00 | 0.00 | 0.00 | × | × | 20.00 | 29.00 | 20.00 | ∞ | ∞ | 1 | 342 | 13 | 0.00 | 0.00 |
| SN30K20P50(8) | × | × | 2.00 | 0.06 | 0.04 | × | × | 22.00 | 27.10 | 26.40 | ∞ | ∞ | 0 | 4055 | 3738 | 68.57 | 155.24 |
| SN30K20P50(9) | × | × | 5.50 | 1.71 | 1.69 | × | × | 12.00 | 28.40 | 27.90 | ∞ | ∞ | 0 | 5636 | 5530 | 11.39 | 10.11 |
| SN30K20P50(10) | × | × | 1.00 | 0.00 | 0.01 | × | × | 23.00 | 27.80 | 25.20 | ∞ | ∞ | 0 | 1124 | 1068 | 0.00 | 300.00 |
| SN30K20P60(1) | × | × | 1.72 | 0.12 | 0.12 | × | × | 28.00 | 28.40 | 26.30 | ∞ | ∞ | 0 | 4741 | 3892 | 49.59 | 37.99 |
| SN30K20P60(2) | × | × | 3.00 | 0.16 | 0.16 | × | × | 19.00 | 29.10 | 28.20 | ∞ | ∞ | 0 | 4609 | 4002 | 59.87 | 26.56 |
| SN30K20P60(3) | × | × | 3.60 | 0.17 | 0.19 | × | × | 21.00 | 28.70 | 27.30 | ∞ | ∞ | 0 | 4363 | 4253 | 28.40 | 24.23 |
| SN30K20P60(4) | × | × | 1.80 | 0.02 | 0.01 | × | × | 22.00 | 27.50 | 26.50 | ∞ | ∞ | 0 | 3615 | 2240 | 96.45 | 102.97 |
| SN30K20P60(5) | × | × | 4.20 | 0.32 | 0.39 | × | × | 26.00 | 29.30 | 29.30 | ∞ | ∞ | 0 | 6178 | 5894 | 32.29 | 31.87 |
| SN30K20P60(6) | × | × | 4.13 | 0.26 | 0.27 | × | × | 24.00 | 28.70 | 28.70 | ∞ | ∞ | 0 | 4707 | 5435 | 19.98 | 23.62 |
| SN30K20P60(7) | × | × | 0.60 | 0.02 | 0.00 | × | × | 25.00 | 27.30 | 26.70 | ∞ | ∞ | 0 | 2682 | 522 | 147.48 | 0.00 |
| SN30K20P60(8) | × | × | 2.74 | 0.47 | 0.54 | × | × | 23.00 | 27.30 | 26.90 | ∞ | ∞ | 1 | 5428 | 4852 | 17.19 | 18.86 |
| SN30K20P60(9) | × | × | 6.60 | 3.07 | 2.98 | × | × | 19.00 | 28.80 | 28.80 | ∞ | ∞ | 0 | 5529 | 5534 | 6.67 | 5.32 |
| SN30K20P60(10) | × | × | 3.00 | 0.23 | 0.22 | × | × | 21.00 | 27.70 | 27.10 | ∞ | ∞ | 1 | 5307 | 5041 | 31.18 | 25.49 |
| SN30K20P70(1) | × | × | 4.20 | 0.68 | 0.50 | × | × | 18.00 | 28.90 | 28.70 | ∞ | ∞ | 1 | 5972 | 5223 | 18.19 | 27.68 |
| SN30K20P70(2) | × | × | 3.50 | 0.69 | 0.73 | × | × | 25.00 | 29.30 | 29.30 | ∞ | ∞ | 0 | 5442 | 4745 | 14.51 | 8.08 |
| SN30K20P70(3) | × | × | 4.23 | 0.78 | 0.63 | × | × | 29.00 | 29.50 | 29.10 | ∞ | ∞ | 0 | 5079 | 4297 | 8.87 | 15.17 |
| SN30K20P70(4) | × | × | 2.10 | 0.23 | 0.11 | × | × | 22.00 | 28.70 | 27.50 | ∞ | ∞ | 1 | 4653 | 4058 | 27.34 | 45.66 |
| SN30K20P70(5) | × | × | 5.03 | 1.19 | 1.18 | × | × | 26.00 | 29.30 | 29.40 | ∞ | ∞ | 1 | 5347 | 6361 | 13.11 | 10.52 |
| SN30K20P70(6) | × | × | 5.17 | 1.20 | 1.26 | × | × | 24.00 | 29.60 | 29.20 | ∞ | ∞ | 0 | 6467 | 5790 | 9.87 | 3.49 |
| SN30K20P70(7) | × | × | 1.74 | 0.14 | 0.06 | × | × | 26.00 | 28.10 | 26.00 | ∞ | ∞ | 1 | 4162 | 3672 | 60.13 | 85.56 |
| SN30K20P70(8) | × | × | 5.60 | 1.41 | 1.35 | × | × | 25.00 | 28.00 | 28.20 | ∞ | ∞ | 0 | 5999 | 5963 | 9.12 | 6.47 |
| SN30K20P70(9) | × | × | 8.30 | 4.45 | 4.50 | × | × | 24.00 | 29.70 | 29.70 | ∞ | ∞ | 1 | 6047 | 6083 | 2.34 | 3.17 |
| SN30K20P70(10) | × | × | 3.75 | 1.02 | 1.14 | × | × | 24.00 | 28.10 | 25.70 | ∞ | ∞ | 0 | 5407 | 4700 | 10.79 | 6.92 |
| SN30K20P80(1) | × | × | 4.80 | 1.37 | 1.06 | × | × | 23.00 | 28.30 | 28.70 | ∞ | ∞ | 0 | 4938 | 4247 | 11.92 | 9.74 |
| SN30K20P80(2) | × | × | 4.35 | 1.37 | 1.40 | × | × | 25.00 | 29.20 | 29.20 | ∞ | ∞ | 0 | 5524 | 4257 | 8.81 | 10.40 |
| SN30K20P80(3) | × | × | 6.15 | 1.38 | 1.43 | × | × | 29.00 | 29.30 | 28.80 | ∞ | ∞ | 0 | 5139 | 4690 | 4.91 | 7.40 |
| SN30K20P80(4) | × | × | 2.75 | 0.58 | 0.46 | × | × | 28.00 | 29.20 | 28.20 | ∞ | ∞ | 0 | 5278 | 4416 | 12.33 | 16.55 |
| SN30K20P80(5) | × | × | 7.57 | 1.91 | 1.93 | × | × | 29.00 | 28.90 | 29.10 | ∞ | ∞ | 0 | 5791 | 6114 | 6.12 | 8.94 |
| SN30K20P80(6) | × | × | 7.43 | 2.13 | 2.19 | × | × | 27.00 | 29.20 | 29.50 | ∞ | ∞ | 0 | 6420 | 5296 | 4.63 | 5.19 |
| SN30K20P80(7) | × | × | 2.29 | 0.18 | 0.19 | × | × | 26.00 | 28.20 | 26.60 | ∞ | ∞ | 0 | 4730 | 4340 | 63.78 | 48.67 |
| SN30K20P80(8) | × | × | 7.26 | 2.35 | 2.36 | × | × | 25.00 | 27.50 | 27.60 | ∞ | ∞ | 0 | 4976 | 5364 | 4.91 | 5.66 |
| SN30K20P80(9) | × | × | 11.57 | 6.15 | 6.20 | × | × | 16.00 | 29.60 | 29.40 | ∞ | ∞ | 0 | 5672 | 5703 | 2.83 | 2.98 |
| SN30K20P80(10) | × | × | 5.64 | 1.92 | 1.99 | × | × | 20.00 | 28.20 | 27.00 | ∞ | ∞ | 1 | 6002 | 5244 | 4.51 | 8.47 |
| SN30K25P50(1) | × | × | 3.00 | 1.47 | 1.54 | × | × | 21.00 | 28.70 | 27.50 | ∞ | ∞ | 1 | 3794 | 3996 | 8.42 | 11.86 |
| SN30K25P50(2) | × | × | 3.00 | 0.91 | 0.87 | × | × | 27.00 | 29.30 | 29.10 | ∞ | ∞ | 1 | 5287 | 5196 | 15.02 | 18.25 |
| SN30K25P50(3) | × | × | 2.75 | 0.67 | 0.62 | × | × | 28.00 | 28.60 | 29.00 | ∞ | ∞ | 1 | 5118 | 5151 | 25.40 | 38.37 |

| | | То | tal loss va | alue | | | Numb | er of activ | ve MDs | | | Computation | onal time | e(ms) | | Standard | deviation (%) |
|----------------|------|------|-------------|------|------|------|------|-------------|--------|-------|----------|-------------|-----------|-------|------|----------|---------------|
| Instance | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | ĞÁ | GGA | GA | GGA |
| SN30K25P50(4) | × | × | 1.50 | 0.23 | 0.59 | × | × | 24.00 | 28.80 | 27.10 | ∞ | ∞ | 0 | 4425 | 3949 | 55.92 | 24.68 |
| SN30K25P50(5) | × | × | 4.50 | 1.38 | 1.31 | × | × | 22.00 | 29.40 | 29.40 | ∞ | ∞ | 1 | 5765 | 5451 | 5.37 | 1.10 |
| SN30K25P50(6) | × | × | 4.00 | 0.61 | 0.73 | × | × | 23.00 | 29.20 | 29.10 | ∞ | ∞ | 1 | 5513 | 5109 | 20.16 | 21.52 |
| SN30K25P50(7) | × | × | 1.00 | 0.27 | 0.20 | × | × | 26.00 | 27.60 | 27.70 | ∞ | ∞ | 0 | 3595 | 3198 | 36.83 | 20.05 |
| SN30K25P50(8) | × | × | 4.50 | 1.43 | 1.46 | × | × | 22.00 | 28.50 | 28.50 | ∞ | ∞ | 0 | 5152 | 5282 | 4.89 | 4.96 |
| SN30K25P50(9) | × | × | 8.00 | 3.43 | 3.51 | × | × | 12.00 | 29.90 | 30.00 | ∞ | ∞ | 0 | 5741 | 5914 | 2.12 | 4.41 |
| SN30K25P50(10) | × | × | 3.50 | 0.73 | 0.62 | × | × | 23.00 | 28.40 | 28.90 | ∞ | ∞ | 0 | 4614 | 5031 | 27.51 | 17.25 |
| SN30K25P60(1) | × | × | 4.72 | 2.53 | 2.33 | × | × | 28.00 | 28.80 | 28.60 | ∞ | ∞ | 0 | 4570 | 5167 | 2.69 | 3.34 |
| SN30K25P60(2) | × | × | 6.00 | 1.90 | 1.96 | × | × | 19.00 | 29.70 | 28.60 | ∞ | ∞ | 0 | 6495 | 6125 | 8.25 | 9.55 |
| SN30K25P60(3) | × | × | 6.60 | 1.78 | 1.89 | × | × | 21.00 | 29.50 | 28.70 | ∞ | ∞ | 0 | 5571 | 6440 | 8.11 | 5.71 |
| SN30K25P60(4) | × | × | 4.80 | 0.96 | 0.91 | × | × | 22.00 | 28.50 | 28.60 | ∞ | ∞ | 1 | 6741 | 6377 | 12.83 | 17.92 |
| SN30K25P60(5) | × | × | 7.20 | 2.61 | 2.54 | × | × | 26.00 | 29.60 | 29.40 | ∞ | ∞ | 0 | 6038 | 6392 | 3.76 | 2.60 |
| SN30K25P60(6) | × | × | 7.13 | 2.01 | 2.01 | × | × | 24.00 | 29.70 | 29.30 | ∞ | ∞ | 0 | 6688 | 6659 | 5.42 | 5.08 |
| SN30K25P60(7) | × | × | 3.60 | 0.55 | 0.65 | × | × | 25.00 | 28.00 | 27.40 | ∞ | ∞ | 1 | 5712 | 4983 | 19.83 | 18.22 |
| SN30K25P60(8) | × | × | 5.74 | 2.45 | 2.57 | × | × | 23.00 | 29.30 | 28.80 | ∞ | ∞ | 1 | 6133 | 6385 | 5.28 | 5.49 |
| SN30K25P60(9) | × | × | 9.60 | 5.36 | 5.40 | × | × | 19.00 | 30.00 | 30.00 | ∞ | ∞ | 0 | 5800 | 6004 | 2.27 | 2.48 |
| SN30K25P60(10) | × | × | 6.00 | 1.69 | 1.68 | × | × | 21.00 | 29.20 | 29.40 | ∞ | ∞ | 0 | 6948 | 6657 | 10.93 | 4.61 |
| SN30K25P70(1) | × | × | 7.70 | 3.57 | 3.50 | × | × | 18.00 | 28.80 | 28.40 | ∞ | ∞ | 1 | 4758 | 5218 | 3.59 | 5.24 |
| SN30K25P70(2) | × | × | 7.00 | 3.23 | 3.18 | × | × | 25.00 | 29.40 | 29.20 | ∞ | ∞ | 1 | 5974 | 5920 | 4.09 | 5.52 |
| SN30K25P70(3) | × | × | 7.73 | 3.48 | 3.38 | × | × | 29.00 | 28.90 | 29.30 | ∞ | ∞ | 0 | 5486 | 6452 | 5.07 | 2.92 |
| SN30K25P70(4) | × | × | 5.60 | 2.18 | 2.15 | × | × | 22.00 | 29.20 | 28.80 | ∞ | ∞ | 0 | 5256 | 5381 | 5.24 | 5.26 |
| SN30K25P70(5) | × | × | 8.53 | 4.02 | 4.00 | × | × | 26.00 | 29.30 | 29.50 | ∞ | ∞ | 1 | 6166 | 6777 | 2.05 | 2.78 |
| SN30K25P70(6) | × | × | 8.67 | 3.69 | 3.58 | × | × | 24.00 | 29.40 | 29.30 | ∞ | ∞ | 1 | 6612 | 6987 | 1.89 | 1.65 |
| SN30K25P70(7) | × | × | 5.24 | 1.34 | 1.43 | × | × | 26.00 | 28.30 | 27.70 | ∞ | ∞ | 0 | 5266 | 5261 | 6.38 | 7.75 |
| SN30K25P70(8) | × | × | 9.10 | 3.94 | 3.87 | × | × | 25.00 | 29.30 | 29.30 | ∞ | ∞ | 0 | 6082 | 6697 | 3.98 | 1.66 |
| SN30K25P70(9) | × | × | 11.80 | 7.49 | 7.57 | × | × | 24.00 | 30.00 | 30.00 | ∞ | ∞ | 0 | 5636 | 6211 | 1.33 | 1.94 |
| SN30K25P70(10) | × | × | 7.25 | 3.37 | 3.37 | × | × | 24.00 | 29.30 | 29.30 | ∞ | ∞ | 0 | 6672 | 6958 | 3.62 | 2.90 |
| SN30K25P80(1) | × | × | 8.80 | 4.64 | 4.40 | × | × | 23.00 | 27.80 | 28.80 | ∞ | ∞ | 0 | 4469 | 4234 | 1.87 | 4.25 |
| SN30K25P80(2) | × | × | 8.35 | 4.34 | 4.35 | × | × | 25.00 | 29.00 | 29.30 | ∞ | ∞ | 0 | 5384 | 4837 | 3.86 | 2.89 |
| SN30K25P80(3) | × | × | 10.15 | 4.64 | 4.74 | × | × | 29.00 | 28.40 | 28.80 | ∞ | ∞ | 0 | 6161 | 6323 | 3.72 | 3.84 |
| SN30K25P80(4) | × | × | 6.75 | 3.24 | 3.19 | × | × | 28.00 | 28.40 | 28.90 | ∞ | ∞ | 1 | 6004 | 4994 | 4.26 | 4.31 |
| SN30K25P80(5) | × | × | 11.57 | 5.28 | 5.25 | × | × | 29.00 | 29.10 | 29.50 | ∞ | ∞ | 0 | 6510 | 7018 | 2.23 | 2.62 |
| SN30K25P80(6) | × | × | 11.43 | 4.91 | 4.97 | × | × | 27.00 | 29.00 | 29.10 | ∞ | ∞ | 0 | 6774 | 7146 | 2.32 | 2.62 |
| SN30K25P80(7) | × | × | 6.29 | 2.26 | 2.21 | × | × | 26.00 | 28.50 | 27.60 | ∞ | ∞ | 1 | 4683 | 5125 | 7.93 | 5.00 |
| SN30K25P80(8) | × | × | 11.26 | 5.35 | 5.32 | × | × | 25.00 | 28.70 | 28.50 | ∞ | ∞ | 1 | 5968 | 6213 | 3.16 | 3.38 |
| SN30K25P80(9) | × | × | 15.57 | 9.55 | 9.55 | × | × | 16.00 | 30.00 | 30.00 | ∞ | ∞ | 1 | 6181 | 6204 | 1.09 | 1.56 |
| SN30K25P80(10) | × | × | 9.64 | 4.80 | 4.80 | × | × | 20.00 | 29.40 | 29.20 | ∞ | ∞ | 0 | 6529 | 7289 | 3.38 | 2.46 |

