

# ON-GROUND SEALED GASTIGHT SILOS







General Purpose Grain Storage

Long term Grain Storage with phosphine or controlled atmosphere insect control.

As a "hospital" silo for pest eradication of infested grain.

Commercial grain storage system.

Ask for further information on the importance of sealed silos in the drive to control insects and maintain grain free of chemical residue.

#### **FEATURES**

- Factory manufactured components, assembled on site.
- Engineered and certified to Australian Standards and Codes.
- All galvanised construction.
- Kotzur Silos are manufactured to Silo Sealing Standard AS 2628 (Sealed to 5 minute half pressure decay standard).
- Pest eradication without chemical residue and risk of insect resistance.
- Bin is protected with high capacity of oil bath relief valve.
- Clean Design no internal stiffeners.
- All structural seals use high quality, long lasting materials.
- Sight glass level indication (one in each 1100mm wall strake).
- External wall/roof ladder system for roof access
- Range of unload and sweep auger combinations to suit each application.
- Covered by Kotzur 5 year warranty.
- All silo models can be varied/modified to specific customer requirements.

## **SPECIFICATIONS** Effective 12 April 2023

| GP 12 SERIES | CAPACITY M <sup>3</sup> | CAPACITY<br>WHEAT <sup>(1)</sup><br>T | MAX<br>LOAD T <sup>(2)</sup> | DIAMETER M | HEIGHT<br>TO CENTRE (3) | HEIGHT TO EAVE | AUGER LENGTH |
|--------------|-------------------------|---------------------------------------|------------------------------|------------|-------------------------|----------------|--------------|
| GP 12-5      | 424                     | 352                                   | 390                          | 9.2        | 8.6                     | 6.0            | 15.5 (51)    |
| GP 12-6      | 496                     | 412                                   | 456                          | 9.2        | 9.7                     | 7.1            | 17.4 (57)    |
| GP 12-7      | 568                     | 471                                   | 523                          | 9.2        | 10.8                    | 8.2            | 19.3 (63)    |
| GP 12-8      | 640                     | 531                                   | 589                          | 9.2        | 11.9                    | 9.3            | 21.2 (70)    |
| GP 12-9      | 712                     | 591                                   | 655                          | 9.2        | 13.0                    | 10.4           | 23.2 (76)    |
| GP 12-10     | 784                     | 651                                   | 721                          | 9.2        | 14.1                    | 11.5           | 25.1 (82)    |
| GP 12-11     | 856                     | 710                                   | 788                          | 9.2        | 15.2                    | 12.6           | 27.0 (89)    |
| GP 12-12     | 928                     | 770                                   | 854                          | 9.2        | 16.3                    | 13.7           | 28.9 (95)    |
| GP 15 SERIES | CAPACITY M <sup>3</sup> | CAPACITY<br>WHEAT <sup>(1)</sup><br>T | MAX<br>LOAD T <sup>(2)</sup> | DIAMETER M | HEIGHT<br>TO CENTRE (3) | HEIGHT TO EAVE | AUGER LENGTI |
| GP 15-6      | 797                     | 661                                   | 733                          | 11.4       | 10.0                    | 7.1            | 18.6 (61)    |
| GP 15-7      | 910                     | 755                                   | 837                          | 11.4       | 11.1                    | 8.2            | 20.5 (67)    |
| GP 15-8      | 1022                    | 848                                   | 940                          | 11.4       | 12.2                    | 9.3            | 22.5 (74)    |
| GP 15-9      | 1135                    | 942                                   | 1044                         | 11.4       | 13.3                    | 10.4           | 24.4 (80)    |
| GP 15-10     | 1247                    | 1035                                  | 1147                         | 11.4       | 14.4                    | 11.5           | 26.3 (86)    |
| GP 15-11     | 1360                    | 1129                                  | 1251                         | 11.4       | 15.5                    | 12.6           | 28.2 (93)    |
| GP 15-12     | 1472                    | 1222                                  | 1354                         | 11.4       | 16.6                    | 13.7           | 30.2 (99)    |
| GP 15-13     | 1583                    | 1314                                  | 1456                         | 11.4       | 17.7                    | 14.8           | 31.4 (103)   |
| GP 15-14     | 1696                    | 1408                                  | 1560                         | 11.4       | 18.8                    | 15.9           | N/A          |
| GP 15-15     | 1809                    | 1502                                  | 1664                         | 11.4       | 19.9                    | 17.0           | N/A          |
| GP 15-16     | 1922                    | 1595                                  | 1768                         | 11.4       | 21.0                    | 18.1           | N/A          |
| GP 15-17     | 2035                    | 1689                                  | 1872                         | 11.4       | 22.1                    | 19.2           | N/A          |
| GP 15-18     | 2148                    | 1783                                  | 1976                         | 11.4       | 23.2                    | 20.3           | N/A          |
| GP 18 SERIES | CAPACITY M <sup>3</sup> | CAPACITY<br>WHEAT <sup>(1)</sup><br>T | MAX<br>LOAD T <sup>(2)</sup> | DIAMETER M | HEIGHT<br>TO CENTRE (3) | HEIGHT TO EAVE | AUGER LENGTI |
| GP 18-5      | 1019                    | 846                                   | 938                          | 13.7       | 9.7                     | 6.0            | 18.0 (60)    |
| GP 18-6      | 1181                    | 980                                   | 1087                         | 13.7       | 10.8                    | 7.1            | 19.9 (66)    |
| GP 18-7      | 1343                    | 1115                                  | 1236                         | 13.7       | 11.9                    | 8.2            | 21.8 (72)    |
| GP 18-8      | 1505                    | 1249                                  | 1385                         | 13.7       | 13.0                    | 9.3            | 23.7 (78)    |
| GP 18-9      | 1667                    | 1384                                  | 1534                         | 13.7       | 14.1                    | 10.4           | 25.6 (84)    |
| GP 18-10     | 1829                    | 1518                                  | 1683                         | 13.7       | 15.2                    | 11.5           | 27.5 (90)    |
| GP 18-11     | 1991                    | 1652                                  | 1832                         | 13.7       | 16.3                    | 12.6           | 29.5 (97)    |
| GP 18-12     | 2153                    | 1787                                  | 1981                         | 13.7       | 17.4                    | 13.7           | 31.4 (103)   |
|              |                         |                                       |                              |            |                         |                |              |

