

## NEMA 4 Enclosure Sizing Chart

This chart will assist you in making a rapid evaluation of the exposed surface area required to cool the average electronics, if the approximate wattage to be dissipated and the acceptable temperature rise are known.

Select here for [Painted Steel Enclosures](#)

Select here for [304 Stainless Steel Enclosures](#)

Select here for [316 Stainless Steel Enclosures](#)

Select here for [410 Stainless Steel Enclosures](#)

This chart is based on an altitude of 3300 feet or less. Consult the equipment manufacturer for higher altitudes.

---

### NEMA 4 Enclosure Sizing Chart For Painted Steel Enclosure.

| Power in Enclosure (WATTS) | Surf. Area (sq.ft.) for 10C rise | Surf. Area (sq.ft.) for 15C rise | Surf. Area (sq.ft.) for 20C rise | Surf. Area (sq.ft.) for 25C rise |
|----------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| 25                         | 5                                | 3                                | 2                                | 2                                |
| 50                         | 10                               | 7                                | 5                                | 4                                |
| 75                         | 15                               | 10                               | 7                                | 6                                |
| 100                        | 20                               | 13                               | 10                               | 8                                |
| 125                        | 25                               | 16                               | 12                               | 10                               |
| 150                        | 29                               | 20                               | 15                               | 12                               |
| 175                        | 34                               | 23                               | 17                               | 14                               |
| 200                        | 39                               | 26                               | 20                               | 16                               |
| 225                        | 44                               | 29                               | 22                               | 18                               |
| 250                        | 49                               | 33                               | 25                               | 20                               |
| 275                        | 54                               | 36                               | 27                               | 22                               |
| 300                        | 59                               | 39                               | 29                               | 24                               |
| 325                        | 64                               | 42                               | 32                               | 25                               |
| 350                        | 69                               | 46                               | 34                               | 27                               |
| 375                        | 74                               | 49                               | 37                               | 29                               |
| 400                        | 78                               | 52                               | 39                               | 31                               |
| 425                        | 83                               | 56                               | 42                               | 33                               |
| 450                        | 88                               | 59                               | 44                               | 35                               |
| 475                        | 93                               | 62                               | 47                               | 37                               |
| 500                        | 98                               | 65                               | 49                               | 39                               |
| 525                        | 103                              | 69                               | 51                               | 41                               |
| 550                        | 108                              | 72                               | 54                               | 43                               |
| 575                        | 113                              | 75                               | 56                               | 45                               |
| 600                        | 118                              | 78                               | 59                               | 47                               |
| 625                        | 123                              | 82                               | 61                               | 49                               |
| 650                        | 127                              | 85                               | 64                               | 51                               |
| 675                        | 132                              | 88                               | 66                               | 53                               |
| 700                        | 137                              | 92                               | 69                               | 55                               |
| 725                        | 142                              | 95                               | 71                               | 57                               |

|      |     |     |     |     |
|------|-----|-----|-----|-----|
| 750  | 147 | 98  | 74  | 59  |
| 775  | 152 | 101 | 76  | 61  |
| 800  | 157 | 105 | 78  | 63  |
| 825  | 162 | 108 | 81  | 65  |
| 850  | 167 | 111 | 83  | 67  |
| 875  | 172 | 114 | 86  | 69  |
| 900  | 176 | 118 | 88  | 71  |
| 925  | 181 | 121 | 91  | 73  |
| 950  | 186 | 124 | 93  | 75  |
| 975  | 191 | 127 | 96  | 76  |
| 1000 | 196 | 131 | 98  | 78  |
| 1025 | 201 | 134 | 100 | 80  |
| 1050 | 206 | 137 | 103 | 82  |
| 1075 | 211 | 141 | 105 | 84  |
| 1100 | 216 | 144 | 108 | 86  |
| 1125 | 221 | 147 | 110 | 88  |
| 1150 | 225 | 150 | 113 | 90  |
| 1175 | 230 | 154 | 115 | 92  |
| 1200 | 235 | 157 | 118 | 94  |
| 1225 | 240 | 160 | 120 | 96  |
| 1250 | 245 | 163 | 123 | 98  |
| 1275 | 250 | 167 | 125 | 100 |
| 1300 | 255 | 170 | 127 | 102 |
| 1325 | 260 | 173 | 130 | 104 |
| 1350 | 265 | 176 | 132 | 106 |
| 1375 | 270 | 180 | 135 | 108 |
| 1400 | 275 | 183 | 137 | 110 |
| 1425 | 279 | 186 | 140 | 112 |
| 1450 | 284 | 190 | 142 | 114 |
| 1475 | 289 | 193 | 145 | 116 |
| 1500 | 294 | 196 | 147 | 118 |
| 1525 | 299 | 199 | 150 | 120 |
| 1550 | 304 | 203 | 152 | 122 |
| 1575 | 309 | 206 | 154 | 124 |
| 1600 | 314 | 209 | 157 | 125 |
| 1625 | 319 | 212 | 159 | 127 |
| 1650 | 324 | 216 | 162 | 129 |
| 1675 | 328 | 219 | 164 | 131 |
| 1700 | 333 | 222 | 167 | 133 |
| 1725 | 338 | 225 | 169 | 135 |
| 1750 | 343 | 229 | 172 | 137 |
| 1775 | 348 | 232 | 174 | 139 |
| 1800 | 353 | 235 | 176 | 141 |
| 1825 | 358 | 239 | 179 | 143 |
| 1850 | 363 | 242 | 181 | 145 |

