



**MINING** TECHNOLOGY

**CEMTEC**  
Cement & Mining Technology

## **CEMTEC – your partner for success.**

CEMTEC operates on the basis of individual responsibility. Every member of our team has the right to make high-level decisions. The entire responsibility for a project – from planning to commissioning – rests with a single person. This means that you have the same, competent contact partner for all your queries, wishes and suggestions, without exception. In addition to standard orders, your individual requirements are also fulfilled rapidly and without complications.



**CEMTEC HEADQUARTERS IN ENNS AUSTRIA**

## **CEMTEC manages projects throughout the world for the cement and processing industry.**

CEMTEC manages every project from start to finish. From planning to commissioning. Our product spectrum includes tube mills for grinding a wide range of bulk materials and minerals, as well as rotating drums for thermal treatment (calcination, drying, cooling) and mechanical processing (mixing, washing, conditioning, etc.) of different bulk materials. We also offer erection supervision, commissioning and technical support. Successful projects all over the world attest to the competence of CEMTEC.

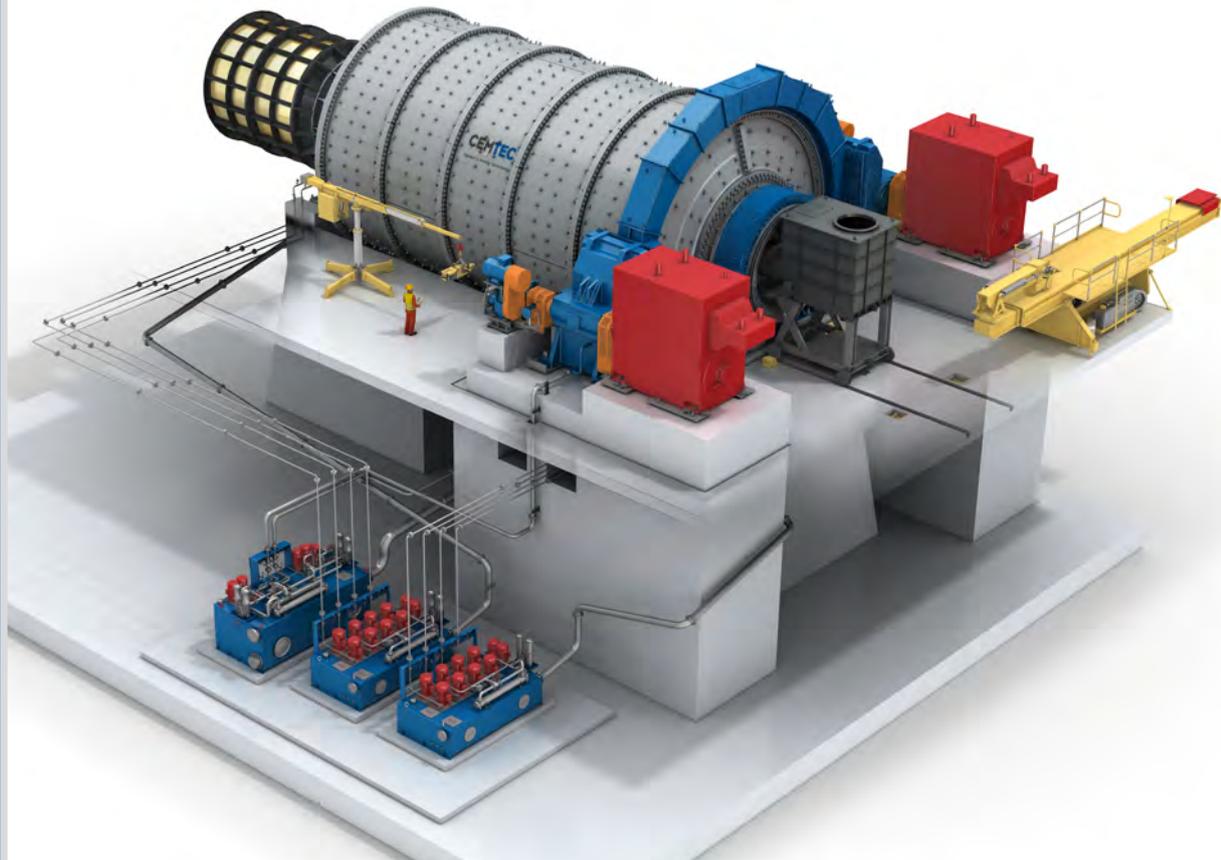
# MINING TECHNOLOGY



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# BALL MILLS



## PRODUCT DESCRIPTION

CEMTEC supplies comminution solutions with ball and pebble mills by wet and dry process in closed or open circuits. A wide range of designs is available to satisfy customer requirements for new projects, expansions or upgrades of existing plants.