<sup>1 -</sup> Wheat capacity based on typical consolidated/compacted bulk density in silo. 2 - Max. Load based on engineering design for wheat at 920kg/m3 - this load will vary for products with differing properties. 3 - Overall height allows for 400mm concrete height - this will vary with unloader options. 4 - Auger lengths are indicative only and are based on 35° angle. As differing auger brands elevate to different angles, always check individual auger height.

## **SPECIFICATIONS** Effective 12 April 2023

| GP 20 SERIES | CAPACITY M <sup>3</sup> | CAPACITY<br>WHEAT <sup>(1)</sup><br>T | MAX<br>LOAD T <sup>(2)</sup> | DIAMETER M | HEIGHT<br>TO CENTRE (3) | HEIGHT TO EAVE | AUGER LENGTH  (4) M (FT) |
|--------------|-------------------------|---------------------------------------|------------------------------|------------|-------------------------|----------------|--------------------------|
| GP 20-10     | 2258                    | 1874                                  | 2077                         | 15.2       | 16.0                    | 11.5           | 28.8 (94)                |
| GP 20-11     | 2457                    | 2040                                  | 2261                         | 15.2       | 17.1                    | 12.6           | 30.78 (101)              |
| GP 20-12     | 2657                    | 2205                                  | 2444                         | 15.2       | 18.2                    | 13.7           | 32.76 (107)              |
| GP 20-13     | 2856                    | 2370                                  | 2628                         | 15.2       | 19.3                    | 14.8           | N/A                      |
| GP 20-14     | 3055                    | 2536                                  | 2811                         | 15.2       | 20.4                    | 15.9           | N/A                      |
| GP 20-15     | 3255                    | 2701                                  | 2994                         | 15.2       | 21.5                    | 17.0           | N/A                      |
| GP 20-16     | 3454                    | 2867                                  | 3178                         | 15.2       | 22.6                    | 18.1           | N/A                      |
| GP 20-17     | 3653                    | 3032                                  | 3361                         | 15.2       | 23.7                    | 19.2           | N/A                      |
| GP 20-18     | 3853                    | 3198                                  | 3545                         | 15.2       | 24.8                    | 20.3           | N/A                      |
| GP 20-19     | 4052                    | 3363                                  | 3728                         | 15.2       | 25.9                    | 21.4           | N/A                      |
| GP 20-20     | 4251                    | 3529                                  | 3911                         | 15.2       | 27.0                    | 22.5           | N/A                      |