|      |     |     |     |     |
|------|-----|-----|-----|-----|
| 1875 | 368 | 245 | 184 | 147 |
| 1900 | 373 | 248 | 186 | 149 |
| 1925 | 377 | 252 | 189 | 151 |
| 1950 | 382 | 255 | 191 | 153 |
| 1975 | 387 | 258 | 194 | 155 |
| 2000 | 392 | 261 | 196 | 157 |
| 2025 | 397 | 265 | 199 | 159 |
| 2050 | 402 | 268 | 201 | 161 |
| 2075 | 407 | 271 | 203 | 163 |
| 2100 | 412 | 275 | 206 | 165 |
| 2125 | 417 | 278 | 208 | 167 |
| 2150 | 422 | 281 | 211 | 169 |
| 2175 | 426 | 284 | 213 | 171 |
| 2200 | 431 | 288 | 216 | 173 |
| 2225 | 436 | 291 | 218 | 175 |
| 2250 | 441 | 294 | 221 | 176 |
| 2275 | 446 | 297 | 223 | 178 |
| 2300 | 451 | 301 | 225 | 180 |
| 2325 | 456 | 304 | 228 | 182 |
| 2350 | 461 | 307 | 230 | 184 |
| 2375 | 466 | 310 | 233 | 186 |
| 2400 | 471 | 314 | 235 | 188 |
| 2425 | 475 | 317 | 238 | 190 |
| 2450 | 480 | 320 | 240 | 192 |
| 2475 | 485 | 324 | 243 | 194 |
| 2500 | 490 | 327 | 245 | 196 |
| 2525 | 495 | 330 | 248 | 198 |
| 2550 | 500 | 333 | 250 | 200 |
| 2575 | 505 | 337 | 252 | 202 |
| 2600 | 510 | 340 | 255 | 204 |
| 2625 | 515 | 343 | 257 | 206 |
| 2650 | 520 | 346 | 260 | 208 |
| 2675 | 525 | 350 | 262 | 210 |
| 2700 | 529 | 353 | 265 | 212 |
| 2725 | 534 | 356 | 267 | 214 |
| 2750 | 539 | 359 | 270 | 216 |
| 2775 | 544 | 363 | 272 | 218 |
| 2800 | 549 | 366 | 275 | 220 |
| 2825 | 554 | 369 | 277 | 222 |
| 2850 | 559 | 373 | 279 | 224 |
| 2875 | 564 | 376 | 282 | 225 |
| 2900 | 569 | 379 | 284 | 227 |
| 2925 | 574 | 382 | 287 | 229 |
| 2950 | 578 | 386 | 289 | 231 |
| 2975 | 583 | 389 | 292 | 233 |

|      |     |     |     |     |
|------|-----|-----|-----|-----|
| 3000 | 588 | 392 | 294 | 235 |
| 3025 | 593 | 395 | 297 | 237 |
| 3050 | 598 | 399 | 299 | 239 |
| 3075 | 603 | 402 | 301 | 241 |
| 3100 | 608 | 405 | 304 | 243 |
| 3125 | 613 | 408 | 306 | 245 |
| 3150 | 618 | 412 | 309 | 247 |
| 3175 | 623 | 415 | 311 | 249 |
| 3200 | 627 | 418 | 314 | 251 |
| 3225 | 632 | 422 | 316 | 253 |
| 3250 | 637 | 425 | 319 | 255 |
| 3275 | 642 | 428 | 321 | 257 |
| 3300 | 647 | 431 | 324 | 259 |
| 3325 | 652 | 435 | 326 | 261 |
| 3350 | 657 | 438 | 328 | 263 |
| 3375 | 662 | 441 | 331 | 265 |
| 3400 | 667 | 444 | 333 | 267 |
| 3425 | 672 | 448 | 336 | 269 |
| 3450 | 676 | 451 | 338 | 271 |
| 3475 | 681 | 454 | 341 | 273 |
| 3500 | 686 | 458 | 343 | 275 |
| 3525 | 691 | 461 | 346 | 276 |
| 3550 | 696 | 464 | 348 | 278 |
| 3575 | 701 | 467 | 350 | 280 |
| 3600 | 706 | 471 | 353 | 282 |
| 3625 | 711 | 474 | 355 | 284 |
| 3650 | 716 | 477 | 358 | 286 |
| 3675 | 721 | 480 | 360 | 288 |
| 3700 | 725 | 484 | 363 | 290 |
| 3725 | 730 | 487 | 365 | 292 |
| 3750 | 735 | 490 | 368 | 294 |
| 3775 | 740 | 493 | 370 | 296 |
| 3800 | 745 | 497 | 373 | 298 |
| 3825 | 750 | 500 | 375 | 300 |
| 3850 | 755 | 503 | 377 | 302 |
| 3875 | 760 | 507 | 380 | 304 |
| 3900 | 765 | 510 | 382 | 306 |
| 3925 | 770 | 513 | 385 | 308 |
| 3950 | 775 | 516 | 387 | 310 |
| 3975 | 779 | 520 | 390 | 312 |
| 4000 | 784 | 523 | 392 | 314 |
| 4025 | 789 | 526 | 395 | 316 |
| 4050 | 794 | 529 | 397 | 318 |
| 4075 | 799 | 533 | 400 | 320 |
| 4100 | 804 | 536 | 402 | 322 |