The selection of mill type and mill design depends on the raw material characteristics, which can be determined in our pilot test plant and laboratory facilities. A combination of these facilities and our extensive know-how enable us to provide tailor-made solutions exactly tuned to your needs.

CEMTEC ball mills are available with trunnion, slide shoe and roller bearings and with gear rim/pinion, direct meshing and central drive and can be delivered with rubber, steel or ceramic lining. Also several feed- and discharge arrangements are available.

## SIZES AND DIMENSIONS

| DIA<br>[m] | EGL<br>[m] |       | PINION POWER<br>[kW] |       | MILL<br>SPEED<br>[min <sup>-1</sup> ] | MILL CHARGE<br>[t] |       |
|------------|------------|-------|----------------------|-------|---------------------------------------|--------------------|-------|
|            | min        | max   |                      |       |                                       | min                | max   |
| 1.8        | 2.50       | 4.50  | 68                   | 122   | 24.3                                  | 7.8                | 14.1  |
| 2.1        | 3.00       | 5.50  | 122                  | 223   | 22.4                                  | 13.0               | 23.9  |
| 2.4        | 3.25       | 6.00  | 187                  | 346   | 20.9                                  | 18.6               | 34.4  |
| 2.6        | 3.50       | 6.50  | 248                  | 461   | 20.1                                  | 23.7               | 44.0  |
| 2.8        | 3.75       | 7.00  | 308                  | 575   | 19.5                                  | 28.5               | 53.3  |
| 3.0        | 4.00       | 7.50  | 394                  | 739   | 18.8                                  | 35.2               | 66.0  |
| 3.2        | 4.25       | 8.00  | 496                  | 934   | 18.2                                  | 42.9               | 80.7  |
| 3.4        | 4.50       | 8.50  | 695                  | 1,313 | 17.6                                  | 51.5               | 97.3  |
| 3.6        | 4.75       | 9.00  | 837                  | 1,586 | 17.1                                  | 61.3               | 116.1 |
| 3.8        | 5.00       | 9.50  | 998                  | 1,896 | 16.6                                  | 72.2               | 137.2 |
| 4.0        | 5.25       | 10.00 | 1,178                | 2,244 | 16.2                                  | 84.3               | 160.6 |
| 4.2        | 5.50       | 10.50 | 1,379                | 2,633 | 15.8                                  | 97.8               | 186.7 |
| 4.4        | 6.00       | 11.00 | 1,670                | 3,062 | 15.4                                  | 117.5              | 215.3 |
| 4.6        | 6.00       | 11.50 | 1,850                | 3,546 | 15.0                                  | 128.8              | 246.8 |
| 4.8        | 6.50       | 12.00 | 2,203                | 4,067 | 14.7                                  | 152.3              | 281.2 |
| 5.0        | 6.75       | 12.50 | 2,508                | 4,644 | 14.4                                  | 172.1              | 318.7 |
| 5.2        | 7.00       | 13.00 | 2,842                | 5,278 | 14.1                                  | 193.5              | 359.3 |
| 5.4        | 7.25       | 13.50 | 3,203                | 5,964 | 13.9                                  | 216.6              | 403.3 |
| 5.6        | 7.50       | 14.00 | 3,596                | 6,713 | 13.6                                  | 241.5              | 450.7 |
| 5.8        | 7.75       | 14.50 | 4,018                | 7,518 | 13.4                                  | 268.1              | 501.7 |