| | | То | tal loss va | alue | | | Numb | er of acti | ve MDs | | | Computation | onal time | e(ms) | | Standard | d deviation (%) |
|-----------------|------|------|-------------|------|------|------|------|------------|--------|--------|----------|-------------|-----------|-------|-------|----------|-----------------|
| Instance | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GÁ | GGA | GA | GGA |
| LN200K60P50(1) | × | × | 0.00 | 0.50 | 0.00 | × | × | 60.00 | 180.00 | 60.00 | ∞ | ∞ | 6 | 13629 | 48 | 63.25 | 0.00 |
| LN200K60P50(2) | × | × | 0.00 | 0.60 | 0.00 | × | × | 60.00 | 183.40 | 60.00 | ∞ | ∞ | 6 | 13538 | 47 | 89.75 | 0.00 |
| LN200K60P50(3) | × | × | 0.00 | 0.50 | 0.00 | × | × | 60.00 | 179.90 | 60.00 | ∞ | ∞ | 5 | 13267 | 47 | 77.46 | 0.00 |
| LN200K60P50(4) | × | × | 0.00 | 0.85 | 0.00 | × | × | 60.00 | 180.40 | 60.00 | ∞ | ∞ | 5 | 15679 | 46 | 52.94 | 0.00 |
| LN200K60P50(5) | × | × | 0.00 | 0.45 | 0.00 | × | × | 60.00 | 180.60 | 60.00 | ∞ | ∞ | 7 | 12924 | 49 | 104.82 | 0.00 |
| LN200K60P50(6) | × | × | 0.00 | 0.95 | 0.00 | × | × | 60.00 | 178.90 | 60.00 | ∞ | ∞ | 5 | 16457 | 46 | 49.65 | 0.00 |
| LN200K60P50(7) | × | × | 0.00 | 1.10 | 0.00 | × | × | 60.00 | 179.90 | 60.00 | ∞ | ∞ | 4 | 17667 | 41 | 34.02 | 0.00 |
| LN200K60P50(8) | × | × | 0.00 | 0.30 | 0.00 | × | × | 60.00 | 179.00 | 60.00 | ∞ | ∞ | 6 | 13856 | 51 | 81.65 | 0.00 |
| LN200K60P50(9) | × | × | 0.00 | 0.45 | 0.00 | × | × | 60.00 | 179.70 | 60.00 | ∞ | ∞ | 5 | 12608 | 46 | 126.20 | 0.00 |
| LN200K60P50(10) | × | × | 0.00 | 0.80 | 0.00 | × | × | 60.00 | 178.20 | 60.00 | ∞ | ∞ | 6 | 12652 | 48 | 115.92 | 0.00 |
| LN200K60P60(1) | × | × | 0.00 | 0.72 | 0.00 | × | × | 60.00 | 184.80 | 60.00 | ∞ | ∞ | 6 | 12193 | 47 | 89.75 | 0.00 |
| LN200K60P60(2) | × | × | 0.00 | 0.66 | 0.00 | × | × | 60.00 | 174.60 | 60.00 | ∞ | ∞ | 5 | 12550 | 47 | 75.51 | 0.00 |
| LN200K60P60(3) | × | × | 0.00 | 0.90 | 0.00 | × | × | 60.00 | 179.40 | 60.00 | ∞ | ∞ | 6 | 12198 | 46 | 85.63 | 0.00 |
| LN200K60P60(4) | × | × | 0.00 | 0.78 | 0.00 | × | × | 60.00 | 180.70 | 60.00 | ∞ | ∞ | 5 | 14883 | 45 | 60.08 | 0.00 |
| LN200K60P60(5) | × | × | 0.00 | 0.30 | 0.00 | × | × | 60.00 | 181.20 | 60.00 | ∞ | ∞ | 6 | 12223 | 47 | 134.16 | 0.00 |
| LN200K60P60(6) | × | × | 0.00 | 0.48 | 0.00 | × | × | 60.00 | 179.70 | 60.00 | ∞ | ∞ | 5 | 13398 | 46 | 93.54 | 0.00 |
| LN200K60P60(7) | × | × | 0.00 | 1.14 | 0.00 | × | × | 60.00 | 177.70 | 60.00 | ∞ | ∞ | 4 | 16163 | 41 | 64.25 | 0.00 |
| LN200K60P60(8) | × | × | 0.00 | 0.42 | 0.00 | × | × | 60.00 | 184.90 | 60.00 | ∞ | ∞ | 6 | 12062 | 51 | 65.47 | 0.00 |
| LN200K60P60(9) | × | × | 0.00 | 1.02 | 0.00 | × | × | 60.00 | 181.00 | 60.00 | ∞ | ∞ | 5 | 12969 | 46 | 79.14 | 0.00 |
| LN200K60P60(10) | × | × | 0.00 | 0.42 | 0.00 | × | × | 60.00 | 185.20 | 60.00 | ∞ | ∞ | 6 | 10920 | 48 | 128.57 | 0.00 |
| LN200K60P70(1) | × | × | 0.00 | 0.35 | 0.00 | × | × | 60.00 | 184.50 | 60.00 | ∞ | ∞ | 6 | 11802 | 47 | 134.16 | 0.00 |
| LN200K60P70(2) | × | × | 0.00 | 0.91 | 0.00 | × | × | 60.00 | 177.80 | 60.00 | ∞ | ∞ | 5 | 13101 | 47 | 103.49 | 0.00 |
| LN200K60P70(3) | × | × | 0.00 | 0.70 | 0.00 | × | × | 60.00 | 183.20 | 60.00 | ∞ | ∞ | 5 | 12945 | 46 | 77.46 | 0.00 |
| LN200K60P70(4) | × | × | 0.00 | 0.56 | 0.00 | × | × | 60.00 | 181.80 | 60.00 | ∞ | ∞ | 5 | 12880 | 45 | 75.00 | 0.00 |
| LN200K60P70(5) | × | × | 0.00 | 0.28 | 0.00 | × | × | 60.00 | 175.50 | 60.00 | ∞ | ∞ | 6 | 14744 | 47 | 122.47 | 0.00 |
| LN200K60P70(6) | × | × | 0.00 | 1.12 | 0.00 | × | × | 60.00 | 183.30 | 60.00 | ∞ | ∞ | 5 | 14570 | 46 | 50.00 | 0.00 |
| LN200K60P70(7) | × | × | 0.00 | 1.47 | 0.00 | × | × | 60.00 | 185.60 | 60.00 | ∞ | ∞ | 4 | 13955 | 41 | 72.06 | 0.00 |
| LN200K60P70(8) | × | × | 0.00 | 0.07 | 0.00 | × | × | 60.00 | 178.90 | 60.00 | ∞ | ∞ | 6 | 11696 | 51 | 300.00 | 0.00 |
| LN200K60P70(9) | × | × | 0.00 | 0.84 | 0.00 | × | × | 60.00 | 179.30 | 60.00 | ∞ | ∞ | 5 | 13751 | 46 | 89.75 | 0.00 |
| LN200K60P70(10) | × | × | 0.00 | 0.70 | 0.00 | × | × | 60.00 | 178.40 | 60.00 | ∞ | ∞ | 6 | 14059 | 48 | 63.25 | 0.00 |
| LN200K60P80(1) | × | × | 5.60 | 0.46 | 0.18 | × | × | 82.00 | 192.00 | 150.80 | ∞ | ∞ | 4 | 29134 | 21800 | 49.97 | 127.64 |
| LN200K60P80(2) | × | × | 12.00 | 0.56 | 0.29 | × | × | 70.00 | 191.60 | 183.00 | ∞ | ∞ | 4 | 28622 | 27463 | 39.39 | 75.72 |
| LN200K60P80(3) | × | × | 4.83 | 0.38 | 0.19 | × | × | 83.00 | 191.70 | 138.50 | ∞ | ∞ | 5 | 28296 | 23202 | 17.36 | 136.25 |
| LN200K60P80(4) | × | × | 8.09 | 0.55 | 0.20 | × | × | 81.00 | 190.80 | 168.40 | ∞ | ∞ | 3 | 27658 | 27143 | 44.25 | 12.83 |
| LN200K60P80(5) | × | × | 9.60 | 0.38 | 0.09 | × | × | 77.00 | 192.30 | 168.70 | ∞ | ∞ | 5 | 28692 | 25882 | 8.79 | 37.46 |
| LN200K60P80(6) | × | × | 16.86 | 0.60 | 0.42 | × | × | 52.00 | 189.90 | 169.00 | ∞ | ∞ | 4 | 28350 | 26929 | 52.66 | 85.84 |
| LN200K60P80(7) | × | × | 10.40 | 1.03 | 0.22 | × | × | 71.00 | 192.50 | 166.80 | ∞ | ∞ | 4 | 25422 | 24860 | 66.68 | 13.34 |

| | | То | tal loss va | alue | | | Numb | er of acti | ve MDs | | | Computation | onal time | e (ms) | | Standard | d deviation (%) |
|-----------------|------|------|-------------|------|------|------|------|------------|--------|--------|----------|-------------|-----------|--------|-------|----------|-----------------|
| Instance | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GÁ | GGA | GA | GGA |
| LN200K60P80(8) | × | × | 0.03 | 0.32 | 0.03 | × | × | 85.00 | 189.40 | 88.40 | ∞ | ∞ | 5 | 30835 | 6084 | 67.66 | 8.00 |
| LN200K60P80(9) | × | × | 4.00 | 0.40 | 0.04 | × | × | 81.00 | 191.30 | 160.30 | ∞ | ∞ | 4 | 28090 | 15442 | 14.87 | 45.77 |
| LN200K60P80(10) | × | × | 0.02 | 0.35 | 0.02 | × | × | 87.00 | 190.10 | 87.00 | ∞ | ∞ | 5 | 29197 | 6572 | 14.57 | 50.18 |
| LN200K80P50(1) | × | × | 0.00 | 1.75 | 0.00 | × | × | 80.00 | 185.20 | 80.00 | ∞ | ∞ | 7 | 22142 | 51 | 71.43 | 0.00 |
| LN200K80P50(2) | × | × | 7.00 | 2.10 | 1.45 | × | × | 66.00 | 186.10 | 153.70 | ∞ | ∞ | 6 | 21306 | 10558 | 39.56 | 32.53 |
| LN200K80P50(3) | × | × | 5.00 | 2.10 | 1.25 | × | × | 70.00 | 186.50 | 132.80 | ∞ | ∞ | 6 | 23796 | 9269 | 31.59 | 26.83 |
| LN200K80P50(4) | × | × | 2.00 | 2.20 | 0.80 | × | × | 76.00 | 187.00 | 104.70 | ∞ | ∞ | 6 | 23416 | 6767 | 42.15 | 30.62 |
| LN200K80P50(5) | × | × | 0.00 | 1.35 | 0.00 | × | × | 80.00 | 182.40 | 80.00 | ∞ | ∞ | 6 | 24195 | 51 | 62.09 | 0.00 |
| LN200K80P50(6) | × | × | 0.00 | 2.00 | 0.00 | × | × | 80.00 | 188.60 | 80.00 | ∞ | ∞ | 6 | 21300 | 50 | 53.62 | 0.00 |
| LN200K80P50(7) | × | × | 8.50 | 4.75 | 3.50 | × | × | 63.00 | 181.70 | 133.30 | ∞ | ∞ | 5 | 20643 | 8662 | 20.65 | 6.39 |
| LN200K80P50(8) | × | × | 1.50 | 1.85 | 0.50 | × | × | 77.00 | 182.40 | 106.80 | ∞ | ∞ | 7 | 21552 | 6635 | 45.31 | 0.00 |
| LN200K80P50(9) | × | × | 0.00 | 1.90 | 0.00 | × | × | 80.00 | 185.90 | 80.00 | ∞ | ∞ | 6 | 20854 | 49 | 42.11 | 0.00 |
| LN200K80P50(10) | × | × | 0.00 | 1.55 | 0.00 | × | × | 80.00 | 183.80 | 80.00 | ∞ | ∞ | 7 | 21707 | 51 | 54.84 | 0.00 |
| LN200K80P60(1) | × | × | 0.00 | 3.30 | 0.00 | × | × | 80.00 | 184.70 | 80.00 | ∞ | ∞ | 6 | 20731 | 50 | 42.45 | 0.00 |
| LN200K80P60(2) | × | × | 8.40 | 1.86 | 2.10 | × | × | 66.00 | 188.60 | 159.60 | ∞ | ∞ | 7 | 22667 | 9037 | 46.63 | 19.17 |
| LN200K80P60(3) | × | × | 6.00 | 2.40 | 1.50 | × | × | 70.00 | 185.50 | 139.60 | ∞ | ∞ | 6 | 23463 | 9845 | 51.23 | 26.83 |
| LN200K80P60(4) | × | × | 2.40 | 2.88 | 1.02 | × | × | 76.00 | 184.70 | 100.50 | ∞ | ∞ | 5 | 21755 | 6903 | 46.40 | 26.96 |
| LN200K80P60(5) | × | × | 0.00 | 2.28 | 0.00 | × | × | 80.00 | 183.00 | 80.00 | ∞ | ∞ | 6 | 22244 | 50 | 54.95 | 0.00 |
| LN200K80P60(6) | × | × | 0.00 | 2.52 | 0.00 | × | × | 80.00 | 182.90 | 80.00 | ∞ | ∞ | 6 | 22599 | 49 | 31.59 | 0.00 |
| LN200K80P60(7) | × | × | 10.20 | 4.74 | 4.26 | × | × | 63.00 | 186.50 | 138.90 | ∞ | ∞ | 4 | 22046 | 8821 | 29.11 | 7.58 |
| LN200K80P60(8) | × | × | 1.80 | 1.08 | 0.54 | × | × | 77.00 | 187.70 | 113.00 | ∞ | ∞ | 7 | 22608 | 5979 | 54.43 | 33.33 |
| LN200K80P60(9) | × | × | 0.00 | 2.34 | 0.00 | × | × | 80.00 | 182.80 | 80.00 | ∞ | ∞ | 6 | 22860 | 48 | 45.07 | 0.00 |
| LN200K80P60(10) | × | × | 0.00 | 1.62 | 0.00 | × | × | 80.00 | 185.30 | 80.00 | ∞ | ∞ | 7 | 20848 | 51 | 66.36 | 0.00 |
| LN200K80P70(1) | × | × | 0.00 | 1.96 | 0.00 | × | × | 80.00 | 184.20 | 80.00 | ∞ | ∞ | 6 | 21851 | 50 | 54.87 | 0.00 |
| LN200K80P70(2) | × | × | 9.80 | 3.43 | 2.52 | × | × | 66.00 | 186.70 | 157.50 | ∞ | ∞ | 5 | 22161 | 8432 | 32.20 | 13.61 |
| LN200K80P70(3) | × | × | 7.00 | 2.45 | 1.96 | × | × | 70.00 | 184.10 | 126.30 | ∞ | ∞ | 7 | 23820 | 9394 | 49.90 | 26.73 |
| LN200K80P70(4) | × | × | 2.80 | 3.64 | 1.26 | × | × | 76.00 | 184.90 | 96.80 | ∞ | ∞ | 6 | 22460 | 6518 | 30.77 | 22.22 |
| LN200K80P70(5) | × | × | 0.00 | 1.47 | 0.00 | × | × | 80.00 | 183.10 | 80.00 | ∞ | ∞ | 7 | 21703 | 50 | 75.14 | 0.00 |
| LN200K80P70(6) | × | × | 0.00 | 3.08 | 0.00 | × | × | 80.00 | 186.30 | 80.00 | ∞ | ∞ | 6 | 22273 | 49 | 40.91 | 0.00 |
| LN200K80P70(7) | × | × | 11.90 | 6.72 | 5.11 | × | × | 63.00 | 185.80 | 136.60 | ∞ | ∞ | 5 | 21839 | 8543 | 25.17 | 12.33 |
| LN200K80P70(8) | × | × | 2.10 | 1.47 | 0.63 | × | × | 77.00 | 189.20 | 109.40 | ∞ | ∞ | 7 | 21845 | 5973 | 58.13 | 33.33 |
| LN200K80P70(9) | × | × | 0.00 | 2.87 | 0.00 | × | × | 80.00 | 185.60 | 80.00 | ∞ | ∞ | 6 | 23986 | 48 | 36.91 | 0.00 |
| LN200K80P70(10) | × | × | 0.00 | 2.17 | 0.00 | × | × | 80.00 | 181.80 | 80.00 | ∞ | ∞ | 7 | 22911 | 51 | 61.97 | 0.00 |
| LN200K80P80(1) | × | × | 21.60 | 1.53 | 0.97 | × | × | 82.00 | 193.10 | 177.80 | ∞ | ∞ | 5 | 30871 | 31799 | 40.00 | 37.81 |
| LN200K80P80(2) | × | × | 28.00 | 2.72 | 2.08 | × | × | 70.00 | 190.80 | 184.60 | ∞ | ∞ | 4 | 30130 | 30652 | 27.48 | 32.00 |
| LN200K80P80(3) | × | × | 20.83 | 1.82 | 1.68 | × | × | 83.00 | 191.70 | 187.40 | ∞ | ∞ | 5 | 29937 | 30930 | 34.53 | 55.38 |
| LN200K80P80(4) | × | × | 24.09 | 3.12 | 2.96 | × | × | 81.00 | 190.50 | 183.80 | ∞ | ∞ | 4 | 28721 | 29632 | 40.30 | 55.50 |

| T4 | | To | tal loss va | alue | | | Numb | er of acti | ve MDs | | | Computation | nal time | e (ms) | | Standard | d deviation (%) |
|------------------|------|------|-------------|-------|-------|------|------|------------|--------|--------|----------|-------------|----------|--------|-------|----------|-----------------|
| Instance | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GÁ | GGA | GA | GGA |
| LN200K80P80(5) | × | × | 25.60 | 1.67 | 0.77 | × | × | 77.00 | 194.10 | 182.00 | ∞ | ∞ | 5 | 30561 | 31692 | 37.55 | 57.71 |
| LN200K80P80(6) | × | × | 32.86 | 2.01 | 2.23 | × | × | 52.00 | 193.60 | 185.90 | ∞ | ∞ | 5 | 29985 | 30342 | 34.46 | 59.55 |
| LN200K80P80(7) | × | × | 26.40 | 5.29 | 4.61 | × | × | 71.00 | 194.10 | 180.10 | ∞ | ∞ | 3 | 26623 | 27239 | 20.27 | 15.88 |
| LN200K80P80(8) | × | × | 13.66 | 1.34 | 1.92 | × | × | 90.00 | 190.30 | 189.10 | ∞ | ∞ | 6 | 31919 | 32111 | 36.62 | 68.54 |
| LN200K80P80(9) | × | × | 20.00 | 1.77 | 0.93 | × | × | 81.00 | 193.10 | 189.70 | ∞ | ∞ | 4 | 29509 | 30913 | 38.44 | 73.08 |
| LN200K80P80(10) | × | × | 13.62 | 1.12 | 0.31 | × | × | 92.00 | 192.80 | 178.70 | ∞ | ∞ | 5 | 30750 | 31336 | 24.12 | 16.78 |
| LN200K100P50(1) | × | × | 9.00 | 4.35 | 2.40 | × | × | 82.00 | 189.30 | 160.20 | ∞ | ∞ | 7 | 28897 | 15028 | 27.71 | 35.84 |
| LN200K100P50(2) | × | × | 17.00 | 6.30 | 8.10 | × | × | 66.00 | 188.70 | 171.60 | ∞ | ∞ | 6 | 28210 | 12915 | 14.72 | 11.65 |
| LN200K100P50(3) | × | × | 15.00 | 5.85 | 5.60 | × | × | 70.00 | 189.00 | 171.50 | ∞ | ∞ | 7 | 27115 | 13989 | 25.08 | 11.15 |
| LN200K100P50(4) | × | × | 12.00 | 6.55 | 6.10 | × | × | 76.00 | 186.90 | 169.50 | ∞ | ∞ | 5 | 27355 | 11749 | 19.74 | 8.03 |
| LN200K100P50(5) | × | × | 6.50 | 4.95 | 2.75 | × | × | 87.00 | 186.10 | 159.90 | ∞ | ∞ | 7 | 27054 | 9600 | 21.88 | 14.66 |
| LN200K100P50(6) | × | × | 7.50 | 5.55 | 4.85 | × | × | 85.00 | 188.70 | 162.20 | ∞ | ∞ | 6 | 27920 | 8350 | 24.32 | 6.60 |
| LN200K100P50(7) | × | × | 18.50 | 10.45 | 11.25 | × | × | 63.00 | 188.40 | 155.90 | ∞ | ∞ | 4 | 23224 | 10321 | 9.91 | 6.96 |
| LN200K100P50(8) | × | × | 11.50 | 4.55 | 2.60 | × | × | 77.00 | 187.10 | 163.00 | ∞ | ∞ | 8 | 27854 | 15690 | 37.57 | 18.84 |
| LN200K100P50(9) | × | × | 10.00 | 5.30 | 4.50 | × | × | 80.00 | 189.70 | 157.00 | ∞ | ∞ | 7 | 28140 | 11052 | 15.90 | 8.61 |
| LN200K100P50(10) | × | × | 8.00 | 4.50 | 1.80 | × | × | 84.00 | 186.90 | 167.10 | ∞ | ∞ | 7 | 29350 | 13577 | 24.85 | 28.33 |
| LN200K100P60(1) | × | × | 10.80 | 4.50 | 3.90 | × | × | 82.00 | 188.40 | 154.70 | ∞ | ∞ | 7 | 27875 | 10391 | 37.83 | 19.76 |
| LN200K100P60(2) | × | × | 20.40 | 7.80 | 9.18 | × | × | 66.00 | 187.50 | 166.10 | ∞ | ∞ | 7 | 27109 | 13668 | 16.14 | 13.73 |
| LN200K100P60(3) | × | × | 18.00 | 6.06 | 6.78 | × | × | 70.00 | 186.20 | 156.50 | ∞ | ∞ | 7 | 28811 | 14446 | 22.34 | 13.74 |
| LN200K100P60(4) | × | × | 14.40 | 8.46 | 7.74 | × | × | 76.00 | 187.60 | 157.30 | ∞ | ∞ | 5 | 25263 | 10106 | 12.86 | 8.80 |
| LN200K100P60(5) | × | × | 7.80 | 5.88 | 3.06 | × | × | 87.00 | 189.60 | 150.70 | ∞ | ∞ | 7 | 27462 | 10826 | 18.70 | 13.73 |
| LN200K100P60(6) | × | × | 9.00 | 7.44 | 5.94 | × | × | 85.00 | 187.30 | 162.60 | ∞ | ∞ | 6 | 25748 | 8215 | 18.81 | 3.03 |
| LN200K100P60(7) | × | × | 22.20 | 13.08 | 13.02 | × | × | 63.00 | 188.80 | 152.00 | ∞ | ∞ | 5 | 22881 | 11640 | 10.22 | 5.85 |
| LN200K100P60(8) | × | × | 13.80 | 4.26 | 3.90 | × | × | 77.00 | 189.70 | 160.60 | ∞ | ∞ | 7 | 28564 | 13334 | 30.50 | 22.03 |
| LN200K100P60(9) | × | × | 12.00 | 7.02 | 5.82 | × | × | 80.00 | 187.80 | 153.60 | ∞ | ∞ | 6 | 26532 | 9744 | 27.04 | 10.36 |
| LN200K100P60(10) | × | × | 9.60 | 4.32 | 2.52 | × | × | 84.00 | 188.50 | 168.20 | ∞ | ∞ | 8 | 28806 | 12207 | 23.90 | 25.64 |
| LN200K100P70(1) | × | × | 12.60 | 6.51 | 4.20 | × | × | 82.00 | 185.40 | 162.80 | ∞ | ∞ | 7 | 26983 | 11734 | 25.92 | 12.91 |
| LN200K100P70(2) | × | × | 23.80 | 9.31 | 9.80 | × | × | 66.00 | 189.00 | 170.10 | ∞ | ∞ | 6 | 29114 | 15115 | 17.81 | 6.39 |
| LN200K100P70(3) | × | × | 21.00 | 7.28 | 8.19 | × | × | 70.00 | 190.10 | 161.70 | ∞ | ∞ | 7 | 29235 | 16065 | 28.91 | 14.83 |
| LN200K100P70(4) | × | × | 16.80 | 10.36 | 8.96 | × | × | 76.00 | 188.80 | 162.70 | ∞ | ∞ | 6 | 23341 | 11306 | 17.57 | 15.55 |
| LN200K100P70(5) | × | × | 9.10 | 6.72 | 3.85 | × | × | 87.00 | 187.20 | 152.40 | ∞ | ∞ | 7 | 28096 | 9210 | 23.84 | 14.66 |
| LN200K100P70(6) | × | × | 10.50 | 8.05 | 6.86 | × | × | 85.00 | 188.00 | 156.20 | ∞ | ∞ | 6 | 26033 | 8294 | 20.67 | 6.12 |
| LN200K100P70(7) | × | × | 25.90 | 14.14 | 15.47 | × | × | 63.00 | 187.10 | 164.20 | ∞ | ∞ | 4 | 23835 | 11511 | 6.93 | 5.52 |
| LN200K100P70(8) | × | × | 16.10 | 5.53 | 4.20 | × | × | 77.00 | 187.30 | 161.70 | ∞ | ∞ | 7 | 29460 | 13004 | 36.88 | 16.67 |
| LN200K100P70(9) | × | × | 14.00 | 7.42 | 6.37 | × | × | 80.00 | 187.80 | 150.60 | ∞ | ∞ | 7 | 26072 | 11005 | 22.00 | 9.13 |
| LN200K100P70(10) | × | × | 11.20 | 6.02 | 2.59 | × | × | 84.00 | 185.30 | 165.60 | ∞ | ∞ | 7 | 26862 | 12340 | 22.18 | 21.11 |
| LN200K100P80(1) | × | × | 37.60 | 4.97 | 4.25 | × | × | 82.00 | 195.30 | 182.90 | ∞ | ∞ | 5 | 32035 | 33478 | 21.70 | 22.83 |