|      |     |     |     |     |
|------|-----|-----|-----|-----|
| 4125 | 809 | 539 | 404 | 324 |
| 4150 | 814 | 542 | 407 | 325 |
| 4175 | 819 | 546 | 409 | 327 |
| 4200 | 824 | 549 | 412 | 329 |
| 4225 | 828 | 552 | 414 | 331 |
| 4250 | 833 | 556 | 417 | 333 |
| 4275 | 838 | 559 | 419 | 335 |
| 4300 | 843 | 562 | 422 | 337 |
| 4325 | 848 | 565 | 424 | 339 |
| 4350 | 853 | 569 | 426 | 341 |
| 4375 | 858 | 572 | 429 | 343 |
| 4400 | 863 | 575 | 431 | 345 |
| 4425 | 868 | 578 | 434 | 347 |
| 4450 | 873 | 582 | 436 | 349 |
| 4475 | 877 | 585 | 439 | 351 |
| 4500 | 882 | 588 | 441 | 353 |
| 4525 | 887 | 592 | 444 | 355 |
| 4550 | 892 | 595 | 446 | 357 |
| 4575 | 897 | 598 | 449 | 359 |
| 4600 | 902 | 601 | 451 | 361 |
| 4625 | 907 | 605 | 453 | 363 |
| 4650 | 912 | 608 | 456 | 365 |
| 4675 | 917 | 611 | 458 | 367 |
| 4700 | 922 | 614 | 461 | 369 |
| 4725 | 926 | 618 | 463 | 371 |
| 4750 | 931 | 621 | 466 | 373 |
| 4775 | 936 | 624 | 468 | 375 |
| 4800 | 941 | 627 | 471 | 376 |
| 4825 | 946 | 631 | 473 | 378 |
| 4850 | 951 | 634 | 475 | 380 |
| 4875 | 956 | 637 | 478 | 382 |
| 4900 | 961 | 641 | 480 | 384 |
| 4925 | 966 | 644 | 483 | 386 |
| 4950 | 971 | 647 | 485 | 388 |
| 4975 | 975 | 650 | 488 | 390 |
| 5000 | 980 | 654 | 490 | 392 |

**NEMA 4 Enclosure Sizing Chart For 304 Stainless Steel Enclosure.**

.

| <b>Power in Enclosure (WATTS)</b> | <b>Surf. Area (sq.ft.) for 10C rise</b> | <b>Surf. Area (sq.ft.) for 15C rise</b> | <b>Surf. Area (sq.ft.) for 20C rise</b> | <b>Surf. Area (sq.ft.) for 25C rise</b> |
|-----------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|
|-----------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|

NEMA 4 Enclosure Sizing Chart For 317 Stainless Steel Enclosure.

.

|                               |                                     |                                     |                                     |                                     |
|-------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Power in Enclosure<br>(WATTS) | Surf. Area (sq.ft.) for<br>10C rise | Surf. Area (sq.ft.) for<br>15C rise | Surf. Area (sq.ft.) for<br>20C rise | Surf. Area (sq.ft.) for<br>25C rise |
|-------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|

NEMA 4 Enclosure Sizing Chart For 410 Stainless Steel Enclosure.

.

|                                  |                                        |                                        |                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power in<br>Enclosure<br>(WATTS) | Surf. Area<br>(sq.ft.) for 10C<br>rise | Surf. Area<br>(sq.ft.) for 15C<br>rise | Surf. Area<br>(sq.ft.) for 20C<br>rise | Surf. Area (sq.ft.) for 25C rise                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                  |                                        |                                        |                                        | <hr/> <p align="center"><b>Notes:</b></p> <p><b>#1. When the above data disagrees with actual manufacturer data, always default to actual manufacturer data.</b></p> <p><b>#2. These values are for educational purposes only. Due to the wide range of circuit applications, the author assumes no responsibility for the application of these values.</b></p> <hr/> <p align="center">Select here for Tom's <a href="#">HOME</a> page</p> <p align="center"><input type="button" value="BACK"/></p> |