| DIA<br>[ft] | EGL<br>[ft] |     | PINION POWER<br>[hp] | MILL<br>SPEED<br>[min <sup>-1</sup> ] | MILL CHARGE<br>[lbs] |           |           |
|-------------|-------------|-----|----------------------|---------------------------------------|----------------------|-----------|-----------|
|             | min         | max |                      |                                       | min                  | max       |           |
| 20          | 27          | 50  | 6,487                | 12,012                                | 13,0                 | 696,186   | 1,289,233 |
| 21          | 27          | 52  | 7,218                | 13,901                                | 12,7                 | 768,166   | 1,479,430 |
| 22          | 29          | 54  | 8,608                | 16,029                                | 12,4                 | 908,973   | 1,692,570 |
| 23          | 30          | 54  | 9,801                | 17,642                                | 12,1                 | 1,027,756 | 1,849,960 |
| 24          | 31          | 54  | 11,142               | 19,409                                | 11,9                 | 1,160,825 | 2,022,081 |
| 25          | 32          | 54  | 12,552               | 21,181                                | 11,6                 | 1,300,000 | 2,193,750 |
| 26          | 33          | 54  | 14,106               | 23,083                                | 11,4                 | 1,453,086 | 2,377,778 |
| 27          | 34          | 54  | 15,764               | 25,038                                | 11,2                 | 1,616,138 | 2,566,807 |

Note: additional sizes on request



# ROD MILLS

CEMTEC offers comminution solutions with rod mills in wet and dry process. A wide range of designs is available to meet customer requirements for new projects, extensions or upgrades of existing plants.

The selection of mill type and mill design depends on the raw material characteristics, which can be determined in our pilot test plant and laboratory facilities. A combination of these facilities and our extensive know-how enable us to provide tailor-made solutions exactly tuned to your needs.

CEMTEC rod mills are available with trunnion, slide shoe and roller bearings and with gear rim/pinion, direct meshing and central drive. CEMTEC can deliver rod mills with rubber or steel lining. Also several feed and discharge arrangements are available.

## PRODUCT DESCRIPTION

| DIA<br>[m] | EGL |      | PINION POWER |       | MILL<br>SPEED<br>[min <sup>-1</sup> ] | MILL CHARGE |       |
|------------|-----|------|--------------|-------|---------------------------------------|-------------|-------|
|            | min | max  | [kW]         |       |                                       | min         | max   |
|            | [m] | [m]  |              |       |                                       | [t]         |       |
| 1.8        | 2.5 | 3.00 | 58           | 70    | 21.4                                  | 9.7         | 11.7  |
| 2.1        | 3.0 | 3.50 | 103          | 121   | 19.7                                  | 16.4        | 19.3  |
| 2.4        | 3.3 | 3.75 | 157          | 182   | 18.3                                  | 23.7        | 27.6  |
| 2.6        | 3.5 | 4.00 | 207          | 238   | 17.6                                  | 30.4        | 34.9  |
| 2.8        | 3.8 | 4.50 | 267          | 323   | 16.9                                  | 38.2        | 46.2  |
| 3.0        | 4.0 | 4.75 | 339          | 405   | 16.3                                  | 47.3        | 56.5  |
| 3.2        | 4.3 | 5.25 | 423          | 526   | 15.7                                  | 57.7        | 71.7  |
| 3.4        | 4.5 | 5.75 | 521          | 670   | 15.3                                  | 69.5        | 89.4  |
| 3.6        | 4.8 | 6.00 | 633          | 805   | 14.8                                  | 82.8        | 105.3 |
| 3.8        | 5.0 | 6.25 | 762          | 958   | 14.4                                  | 97.7        | 122.9 |
| 4.0        | 5.3 | 6.50 | 908          | 1,130 | 14.0                                  | 114.3       | 142.3 |
| 4.2        | 5.5 | 6.50 | 1,072        | 1,272 | 13.7                                  | 132.7       | 157.5 |
| 4.4        | 6.0 | 6.50 | 1,312        | 1,424 | 13.3                                  | 159.8       | 173.4 |
| 4.6        | 6.3 | 6.50 | 1,524        | 1,586 | 13.0                                  | 182.6       | 190.1 |
| 4.8        | 6.5 | 6.50 | 1,758        | 1,758 | 12.7                                  | 207.6       | 207.6 |



## SIZES AND DIMENSIONS

Note: additional sizes on request

# CEMTEC

Cement & Mining Technology

## PRODUCT DESCRIPTION

CEMTEC also provides comminution solutions with AG mills and SAG mills. A wide range of designs is available to meet customer requirements for new projects, expansions or upgrades of existing plants.

The selection of mill type and mill design depends on the raw material characteristics, which can be determined in our pilot test plant and laboratory facilities. A combination of these facilities and our extensive know-how enables us to provide tailor-made solutions exactly tuned to your needs.

CEMTEC AG/SAG mills are available with trunnion or slide shoe bearings and with gear rim / pinion or direct meshing drives. CEMTEC can deliver AG/SAG mills with rubber or steel linings. Also several feed and discharge arrangements are available.