| T4 | | To | tal loss va | alue | | | Numb | er of acti | ve MDs | | | Computation | nal time | e(ms) | | Standar | d deviation (%) |
|------------------|------|------|-------------|-------|-------|------|------|------------|--------|--------|----------|-------------|----------|-------|-------|---------|-----------------|
| Instance | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | GA | GGA |
| LN200K100P80(2) | × | × | 44.00 | 9.39 | 10.32 | × | × | 70.00 | 194.70 | 191.20 | ∞ | ∞ | 4 | 30871 | 31443 | 12.69 | 12.45 |
| LN200K100P80(3) | × | × | 36.83 | 7.64 | 7.60 | × | × | 83.00 | 192.20 | 188.00 | ∞ | ∞ | 5 | 31122 | 31791 | 16.80 | 14.41 |
| LN200K100P80(4) | × | × | 40.09 | 10.55 | 13.59 | × | × | 81.00 | 194.80 | 190.60 | ∞ | ∞ | 4 | 29893 | 30709 | 11.37 | 40.17 |
| LN200K100P80(5) | × | × | 41.60 | 5.99 | 3.92 | × | × | 77.00 | 195.20 | 187.80 | ∞ | ∞ | 5 | 31743 | 32955 | 12.07 | 23.56 |
| LN200K100P80(6) | × | × | 48.86 | 8.09 | 8.37 | × | × | 52.00 | 194.40 | 191.90 | ∞ | ∞ | 4 | 31090 | 31451 | 17.28 | 17.85 |
| LN200K100P80(7) | × | × | 42.40 | 15.57 | 15.47 | × | × | 71.00 | 191.90 | 191.70 | ∞ | ∞ | 3 | 27630 | 28527 | 5.19 | 10.06 |
| LN200K100P80(8) | × | × | 29.66 | 4.90 | 4.06 | × | × | 90.00 | 190.80 | 187.10 | ∞ | ∞ | 6 | 33169 | 33640 | 22.12 | 19.49 |
| LN200K100P80(9) | × | × | 36.00 | 7.16 | 8.41 | × | × | 81.00 | 192.60 | 190.30 | ∞ | ∞ | 5 | 30784 | 32109 | 14.66 | 58.45 |
| LN200K100P80(10) | × | × | 29.62 | 5.23 | 3.92 | × | × | 92.00 | 195.20 | 183.40 | ∞ | ∞ | 5 | 31452 | 32224 | 20.72 | 34.14 |
| LN200K120P50(1) | × | × | 19.00 | 9.15 | 8.85 | × | × | 82.00 | 188.70 | 172.10 | ∞ | ∞ | 7 | 30425 | 16949 | 16.40 | 9.13 |
| LN200K120P50(2) | × | × | 27.00 | 13.65 | 13.90 | × | × | 66.00 | 192.70 | 174.20 | ∞ | ∞ | 6 | 27264 | 19701 | 6.14 | 4.49 |
| LN200K120P50(3) | × | × | 25.00 | 11.15 | 12.10 | × | × | 70.00 | 189.00 | 168.60 | ∞ | ∞ | 6 | 30176 | 18920 | 11.87 | 5.79 |
| LN200K120P50(4) | × | × | 22.00 | 13.45 | 13.65 | × | × | 76.00 | 191.80 | 171.10 | ∞ | ∞ | 6 | 28515 | 14609 | 9.47 | 4.03 |
| LN200K120P50(5) | × | × | 16.50 | 9.70 | 8.60 | × | × | 87.00 | 190.90 | 178.00 | ∞ | ∞ | 7 | 30439 | 14731 | 8.69 | 5.07 |
| LN200K120P50(6) | × | × | 17.50 | 11.80 | 12.65 | × | × | 85.00 | 191.80 | 170.60 | ∞ | ∞ | 6 | 28954 | 11710 | 10.24 | 3.56 |
| LN200K120P50(7) | × | × | 28.50 | 18.70 | 19.30 | × | × | 63.00 | 187.70 | 168.50 | ∞ | ∞ | 4 | 24393 | 14084 | 6.79 | 3.70 |
| LN200K120P50(8) | × | × | 21.50 | 8.90 | 10.60 | × | × | 77.00 | 190.80 | 174.40 | ∞ | ∞ | 7 | 30712 | 15911 | 10.60 | 4.11 |
| LN200K120P50(9) | × | × | 20.00 | 10.80 | 11.05 | × | × | 80.00 | 190.90 | 158.80 | ∞ | ∞ | 7 | 28577 | 17096 | 12.28 | 5.52 |
| LN200K120P50(10) | × | × | 18.00 | 9.75 | 9.20 | × | × | 84.00 | 192.30 | 172.30 | ∞ | ∞ | 8 | 30356 | 14287 | 15.76 | 5.54 |
| LN200K120P60(1) | × | × | 22.80 | 10.80 | 10.74 | × | × | 82.00 | 192.00 | 167.70 | ∞ | ∞ | 8 | 31340 | 17953 | 9.62 | 6.35 |
| LN200K120P60(2) | × | × | 32.40 | 14.94 | 16.98 | × | × | 66.00 | 193.20 | 174.10 | ∞ | ∞ | 6 | 28821 | 17491 | 5.52 | 6.33 |
| LN200K120P60(3) | × | × | 30.00 | 13.86 | 13.32 | × | × | 70.00 | 190.30 | 170.70 | ∞ | ∞ | 7 | 27492 | 22451 | 8.09 | 4.41 |
| LN200K120P60(4) | × | × | 26.40 | 15.42 | 16.08 | × | × | 76.00 | 189.00 | 174.80 | ∞ | ∞ | 6 | 28982 | 15730 | 6.75 | 5.97 |
| LN200K120P60(5) | × | × | 19.80 | 11.46 | 9.96 | × | × | 87.00 | 188.30 | 167.00 | ∞ | ∞ | 8 | 31568 | 16124 | 10.06 | 4.00 |
| LN200K120P60(6) | × | × | 21.00 | 14.10 | 15.00 | × | × | 85.00 | 192.70 | 165.50 | ∞ | ∞ | 6 | 28789 | 12799 | 6.38 | 3.10 |
| LN200K120P60(7) | × | × | 34.20 | 22.14 | 23.28 | × | × | 63.00 | 189.30 | 174.30 | ∞ | ∞ | 5 | 23343 | 14508 | 5.35 | 3.79 |
| LN200K120P60(8) | × | × | 25.80 | 11.22 | 12.06 | × | × | 77.00 | 189.30 | 165.00 | ∞ | ∞ | 8 | 30256 | 18848 | 9.58 | 8.46 |
| LN200K120P60(9) | × | × | 24.00 | 12.90 | 13.32 | × | × | 80.00 | 192.20 | 173.20 | ∞ | ∞ | 7 | 29843 | 13352 | 14.15 | 6.31 |
| LN200K120P60(10) | × | × | 21.60 | 12.78 | 10.38 | × | × | 84.00 | 190.90 | 176.30 | ∞ | ∞ | 7 | 28167 | 14810 | 10.30 | 5.81 |
| LN200K120P70(1) | × | × | 26.60 | 12.67 | 13.58 | × | × | 82.00 | 189.90 | 164.20 | ∞ | ∞ | 7 | 30463 | 15968 | 9.71 | 5.74 |
| LN200K120P70(2) | × | × | 37.80 | 18.90 | 18.13 | × | × | 66.00 | 190.90 | 170.60 | ∞ | ∞ | 7 | 28409 | 22536 | 10.73 | 6.09 |
| LN200K120P70(3) | × | × | 35.00 | 16.03 | 16.31 | × | × | 70.00 | 191.50 | 167.40 | ∞ | ∞ | 7 | 28150 | 17578 | 11.12 | 6.93 |
| LN200K120P70(4) | × | × | 30.80 | 19.60 | 18.97 | × | × | 76.00 | 191.40 | 169.10 | ∞ | ∞ | 6 | 25072 | 15950 | 11.18 | 5.33 |
| LN200K120P70(5) | × | × | 23.10 | 13.44 | 12.46 | × | × | 87.00 | 191.20 | 175.00 | ∞ | ∞ | 7 | 29906 | 14137 | 17.40 | 9.99 |
| LN200K120P70(6) | × | × | 24.50 | 16.66 | 17.29 | × | × | 85.00 | 190.40 | 170.80 | ∞ | ∞ | 7 | 28906 | 13516 | 7.47 | 6.54 |
| LN200K120P70(7) | × | × | 39.90 | 24.29 | 27.86 | × | × | 63.00 | 188.30 | 166.80 | ∞ | ∞ | 5 | 26891 | 14090 | 5.00 | 5.60 |
| LN200K120P70(8) | × | × | 30.10 | 14.00 | 14.14 | × | × | 77.00 | 189.00 | 165.80 | ∞ | ∞ | 7 | 27806 | 18578 | 4.47 | 4.85 |

| T4 | | To | tal loss va | alue | | | Numb | er of acti | ve MDs | | | Computation | nal time | e(ms) | | Standard | d deviation (%) |
|------------------|------|------|-------------|-------|-------|------|------|------------|--------|--------|----------|-------------|----------|-------|-------|----------|-----------------|
| Instance | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | GA | GGA |
| LN200K120P70(9) | × | × | 28.00 | 14.77 | 15.54 | × | × | 80.00 | 190.60 | 167.30 | ∞ | ∞ | 7 | 29625 | 15964 | 13.48 | 8.96 |
| LN200K120P70(10) | × | × | 25.20 | 14.56 | 12.81 | × | × | 84.00 | 190.10 | 174.60 | ∞ | ∞ | 8 | 29261 | 15549 | 13.04 | 8.48 |
| LN200K120P80(1) | × | × | 53.60 | 14.88 | 13.25 | × | × | 82.00 | 194.80 | 191.00 | ∞ | ∞ | 6 | 32765 | 34321 | 6.56 | 6.48 |
| LN200K120P80(2) | × | × | 60.00 | 20.66 | 20.40 | × | × | 70.00 | 194.80 | 194.00 | ∞ | ∞ | 4 | 31557 | 32107 | 4.42 | 5.99 |
| LN200K120P80(3) | × | × | 52.83 | 17.61 | 18.14 | × | × | 83.00 | 194.50 | 195.60 | ∞ | ∞ | 5 | 31738 | 32692 | 8.77 | 13.39 |
| LN200K120P80(4) | × | × | 56.09 | 20.48 | 32.98 | × | × | 81.00 | 196.90 | 192.80 | ∞ | ∞ | 4 | 30671 | 31233 | 7.27 | 25.37 |
| LN200K120P80(5) | × | × | 57.60 | 15.02 | 15.98 | × | × | 77.00 | 193.50 | 193.00 | ∞ | ∞ | 5 | 32399 | 33654 | 6.35 | 16.11 |
| LN200K120P80(6) | × | × | 64.86 | 18.55 | 18.54 | × | × | 52.00 | 193.80 | 196.30 | ∞ | ∞ | 4 | 32058 | 32457 | 6.61 | 5.10 |
| LN200K120P80(7) | × | × | 58.40 | 28.99 | 32.63 | × | × | 71.00 | 194.40 | 194.10 | ∞ | ∞ | 3 | 28454 | 29024 | 4.56 | 12.35 |
| LN200K120P80(8) | × | × | 45.66 | 13.81 | 15.09 | × | × | 90.00 | 194.20 | 191.60 | ∞ | ∞ | 6 | 33359 | 34265 | 12.10 | 5.39 |
| LN200K120P80(9) | × | × | 52.00 | 17.25 | 18.88 | × | × | 81.00 | 196.70 | 195.90 | ∞ | ∞ | 5 | 31531 | 32924 | 5.05 | 30.49 |
| LN200K120P80(10) | × | × | 45.62 | 15.16 | 19.50 | × | × | 92.00 | 192.60 | 193.70 | ∞ | ∞ | 5 | 32179 | 33067 | 8.04 | 20.25 |
| LN200K150P50(1) | × | × | 34.00 | 19.70 | 19.95 | × | × | 82.00 | 193.00 | 176.00 | ∞ | ∞ | 7 | 32365 | 20568 | 5.10 | 4.55 |
| LN200K150P50(2) | × | × | 42.00 | 24.15 | 24.55 | × | × | 66.00 | 193.00 | 182.50 | ∞ | ∞ | 6 | 28286 | 23563 | 3.34 | 7.20 |
| LN200K150P50(3) | × | × | 40.00 | 23.15 | 22.85 | × | × | 70.00 | 191.00 | 184.30 | ∞ | ∞ | 7 | 28091 | 21700 | 7.42 | 4.16 |
| LN200K150P50(4) | × | × | 37.00 | 25.40 | 26.95 | × | × | 76.00 | 193.40 | 182.40 | ∞ | ∞ | 6 | 29136 | 18925 | 5.55 | 6.29 |
| LN200K150P50(5) | × | × | 31.50 | 20.95 | 20.55 | × | × | 87.00 | 193.90 | 184.40 | ∞ | ∞ | 8 | 30532 | 20261 | 4.71 | 3.16 |
| LN200K150P50(6) | × | × | 32.50 | 23.35 | 24.35 | × | × | 85.00 | 193.30 | 178.00 | ∞ | ∞ | 6 | 30289 | 20798 | 7.17 | 6.03 |
| LN200K150P50(7) | × | × | 43.50 | 31.05 | 32.80 | × | × | 63.00 | 192.80 | 184.30 | ∞ | ∞ | 5 | 25405 | 17877 | 1.34 | 4.43 |
| LN200K150P50(8) | × | × | 36.50 | 18.80 | 20.45 | × | × | 77.00 | 193.30 | 183.30 | ∞ | ∞ | 8 | 32260 | 21109 | 5.35 | 3.53 |
| LN200K150P50(9) | × | × | 35.00 | 22.65 | 23.85 | × | × | 80.00 | 191.80 | 179.50 | ∞ | ∞ | 6 | 31376 | 20226 | 4.53 | 5.63 |
| LN200K150P50(10) | × | × | 33.00 | 21.95 | 21.85 | × | × | 84.00 | 194.40 | 181.60 | ∞ | ∞ | 8 | 28845 | 17227 | 5.24 | 3.55 |
| LN200K150P60(1) | × | × | 40.80 | 23.70 | 24.06 | × | × | 82.00 | 192.20 | 180.60 | ∞ | ∞ | 8 | 30938 | 21035 | 5.69 | 4.24 |
| LN200K150P60(2) | × | × | 50.40 | 29.16 | 29.10 | × | × | 66.00 | 192.70 | 177.90 | ∞ | ∞ | 6 | 28099 | 24452 | 3.34 | 2.80 |
| LN200K150P60(3) | × | × | 48.00 | 26.76 | 27.60 | × | × | 70.00 | 192.60 | 184.20 | ∞ | ∞ | 7 | 30107 | 22488 | 3.91 | 3.07 |
| LN200K150P60(4) | × | × | 44.40 | 30.66 | 32.52 | × | × | 76.00 | 192.70 | 182.90 | ∞ | ∞ | 6 | 29791 | 17202 | 3.96 | 2.45 |
| LN200K150P60(5) | × | × | 37.80 | 25.26 | 25.62 | × | × | 87.00 | 193.40 | 185.00 | ∞ | ∞ | 7 | 30901 | 17558 | 5.03 | 4.32 |
| LN200K150P60(6) | × | × | 39.00 | 27.30 | 29.16 | × | × | 85.00 | 191.60 | 176.20 | ∞ | ∞ | 6 | 30214 | 19382 | 5.92 | 4.34 |
| LN200K150P60(7) | × | × | 52.20 | 37.20 | 37.92 | × | × | 63.00 | 192.10 | 181.60 | ∞ | ∞ | 5 | 26192 | 19859 | 3.23 | 3.86 |
| LN200K150P60(8) | × | × | 43.80 | 22.38 | 24.30 | × | × | 77.00 | 194.20 | 181.50 | ∞ | ∞ | 8 | 33040 | 23030 | 6.12 | 4.84 |
| LN200K150P60(9) | × | × | 42.00 | 27.66 | 27.66 | × | × | 80.00 | 193.50 | 181.80 | ∞ | ∞ | 6 | 30584 | 21344 | 6.32 | 3.14 |
| LN200K150P60(10) | × | × | 39.60 | 26.22 | 25.50 | × | × | 84.00 | 193.60 | 184.20 | ∞ | ∞ | 7 | 29544 | 19792 | 3.84 | 3.83 |
| LN200K150P70(1) | × | × | 47.60 | 28.14 | 27.93 | × | × | 82.00 | 192.70 | 179.10 | ∞ | ∞ | 8 | 32197 | 23625 | 4.56 | 5.98 |
| LN200K150P70(2) | × | × | 58.80 | 33.46 | 33.32 | × | × | 66.00 | 193.80 | 183.60 | ∞ | ∞ | 7 | 27712 | 24003 | 3.35 | 3.41 |
| LN200K150P70(3) | × | × | 56.00 | 31.71 | 31.71 | × | × | 70.00 | 191.30 | 187.20 | ∞ | ∞ | 7 | 29248 | 24685 | 5.68 | 5.68 |
| LN200K150P70(4) | × | × | 51.80 | 35.77 | 37.24 | × | × | 76.00 | 192.70 | 181.90 | ∞ | ∞ | 6 | 29988 | 20042 | 3.09 | 6.11 |
| LN200K150P70(5) | × | × | 44.10 | 29.47 | 30.24 | × | × | 87.00 | 192.40 | 180.60 | ∞ | ∞ | 8 | 32362 | 17464 | 1.97 | 6.19 |

