

PLATE SILOS



Agora Services Limited



PLATE SILOS

Agora Services Plate Silos are suitable for most powder and granular materials. Their high quality design can accommodate the increased stresses where high capacity filling and emptying takes place at frequent intervals. For materials with difficult flow characteristics such as soya meal, or for heavy products such as coal, ash, etc. the Plate Silo can be arranged with a flat floor to receive the Agora Services unloader where consideration in the design of the silo is taken for mass flow emptying loads.

Plate Silos with Hopper Discharge

Silos from 30-3000 tonne capacity. Standard features include:

- Curved steel flat panels in Galvanised or Epoxy finish.
- Bolted joints using plastic covered dome headed galvanised bolts.
- 45° or 60° Hopper - Standard.
- 1000mm clearance under hopper flange - Standard.
- Support steelwork or support skirt to suit hopper & outloading requirements.
- 30° pitch roof or flat roof top.
- Galvanised roof cylinder and hopper.

Design Note

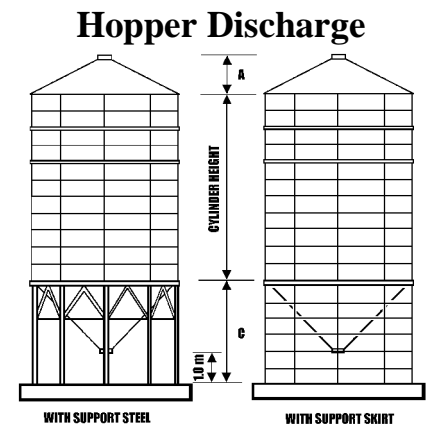
Calculation of internal pressures is carried out in accordance with DIN 1055 and BS 5061 as appropriate. Steelwork is designed in accordance with BS 449, plastic theory being avoided for all primary structures.

At a high anticipated number of loading cycles, fatigue is taken into account, in particular the performance of joints under cyclic loading is given special attention. External loading is calculated to CP3 Chapter V, Part 2, reference being made to other codes as necessary for wind drag coefficients.

Other products in the Agora Services range:

Corrugated Silos - hopper bottom and flat bottom
 Powder Silos
 Square Silos
 Planetary Screw Dischargers
 Conveyors
 Screw Conveyors
 Liquid Storage Tanks

| Diameter | A | C 45° | C 60° |
|----------|------|-------|-------|
| 3.05 | 0.88 | 1.53 | 2.64 |
| 3.82 | 1.10 | 1.91 | 3.31 |
| 4.58 | 1.32 | 2.29 | 3.97 |
| 5.35 | 1.54 | 2.68 | 4.63 |
| 6.11 | 1.76 | 3.06 | 5.29 |
| 6.87 | 1.98 | 3.44 | 5.95 |
| 7.64 | 2.21 | 3.82 | 6.62 |
| 8.40 | 2.42 | 4.20 | 7.27 |
| 9.16 | 2.64 | 4.58 | 7.93 |
| 9.93 | 2.87 | 4.97 | 8.60 |
| 10.70 | 3.09 | 5.35 | 9.27 |
| 11.46 | 3.31 | 5.73 | 9.92 |