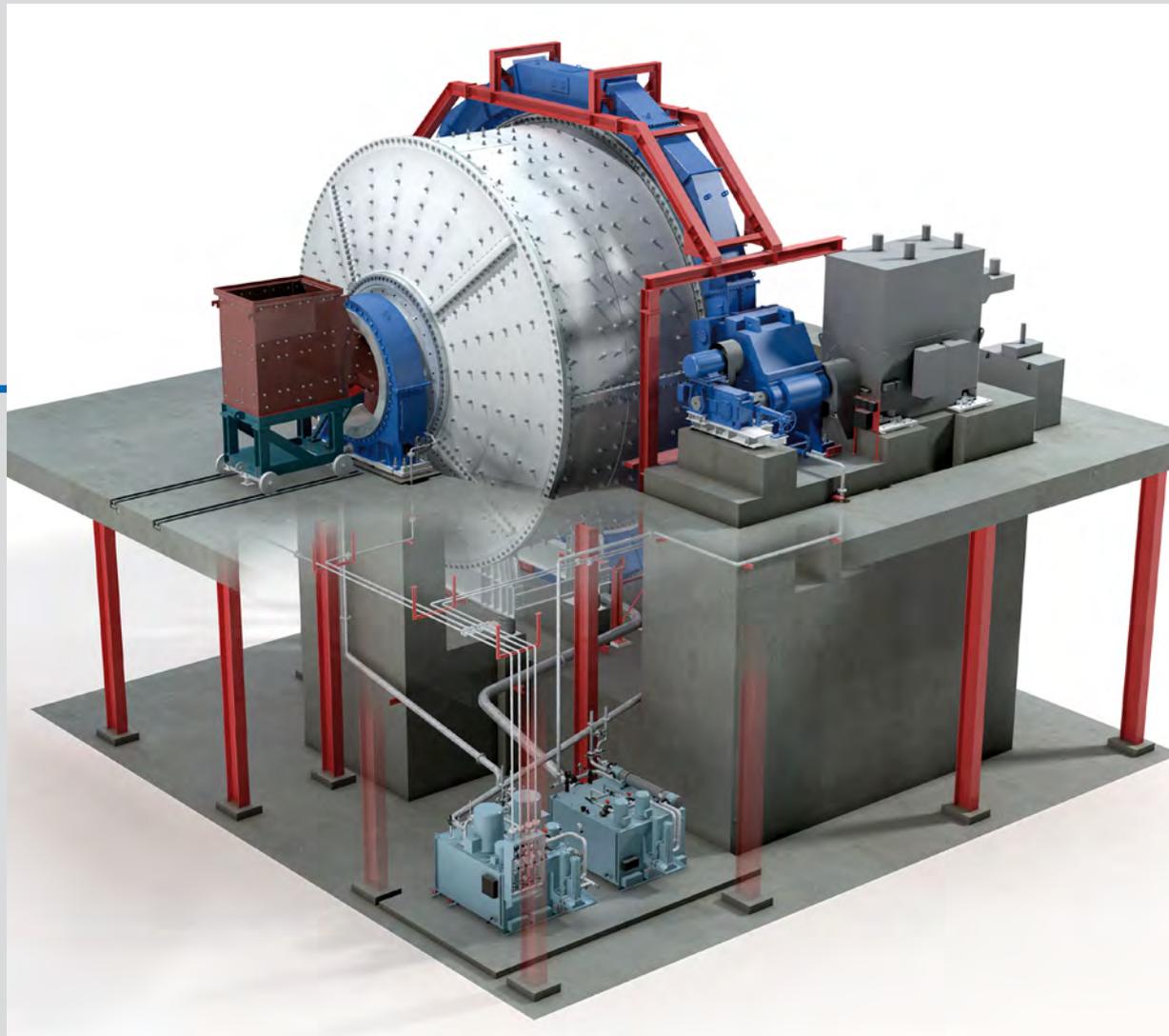
# AG / SAG MILLS



## SIZES AND DIMENSIONS

| DIA   | EGL  |      | SAG POWER AT SHAFT |        | AG POWER AT SHAFT |       | MILL SPEED           | SAG MILL BALL CHARGE |       | DIA  | EGL  |      | SAG POWER AT SHAFT |          | AG POWER AT SHAFT |         | MILL SPEED           | SAG MILL BALL CHARGE |         |
|-------|------|------|--------------------|--------|-------------------|-------|----------------------|----------------------|-------|------|------|------|--------------------|----------|-------------------|---------|----------------------|----------------------|---------|
|       | min  | max  | min                | max    | min               | max   |                      | min                  | max   |      | min  | max  | min                | max      | min               | max     |                      | min                  | max     |
| [m]   | [m]  | [m]  | [kW]               | [kW]   | [kW]              | [kW]  | [min <sup>-1</sup> ] | [t]                  | [t]   | [ft] | [ft] | [ft] | [hp]               | [hp]     | [hp]              | [hp]    | [min <sup>-1</sup> ] | [t]                  | [lbs]   |
| 6.10  | 2.14 | 3.05 | 1,158              | 1,651  | 601               | 857   | 13.10                | 40.3                 | 57,4  | 20   | 7    | 10   | 1,574.9            | 2,245.4  | 817.4             | 1,165.5 | 13.10                | 88,845               | 126,544 |
| 6.41  | 2.14 | 3.36 | 1,318              | 1,405  | 684               | 1,074 | 12.77                | 44.6                 | 70,1  | 21   | 7    | 11   | 1,792.5            | 1,910.8  | 930.2             | 1,460.6 | 12.77                | 98,325               | 154,542 |
| 6.71  | 2.14 | 3.36 | 1,484              | 2,329  | 770               | 1,209 | 12.47                | 49.1                 | 77,1  | 22   | 7    | 11   | 2,018.2            | 3,167.4  | 1,047.2           | 1,644.2 | 12.47                | 108,246              | 169,975 |
| 7.02  | 2.14 | 3.36 | 1,691              | 2,619  | 878               | 1,359 | 12.18                | 54.6                 | 84,6  | 23   | 7    | 11   | 2,299.8            | 3,561.8  | 1,194.1           | 1,848.2 | 12.18                | 120,371              | 186,509 |
| 7.32  | 2.44 | 3.66 | 2,119              | 3,179  | 1,100             | 1,649 | 11.92                | 67.0                 | 100,5 | 24   | 8    | 12   | 2,881.8            | 4,323.4  | 1,496.0           | 2,242.6 | 11.92                | 147,708              | 221,562 |