| T4 | | To | tal loss va | alue | | | Numb | er of acti | ve MDs | | | Computation | nal time | e(ms) | | Standar | d deviation (%) |
|------------------|------|------|-------------|-------|-------|------|------|------------|--------|--------|----------|-------------|----------|-------|-------|---------|-----------------|
| Instance | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | GA | GGA |
| LN200K150P70(6) | × | × | 45.50 | 32.55 | 33.46 | × | × | 85.00 | 192.10 | 183.70 | ∞ | ∞ | 7 | 31796 | 19674 | 3.99 | 3.60 |
| LN200K150P70(7) | × | × | 60.90 | 43.05 | 44.73 | × | × | 63.00 | 192.50 | 182.60 | ∞ | ∞ | 5 | 25995 | 16965 | 3.80 | 2.37 |
| LN200K150P70(8) | × | × | 51.10 | 26.60 | 28.14 | × | × | 77.00 | 194.70 | 180.80 | ∞ | ∞ | 7 | 31737 | 24003 | 5.13 | 5.31 |
| LN200K150P70(9) | × | × | 49.00 | 31.22 | 33.46 | × | × | 80.00 | 192.10 | 182.60 | ∞ | ∞ | 7 | 30994 | 17134 | 5.95 | 4.75 |
| LN200K150P70(10) | × | × | 46.20 | 30.31 | 30.17 | × | × | 84.00 | 194.10 | 184.90 | ∞ | ∞ | 7 | 31149 | 21370 | 3.59 | 3.02 |
| LN200K150P80(1) | × | × | 77.60 | 32.55 | 32.76 | × | × | 82.00 | 195.80 | 196.10 | ∞ | ∞ | 5 | 33404 | 34576 | 3.98 | 3.79 |
| LN200K150P80(2) | × | × | 84.00 | 38.61 | 39.08 | × | × | 70.00 | 198.20 | 195.90 | ∞ | ∞ | 4 | 32144 | 32843 | 2.74 | 2.48 |
| LN200K150P80(3) | × | × | 76.83 | 37.73 | 56.57 | × | × | 83.00 | 194.80 | 196.40 | ∞ | ∞ | 5 | 32474 | 32452 | 3.82 | 4.31 |
| LN200K150P80(4) | × | × | 80.09 | 42.45 | 61.81 | × | × | 81.00 | 195.80 | 194.20 | ∞ | ∞ | 4 | 31248 | 31558 | 3.83 | 12.62 |
| LN200K150P80(5) | × | × | 81.60 | 34.77 | 34.49 | × | × | 77.00 | 196.60 | 196.60 | ∞ | ∞ | 5 | 32979 | 34088 | 3.56 | 4.60 |
| LN200K150P80(6) | × | × | 88.86 | 37.42 | 37.70 | × | × | 52.00 | 197.00 | 194.00 | ∞ | ∞ | 4 | 32639 | 33215 | 4.88 | 4.65 |
| LN200K150P80(7) | × | × | 82.40 | 50.46 | 60.21 | × | × | 71.00 | 196.50 | 196.90 | ∞ | ∞ | 3 | 28970 | 29439 | 2.07 | 5.58 |
| LN200K150P80(8) | × | × | 69.66 | 31.45 | 48.11 | × | × | 90.00 | 195.70 | 197.90 | ∞ | ∞ | 6 | 34346 | 34391 | 4.34 | 13.97 |
| LN200K150P80(9) | × | × | 76.00 | 36.49 | 55.10 | × | × | 81.00 | 197.10 | 196.40 | ∞ | ∞ | 5 | 32085 | 33065 | 3.05 | 9.87 |
| LN200K150P80(10) | × | × | 69.62 | 35.38 | 54.77 | × | × | 92.00 | 195.10 | 196.50 | ∞ | ∞ | 6 | 32875 | 33129 | 3.62 | 13.59 |
| LN300K100P50(1) | × | × | 0.00 | 1.30 | 0.00 | × | × | 100.00 | 284.10 | 100.00 | ∞ | ∞ | 13 | 35624 | 74 | 52.17 | 0.00 |
| LN300K100P50(2) | × | × | 0.00 | 1.70 | 0.00 | × | × | 100.00 | 280.80 | 100.00 | ∞ | ∞ | 12 | 36178 | 73 | 61.97 | 0.00 |
| LN300K100P50(3) | × | × | 0.00 | 1.20 | 0.00 | × | × | 100.00 | 280.90 | 100.00 | ∞ | ∞ | 14 | 34192 | 79 | 59.51 | 0.00 |
| LN300K100P50(4) | × | × | 10.00 | 2.00 | 2.05 | × | × | 80.00 | 280.00 | 206.40 | ∞ | ∞ | 13 | 38241 | 13463 | 38.73 | 20.26 |
| LN300K100P50(5) | × | × | 0.00 | 2.10 | 0.00 | × | × | 100.00 | 277.50 | 100.00 | ∞ | ∞ | 12 | 37172 | 72 | 39.56 | 0.00 |
| LN300K100P50(6) | × | × | 0.00 | 2.50 | 0.00 | × | × | 100.00 | 282.30 | 100.00 | ∞ | ∞ | 12 | 34675 | 71 | 40.00 | 0.00 |
| LN300K100P50(7) | × | × | 3.00 | 1.55 | 0.45 | × | × | 94.00 | 282.50 | 146.90 | ∞ | ∞ | 15 | 33761 | 9109 | 52.91 | 33.33 |
| LN300K100P50(8) | × | × | 0.00 | 1.00 | 0.00 | × | × | 100.00 | 279.70 | 100.00 | ∞ | ∞ | 14 | 35531 | 77 | 59.16 | 0.00 |
| LN300K100P50(9) | × | × | 0.00 | 1.50 | 0.00 | × | × | 100.00 | 281.20 | 100.00 | ∞ | ∞ | 15 | 31922 | 78 | 59.63 | 0.00 |
| LN300K100P50(10) | × | × | 0.00 | 1.85 | 0.00 | × | × | 100.00 | 280.80 | 100.00 | ∞ | ∞ | 14 | 36683 | 76 | 34.29 | 0.00 |
| LN300K100P60(1) | × | × | 0.00 | 2.34 | 0.00 | × | × | 100.00 | 276.80 | 100.00 | ∞ | ∞ | 13 | 34517 | 74 | 47.90 | 0.00 |
| LN300K100P60(2) | × | × | 0.00 | 2.40 | 0.00 | × | × | 100.00 | 279.80 | 100.00 | ∞ | ∞ | 12 | 35143 | 72 | 47.43 | 0.00 |
| LN300K100P60(3) | × | × | 0.00 | 1.80 | 0.00 | × | × | 100.00 | 283.30 | 100.00 | ∞ | ∞ | 15 | 35527 | 79 | 51.64 | 0.00 |
| LN300K100P60(4) | × | × | 12.00 | 2.94 | 2.34 | × | × | 80.00 | 283.10 | 208.30 | ∞ | ∞ | 14 | 34100 | 13793 | 33.47 | 21.30 |
| LN300K100P60(5) | × | × | 0.00 | 3.00 | 0.00 | × | × | 100.00 | 285.00 | 100.00 | ∞ | ∞ | 12 | 35537 | 71 | 61.97 | 0.00 |
| LN300K100P60(6) | × | × | 0.00 | 2.52 | 0.00 | × | × | 100.00 | 282.10 | 100.00 | ∞ | ∞ | 12 | 35292 | 70 | 38.10 | 0.00 |
| LN300K100P60(7) | × | × | 3.60 | 2.76 | 0.60 | × | × | 94.00 | 283.00 | 142.00 | ∞ | ∞ | 14 | 33736 | 9069 | 60.09 | 0.00 |
| LN300K100P60(8) | × | × | 0.00 | 1.86 | 0.00 | × | × | 100.00 | 279.20 | 100.00 | ∞ | ∞ | 14 | 33956 | 76 | 75.58 | 0.00 |
| LN300K100P60(9) | × | × | 0.00 | 1.32 | 0.00 | × | × | 100.00 | 280.10 | 100.00 | ∞ | ∞ | 14 | 35270 | 78 | 69.83 | 0.00 |
| LN300K100P60(10) | × | × | 0.00 | 2.28 | 0.00 | × | × | 100.00 | 281.10 | 100.00 | ∞ | ∞ | 14 | 36560 | 77 | 32.87 | 0.00 |
| LN300K100P70(1) | × | × | 0.00 | 2.66 | 0.00 | × | × | 100.00 | 276.10 | 100.00 | ∞ | ∞ | 14 | 36028 | 74 | 36.84 | 0.00 |
| LN300K100P70(2) | × | × | 0.00 | 2.31 | 0.00 | × | × | 100.00 | 277.10 | 100.00 | ∞ | ∞ | 12 | 36090 | 72 | 38.45 | 0.00 |

| T4 | | To | tal loss va | alue | | | Numb | er of acti | ve MDs | | | Computation | nal time | e(ms) | | Standard | d deviation (%) |
|------------------|------|------|-------------|-------|------|------|------|------------|--------|--------|----------|-------------|----------|-------|-------|----------|-----------------|
| Instance | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | GA | GGA |
| LN300K100P70(3) | × | × | 0.00 | 1.68 | 0.00 | × | × | 100.00 | 279.90 | 100.00 | ∞ | ∞ | 14 | 34232 | 78 | 38.19 | 0.00 |
| LN300K100P70(4) | × | × | 14.00 | 2.17 | 2.59 | × | × | 80.00 | 279.30 | 220.10 | ∞ | ∞ | 13 | 39379 | 14266 | 56.70 | 24.32 |
| LN300K100P70(5) | × | × | 0.00 | 2.17 | 0.00 | × | × | 100.00 | 283.30 | 100.00 | ∞ | ∞ | 13 | 36449 | 71 | 63.62 | 0.00 |
| LN300K100P70(6) | × | × | 0.00 | 3.78 | 0.00 | × | × | 100.00 | 281.50 | 100.00 | ∞ | ∞ | 12 | 33651 | 70 | 43.98 | 0.00 |
| LN300K100P70(7) | × | × | 4.20 | 3.15 | 0.63 | × | × | 94.00 | 279.10 | 147.00 | ∞ | ∞ | 13 | 34256 | 8865 | 38.81 | 33.33 |
| LN300K100P70(8) | × | × | 0.00 | 1.96 | 0.00 | × | × | 100.00 | 283.10 | 100.00 | ∞ | ∞ | 14 | 33563 | 76 | 47.38 | 0.00 |
| LN300K100P70(9) | × | × | 0.00 | 2.03 | 0.00 | × | × | 100.00 | 278.90 | 100.00 | ∞ | ∞ | 15 | 36768 | 78 | 79.31 | 0.00 |
| LN300K100P70(10) | × | × | 0.00 | 2.52 | 0.00 | × | × | 100.00 | 283.10 | 100.00 | ∞ | ∞ | 14 | 34732 | 76 | 30.93 | 0.00 |
| LN300K100P80(1) | × | × | 12.00 | 1.90 | 0.23 | × | × | 115.00 | 292.30 | 263.70 | ∞ | ∞ | 11 | 42194 | 41738 | 33.50 | 98.19 |
| LN300K100P80(2) | × | × | 13.60 | 2.53 | 0.42 | × | × | 119.00 | 292.30 | 286.90 | ∞ | ∞ | 10 | 41173 | 41983 | 34.79 | 113.72 |
| LN300K100P80(3) | × | × | 11.23 | 1.94 | 0.32 | × | × | 114.00 | 291.20 | 258.90 | ∞ | ∞ | 13 | 44142 | 39729 | 25.70 | 97.82 |
| LN300K100P80(4) | × | × | 30.40 | 3.11 | 1.75 | × | × | 80.00 | 291.10 | 251.50 | ∞ | ∞ | 12 | 42235 | 42038 | 30.97 | 44.60 |
| LN300K100P80(5) | × | × | 20.00 | 3.18 | 1.57 | × | × | 116.00 | 291.30 | 274.60 | ∞ | ∞ | 9 | 40751 | 41351 | 33.83 | 128.82 |
| LN300K100P80(6) | × | × | 19.20 | 3.54 | 0.87 | × | × | 108.00 | 291.20 | 272.20 | ∞ | ∞ | 10 | 40449 | 40846 | 35.56 | 60.68 |
| LN300K100P80(7) | × | × | 17.63 | 2.59 | 0.53 | × | × | 105.00 | 292.90 | 233.50 | ∞ | ∞ | 13 | 42706 | 42055 | 32.91 | 69.70 |
| LN300K100P80(8) | × | × | 10.40 | 2.20 | 0.21 | × | × | 123.00 | 289.90 | 258.40 | ∞ | ∞ | 12 | 43237 | 41597 | 45.65 | 114.87 |
| LN300K100P80(9) | × | × | 3.22 | 1.79 | 0.06 | × | × | 129.00 | 287.90 | 216.60 | ∞ | ∞ | 13 | 43721 | 21944 | 28.03 | 26.82 |
| LN300K100P80(10) | × | × | 14.40 | 2.37 | 0.50 | × | × | 112.00 | 293.70 | 241.10 | ∞ | ∞ | 12 | 42875 | 41501 | 22.37 | 72.04 |
| LN300K140P50(1) | × | × | 7.00 | 7.40 | 3.40 | × | × | 126.00 | 286.50 | 223.50 | ∞ | ∞ | 15 | 43828 | 14425 | 23.95 | 11.00 |
| LN300K140P50(2) | × | × | 8.50 | 8.60 | 4.05 | × | × | 123.00 | 283.30 | 244.20 | ∞ | ∞ | 13 | 42729 | 16797 | 14.66 | 10.26 |
| LN300K140P50(3) | × | × | 6.50 | 5.45 | 1.45 | × | × | 127.00 | 287.80 | 244.70 | ∞ | ∞ | 17 | 45611 | 16501 | 31.63 | 24.14 |
| LN300K140P50(4) | × | × | 30.00 | 6.65 | 6.40 | × | × | 80.00 | 284.70 | 234.20 | ∞ | ∞ | 16 | 44935 | 34224 | 13.88 | 18.09 |
| LN300K140P50(5) | × | × | 17.00 | 9.20 | 7.20 | × | × | 106.00 | 286.40 | 251.90 | ∞ | ∞ | 14 | 42788 | 17933 | 15.02 | 7.73 |
| LN300K140P50(6) | × | × | 13.50 | 8.30 | 6.05 | × | × | 113.00 | 288.20 | 248.60 | ∞ | ∞ | 13 | 43111 | 20174 | 13.52 | 6.86 |
| LN300K140P50(7) | × | × | 23.00 | 6.85 | 5.45 | × | × | 94.00 | 287.30 | 245.50 | ∞ | ∞ | 16 | 44723 | 31487 | 16.98 | 11.93 |
| LN300K140P50(8) | × | × | 4.50 | 6.60 | 1.70 | × | × | 131.00 | 289.70 | 243.00 | ∞ | ∞ | 16 | 45132 | 13031 | 13.47 | 14.41 |
| LN300K140P50(9) | × | × | 2.50 | 5.25 | 1.45 | × | × | 135.00 | 286.60 | 180.80 | ∞ | ∞ | 16 | 46185 | 10471 | 19.17 | 10.34 |
| LN300K140P50(10) | × | × | 15.50 | 7.45 | 7.10 | × | × | 109.00 | 284.60 | 243.20 | ∞ | ∞ | 16 | 44497 | 16933 | 18.61 | 5.27 |
| LN300K140P60(1) | × | × | 8.40 | 8.94 | 4.44 | × | × | 126.00 | 289.70 | 217.50 | ∞ | ∞ | 15 | 43059 | 14418 | 16.56 | 12.39 |
| LN300K140P60(2) | × | × | 10.20 | 9.78 | 4.98 | × | × | 123.00 | 286.90 | 243.50 | ∞ | ∞ | 14 | 43225 | 13661 | 12.88 | 14.31 |
| LN300K140P60(3) | × | × | 7.80 | 5.88 | 1.92 | × | × | 127.00 | 280.80 | 241.70 | ∞ | ∞ | 17 | 46019 | 15958 | 24.91 | 27.24 |
| LN300K140P60(4) | × | × | 36.00 | 8.40 | 7.98 | × | × | 80.00 | 286.30 | 234.90 | ∞ | ∞ | 16 | 44738 | 31154 | 13.17 | 16.14 |
| LN300K140P60(5) | × | × | 20.40 | 10.50 | 8.76 | × | × | 106.00 | 284.40 | 238.40 | ∞ | ∞ | 13 | 42683 | 21386 | 11.78 | 9.29 |
| LN300K140P60(6) | × | × | 16.20 | 11.46 | 6.78 | × | × | 113.00 | 284.60 | 250.80 | ∞ | ∞ | 13 | 41987 | 19404 | 15.61 | 18.58 |
| LN300K140P60(7) | × | × | 27.60 | 9.18 | 8.04 | × | × | 94.00 | 283.70 | 241.00 | ∞ | ∞ | 15 | 43741 | 25000 | 18.03 | 20.08 |
| LN300K140P60(8) | × | × | 5.40 | 7.92 | 2.22 | × | × | 131.00 | 289.90 | 229.10 | ∞ | ∞ | 16 | 45098 | 11911 | 12.12 | 12.39 |
| LN300K140P60(9) | × | × | 3.00 | 7.20 | 1.80 | × | × | 135.00 | 283.80 | 169.80 | ∞ | ∞ | 17 | 45238 | 10147 | 23.27 | 0.00 |