Capacity Table in Cubic Metres, using a 45° Hopper

| Height | Diameter | | | | | | | | | | | |
|--------|----------|------|------|------|------|------|------|------|------|------|-------|-------|
| | 3.05 | 3.82 | 4.58 | 5.35 | 6.11 | 6.87 | 7.64 | 8.40 | 9.16 | 9.93 | 10.70 | 11.46 |
| 6.00 | 49 | 79 | 117 | 164 | 220 | 285 | 361 | 446 | 543 | 653 | 775 | 908 |
| 7.20 | 58 | 93 | 137 | 191 | 255 | 329 | 416 | 513 | 622 | 746 | 883 | 1032 |
| 8.40 | 67 | 107 | 157 | 218 | 290 | 374 | 471 | 579 | 701 | 838 | 990 | 1155 |
| 9.60 | 76 | 121 | 177 | 245 | 325 | 418 | 526 | 646 | 780 | 931 | 1098 | 1279 |
| 10.80 | 84 | 134 | 196 | 272 | 360 | 463 | 581 | 712 | 859 | 1024 | 1206 | 1403 |
| 12.00 | 93 | 148 | 216 | 299 | 396 | 507 | 636 | 779 | 938 | 1117 | 1314 | 1527 |
| 13.20 | 102 | 162 | 236 | 326 | 431 | 552 | 691 | 845 | 1017 | 1210 | 1422 | 1650 |
| 14.40 | 111 | 176 | 256 | 353 | 466 | 596 | 746 | 912 | 1096 | 1303 | 1530 | 1774 |
| 15.60 | 119 | 189 | 275 | 380 | 501 | 641 | 801 | 978 | 1176 | 1396 | 1638 | 1898 |
| 16.80 | 128 | 203 | 295 | 407 | 536 | 685 | 856 | 1045 | 1255 | 1489 | 1746 | 2022 |
| 18.00 | 137 | 217 | 315 | 434 | 572 | 729 | 911 | 1111 | 1334 | 1582 | 1854 | 2146 |
| 19.20 | 146 | 231 | 335 | 461 | 607 | 774 | 966 | 1178 | 1413 | 1675 | 1962 | 2269 |
| 20.40 | 154 | 245 | 355 | 488 | 642 | 818 | 1021 | 1244 | 1492 | 1768 | 2070 | 2393 |
| 21.60 | 163 | 258 | 374 | 515 | 677 | 863 | 1076 | 1311 | 1571 | 1861 | 2177 | 2517 |

Capacity Table in Cubic Metres, using a 60° Hopper

| Height | Diameter | | | | | | | | | | | |
|--------|----------|------|------|------|------|------|------|------|------|------|-------|-------|
| | 3.05 | 3.82 | 4.58 | 5.35 | 6.11 | 6.87 | 7.64 | 8.40 | 9.16 | 9.93 | 10.70 | 11.46 |
| 6.00 | 52 | 85 | 126 | 179 | 242 | 316 | 403 | 503 | 617 | 746 | 892 | 1052 |
| 7.20 | 61 | 99 | 146 | 206 | 277 | 360 | 458 | 570 | 696 | 839 | 1000 | 1176 |
| 8.40 | 70 | 112 | 166 | 233 | 312 | 405 | 513 | 636 | 775 | 932 | 1108 | 1300 |
| 9.60 | 78 | 126 | 186 | 260 | 347 | 449 | 568 | 703 | 854 | 1025 | 1216 | 1423 |
| 10.80 | 87 | 140 | 206 | 287 | 382 | 494 | 623 | 769 | 933 | 1118 | 1324 | 1547 |
| 12.00 | 96 | 154 | 225 | 314 | 417 | 538 | 678 | 836 | 1012 | 1211 | 1432 | 1671 |
| 13.20 | 105 | 167 | 245 | 341 | 453 | 583 | 733 | 902 | 1091 | 1304 | 1539 | 1795 |
| 14.40 | 113 | 181 | 265 | 368 | 488 | 627 | 788 | 969 | 1170 | 1397 | 1647 | 1918 |
| 15.60 | 122 | 195 | 285 | 395 | 523 | 672 | 843 | 1035 | 1249 | 1490 | 1755 | 2042 |
| 16.80 | 131 | 209 | 304 | 422 | 558 | 716 | 898 | 1102 | 1328 | 1583 | 1863 | 2166 |
| 18.00 | 140 | 222 | 324 | 449 | 593 | 761 | 954 | 1168 | 1407 | 1676 | 1971 | 2290 |
| 19.20 | 148 | 236 | 344 | 476 | 629 | 805 | 1009 | 1235 | 1486 | 1769 | 2079 | 2414 |
| 20.40 | 157 | 250 | 364 | 503 | 664 | 850 | 1064 | 1301 | 1566 | 1862 | 2187 | 2537 |
| 21.60 | 166 | 264 | 384 | 530 | 699 | 894 | 1119 | 1368 | 1645 | 1955 | 2295 | 2661 |

Capacities have been determined with the inclusion of cylinder, hopper and a surcharge cone sloped at 25° to the horizontal.

Agora Services Plate Silos for use with planetary discharger include all of the features outlined except that the hopper is replaced with a flat floor to receive the discharger. This floor is either in steel, supported by a steel entablature, or support skirt in steel or concrete. Alternatively a concrete floor supported by a concrete skirt.

Extractor Discharge