| 7.63  | 2.44 | 3.97 | 2,359              | 3,838  | 1,224             | 1,991 | 11.67                | 73.0                 | 118,8 | 25   | 8    | 13   | 3,208.2            | 5,219.7  | 1,664.6           | 2,707.8 | 11.67                | 160,936              | 261,906 |
| 7.93  | 2.44 | 4.27 | 2,605              | 4,559  | 1,352             | 2,366 | 11.44                | 79.0                 | 138,3 | 26   | 8    | 14   | 3,542.8            | 6,200.2  | 1,838.7           | 3,217.8 | 11.44                | 174,163              | 304,896 |
| 8.24  | 2.75 | 4.27 | 3,241              | 5,398  | 1,682             | 2,801 | 11.22                | 96.4                 | 160,6 | 27   | 9    | 14   | 4,407.8            | 7,341.3  | 2,287.5           | 3,809.4 | 11.22                | 212,523              | 354,059 |
| 8.54  | 2.75 | 4.58 | 3,554              | 5,919  | 1,844             | 3,071 | 11.01                | 103.8                | 172,8 | 28   | 9    | 15   | 4,833.4            | 8,049.8  | 2,507.8           | 4,176.6 | 11.01                | 228,837              | 380,955 |
| 8.85  | 3.05 | 4.88 | 4,320              | 6,912  | 2,242             | 3,587 | 10.81                | 123.9                | 198,2 | 29   | 10   | 16   | 5,875.2            | 9,400.3  | 3,049.1           | 4,878.3 | 10.81                | 273,150              | 436,952 |
| 9.15  | 3.05 | 4.88 | 4,706              | 7,530  | 2,442             | 3,907 | 10.63                | 132.6                | 212,2 | 30   | 10   | 16   | 6,400.2            | 10,240.8 | 3,321.1           | 5,313.5 | 10.63                | 292,330              | 467,816 |
| 9.46  | 3.05 | 4.88 | 5,126              | 8,202  | 2,660             | 4,256 | 10.45                | 142.0                | 227,3 | 31   | 10   | 16   | 6,971.4            | 11,154.7 | 3,617.6           | 5,788.2 | 10.45                | 313,053              | 501,106 |
| 9.76  | 3.36 | 5.19 | 6,664              | 9,450  | 4,256             | 4,904 | 10.28                | 181.7                | 257,7 | 32   | 11   | 17   | 9,063.0            | 12,852.0 | 5,788.2           | 6,669.4 | 10.28                | 400,576              | 568,125 |
| 10.07 | 3.36 | 5.19 | 6,628              | 10,238 | 3,439             | 5,313 | 10.12                | 177.9                | 274,7 | 33   | 11   | 17   | 9,014.1            | 13,923.7 | 4,677.0           | 7,225.7 | 10.12                | 392,198              | 605,604 |
| 10.37 | 3.36 | 6.10 | 7,145              | 12,964 | 3,708             | 6,727 | 9.97                 | 188.9                | 342,7 | 34   | 11   | 20   | 9,717.2            | 17,631.0 | 5,042.9           | 9,148.7 | 9.97                 | 416,449              | 755,516 |