| T4 | | To | tal loss va | alue | | | Numb | er of acti | ve MDs | | | Computation | nal time | e (ms) | | Standar | d deviation (%) |
|------------------|------|------|-------------|-------|-------|------|------|------------|--------|--------|----------|-------------|----------|--------|-------|---------|-----------------|
| Instance | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | GA | GGA |
| LN300K140P60(10) | × | × | 18.60 | 9.90 | 8.70 | × | × | 109.00 | 286.40 | 245.00 | ∞ | ∞ | 15 | 44554 | 20984 | 24.73 | 5.56 |
| LN300K140P70(1) | × | × | 9.80 | 10.15 | 5.04 | × | × | 126.00 | 287.00 | 211.40 | ∞ | ∞ | 15 | 44152 | 14824 | 12.81 | 14.96 |
| LN300K140P70(2) | × | × | 11.90 | 13.30 | 6.02 | × | × | 123.00 | 286.20 | 241.60 | ∞ | ∞ | 13 | 42953 | 13749 | 13.31 | 10.66 |
| LN300K140P70(3) | × | × | 9.10 | 6.65 | 2.45 | × | × | 127.00 | 287.60 | 235.30 | ∞ | ∞ | 17 | 45545 | 15722 | 30.96 | 19.17 |
| LN300K140P70(4) | × | × | 42.00 | 9.66 | 8.89 | × | × | 80.00 | 286.90 | 236.40 | ∞ | ∞ | 16 | 44947 | 32463 | 19.12 | 17.62 |
| LN300K140P70(5) | × | × | 23.80 | 11.13 | 9.94 | × | × | 106.00 | 286.40 | 236.90 | ∞ | ∞ | 13 | 41743 | 21893 | 13.33 | 15.04 |
| LN300K140P70(6) | × | × | 18.90 | 11.83 | 8.05 | × | × | 113.00 | 284.40 | 250.70 | ∞ | ∞ | 13 | 43030 | 20009 | 13.08 | 9.72 |
| LN300K140P70(7) | × | × | 32.20 | 9.03 | 9.59 | × | × | 94.00 | 287.10 | 230.80 | ∞ | ∞ | 16 | 44795 | 25303 | 20.35 | 14.98 |
| LN300K140P70(8) | × | × | 6.30 | 9.80 | 2.38 | × | × | 131.00 | 285.50 | 241.00 | ∞ | ∞ | 16 | 44217 | 12986 | 11.95 | 14.41 |
| LN300K140P70(9) | × | × | 3.50 | 9.45 | 2.03 | × | × | 135.00 | 289.50 | 165.10 | ∞ | ∞ | 16 | 45248 | 11159 | 17.61 | 10.34 |
| LN300K140P70(10) | × | × | 21.70 | 10.15 | 10.01 | × | × | 109.00 | 288.10 | 242.50 | ∞ | ∞ | 16 | 45156 | 19854 | 13.88 | 14.00 |
| LN300K140P80(1) | × | × | 44.00 | 12.59 | 7.66 | × | × | 115.00 | 292.40 | 267.00 | ∞ | ∞ | 12 | 44772 | 45606 | 11.77 | 18.51 |
| LN300K140P80(2) | × | × | 45.60 | 13.30 | 10.33 | × | × | 119.00 | 294.60 | 286.10 | ∞ | ∞ | 11 | 43749 | 44823 | 13.50 | 22.32 |
| LN300K140P80(3) | × | × | 43.23 | 10.25 | 5.34 | × | × | 114.00 | 296.50 | 282.10 | ∞ | ∞ | 14 | 46756 | 47409 | 19.76 | 12.88 |
| LN300K140P80(4) | × | × | 62.40 | 12.11 | 9.49 | × | × | 80.00 | 296.90 | 276.50 | ∞ | ∞ | 13 | 46262 | 46756 | 12.64 | 26.89 |
| LN300K140P80(5) | × | × | 52.00 | 13.87 | 13.25 | × | × | 116.00 | 294.30 | 282.80 | ∞ | ∞ | 10 | 43394 | 44584 | 10.31 | 9.57 |
| LN300K140P80(6) | × | × | 51.20 | 14.31 | 10.57 | × | × | 108.00 | 292.30 | 283.30 | ∞ | ∞ | 11 | 43489 | 44542 | 11.55 | 11.99 |
| LN300K140P80(7) | × | × | 49.63 | 12.48 | 9.23 | × | × | 105.00 | 294.60 | 267.80 | ∞ | ∞ | 12 | 45559 | 46076 | 11.82 | 14.62 |
| LN300K140P80(8) | × | × | 42.40 | 10.88 | 7.83 | × | × | 123.00 | 293.90 | 283.80 | ∞ | ∞ | 13 | 45848 | 46766 | 18.03 | 43.21 |
| LN300K140P80(9) | × | × | 35.22 | 9.69 | 6.85 | × | × | 129.00 | 295.10 | 290.90 | ∞ | ∞ | 13 | 46866 | 47674 | 18.04 | 65.58 |
| LN300K140P80(10) | × | × | 46.40 | 13.78 | 9.74 | × | × | 112.00 | 292.70 | 282.60 | ∞ | ∞ | 13 | 45753 | 46435 | 9.65 | 10.27 |
| LN300K180P50(1) | × | × | 27.00 | 18.40 | 18.20 | × | × | 126.00 | 288.70 | 250.80 | ∞ | ∞ | 15 | 46487 | 24270 | 4.98 | 7.39 |
| LN300K180P50(2) | × | × | 28.50 | 22.20 | 19.80 | × | × | 123.00 | 290.10 | 272.80 | ∞ | ∞ | 14 | 44996 | 25148 | 9.02 | 3.23 |
| LN300K180P50(3) | × | × | 26.50 | 17.60 | 15.30 | × | × | 127.00 | 286.80 | 254.00 | ∞ | ∞ | 18 | 47830 | 29264 | 7.71 | 4.67 |
| LN300K180P50(4) | × | × | 50.00 | 17.55 | 16.00 | × | × | 80.00 | 292.10 | 256.40 | ∞ | ∞ | 17 | 47613 | 42947 | 6.17 | 6.56 |
| LN300K180P50(5) | × | × | 37.00 | 21.40 | 20.90 | × | × | 106.00 | 292.10 | 248.90 | ∞ | ∞ | 14 | 44581 | 30316 | 5.70 | 6.49 |
| LN300K180P50(6) | × | × | 33.50 | 22.45 | 21.10 | × | × | 113.00 | 290.50 | 260.90 | ∞ | ∞ | 14 | 44559 | 32178 | 5.12 | 6.16 |
| LN300K180P50(7) | × | × | 43.00 | 18.45 | 16.55 | × | × | 94.00 | 293.60 | 261.60 | ∞ | ∞ | 17 | 46692 | 39281 | 5.74 | 6.26 |
| LN300K180P50(8) | × | × | 24.50 | 18.35 | 16.00 | × | × | 131.00 | 288.60 | 253.80 | ∞ | ∞ | 16 | 46769 | 27161 | 6.10 | 5.04 |
| LN300K180P50(9) | × | × | 22.50 | 16.45 | 14.20 | × | × | 135.00 | 289.10 | 247.40 | ∞ | ∞ | 17 | 48038 | 21514 | 8.86 | 4.51 |
| LN300K180P50(10) | × | × | 35.50 | 19.30 | 18.35 | × | × | 109.00 | 291.20 | 259.50 | ∞ | ∞ | 16 | 47265 | 34004 | 4.21 | 5.46 |
| LN300K180P60(1) | × | × | 32.40 | 22.80 | 21.60 | × | × | 126.00 | 287.90 | 254.30 | ∞ | ∞ | 15 | 46342 | 25766 | 6.55 | 4.48 |
| LN300K180P60(2) | × | × | 34.20 | 25.44 | 24.36 | × | × | 123.00 | 290.60 | 248.50 | ∞ | ∞ | 14 | 45051 | 23048 | 7.62 | 5.19 |
| LN300K180P60(3) | × | × | 31.80 | 19.86 | 18.72 | × | × | 127.00 | 289.40 | 249.40 | ∞ | ∞ | 17 | 47960 | 24729 | 7.33 | 5.70 |
| LN300K180P60(4) | × | × | 60.00 | 20.34 | 19.80 | × | × | 80.00 | 291.70 | 257.50 | ∞ | ∞ | 17 | 47632 | 46563 | 7.74 | 5.59 |
| LN300K180P60(5) | × | × | 44.40 | 26.28 | 24.96 | × | × | 106.00 | 288.90 | 262.50 | ∞ | ∞ | 14 | 44544 | 33228 | 4.43 | 3.43 |
| LN300K180P60(6) | × | × | 40.20 | 26.64 | 25.14 | × | × | 113.00 | 288.20 | 267.20 | ∞ | ∞ | 14 | 44241 | 29440 | 5.80 | 8.43 |

| | | To | tal loss va | alue | | | Numb | er of acti | ve MDs | | | Computation | nal time | e(ms) | | Standar | d deviation (%) |
|------------------|------|------|-------------|-------|-------|------|------|------------|--------|--------|----------|-------------|----------|-------|-------|---------|-----------------|
| Instance | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | GA | GGA |
| LN300K180P60(7) | × | × | 51.60 | 22.20 | 20.34 | × | × | 94.00 | 291.50 | 257.10 | ∞ | ∞ | 16 | 46580 | 41524 | 7.35 | 9.37 |
| LN300K180P60(8) | × | × | 29.40 | 21.90 | 20.34 | × | × | 131.00 | 290.30 | 254.70 | ∞ | ∞ | 16 | 46778 | 21192 | 10.56 | 5.51 |
| LN300K180P60(9) | × | × | 27.00 | 19.44 | 16.08 | × | × | 135.00 | 292.30 | 254.60 | ∞ | ∞ | 16 | 48052 | 25565 | 8.42 | 6.63 |
| LN300K180P60(10) | × | × | 42.60 | 22.14 | 22.86 | × | × | 109.00 | 294.10 | 258.50 | ∞ | ∞ | 16 | 47317 | 31597 | 6.58 | 3.79 |
| LN300K180P70(1) | × | × | 37.80 | 26.74 | 25.55 | × | × | 126.00 | 290.80 | 262.80 | ∞ | ∞ | 16 | 46485 | 24043 | 5.59 | 6.96 |
| LN300K180P70(2) | × | × | 39.90 | 30.59 | 28.49 | × | × | 123.00 | 287.00 | 245.80 | ∞ | ∞ | 14 | 44925 | 24532 | 4.47 | 5.16 |
| LN300K180P70(3) | × | × | 37.10 | 22.33 | 21.14 | × | × | 127.00 | 291.60 | 255.20 | ∞ | ∞ | 18 | 48038 | 28140 | 13.55 | 5.30 |
| LN300K180P70(4) | × | × | 70.00 | 23.87 | 22.82 | × | × | 80.00 | 288.10 | 250.90 | ∞ | ∞ | 17 | 47582 | 43680 | 7.47 | 6.75 |
| LN300K180P70(5) | × | × | 51.80 | 28.77 | 28.91 | × | × | 106.00 | 292.10 | 266.00 | ∞ | ∞ | 14 | 44754 | 32994 | 6.75 | 4.73 |
| LN300K180P70(6) | × | × | 46.90 | 30.66 | 29.47 | × | × | 113.00 | 290.90 | 273.20 | ∞ | ∞ | 14 | 44769 | 30296 | 6.11 | 6.84 |
| LN300K180P70(7) | × | × | 60.20 | 27.23 | 24.36 | × | × | 94.00 | 289.90 | 259.00 | ∞ | ∞ | 16 | 46316 | 37914 | 7.04 | 12.11 |
| LN300K180P70(8) | × | × | 34.30 | 24.57 | 22.89 | × | × | 131.00 | 292.70 | 255.20 | ∞ | ∞ | 16 | 46864 | 24276 | 7.48 | 5.65 |
| LN300K180P70(9) | × | × | 31.50 | 23.87 | 18.90 | × | × | 135.00 | 291.20 | 257.90 | ∞ | ∞ | 17 | 47947 | 25840 | 8.44 | 5.74 |
| LN300K180P70(10) | × | × | 49.70 | 26.25 | 26.04 | × | × | 109.00 | 289.50 | 255.30 | ∞ | ∞ | 17 | 47201 | 34764 | 6.88 | 6.45 |
| LN300K180P80(1) | × | × | 76.00 | 31.90 | 29.30 | × | × | 115.00 | 294.30 | 293.20 | ∞ | ∞ | 12 | 46906 | 47784 | 6.16 | 5.35 |
| LN300K180P80(2) | × | × | 77.60 | 36.55 | 41.73 | × | × | 119.00 | 292.90 | 295.80 | ∞ | ∞ | 10 | 45274 | 46322 | 4.42 | 19.06 |
| LN300K180P80(3) | × | × | 75.23 | 28.69 | 26.78 | × | × | 114.00 | 293.40 | 286.00 | ∞ | ∞ | 15 | 48292 | 49245 | 5.13 | 5.59 |
| LN300K180P80(4) | × | × | 94.40 | 29.32 | 28.45 | × | × | 80.00 | 297.30 | 294.80 | ∞ | ∞ | 14 | 47961 | 48787 | 3.74 | 3.13 |
| LN300K180P80(5) | × | × | 84.00 | 36.19 | 37.49 | × | × | 116.00 | 294.90 | 294.00 | ∞ | ∞ | 11 | 44863 | 46300 | 5.32 | 11.00 |
| LN300K180P80(6) | × | × | 83.20 | 37.24 | 35.20 | × | × | 108.00 | 295.40 | 287.90 | ∞ | ∞ | 11 | 44964 | 45952 | 5.67 | 7.10 |
| LN300K180P80(7) | × | × | 81.63 | 31.87 | 27.61 | × | × | 105.00 | 295.10 | 284.80 | ∞ | ∞ | 13 | 46930 | 48397 | 4.96 | 3.33 |
| LN300K180P80(8) | × | × | 74.40 | 30.65 | 36.71 | × | × | 123.00 | 296.40 | 294.10 | ∞ | ∞ | 12 | 47140 | 48111 | 11.58 | 22.21 |
| LN300K180P80(9) | × | × | 67.22 | 28.08 | 24.50 | × | × | 129.00 | 295.00 | 284.70 | ∞ | ∞ | 13 | 48359 | 49547 | 6.20 | 7.81 |
| LN300K180P80(10) | × | × | 78.40 | 31.91 | 29.06 | × | × | 112.00 | 295.60 | 285.70 | ∞ | ∞ | 13 | 47647 | 48591 | 4.25 | 3.86 |
| LN300K210P50(1) | × | × | 42.00 | 30.85 | 30.85 | × | × | 126.00 | 289.90 | 272.80 | ∞ | ∞ | 15 | 47332 | 31247 | 5.62 | 3.97 |
| LN300K210P50(2) | × | × | 43.50 | 33.70 | 32.75 | × | × | 123.00 | 291.80 | 276.40 | ∞ | ∞ | 14 | 45933 | 28166 | 5.64 | 6.70 |
| LN300K210P50(3) | × | × | 41.50 | 27.10 | 25.50 | × | × | 127.00 | 290.90 | 266.40 | ∞ | ∞ | 18 | 48798 | 34042 | 4.58 | 3.40 |
| LN300K210P50(4) | × | × | 65.00 | 27.20 | 27.40 | × | × | 80.00 | 293.40 | 268.50 | ∞ | ∞ | 17 | 48579 | 46546 | 3.21 | 3.44 |
| LN300K210P50(5) | × | × | 52.00 | 32.40 | 31.25 | × | × | 106.00 | 292.40 | 273.10 | ∞ | ∞ | 14 | 45872 | 43072 | 3.22 | 4.19 |
| LN300K210P50(6) | × | × | 48.50 | 32.35 | 32.10 | × | × | 113.00 | 290.90 | 270.40 | ∞ | ∞ | 14 | 45423 | 39255 | 4.26 | 1.95 |
| LN300K210P50(7) | × | × | 58.00 | 28.85 | 27.85 | × | × | 94.00 | 289.20 | 269.50 | ∞ | ∞ | 16 | 47703 | 41672 | 5.26 | 3.60 |
| LN300K210P50(8) | × | × | 39.50 | 29.35 | 27.95 | × | × | 131.00 | 290.20 | 264.10 | ∞ | ∞ | 16 | 47963 | 30382 | 6.00 | 3.71 |
| LN300K210P50(9) | × | × | 37.50 | 26.60 | 25.25 | × | × | 135.00 | 290.20 | 271.10 | ∞ | ∞ | 17 | 49555 | 32545 | 5.30 | 2.38 |
| LN300K210P50(10) | × | × | 50.50 | 30.00 | 29.70 | × | × | 109.00 | 292.90 | 270.20 | ∞ | ∞ | 17 | 47976 | 39833 | 3.94 | 4.21 |
| LN300K210P60(1) | × | × | 50.40 | 36.84 | 36.78 | × | × | 126.00 | 293.10 | 266.00 | ∞ | ∞ | 16 | 47391 | 28765 | 3.66 | 4.56 |
| LN300K210P60(2) | × | × | 52.20 | 39.78 | 39.12 | × | × | 123.00 | 291.60 | 269.00 | ∞ | ∞ | 14 | 45963 | 31412 | 3.76 | 6.92 |
| LN300K210P60(3) | × | × | 49.80 | 31.68 | 30.90 | × | × | 127.00 | 290.40 | 276.30 | ∞ | ∞ | 18 | 48813 | 35370 | 4.13 | 7.12 |