| GP 22 SERIES | CAPACITY M <sup>3</sup> | CAPACITY<br>WHEAT <sup>(1)</sup><br>T | MAX<br>LOAD T <sup>(2)</sup> | DIAMETER M | HEIGHT<br>TO CENTRE (3) | HEIGHT TO EAVE | AUGER LENGTH (4) M (FT) |
|--------------|-------------------------|---------------------------------------|------------------------------|------------|-------------------------|----------------|-------------------------|
| GP 22-10     | 2777                    | 2304                                  | 2555                         | 16.7       | 16.4                    | 11.5           | 29.5 (97)               |
| GP 22-11     | 3020                    | 2506                                  | 2778                         | 16.7       | 17.5                    | 12.6           | 31.4 (103)              |
| GP 22-12     | 3262                    | 2707                                  | 3000                         | 16.7       | 18.6                    | 13.7           | 33.3 (109)              |
| GP 22-13     | 3504                    | 2908                                  | 3224                         | 16.7       | 19.7                    | 14.8           | N/A                     |
| GP 22-14     | 3746                    | 3110                                  | 3447                         | 16.7       | 20.8                    | 15.9           | N/A                     |
| GP 22-15     | 3989                    | 3311                                  | 3670                         | 16.7       | 21.9                    | 17.0           | N/A                     |
| GP 22-16     | 4231                    | 3512                                  | 3892                         | 16.7       | 23.0                    | 18.1           | N/A                     |
| GP 22-17     | 4473                    | 3713                                  | 4115                         | 16.7       | 24.1                    | 19.2           | N/A                     |
| GP 22-18     | 4716                    | 3913                                  | 4338                         | 16.7       | 25.2                    | 20.3           | N/A                     |
| GP 22-19     | 4959                    | 4116                                  | 4562                         | 16.7       | 26.3                    | 21.4           | N/A                     |
| GP 22-20     | 5202                    | 4317                                  | 4786                         | 16.7       | 27.4                    | 22.5           | N/A                     |

<sup>1 -</sup> Wheat capacity based on typical consolidated/compacted bulk density in silo. 2 - Max. Load based on engineering design for wheat at 920kg/m3 - this load will vary for products with differing properties. 3 - Overall height allows for 400mm concrete height - this will vary with unloader options. 4 - Auger lengths are indicative only and are based on 35° angle. As differing auger brands elevate to different angles, always check individual auger height.

#### **COMMERCIAL AND SPECIAL REQUIREMENTS**

The Company has a range of non-standard options and variations for specific applications. These include;

- Range of unloader size and duty cycle designs
- Roof loads to carry conveyors.
- Designs for high wind and seismic regions.
- Storage of products other than grain.
- Design and construct of integrated storage and conveying systems
- Custom size/geometry silos.

WARRANTY - Kotzur Pty Ltd are confident in the quality of the products they design, manufacture and supply. The company guarantees its product for a period of five years from date of purchase. This guarantee covers faulty design, engineering and workmanship however does not include problems arising from factors over which they have no control. These factors include footings constructed by others, negligent damage, unintended use of products, poor maintenance of care, normal wear and tear. Please note that this warranty excludes Consequential losses.

# SILO ACCESS OPTIONS

All of our flat bottom silos can be fitted with a spiral staircase or ladder, as well as being combined with a walkway between silos that are positioned next to each other.

Our spiral staircase system was introduced in 2014 and, as with our ladders, all components are designed by Kotzur and fully comply with relevant Australian quality and safety standards.



# SILO AERATION OPTIONS

Grain aeration is a powerful tool that offers harvest flexibility and better control of grain quality in storage; therefore increasing marketing opportunities both at harvest and during storage.

Without aeration, grain in storage will retain its harvest temperature and moisture for long periods of time. This can lead to increase insect activity, moulding and quality degradation.

## **Aeration Cooling Solutions**

Aeration cooling aims to maintain grain quality during storage. By maintaining low temperature and creating uniformity through the grain, mould and insects are less likely to develop. Cooling can be achieved with airflow rates of 2-3 l/s/T (litres per second per tonne).

 In-floor Aeration System: Is the solution for flat bottom silos.

## **Aeration Drying Solutions**

Aeration drying relies on a high volume of air passing through the grain to slowly remove moisture. Aeration drying requires higher airflow rates of 15-50l/s/T in order to effectively move drying fronts through and carry moisture out of the stored grain.

- Full-floor Aeration System: is the solution for flat bottom silos. This ensures high volume of air passing through the grain.

## **Kotzur Aeration Controller**

The Kotzur Aeration Controller has been designed to operate the silo fans for a determined number of hours a day, when the ambient weather conditions are optimum for cooling.

The unit is equipped with a temperature and humidity sensor that reads the ambient temperature and humidity in 'real time'. These readings are used in the controller to calculate the 'wet bulb' temperature, which is then compared to a 'set point' temperature. When the wet bulb temperature is above the set point temperature the fans will automatically turn on.



**KOTZUR AERATION CONTROLLER** 