Note: additional sizes on request



# AG / SAG MILLS



# PELLETIZING DISCS

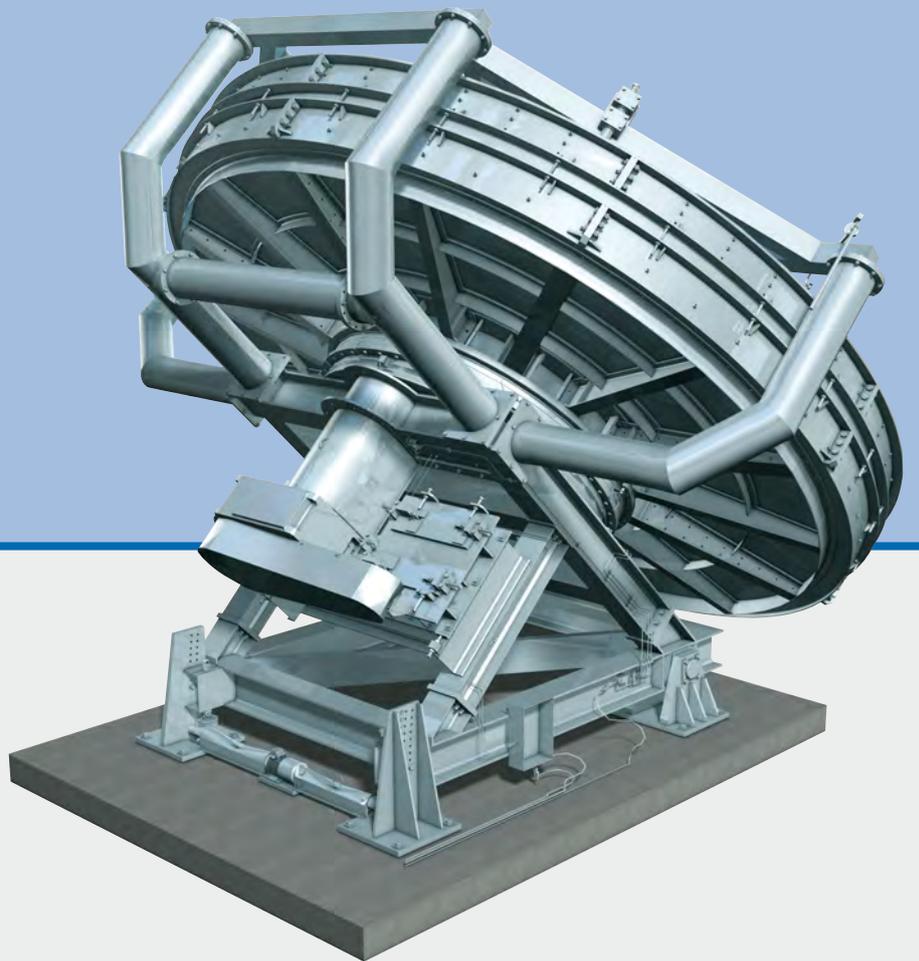
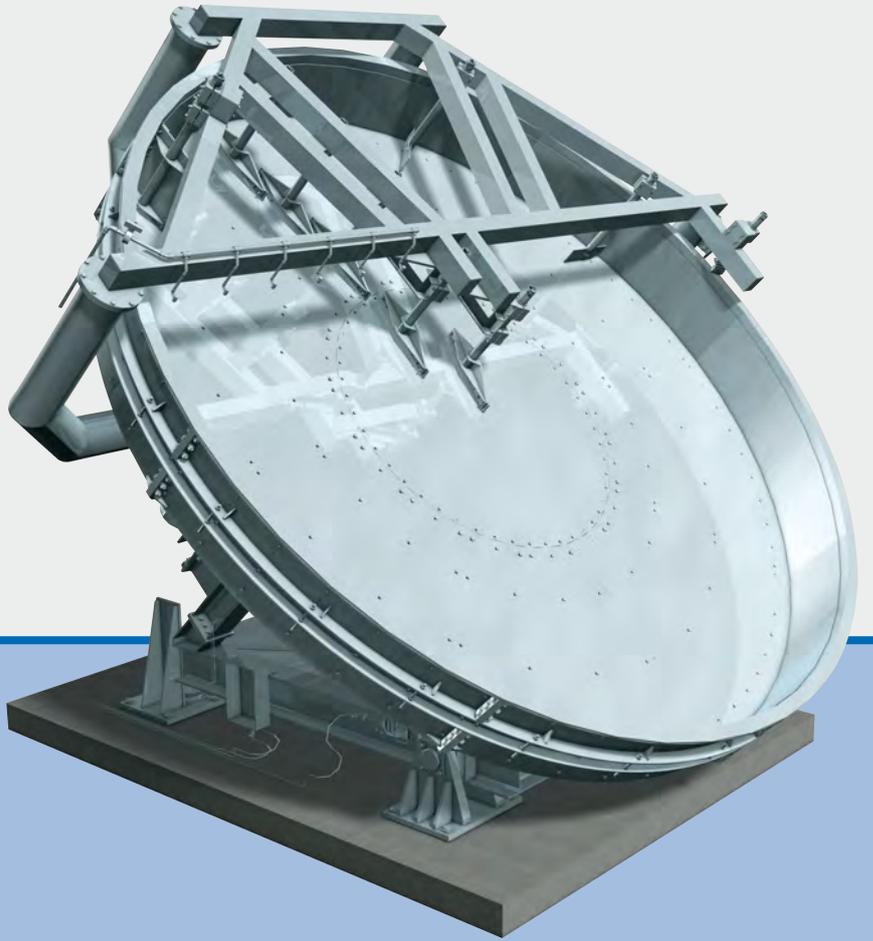