| T4 | | To | tal loss va | alue | | | Numb | er of acti | ve MDs | | | Computation | nal time | e (ms) | | Standar | d deviation (%) |
|------------------|------|------|-------------|-------|-------|------|------|------------|--------|--------|----------|-------------|----------|--------|-------|---------|-----------------|
| Instance | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | GA | GGA |
| LN300K210P60(4) | × | × | 78.00 | 32.70 | 31.92 | × | × | 80.00 | 291.90 | 270.80 | ∞ | ∞ | 17 | 48603 | 48014 | 5.99 | 2.63 |
| LN300K210P60(5) | × | × | 62.40 | 38.88 | 38.10 | × | × | 106.00 | 290.10 | 278.80 | ∞ | ∞ | 15 | 45909 | 37380 | 4.82 | 6.43 |
| LN300K210P60(6) | × | × | 58.20 | 40.02 | 39.12 | × | × | 113.00 | 291.20 | 276.10 | ∞ | ∞ | 14 | 45379 | 35372 | 3.97 | 4.59 |
| LN300K210P60(7) | × | × | 69.60 | 34.92 | 32.58 | × | × | 94.00 | 290.80 | 274.00 | ∞ | ∞ | 17 | 47909 | 43350 | 3.98 | 4.44 |
| LN300K210P60(8) | × | × | 47.40 | 34.26 | 32.76 | × | × | 131.00 | 293.80 | 270.30 | ∞ | ∞ | 17 | 47944 | 33417 | 5.51 | 6.71 |
| LN300K210P60(9) | × | × | 45.00 | 33.30 | 30.72 | × | × | 135.00 | 290.40 | 276.30 | ∞ | ∞ | 18 | 48827 | 28802 | 7.31 | 7.90 |
| LN300K210P60(10) | × | × | 60.60 | 36.78 | 34.86 | × | × | 109.00 | 290.60 | 267.60 | ∞ | ∞ | 16 | 48133 | 40927 | 3.10 | 4.71 |
| LN300K210P70(1) | × | × | 58.80 | 43.61 | 42.49 | × | × | 126.00 | 289.30 | 269.90 | ∞ | ∞ | 15 | 47222 | 29682 | 4.00 | 4.36 |
| LN300K210P70(2) | × | × | 60.90 | 47.53 | 45.36 | × | × | 123.00 | 292.30 | 272.10 | ∞ | ∞ | 14 | 45820 | 29556 | 4.86 | 5.25 |
| LN300K210P70(3) | × | × | 58.10 | 36.96 | 35.42 | × | × | 127.00 | 292.20 | 268.20 | ∞ | ∞ | 18 | 48945 | 32214 | 4.30 | 3.77 |
| LN300K210P70(4) | × | × | 91.00 | 39.41 | 36.75 | × | × | 80.00 | 291.30 | 270.90 | ∞ | ∞ | 18 | 48450 | 47178 | 5.84 | 2.73 |
| LN300K210P70(5) | × | × | 72.80 | 45.36 | 45.01 | × | × | 106.00 | 293.30 | 281.80 | ∞ | ∞ | 14 | 46011 | 35071 | 3.77 | 5.48 |
| LN300K210P70(6) | × | × | 67.90 | 45.36 | 44.10 | × | × | 113.00 | 291.00 | 276.40 | ∞ | ∞ | 15 | 45412 | 36917 | 4.35 | 4.38 |
| LN300K210P70(7) | × | × | 81.20 | 39.41 | 38.71 | × | × | 94.00 | 293.40 | 268.70 | ∞ | ∞ | 17 | 48063 | 42710 | 5.09 | 4.86 |
| LN300K210P70(8) | × | × | 55.30 | 40.53 | 38.36 | × | × | 131.00 | 294.50 | 272.10 | ∞ | ∞ | 16 | 47985 | 34401 | 4.85 | 4.88 |
| LN300K210P70(9) | × | × | 52.50 | 39.62 | 34.86 | × | × | 135.00 | 291.80 | 264.00 | ∞ | ∞ | 17 | 49412 | 32004 | 4.62 | 4.98 |
| LN300K210P70(10) | × | × | 70.70 | 42.91 | 40.11 | × | × | 109.00 | 291.60 | 275.10 | ∞ | ∞ | 16 | 48010 | 39852 | 4.62 | 5.74 |
| LN300K210P80(1) | × | × | 100.00 | 50.08 | 50.58 | × | × | 115.00 | 296.00 | 292.70 | ∞ | ∞ | 12 | 47615 | 48495 | 3.15 | 4.69 |
| LN300K210P80(2) | × | × | 101.60 | 56.95 | 64.62 | × | × | 119.00 | 295.90 | 296.50 | ∞ | ∞ | 11 | 45928 | 46817 | 2.49 | 9.44 |
| LN300K210P80(3) | × | × | 99.23 | 45.62 | 42.92 | × | × | 114.00 | 296.50 | 294.20 | ∞ | ∞ | 15 | 48966 | 50390 | 5.70 | 6.12 |
| LN300K210P80(4) | × | × | 118.40 | 46.84 | 46.71 | × | × | 80.00 | 295.40 | 296.30 | ∞ | ∞ | 13 | 48782 | 49743 | 4.00 | 3.63 |
| LN300K210P80(5) | × | × | 108.00 | 53.26 | 70.37 | × | × | 116.00 | 296.70 | 296.10 | ∞ | ∞ | 11 | 46204 | 46465 | 3.06 | 19.96 |
| LN300K210P80(6) | × | × | 107.20 | 55.19 | 56.56 | × | × | 108.00 | 294.90 | 295.40 | ∞ | ∞ | 11 | 45430 | 46712 | 3.43 | 15.72 |
| LN300K210P80(7) | × | × | 105.63 | 48.35 | 44.66 | × | × | 105.00 | 297.30 | 293.60 | ∞ | ∞ | 12 | 47880 | 49084 | 2.59 | 2.09 |
| LN300K210P80(8) | × | × | 98.40 | 50.12 | 56.20 | × | × | 123.00 | 296.60 | 295.80 | ∞ | ∞ | 13 | 48161 | 49110 | 3.29 | 21.48 |
| LN300K210P80(9) | × | × | 91.22 | 45.12 | 43.13 | × | × | 129.00 | 296.70 | 291.30 | ∞ | ∞ | 15 | 49797 | 50808 | 2.56 | 3.74 |
| LN300K210P80(10) | × | × | 102.40 | 50.03 | 49.98 | × | × | 112.00 | 296.00 | 292.80 | ∞ | ∞ | 13 | 48292 | 49198 | 3.80 | 5.64 |
| LN300K250P50(1) | × | × | 62.00 | 47.60 | 48.80 | × | × | 126.00 | 293.50 | 282.40 | ∞ | ∞ | 15 | 47868 | 34564 | 2.14 | 1.95 |
| LN300K250P50(2) | × | × | 63.50 | 51.15 | 54.20 | × | × | 123.00 | 296.00 | 269.00 | ∞ | ∞ | 14 | 46576 | 27368 | 3.79 | 5.57 |
| LN300K250P50(3) | × | × | 61.50 | 41.05 | 40.65 | × | × | 127.00 | 292.70 | 283.90 | ∞ | ∞ | 18 | 50108 | 42678 | 2.07 | 3.73 |
| LN300K250P50(4) | × | × | 85.00 | 42.55 | 41.85 | × | × | 80.00 | 292.60 | 285.50 | ∞ | ∞ | 18 | 50051 | 50024 | 3.50 | 2.45 |
| LN300K250P50(5) | × | × | 72.00 | 47.70 | 49.25 | × | × | 106.00 | 294.70 | 282.80 | ∞ | ∞ | 15 | 46614 | 40645 | 2.26 | 6.28 |
| LN300K250P50(6) | × | × | 68.50 | 49.15 | 51.50 | × | × | 113.00 | 294.30 | 283.80 | ∞ | ∞ | 15 | 46356 | 34323 | 1.64 | 8.31 |
| LN300K250P50(7) | × | × | 78.00 | 45.15 | 44.30 | × | × | 94.00 | 292.60 | 284.30 | ∞ | ∞ | 17 | 49011 | 44917 | 2.10 | 3.85 |
| LN300K250P50(8) | × | × | 59.50 | 45.35 | 46.90 | × | × | 131.00 | 294.10 | 276.90 | ∞ | ∞ | 16 | 48601 | 29160 | 2.75 | 6.74 |
| LN300K250P50(9) | × | × | 57.50 | 42.85 | 43.95 | × | × | 135.00 | 293.60 | 279.10 | ∞ | ∞ | 17 | 50205 | 39543 | 2.71 | 4.08 |
| LN300K250P50(10) | × | × | 70.50 | 46.05 | 45.95 | × | × | 109.00 | 294.80 | 286.10 | ∞ | ∞ | 17 | 49319 | 45020 | 1.13 | 2.60 |

| T4 | | To | tal loss va | lue | | | Numb | er of acti | ve MDs | | | Computation | nal time | e (ms) | | Standar | d deviation (%) |
|------------------|------|------|-------------|-------|--------|------|------|------------|--------|--------|----------|-------------|----------|--------|-------|---------|-----------------|
| Instance | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | GA | GGA |
| LN300K250P60(1) | × | × | 74.40 | 58.02 | 59.16 | × | × | 126.00 | 295.80 | 283.30 | ∞ | ∞ | 16 | 47841 | 32274 | 2.78 | 5.70 |
| LN300K250P60(2) | × | X | 76.20 | 60.78 | 62.64 | × | × | 123.00 | 292.70 | 274.70 | ∞ | ∞ | 14 | 46606 | 28876 | 2.46 | 5.37 |
| LN300K250P60(3) | × | × | 73.80 | 50.52 | 49.68 | × | × | 127.00 | 292.90 | 281.40 | ∞ | ∞ | 19 | 49915 | 39357 | 3.90 | 2.63 |
| LN300K250P60(4) | × | × | 102.00 | 51.60 | 50.22 | × | × | 80.00 | 290.70 | 286.40 | ∞ | ∞ | 18 | 49531 | 49205 | 2.55 | 2.83 |
| LN300K250P60(5) | × | × | 86.40 | 57.24 | 57.00 | × | × | 106.00 | 293.40 | 281.90 | ∞ | ∞ | 15 | 46648 | 44127 | 3.01 | 3.52 |
| LN300K250P60(6) | × | × | 82.20 | 58.68 | 60.72 | × | × | 113.00 | 294.20 | 283.80 | ∞ | ∞ | 15 | 46341 | 38380 | 3.77 | 4.76 |
| LN300K250P60(7) | × | × | 93.60 | 54.36 | 54.06 | × | × | 94.00 | 294.20 | 283.60 | ∞ | ∞ | 17 | 48918 | 42963 | 2.71 | 2.87 |
| LN300K250P60(8) | × | × | 71.40 | 53.28 | 54.18 | × | × | 131.00 | 296.00 | 282.50 | ∞ | ∞ | 16 | 48654 | 40647 | 3.37 | 2.22 |
| LN300K250P60(9) | × | × | 69.00 | 52.68 | 53.52 | × | × | 135.00 | 292.00 | 281.10 | ∞ | ∞ | 18 | 50009 | 33810 | 4.04 | 5.28 |
| LN300K250P60(10) | × | × | 84.60 | 55.14 | 53.70 | × | × | 109.00 | 292.70 | 283.10 | ∞ | ∞ | 17 | 49348 | 47499 | 2.55 | 2.41 |
| LN300K250P70(1) | × | × | 86.80 | 66.57 | 69.23 | × | × | 126.00 | 292.80 | 282.50 | ∞ | ∞ | 16 | 47861 | 34753 | 2.13 | 4.35 |
| LN300K250P70(2) | × | × | 88.90 | 70.63 | 71.54 | × | × | 123.00 | 295.70 | 281.20 | ∞ | ∞ | 15 | 46604 | 34172 | 2.15 | 6.06 |
| LN300K250P70(3) | × | × | 86.10 | 59.36 | 57.54 | × | × | 127.00 | 293.30 | 279.50 | ∞ | ∞ | 18 | 49962 | 38600 | 3.53 | 3.34 |
| LN300K250P70(4) | × | × | 119.00 | 60.83 | 58.38 | × | × | 80.00 | 292.60 | 281.40 | ∞ | ∞ | 18 | 49923 | 50421 | 3.47 | 2.69 |
| LN300K250P70(5) | × | × | 100.80 | 67.62 | 67.48 | × | × | 106.00 | 293.40 | 287.80 | ∞ | ∞ | 15 | 46578 | 40027 | 2.23 | 3.97 |
| LN300K250P70(6) | × | × | 95.90 | 69.16 | 71.61 | × | × | 113.00 | 295.70 | 281.20 | ∞ | ∞ | 15 | 46223 | 37809 | 1.86 | 3.09 |
| LN300K250P70(7) | × | × | 109.20 | 64.19 | 62.09 | × | × | 94.00 | 294.10 | 283.40 | ∞ | ∞ | 17 | 48922 | 46436 | 3.52 | 2.85 |
| LN300K250P70(8) | × | × | 83.30 | 64.75 | 63.21 | × | × | 131.00 | 294.40 | 279.20 | ∞ | ∞ | 17 | 48400 | 35829 | 2.23 | 4.49 |
| LN300K250P70(9) | × | × | 80.50 | 60.97 | 61.18 | × | × | 135.00 | 295.40 | 284.70 | ∞ | ∞ | 18 | 50136 | 36105 | 2.43 | 4.50 |
| LN300K250P70(10) | × | × | 98.70 | 64.68 | 63.70 | × | × | 109.00 | 293.40 | 282.80 | ∞ | ∞ | 17 | 49258 | 41765 | 2.95 | 2.69 |
| LN300K250P80(1) | × | × | 132.00 | 80.08 | 98.92 | × | × | 115.00 | 297.40 | 294.30 | ∞ | ∞ | 12 | 47944 | 48191 | 1.83 | 10.43 |
| LN300K250P80(2) | × | × | 133.60 | 83.90 | 110.68 | × | × | 119.00 | 295.20 | 296.90 | ∞ | ∞ | 12 | 46684 | 46295 | 1.18 | 2.24 |
| LN300K250P80(3) | × | × | 131.23 | 70.16 | 83.71 | × | × | 114.00 | 297.30 | 296.70 | ∞ | ∞ | 15 | 50093 | 50582 | 2.50 | 14.63 |
| LN300K250P80(4) | × | × | 150.40 | 73.18 | 72.74 | × | × | 80.00 | 296.80 | 295.50 | ∞ | ∞ | 13 | 49975 | 50916 | 1.55 | 1.52 |
| LN300K250P80(5) | × | × | 140.00 | 81.51 | 122.19 | × | × | 116.00 | 297.50 | 296.70 | ∞ | ∞ | 11 | 46525 | 45824 | 2.62 | 3.58 |
| LN300K250P80(6) | × | × | 139.20 | 83.29 | 105.99 | × | × | 108.00 | 295.60 | 297.80 | ∞ | ∞ | 11 | 46197 | 46184 | 1.95 | 9.95 |
| LN300K250P80(7) | × | × | 137.63 | 75.78 | 81.63 | × | × | 105.00 | 297.90 | 296.30 | ∞ | ∞ | 14 | 48945 | 49856 | 2.79 | 12.83 |
| LN300K250P80(8) | × | × | 130.40 | 74.68 | 107.34 | × | × | 123.00 | 297.90 | 297.10 | ∞ | ∞ | 13 | 48753 | 48425 | 1.55 | 5.36 |
| LN300K250P80(9) | × | × | 123.22 | 73.60 | 97.96 | × | × | 129.00 | 295.70 | 294.70 | ∞ | ∞ | 15 | 50153 | 49918 | 2.32 | 10.86 |
| LN300K250P80(10) | × | × | 134.40 | 76.80 | 88.99 | × | × | 112.00 | 297.50 | 297.40 | ∞ | ∞ | 13 | 49574 | 49473 | 1.87 | 14.18 |
| LN500K160P50(1) | × | × | 0.00 | 4.45 | 0.00 | × | × | 160.00 | 476.20 | 160.00 | ∞ | ∞ | 38 | 66572 | 142 | 31.56 | 0.00 |
| LN500K160P50(2) | × | × | 0.00 | 4.55 | 0.00 | × | × | 160.00 | 478.10 | 160.00 | ∞ | ∞ | 38 | 67659 | 141 | 30.07 | 0.00 |
| LN500K160P50(3) | × | × | 0.00 | 4.85 | 0.00 | × | × | 160.00 | 480.40 | 160.00 | ∞ | ∞ | 38 | 64448 | 143 | 22.13 | 0.00 |
| LN500K160P50(4) | × | × | 0.00 | 4.05 | 0.00 | × | × | 160.00 | 479.60 | 160.00 | ∞ | ∞ | 37 | 68460 | 142 | 30.47 | 0.00 |
| LN500K160P50(5) | × | × | 0.00 | 3.25 | 0.00 | × | × | 160.00 | 483.40 | 160.00 | ∞ | ∞ | 37 | 67897 | 140 | 35.25 | 0.00 |
| LN500K160P50(6) | × | × | 0.00 | 4.15 | 0.00 | × | × | 160.00 | 481.50 | 160.00 | ∞ | ∞ | 38 | 66665 | 142 | 26.97 | 0.00 |
| LN500K160P50(7) | × | × | 0.00 | 6.00 | 0.00 | × | × | 160.00 | 477.80 | 160.00 | ∞ | ∞ | 32 | 64112 | 131 | 21.08 | 0.00 |

| Totalous | | To | tal loss va | alue | | | Numb | er of acti | ve MDs | | | Computation | nal time | e(ms) | | Standard deviation (%) | |
|------------------|------|------|-------------|-------|------|------|------|------------|--------|--------|----------|-------------|----------|-------|-------|------------------------|--------|
| Instance | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | GA | GGA |
| LN500K160P50(8) | × | × | 0.00 | 4.15 | 0.00 | × | × | 160.00 | 477.30 | 160.00 | ∞ | ∞ | 34 | 66292 | 135 | 32.35 | 0.00 |
| LN500K160P50(9) | × | × | 0.00 | 4.25 | 0.00 | × | × | 160.00 | 483.20 | 160.00 | ∞ | ∞ | 37 | 67518 | 143 | 22.48 | 0.00 |
| LN500K160P50(10) | × | × | 0.00 | 6.15 | 0.00 | × | × | 160.00 | 477.60 | 160.00 | ∞ | ∞ | 34 | 63850 | 134 | 28.87 | 0.00 |
| LN500K160P60(1) | × | × | 0.00 | 4.20 | 0.00 | × | × | 160.00 | 484.10 | 160.00 | ∞ | ∞ | 38 | 67903 | 141 | 44.72 | 0.00 |
| LN500K160P60(2) | × | × | 0.00 | 6.30 | 0.00 | × | × | 160.00 | 471.60 | 160.00 | ∞ | ∞ | 38 | 66465 | 140 | 20.54 | 0.00 |
| LN500K160P60(3) | × | × | 0.00 | 5.64 | 0.00 | × | × | 160.00 | 478.90 | 160.00 | ∞ | ∞ | 38 | 68108 | 141 | 26.15 | 0.00 |
| LN500K160P60(4) | × | × | 0.00 | 5.16 | 0.00 | × | × | 160.00 | 472.80 | 160.00 | ∞ | ∞ | 38 | 66949 | 142 | 22.18 | 0.00 |
| LN500K160P60(5) | × | × | 0.00 | 5.10 | 0.00 | × | × | 160.00 | 477.80 | 160.00 | ∞ | ∞ | 38 | 67672 | 140 | 17.65 | 0.00 |
| LN500K160P60(6) | × | × | 0.00 | 4.74 | 0.00 | × | × | 160.00 | 479.20 | 160.00 | ∞ | ∞ | 39 | 67893 | 141 | 31.75 | 0.00 |
| LN500K160P60(7) | × | × | 0.00 | 7.56 | 0.00 | × | × | 160.00 | 478.60 | 160.00 | ∞ | ∞ | 32 | 63563 | 130 | 31.39 | 0.00 |
| LN500K160P60(8) | × | × | 0.00 | 6.48 | 0.00 | × | × | 160.00 | 477.80 | 160.00 | ∞ | ∞ | 35 | 66066 | 134 | 26.77 | 0.00 |
| LN500K160P60(9) | × | × | 0.00 | 5.64 | 0.00 | × | × | 160.00 | 483.70 | 160.00 | ∞ | ∞ | 37 | 67826 | 142 | 26.15 | 0.00 |
| LN500K160P60(10) | × | × | 0.00 | 6.96 | 0.00 | × | × | 160.00 | 477.10 | 160.00 | ∞ | ∞ | 34 | 65529 | 133 | 29.16 | 0.00 |
| LN500K160P70(1) | × | × | 0.00 | 4.76 | 0.00 | × | × | 160.00 | 481.90 | 160.00 | ∞ | ∞ | 38 | 68093 | 141 | 38.24 | 0.00 |
| LN500K160P70(2) | × | × | 0.00 | 5.32 | 0.00 | × | × | 160.00 | 472.60 | 160.00 | ∞ | ∞ | 38 | 67296 | 140 | 25.10 | 0.00 |
| LN500K160P70(3) | × | × | 0.00 | 6.02 | 0.00 | × | × | 160.00 | 479.20 | 160.00 | ∞ | ∞ | 38 | 68210 | 141 | 26.62 | 0.00 |
| LN500K160P70(4) | × | × | 0.00 | 5.53 | 0.00 | × | × | 160.00 | 478.30 | 160.00 | ∞ | ∞ | 38 | 68416 | 143 | 16.46 | 0.00 |
| LN500K160P70(5) | × | × | 0.00 | 5.32 | 0.00 | × | × | 160.00 | 480.80 | 160.00 | ∞ | ∞ | 38 | 67457 | 141 | 15.79 | 0.00 |
| LN500K160P70(6) | × | × | 0.00 | 6.09 | 0.00 | × | × | 160.00 | 482.20 | 160.00 | ∞ | ∞ | 39 | 68086 | 141 | 30.43 | 0.00 |
| LN500K160P70(7) | × | × | 0.00 | 7.77 | 0.00 | × | × | 160.00 | 482.10 | 160.00 | ∞ | ∞ | 33 | 63504 | 130 | 18.66 | 0.00 |
| LN500K160P70(8) | × | × | 0.00 | 7.49 | 0.00 | × | × | 160.00 | 477.90 | 160.00 | ∞ | ∞ | 33 | 66099 | 134 | 13.89 | 0.00 |
| LN500K160P70(9) | × | × | 0.00 | 6.37 | 0.00 | × | × | 160.00 | 472.50 | 160.00 | ∞ | ∞ | 37 | 67057 | 143 | 20.53 | 0.00 |
| LN500K160P70(10) | × | × | 0.00 | 7.70 | 0.00 | × | × | 160.00 | 474.10 | 160.00 | ∞ | ∞ | 34 | 65112 | 134 | 25.39 | 0.00 |
| LN500K160P80(1) | × | × | 11.20 | 6.44 | 0.06 | × | × | 190.00 | 489.10 | 453.40 | ∞ | ∞ | 34 | 69733 | 50032 | 26.60 | 27.32 |
| LN500K160P80(2) | × | × | 4.02 | 7.86 | 0.15 | × | × | 207.00 | 491.10 | 432.70 | ∞ | ∞ | 34 | 69231 | 46060 | 23.19 | 148.68 |
| LN500K160P80(3) | × | × | 50.40 | 8.28 | 3.59 | × | × | 119.00 | 493.30 | 401.50 | ∞ | ∞ | 33 | 69720 | 68869 | 19.81 | 49.53 |
| LN500K160P80(4) | × | × | 0.02 | 7.23 | 0.02 | × | × | 195.00 | 492.20 | 208.70 | ∞ | ∞ | 36 | 70234 | 15212 | 19.70 | 8.24 |
| LN500K160P80(5) | × | × | 0.00 | 6.82 | 0.00 | × | × | 194.00 | 494.40 | 194.00 | ∞ | ∞ | 36 | 69173 | 141 | 25.14 | 0.00 |
| LN500K160P80(6) | × | × | 5.60 | 6.89 | 0.17 | × | × | 201.00 | 490.00 | 420.40 | ∞ | ∞ | 35 | 69226 | 56419 | 24.56 | 31.62 |
| LN500K160P80(7) | × | × | 12.80 | 10.01 | 0.63 | × | × | 197.00 | 492.80 | 445.80 | ∞ | ∞ | 29 | 65718 | 63907 | 13.98 | 82.58 |
| LN500K160P80(8) | × | × | 2.40 | 8.45 | 0.05 | × | × | 195.00 | 489.60 | 339.50 | ∞ | ∞ | 34 | 67655 | 28333 | 24.08 | 28.69 |
| LN500K160P80(9) | × | × | 20.00 | 8.29 | 0.71 | × | × | 161.00 | 490.00 | 460.70 | ∞ | ∞ | 34 | 69436 | 67723 | 12.14 | 53.43 |
| LN500K160P80(10) | × | × | 12.80 | 8.89 | 0.92 | × | × | 195.00 | 493.20 | 438.90 | ∞ | ∞ | 31 | 67206 | 65952 | 19.95 | 61.13 |
| LN500K200P50(1) | × | × | 2.50 | 10.55 | 0.35 | × | × | 195.00 | 479.10 | 321.20 | ∞ | ∞ | 42 | 71530 | 15154 | 15.35 | 65.47 |
| LN500K200P50(2) | × | × | 0.00 | 9.90 | 0.00 | × | × | 200.00 | 482.00 | 200.00 | ∞ | ∞ | 42 | 71580 | 150 | 15.29 | 0.00 |
| LN500K200P50(3) | × | × | 19.50 | 10.85 | 4.25 | × | × | 161.00 | 483.70 | 413.50 | ∞ | ∞ | 41 | 71886 | 42352 | 10.31 | 32.54 |
| LN500K200P50(4) | × | × | 2.50 | 11.25 | 1.50 | × | × | 195.00 | 484.30 | 280.40 | ∞ | ∞ | 40 | 71590 | 16074 | 8.26 | 0.00 |

| T4 | | To | tal loss va | alue | | | Numb | er of acti | ve MDs | | | Computation | nal time | e (ms) | | Standard deviation (%) | | |
|------------------|------|------|-------------|-------|-------|------|------|------------|--------|--------|----------|-------------|----------|--------|-------|------------------------|-------|--|
| Instance | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | GA | GGA | |
| LN500K200P50(5) | × | × | 0.00 | 10.05 | 0.00 | × | × | 200.00 | 486.00 | 200.00 | ∞ | ∞ | 41 | 71262 | 150 | 18.27 | 0.00 | |
| LN500K200P50(6) | × | × | 0.00 | 10.20 | 0.00 | × | × | 200.00 | 481.50 | 200.00 | ∞ | ∞ | 42 | 71812 | 150 | 16.58 | 0.00 | |
| LN500K200P50(7) | × | × | 5.00 | 13.90 | 2.15 | × | × | 190.00 | 482.20 | 392.60 | ∞ | ∞ | 35 | 67316 | 18215 | 10.65 | 10.66 | |
| LN500K200P50(8) | × | × | 5.00 | 12.05 | 2.10 | × | × | 190.00 | 485.90 | 376.50 | ∞ | ∞ | 36 | 68851 | 19040 | 9.90 | 9.52 | |
| LN500K200P50(9) | × | × | 13.00 | 11.10 | 3.25 | × | × | 174.00 | 482.60 | 380.90 | ∞ | ∞ | 41 | 71972 | 31778 | 12.87 | 14.18 | |
| LN500K200P50(10) | × | × | 6.50 | 14.20 | 3.40 | × | × | 187.00 | 488.00 | 358.60 | ∞ | ∞ | 37 | 68733 | 19734 | 13.10 | 8.82 | |
| LN500K200P60(1) | × | × | 3.00 | 12.42 | 0.36 | × | × | 195.00 | 485.10 | 317.80 | ∞ | ∞ | 42 | 71562 | 13788 | 20.95 | 81.65 | |
| LN500K200P60(2) | × | × | 0.00 | 12.36 | 0.00 | × | × | 200.00 | 481.70 | 200.00 | ∞ | ∞ | 42 | 71303 | 149 | 17.66 | 0.00 | |
| LN500K200P60(3) | × | × | 23.40 | 14.46 | 4.92 | × | × | 161.00 | 479.10 | 376.60 | ∞ | ∞ | 41 | 71945 | 43261 | 13.18 | 27.70 | |
| LN500K200P60(4) | × | × | 3.00 | 12.60 | 1.74 | × | × | 195.00 | 484.90 | 283.10 | ∞ | ∞ | 41 | 71864 | 17074 | 9.28 | 10.34 | |
| LN500K200P60(5) | × | × | 0.00 | 12.84 | 0.00 | × | × | 200.00 | 483.90 | 200.00 | ∞ | ∞ | 41 | 71005 | 148 | 16.48 | 0.00 | |
| LN500K200P60(6) | × | × | 0.00 | 11.46 | 0.00 | × | × | 200.00 | 486.80 | 200.00 | ∞ | ∞ | 43 | 71898 | 150 | 15.43 | 0.00 | |
| LN500K200P60(7) | × | × | 6.00 | 16.26 | 2.76 | × | × | 190.00 | 479.70 | 391.40 | ∞ | ∞ | 35 | 67367 | 17183 | 10.88 | 10.65 | |
| LN500K200P60(8) | × | × | 6.00 | 15.78 | 2.52 | × | × | 190.00 | 484.10 | 353.80 | ∞ | ∞ | 37 | 68873 | 18809 | 10.21 | 9.52 | |
| LN500K200P60(9) | × | × | 15.60 | 12.06 | 4.44 | × | × | 174.00 | 481.20 | 365.00 | ∞ | ∞ | 41 | 71861 | 33172 | 11.66 | 17.31 | |
| LN500K200P60(10) | × | × | 7.80 | 14.82 | 3.78 | × | × | 187.00 | 483.60 | 340.90 | ∞ | ∞ | 37 | 68993 | 23129 | 15.26 | 10.16 | |
| LN500K200P70(1) | × | × | 3.50 | 14.35 | 0.49 | × | × | 195.00 | 483.50 | 338.50 | ∞ | ∞ | 42 | 71304 | 13529 | 24.61 | 65.47 | |
| LN500K200P70(2) | × | × | 0.00 | 14.77 | 0.00 | × | × | 200.00 | 483.50 | 200.00 | ∞ | ∞ | 42 | 71470 | 149 | 14.60 | 0.00 | |
| LN500K200P70(3) | × | × | 27.30 | 13.86 | 5.11 | × | × | 161.00 | 487.30 | 394.40 | ∞ | ∞ | 42 | 72007 | 42737 | 11.47 | 21.27 | |
| LN500K200P70(4) | × | × | 3.50 | 14.84 | 1.96 | × | × | 195.00 | 487.50 | 281.30 | ∞ | ∞ | 40 | 71864 | 17410 | 15.18 | 14.29 | |
| LN500K200P70(5) | × | × | 0.00 | 14.35 | 0.00 | × | × | 200.00 | 477.60 | 200.00 | ∞ | ∞ | 41 | 71027 | 148 | 12.20 | 0.00 | |
| LN500K200P70(6) | × | × | 0.00 | 14.98 | 0.00 | × | × | 200.00 | 484.50 | 200.00 | ∞ | ∞ | 42 | 71749 | 150 | 10.07 | 0.00 | |
| LN500K200P70(7) | × | × | 7.00 | 18.48 | 3.08 | × | × | 190.00 | 478.50 | 348.80 | ∞ | ∞ | 35 | 67518 | 19279 | 12.70 | 11.13 | |
| LN500K200P70(8) | × | × | 7.00 | 17.71 | 3.08 | × | × | 190.00 | 483.70 | 330.30 | ∞ | ∞ | 36 | 68996 | 19015 | 10.01 | 11.13 | |
| LN500K200P70(9) | × | × | 18.20 | 15.89 | 4.97 | × | × | 174.00 | 473.70 | 370.80 | ∞ | ∞ | 43 | 71730 | 31763 | 10.25 | 33.60 | |
| LN500K200P70(10) | × | × | 9.10 | 19.18 | 4.48 | × | × | 187.00 | 489.30 | 352.60 | ∞ | ∞ | 37 | 68913 | 19560 | 10.22 | 10.36 | |
| LN500K200P80(1) | × | × | 43.20 | 18.79 | 4.23 | × | × | 190.00 | 493.60 | 456.90 | ∞ | ∞ | 36 | 72589 | 73776 | 10.58 | 27.75 | |
| LN500K200P80(2) | × | × | 36.02 | 19.97 | 5.27 | × | × | 207.00 | 490.70 | 463.70 | ∞ | ∞ | 35 | 72373 | 74260 | 12.21 | 11.12 | |
| LN500K200P80(3) | × | × | 82.40 | 18.58 | 11.42 | × | × | 119.00 | 494.90 | 447.70 | ∞ | ∞ | 35 | 72967 | 73245 | 10.82 | 12.59 | |
| LN500K200P80(4) | × | × | 28.82 | 19.96 | 5.27 | × | × | 203.00 | 491.10 | 462.90 | ∞ | ∞ | 36 | 72726 | 73355 | 9.31 | 20.13 | |
| LN500K200P80(5) | × | × | 18.40 | 19.18 | 1.72 | × | × | 224.00 | 491.70 | 425.40 | ∞ | ∞ | 38 | 72131 | 73012 | 13.04 | 45.28 | |
| LN500K200P80(6) | × | × | 37.60 | 19.96 | 6.63 | × | × | 201.00 | 491.70 | 430.10 | ∞ | ∞ | 37 | 72691 | 73611 | 10.89 | 22.83 | |
| LN500K200P80(7) | × | × | 44.80 | 22.87 | 12.14 | × | × | 197.00 | 497.00 | 464.60 | ∞ | ∞ | 30 | 68318 | 70209 | 5.91 | 45.61 | |
| LN500K200P80(8) | × | × | 34.40 | 21.60 | 8.31 | × | × | 195.00 | 495.10 | 451.40 | ∞ | ∞ | 33 | 69814 | 70729 | 8.38 | 17.14 | |
| LN500K200P80(9) | × | × | 52.00 | 19.95 | 9.11 | × | × | 161.00 | 492.70 | 439.00 | ∞ | ∞ | 36 | 72812 | 72655 | 10.47 | 13.96 | |
| LN500K200P80(10) | × | × | 44.80 | 23.82 | 12.38 | × | × | 195.00 | 491.20 | 468.00 | ∞ | ∞ | 31 | 69687 | 71130 | 12.70 | 18.77 | |
| LN500K250P50(1) | × | × | 27.50 | 22.80 | 12.50 | × | × | 195.00 | 487.50 | 430.90 | ∞ | ∞ | 44 | 74829 | 53907 | 7.09 | 19.43 | |

| T 4 | | To | tal loss va | alue | | | Numb | er of acti | ve MDs | | | Computation | nal time | e (ms) | | Standard deviation (%) | | |
|------------------|------|------|-------------|-------|-------|------|------|------------|--------|--------|----------|-------------|----------|--------|-------|------------------------|-------|--|
| Instance | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GÁ | GGA | GA | GGA | |
| LN500K250P50(2) | × | × | 24.50 | 21.45 | 11.00 | × | × | 201.00 | 489.50 | 425.20 | ∞ | ∞ | 44 | 75127 | 46996 | 5.36 | 11.85 | |
| LN500K250P50(3) | × | × | 44.50 | 24.10 | 14.80 | × | × | 161.00 | 485.90 | 407.00 | ∞ | ∞ | 44 | 75112 | 74151 | 8.08 | 8.44 | |
| LN500K250P50(4) | × | × | 27.50 | 23.85 | 13.65 | × | × | 195.00 | 483.20 | 401.00 | ∞ | ∞ | 42 | 74554 | 54855 | 5.63 | 10.24 | |
| LN500K250P50(5) | × | × | 13.00 | 23.15 | 7.90 | × | × | 224.00 | 490.10 | 384.20 | ∞ | ∞ | 43 | 74132 | 27186 | 8.08 | 5.52 | |
| LN500K250P50(6) | × | × | 22.00 | 21.85 | 12.30 | × | × | 206.00 | 488.70 | 398.90 | ∞ | ∞ | 46 | 75703 | 33551 | 10.59 | 5.51 | |
| LN500K250P50(7) | × | × | 30.00 | 28.45 | 17.15 | × | × | 190.00 | 488.40 | 430.00 | ∞ | ∞ | 37 | 70739 | 47609 | 4.81 | 7.38 | |
| LN500K250P50(8) | × | × | 30.00 | 29.00 | 19.75 | × | × | 190.00 | 487.30 | 415.10 | ∞ | ∞ | 39 | 71540 | 45152 | 7.02 | 3.80 | |
| LN500K250P50(9) | × | × | 38.00 | 24.80 | 15.65 | × | × | 174.00 | 489.40 | 425.60 | ∞ | ∞ | 43 | 74813 | 61131 | 6.26 | 12.70 | |
| LN500K250P50(10) | × | × | 31.50 | 28.50 | 21.75 | × | × | 187.00 | 487.40 | 414.10 | ∞ | ∞ | 38 | 71710 | 41533 | 8.30 | 4.85 | |
| LN500K250P60(1) | × | × | 33.00 | 29.10 | 13.26 | × | × | 195.00 | 483.40 | 420.60 | ∞ | ∞ | 43 | 74583 | 50792 | 7.28 | 7.95 | |
| LN500K250P60(2) | × | × | 29.40 | 28.38 | 11.76 | × | × | 201.00 | 488.90 | 445.90 | ∞ | ∞ | 44 | 75029 | 50394 | 6.76 | 10.51 | |
| LN500K250P60(3) | × | × | 53.40 | 28.02 | 17.10 | × | × | 161.00 | 484.00 | 417.50 | ∞ | ∞ | 44 | 74975 | 72224 | 7.04 | 8.04 | |
| LN500K250P60(4) | × | × | 33.00 | 28.98 | 17.52 | × | × | 195.00 | 487.30 | 413.60 | ∞ | ∞ | 42 | 74820 | 50765 | 10.76 | 9.66 | |
| LN500K250P60(5) | × | × | 15.60 | 28.26 | 9.24 | × | × | 224.00 | 485.00 | 401.50 | ∞ | ∞ | 43 | 74001 | 27497 | 8.93 | 9.72 | |
| LN500K250P60(6) | × | × | 26.40 | 27.66 | 14.70 | × | × | 206.00 | 485.60 | 385.40 | ∞ | ∞ | 46 | 75676 | 38371 | 7.54 | 6.64 | |
| LN500K250P60(7) | × | × | 36.00 | 34.92 | 20.58 | × | × | 190.00 | 488.80 | 417.70 | ∞ | ∞ | 37 | 70491 | 44572 | 7.44 | 11.07 | |
| LN500K250P60(8) | × | × | 36.00 | 33.84 | 24.12 | × | × | 190.00 | 487.80 | 400.40 | ∞ | ∞ | 38 | 71582 | 39340 | 5.51 | 5.65 | |
| LN500K250P60(9) | × | × | 45.60 | 29.22 | 19.32 | × | × | 174.00 | 485.40 | 407.30 | ∞ | ∞ | 43 | 74777 | 61105 | 7.06 | 13.81 | |
| LN500K250P60(10) | × | × | 37.80 | 34.68 | 25.98 | × | × | 187.00 | 486.60 | 411.10 | ∞ | ∞ | 38 | 71669 | 41934 | 6.46 | 5.57 | |
| LN500K250P70(1) | × | × | 38.50 | 32.06 | 14.84 | × | × | 195.00 | 486.90 | 427.60 | ∞ | ∞ | 44 | 74977 | 58925 | 9.04 | 10.51 | |
| LN500K250P70(2) | × | × | 34.30 | 30.10 | 14.70 | × | × | 201.00 | 487.50 | 430.90 | ∞ | ∞ | 44 | 75306 | 42653 | 9.92 | 9.04 | |
| LN500K250P70(3) | × | × | 62.30 | 33.18 | 18.97 | × | × | 161.00 | 488.40 | 422.00 | ∞ | ∞ | 44 | 75103 | 73823 | 7.14 | 4.19 | |
| LN500K250P70(4) | × | × | 38.50 | 35.21 | 20.30 | × | × | 195.00 | 486.80 | 426.70 | ∞ | ∞ | 43 | 74508 | 51127 | 11.32 | 5.56 | |
| LN500K250P70(5) | × | × | 18.20 | 33.11 | 10.99 | × | × | 224.00 | 488.20 | 410.20 | ∞ | ∞ | 43 | 74114 | 32209 | 6.42 | 7.56 | |
| LN500K250P70(6) | × | × | 30.80 | 31.71 | 16.03 | × | × | 206.00 | 487.20 | 415.30 | ∞ | ∞ | 47 | 75772 | 44569 | 9.62 | 8.16 | |
| LN500K250P70(7) | × | × | 42.00 | 39.41 | 24.01 | × | × | 190.00 | 488.00 | 428.70 | ∞ | ∞ | 38 | 70285 | 42049 | 5.51 | 9.22 | |
| LN500K250P70(8) | × | × | 42.00 | 39.20 | 27.79 | × | × | 190.00 | 488.90 | 404.60 | ∞ | ∞ | 38 | 71674 | 43481 | 6.29 | 4.51 | |
| LN500K250P70(9) | × | × | 53.20 | 34.58 | 21.28 | × | × | 174.00 | 487.10 | 433.70 | ∞ | ∞ | 43 | 74857 | 57158 | 8.36 | 10.53 | |
| LN500K250P70(10) | × | × | 44.10 | 40.95 | 30.73 | × | × | 187.00 | 486.40 | 426.70 | ∞ | ∞ | 38 | 71546 | 43687 | 7.02 | 3.87 | |
| LN500K250P80(1) | × | × | 83.20 | 39.79 | 26.18 | × | × | 190.00 | 495.00 | 484.70 | ∞ | ∞ | 36 | 75494 | 77307 | 6.16 | 5.16 | |
| LN500K250P80(2) | × | × | 76.02 | 39.85 | 24.66 | × | × | 207.00 | 495.20 | 481.40 | ∞ | ∞ | 36 | 75887 | 77780 | 5.52 | 6.52 | |
| LN500K250P80(3) | × | × | 122.40 | 40.08 | 42.54 | × | × | 119.00 | 495.60 | 492.00 | ∞ | ∞ | 36 | 75968 | 76866 | 4.47 | 9.66 | |
| LN500K250P80(4) | × | × | 68.82 | 41.71 | 28.85 | × | × | 203.00 | 496.50 | 454.50 | ∞ | ∞ | 38 | 75477 | 76731 | 6.73 | 21.55 | |
| LN500K250P80(5) | × | × | 58.40 | 41.36 | 25.91 | × | × | 224.00 | 494.40 | 470.20 | ∞ | ∞ | 38 | 74727 | 76554 | 9.62 | 23.28 | |
| LN500K250P80(6) | × | × | 77.60 | 40.34 | 26.22 | × | × | 201.00 | 496.00 | 449.80 | ∞ | ∞ | 38 | 76411 | 77946 | 7.49 | 4.78 | |
| LN500K250P80(7) | × | × | 84.80 | 46.71 | 36.60 | × | × | 197.00 | 495.60 | 475.20 | ∞ | ∞ | 30 | 71076 | 73436 | 3.39 | 7.37 | |
| LN500K250P80(8) | × | × | 74.40 | 49.38 | 36.30 | × | × | 195.00 | 494.80 | 458.00 | ∞ | ∞ | 35 | 72025 | 74109 | 6.71 | 12.63 | |