## PRODUCT DESCRIPTION

CEMTEC pelletizing discs are the equipment of choice when uniform pellet size and ease of control are important for converting powdered materials into round spherical pellets up to 20 mm in diameter. Pellet sizing, based on disc angle, disc speed and location of solid and liquid feed, is automatically controlled through the operational flexibility of CEMTEC pelletizing discs.

Laboratory and pilot scale tests will determine optimum flow schemes, equipment sizing and scale up. All inner disc bottoms are lined with "expanded metal" and the disc rim is lined with polyethylene plates to reduce abrasive wear.

The base and scraper support provide maximum stability while allowing disc angle adjustment, without the need for separate scraper adjustment. Individually mounted vane type plows easily control and maintain the product layer over the disc's entire surface. The pivot base, a rotating part, is mounted on heavy-duty anti-friction bearings. Automatic lubrication is featured on all CEMTEC discs.



# MIXING-/ GRANULATING DRUMS



Sludge, especially that derived from mining operations, is granulated in a continuous process comprising two consecutive and continuous steps in which the sludge is mixed and granulated in the CEMTEC mixing/granulating drum.

The selection of drum type, size and design depends on the raw material characteristics and the required retention time. The required data can be determined in our pilot test plant and laboratory facilities. A combination of these facilities and our extensive know-how enable us to provide tailor-made solutions exactly tuned to your needs.