| Tuetones | Total loss value | | | | | | Numb | er of acti | ve MDs | | | Computation | onal time | e(ms) | | Standard deviation (%) | |
|------------------|------------------|------|--------|-------|-------|------|------|------------|--------|--------|----------|-------------|-----------|-------|-------|------------------------|-------|
| Instance | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | GA | GGA |
| LN500K250P80(9) | × | × | 92.00 | 44.13 | 29.06 | × | × | 161.00 | 494.70 | 462.80 | ∞ | ∞ | 37 | 75316 | 76261 | 3.74 | 7.15 |
| LN500K250P80(10) | × | × | 84.80 | 51.03 | 43.51 | × | × | 195.00 | 495.40 | 482.10 | ∞ | ∞ | 32 | 72127 | 74034 | 3.87 | 7.99 |
| LN500K300P50(1) | × | × | 52.50 | 39.95 | 29.60 | × | × | 195.00 | 488.90 | 443.10 | ∞ | ∞ | 45 | 77232 | 69342 | 6.17 | 5.79 |
| LN500K300P50(2) | × | × | 49.50 | 39.70 | 29.75 | × | × | 201.00 | 489.50 | 424.80 | ∞ | ∞ | 45 | 76831 | 66953 | 6.10 | 5.11 |
| LN500K300P50(3) | × | × | 69.50 | 40.45 | 30.70 | × | × | 161.00 | 490.80 | 428.60 | ∞ | ∞ | 45 | 77281 | 75556 | 4.40 | 6.32 |
| LN500K300P50(4) | × | × | 52.50 | 42.70 | 34.15 | × | × | 195.00 | 483.70 | 436.80 | ∞ | ∞ | 44 | 76202 | 64586 | 4.81 | 3.82 |
| LN500K300P50(5) | × | × | 38.00 | 41.70 | 28.40 | × | × | 224.00 | 492.70 | 449.50 | ∞ | ∞ | 43 | 75643 | 47464 | 5.45 | 4.64 |
| LN500K300P50(6) | × | × | 47.00 | 38.60 | 28.20 | × | × | 206.00 | 490.40 | 442.80 | ∞ | ∞ | 48 | 78237 | 60965 | 4.25 | 5.09 |
| LN500K300P50(7) | × | × | 55.00 | 45.85 | 35.40 | × | × | 190.00 | 488.20 | 432.30 | ∞ | ∞ | 37 | 72518 | 65429 | 2.89 | 3.88 |
| LN500K300P50(8) | × | × | 55.00 | 45.95 | 38.75 | × | × | 190.00 | 491.20 | 451.40 | ∞ | ∞ | 40 | 74017 | 64319 | 4.20 | 3.01 |
| LN500K300P50(9) | × | × | 63.00 | 42.55 | 32.90 | × | × | 174.00 | 490.70 | 444.30 | ∞ | ∞ | 44 | 76417 | 73237 | 3.26 | 3.95 |
| LN500K300P50(10) | × | × | 56.50 | 47.70 | 40.45 | × | × | 187.00 | 490.80 | 420.20 | ∞ | ∞ | 39 | 73822 | 68162 | 2.86 | 3.05 |
| LN500K300P60(1) | × | × | 63.00 | 48.12 | 35.52 | × | × | 195.00 | 490.10 | 445.70 | ∞ | ∞ | 45 | 77038 | 68625 | 4.31 | 5.33 |
| LN500K300P60(2) | × | × | 59.40 | 47.46 | 35.88 | × | × | 201.00 | 489.70 | 446.40 | ∞ | ∞ | 46 | 76749 | 57113 | 3.98 | 3.41 |
| LN500K300P60(3) | × | × | 83.40 | 47.58 | 35.88 | × | × | 161.00 | 489.00 | 440.90 | ∞ | ∞ | 45 | 77407 | 78369 | 3.95 | 6.51 |
| LN500K300P60(4) | × | × | 63.00 | 49.80 | 40.68 | × | × | 195.00 | 489.50 | 432.50 | ∞ | ∞ | 43 | 76440 | 63020 | 4.70 | 2.78 |
| LN500K300P60(5) | × | × | 45.60 | 50.28 | 34.92 | × | × | 224.00 | 484.20 | 442.60 | ∞ | ∞ | 44 | 75620 | 43896 | 3.28 | 6.23 |
| LN500K300P60(6) | × | × | 56.40 | 46.50 | 32.82 | × | × | 206.00 | 488.80 | 441.50 | ∞ | ∞ | 48 | 78175 | 71317 | 5.72 | 6.44 |
| LN500K300P60(7) | × | × | 66.00 | 56.10 | 43.38 | × | × | 190.00 | 487.60 | 431.10 | ∞ | ∞ | 38 | 72378 | 56421 | 2.88 | 5.46 |
| LN500K300P60(8) | × | × | 66.00 | 55.38 | 46.86 | × | × | 190.00 | 490.00 | 442.00 | ∞ | ∞ | 43 | 73813 | 55015 | 2.57 | 5.48 |
| LN500K300P60(9) | × | × | 75.60 | 50.28 | 39.78 | × | × | 174.00 | 491.50 | 446.00 | ∞ | ∞ | 44 | 76477 | 76055 | 4.43 | 3.17 |
| LN500K300P60(10) | × | × | 67.80 | 57.00 | 49.44 | × | × | 187.00 | 488.00 | 420.80 | ∞ | ∞ | 39 | 73708 | 60442 | 3.16 | 4.10 |
| LN500K300P70(1) | × | × | 73.50 | 56.91 | 42.28 | × | × | 195.00 | 491.50 | 448.90 | ∞ | ∞ | 45 | 77038 | 66531 | 5.01 | 5.50 |
| LN500K300P70(2) | × | × | 69.30 | 58.45 | 41.58 | × | × | 201.00 | 489.80 | 440.70 | ∞ | ∞ | 45 | 76636 | 66241 | 3.18 | 6.95 |
| LN500K300P70(3) | × | × | 97.30 | 55.44 | 42.63 | × | × | 161.00 | 489.00 | 449.20 | ∞ | ∞ | 45 | 77401 | 78311 | 6.08 | 6.98 |
| LN500K300P70(4) | × | × | 73.50 | 60.27 | 49.07 | × | × | 195.00 | 490.20 | 457.90 | ∞ | ∞ | 43 | 76335 | 54355 | 3.90 | 2.51 |
| LN500K300P70(5) | × | × | 53.20 | 57.47 | 39.69 | × | × | 224.00 | 486.30 | 421.70 | ∞ | ∞ | 45 | 75803 | 44561 | 4.79 | 5.69 |
| LN500K300P70(6) | × | × | 65.80 | 55.16 | 38.08 | × | × | 206.00 | 482.60 | 418.40 | ∞ | ∞ | 47 | 78021 | 71250 | 4.16 | 4.44 |
| LN500K300P70(7) | × | × | 77.00 | 65.10 | 50.82 | × | × | 190.00 | 492.80 | 422.30 | ∞ | ∞ | 38 | 72465 | 60792 | 4.61 | 4.41 |
| LN500K300P70(8) | × | × | 77.00 | 66.01 | 53.55 | × | × | 190.00 | 492.00 | 450.30 | ∞ | ∞ | 40 | 73814 | 59520 | 2.89 | 4.14 |
| LN500K300P70(9) | × | × | 88.20 | 59.01 | 47.04 | × | × | 174.00 | 488.30 | 438.30 | ∞ | ∞ | 44 | 76452 | 70847 | 4.34 | 6.78 |
| LN500K300P70(10) | × | × | 79.10 | 66.71 | 58.59 | × | × | 187.00 | 489.20 | 432.40 | ∞ | ∞ | 40 | 73750 | 49540 | 4.95 | 2.93 |
| LN500K300P80(1) | × | × | 123.20 | 69.89 | 59.91 | × | × | 190.00 | 495.40 | 488.70 | ∞ | ∞ | 39 | 77451 | 79305 | 3.31 | 8.37 |
| LN500K300P80(2) | × | × | 116.02 | 70.14 | 58.69 | × | × | 207.00 | 495.30 | 488.50 | ∞ | ∞ | 37 | 77142 | 79876 | 4.17 | 5.43 |
| LN500K300P80(3) | × | × | 162.40 | 66.16 | 68.74 | × | × | 119.00 | 495.60 | 493.60 | ∞ | ∞ | 37 | 78146 | 79212 | 3.34 | 7.23 |
| LN500K300P80(4) | × | × | 108.82 | 72.61 | 60.55 | × | × | 203.00 | 493.70 | 490.50 | ∞ | ∞ | 39 | 76609 | 78738 | 3.50 | 2.59 |
| LN500K300P80(5) | × | × | 98.40 | 69.83 | 56.74 | × | × | 224.00 | 496.00 | 481.00 | ∞ | ∞ | 39 | 76312 | 78631 | 5.80 | 12.49 |

| Tourtour | Total loss value | | | | | | Numb | er of acti | ve MDs | | | Computation | nal time | e(ms) | | Standard deviation (%) | |
|------------------|------------------|------|--------|--------|--------|------|------|------------|--------|--------|----------|-------------|----------|-------|-------|------------------------|-------|
| Instance | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | GA | GGA |
| LN500K300P80(6) | × | × | 117.60 | 66.04 | 55.98 | × | × | 201.00 | 495.80 | 482.00 | ∞ | ∞ | 39 | 78705 | 80876 | 5.65 | 3.54 |
| LN500K300P80(7) | × | × | 124.80 | 80.17 | 73.14 | × | × | 197.00 | 494.70 | 490.70 | ∞ | ∞ | 30 | 72814 | 75629 | 5.43 | 7.38 |
| LN500K300P80(8) | × | × | 114.40 | 77.38 | 69.21 | × | × | 195.00 | 494.40 | 482.60 | ∞ | ∞ | 35 | 74416 | 75782 | 3.20 | 7.50 |
| LN500K300P80(9) | × | × | 132.00 | 71.31 | 58.64 | × | × | 161.00 | 495.20 | 476.80 | ∞ | ∞ | 38 | 77166 | 78242 | 4.32 | 4.12 |
| LN500K300P80(10) | × | × | 124.80 | 81.45 | 79.70 | × | × | 195.00 | 493.30 | 482.40 | ∞ | ∞ | 32 | 73979 | 75515 | 3.96 | 9.66 |
| LN500K400P50(1) | × | × | 102.50 | 80.75 | 72.85 | × | × | 195.00 | 492.70 | 475.40 | ∞ | ∞ | 46 | 79164 | 79118 | 1.92 | 1.94 |
| LN500K400P50(2) | × | × | 99.50 | 80.05 | 70.10 | × | × | 201.00 | 493.90 | 472.20 | ∞ | ∞ | 47 | 79532 | 76474 | 3.81 | 1.88 |
| LN500K400P50(3) | × | × | 119.50 | 76.90 | 68.20 | × | × | 161.00 | 489.80 | 471.20 | ∞ | ∞ | 47 | 80145 | 82400 | 3.63 | 1.28 |
| LN500K400P50(4) | × | × | 102.50 | 81.25 | 73.25 | × | × | 195.00 | 489.90 | 473.70 | ∞ | ∞ | 45 | 79252 | 76992 | 3.08 | 2.79 |
| LN500K400P50(5) | × | × | 88.00 | 80.85 | 70.95 | × | × | 224.00 | 491.30 | 459.70 | ∞ | ∞ | 45 | 78817 | 67716 | 2.51 | 3.69 |
| LN500K400P50(6) | × | × | 97.00 | 77.25 | 64.25 | × | × | 206.00 | 495.00 | 468.70 | ∞ | ∞ | 49 | 80600 | 83137 | 3.27 | 2.59 |
| LN500K400P50(7) | × | × | 105.00 | 86.30 | 75.35 | × | × | 190.00 | 490.90 | 476.10 | ∞ | ∞ | 39 | 75243 | 78209 | 1.58 | 1.99 |
| LN500K400P50(8) | × | × | 105.00 | 87.10 | 79.15 | × | × | 190.00 | 493.90 | 466.50 | ∞ | ∞ | 41 | 76136 | 75494 | 1.85 | 1.67 |
| LN500K400P50(9) | × | × | 113.00 | 79.05 | 70.70 | × | × | 174.00 | 492.40 | 472.50 | ∞ | ∞ | 46 | 79354 | 81371 | 2.32 | 2.29 |
| LN500K400P50(10) | × | × | 106.50 | 87.00 | 82.55 | × | × | 187.00 | 494.20 | 477.90 | ∞ | ∞ | 40 | 76702 | 71947 | 2.28 | 3.58 |
| LN500K400P60(1) | × | × | 123.00 | 96.90 | 87.00 | × | × | 195.00 | 490.80 | 466.30 | ∞ | ∞ | 45 | 79069 | 78328 | 3.72 | 2.16 |
| LN500K400P60(2) | × | × | 119.40 | 96.12 | 84.42 | × | × | 201.00 | 488.90 | 477.00 | ∞ | ∞ | 46 | 79339 | 79327 | 3.44 | 2.77 |
| LN500K400P60(3) | × | × | 143.40 | 91.68 | 82.02 | × | × | 161.00 | 494.10 | 478.60 | ∞ | ∞ | 47 | 80262 | 81638 | 2.15 | 2.45 |
| LN500K400P60(4) | × | × | 123.00 | 96.72 | 86.28 | × | × | 195.00 | 491.90 | 472.30 | ∞ | ∞ | 45 | 79479 | 80728 | 1.71 | 1.73 |
| LN500K400P60(5) | × | × | 105.60 | 96.84 | 85.32 | × | × | 224.00 | 491.40 | 466.40 | ∞ | ∞ | 46 | 78688 | 72510 | 3.65 | 3.93 |
| LN500K400P60(6) | × | × | 116.40 | 90.48 | 77.94 | × | × | 206.00 | 493.60 | 469.20 | ∞ | ∞ | 50 | 80655 | 82156 | 3.56 | 2.87 |
| LN500K400P60(7) | × | × | 126.00 | 104.64 | 90.42 | × | × | 190.00 | 489.80 | 478.20 | ∞ | ∞ | 40 | 75073 | 73921 | 1.31 | 2.70 |
| LN500K400P60(8) | × | × | 126.00 | 106.38 | 96.12 | × | × | 190.00 | 491.90 | 470.60 | ∞ | ∞ | 40 | 75977 | 74514 | 2.00 | 2.75 |
| LN500K400P60(9) | × | × | 135.60 | 96.36 | 85.38 | × | × | 174.00 | 491.80 | 473.70 | ∞ | ∞ | 46 | 79171 | 81009 | 2.21 | 2.09 |
| LN500K400P60(10) | × | × | 127.80 | 106.26 | 98.16 | × | × | 187.00 | 493.30 | 471.90 | ∞ | ∞ | 41 | 76412 | 73800 | 1.90 | 2.98 |
| LN500K400P70(1) | × | × | 143.50 | 113.40 | 101.64 | × | × | 195.00 | 493.70 | 478.10 | ∞ | ∞ | 45 | 79013 | 79252 | 3.31 | 3.33 |
| LN500K400P70(2) | × | × | 139.30 | 109.27 | 97.72 | × | × | 201.00 | 493.80 | 474.90 | ∞ | ∞ | 46 | 79691 | 79115 | 1.58 | 1.90 |
| LN500K400P70(3) | × | × | 167.30 | 109.13 | 93.17 | × | × | 161.00 | 494.30 | 472.30 | ∞ | ∞ | 47 | 80029 | 82545 | 1.98 | 2.52 |
| LN500K400P70(4) | × | × | 143.50 | 112.28 | 100.52 | × | × | 195.00 | 494.20 | 474.50 | ∞ | ∞ | 44 | 79546 | 78079 | 2.79 | 2.18 |
| LN500K400P70(5) | × | × | 123.20 | 113.82 | 101.29 | × | × | 224.00 | 496.20 | 466.70 | ∞ | ∞ | 46 | 78767 | 70942 | 2.30 | 4.51 |
| LN500K400P70(6) | × | × | 135.80 | 106.40 | 88.48 | × | × | 206.00 | 495.10 | 472.60 | ∞ | ∞ | 50 | 80682 | 83640 | 2.37 | 1.98 |
| LN500K400P70(7) | × | × | 147.00 | 121.87 | 106.96 | × | × | 190.00 | 491.60 | 471.60 | ∞ | ∞ | 39 | 75130 | 75500 | 1.77 | 1.60 |
| LN500K400P70(8) | × | × | 147.00 | 122.64 | 111.09 | × | × | 190.00 | 492.00 | 470.70 | ∞ | ∞ | 41 | 76010 | 74591 | 1.05 | 2.34 |
| LN500K400P70(9) | × | × | 158.20 | 112.00 | 100.45 | × | × | 174.00 | 493.60 | 478.50 | ∞ | ∞ | 46 | 79347 | 81204 | 2.11 | 2.10 |
| LN500K400P70(10) | × | × | 149.10 | 123.06 | 114.87 | × | × | 187.00 | 494.70 | 477.20 | ∞ | ∞ | 41 | 76519 | 74442 | 2.82 | 5.42 |
| LN500K400P80(1) | × | × | 203.20 | 135.70 | 140.82 | × | × | 190.00 | 497.10 | 496.90 | ∞ | ∞ | 36 | 79216 | 80707 | 1.78 | 10.78 |
| LN500K400P80(2) | × | × | 196.02 | 133.83 | 146.83 | × | × | 207.00 | 497.50 | 495.90 | ∞ | ∞ | 37 | 79527 | 81360 | 2.01 | 11.83 |

| Instance | | To | tal loss va | alue | | | Numb | er of acti | ve MDs | | (| Computatio | nal time | e(ms) | | Standard deviation (%) | | |
|------------------|------|------|-------------|--------|--------|------|------|------------|--------|--------|----------|------------|----------|-------|-------|------------------------|------|--|
| Histalice | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | BFSA | BnBA | GBA | GA | GGA | GA | GGA | |
| LN500K400P80(3) | × | × | 242.40 | 128.75 | 130.27 | × | × | 119.00 | 495.50 | 494.70 | ∞ | ∞ | 37 | 80294 | 82206 | 2.30 | 1.75 | |
| LN500K400P80(4) | × | × | 188.82 | 135.41 | 126.71 | × | × | 203.00 | 496.20 | 494.40 | ∞ | ∞ | 39 | 79420 | 81878 | 1.64 | 2.88 | |
| LN500K400P80(5) | × | × | 178.40 | 133.22 | 135.13 | × | × | 224.00 | 496.60 | 490.30 | ∞ | ∞ | 40 | 78991 | 80916 | 2.37 | 9.07 | |
| LN500K400P80(6) | × | × | 197.60 | 128.68 | 117.98 | × | × | 201.00 | 495.90 | 494.40 | ∞ | ∞ | 39 | 80652 | 83738 | 3.04 | 3.21 | |
| LN500K400P80(7) | × | × | 204.80 | 144.39 | 177.52 | × | × | 197.00 | 497.80 | 491.10 | ∞ | ∞ | 31 | 75239 | 75808 | 2.76 | 6.41 | |
| LN500K400P80(8) | × | × | 194.40 | 145.65 | 144.10 | × | × | 195.00 | 494.80 | 490.80 | ∞ | ∞ | 35 | 76059 | 78332 | 2.26 | 7.30 | |
| LN500K400P80(9) | × | × | 212.00 | 134.36 | 123.52 | × | × | 161.00 | 496.90 | 491.60 | ∞ | ∞ | 39 | 79406 | 81359 | 1.20 | 1.72 | |
| LN500K400P80(10) | × | × | 204.80 | 147.34 | 173.69 | × | × | 195.00 | 497.10 | 491.70 | ∞ | ∞ | 33 | 76536 | 76368 | 2.06 | 5.58 | |