| DIA<br>[m] | L<br>[m] | GRANULATING<br>TIME<br>[min] | DRUM<br>SPEED<br>[min <sup>-1</sup> ] | CAPACITY<br>[m <sup>3</sup> /min] | FILLING<br>DEGREE<br>[%] |
|------------|----------|------------------------------|---------------------------------------|-----------------------------------|--------------------------|
| 3.5        | 16       | 4.5                          | 6.12                                  | 4.85                              | 15                       |
| 3.5        | 18       | 4.5                          | 6.88                                  | 5.43                              | 15                       |
| 3.8        | 18       | 4.5                          | 6.32                                  | 6.44                              | 15                       |
| 3.8        | 20       | 4.5                          | 7.03                                  | 7.14                              | 15                       |
| 4.0        | 20       | 4.5                          | 6.67                                  | 7.93                              | 15                       |
| 4.0        | 22       | 4.5                          | 7.33                                  | 8.74                              | 15                       |
| 4.2        | 22       | 4.5                          | 6.97                                  | 9.66                              | 15                       |
| 4.2        | 24       | 4.5                          | 7.61                                  | 10.54                             | 15                       |
| 4.5        | 20       | 4.5                          | 5.91                                  | 10.11                             | 15                       |
| 4.5        | 22       | 4.5                          | 6.50                                  | 11.12                             | 15                       |
| 4.5        | 24       | 4.5                          | 7.09                                  | 12.14                             | 15                       |

Note : additional sizes on request

# MIXERS



CEMTEC mixers are used for mixing industrial minerals and ores for beneficiation and pelletizing plants. The mixers are available in various designs and sizes. A wide variety of designs is available to meet customer requirements as tailor-made solutions.

CEMTEC rotary wet scrubbers are used for washing contaminated bulk material and industrial minerals, and for preparing ores for beneficiation plants in wet process. Rotary wet scrubbers are available in various designs and sizes. For smaller sizes, up to a diameter of 2.5 m the drum is supported on driven rubber wheels. For scrubbers with a diameter greater than 2.5 m the drum is supported by steel rings and steel rollers.

The drive for these scrubbers is designed as a gear rim/pinion drive. The support rollers are mounted on a common base frame as a compact unit. The drum shell is equipped with rubber lining and rubber lifters and optionally with a trommel screen on the discharge side. A wide variety of designs is available to meet customer requirements in tailor-made solutions.

| SHELL DIAMETER<br>m | SHELL LENGTH<br>m | FEED SIZE<br>mm | INST. POWER<br>kW | TROMMEL SPEED<br>min-1 | CAPACITY<br>m <sup>3</sup> /h | RETENTION TIME<br>min | PROCESSWATER NOMINAL<br>m <sup>3</sup> /h | PROCESSWATER MAXIMAL<br>m <sup>3</sup> /h | EMPTY WEIGHT (approx.)<br>kg | LOADING WEIGHT (approx.)<br>kg |
|---------------------|-------------------|-----------------|-------------------|------------------------|-------------------------------|-----------------------|---|---|------------------------------|--------------------------------|
| 2.0                 | 6                 | 0-60            | 4 x 15.0          | 11.46                  | 80.00                         | 2.00 / 3.50           | 180.00                                    | 350.00                                    | 20,800.00                    | 6,668 / 11,668                 |
| 2.2                 | 7                 | 0-60            | 4 x 18.5          | 10.00                  | 100.00                        | 2.50 / 4.00           | 300.00                                    | 550.00                                    | 23,250.00                    | 10,417 / 16,667                |
| 2.5                 | 8                 | 0-60            | 6 x 18.5          | 9.00                   | 120.00                        | 2.00 / 4.00           | 375.00                                    | 750.00                                    | 31,150.00                    | 10,014 / 20,008                |
| 2.9                 | 9                 | 0-90            | 160.00            | 8.00                   | 140.00                        | 2.50 / 4.00           | 450.00                                    | 1,000.00                                  | 68,500.00                    | 14,583 / 23,333                |
| 3.3                 | 10                | 0-100           | 250.00            | 7.00                   | 240.00                        | 2.50 / 4.00           | 750.00                                    | 1,500.00                                  | 81,950.00                    | 25,000 / 40,000                |

# ROTARY SCRUBBERS



CEMTEC rotary dryers are used in almost all industries. CEMTEC rotary dryers are available in various designs and sizes, as a single unit or as a complete turnkey solution. CEMTEC can deliver single and double shell dryers in a wide variety of designs to meet customer requirements in tailor-made solutions. Hot gas generators are also available from CEMTEC for all kinds of combustibles and for a wide range of hot gas temperatures.

# ROTARY DRYERS



CRUSHERS  
ROLLER SCREENS  
HYDRO CYCLONES  
AIR SEPARATORS  
SLURRY PUMPS  
TURNKEY SOLUTIONS

# CEMTEC & MINING TECHNOLOGY WORLDWIDE

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EACH PROJECT STARTS  
IN OUR **PILOT PLANT!**

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