Sandvik CH860i and Sandvik CH865i are high capacity technologically advanced, mid-range cone crushers designed for crushing applications in mines or large sized quarries.

Each crusher has a hydraulically supported main shaft which is supported at both ends. With a robust design, adjustable eccentric throw, a constant intake opening, they offer production flexibility and depending on crushing application, they perform up to 30% better compared to other crushers in their class.

Sandvik CH860i is dedicated for high capacity secondary crushing thanks to its 500kW motor delivering higher power and more crushing force at maximum throw.

With the Sandvik CH865i, the increased crushing force facilitates higher size reduction, resulting in a finer product size and less circulating load in closed circuits. It’s particularly beneficial for tertiary and pebble crushing applications.

They bring you a revolution in intelligent crushing. Connected via the My Sandvik portal, they offer 24/7 access to data generated by your connected Sandvik crusher fleet. Now you can make decisions based on facts, and clearly see areas where you can improve uptime and productivity. My Sandvik gives you access to manuals and an e-commerce platform for easily and efficiently buying and reordering wear and spare parts. It lets you track and trace parts online to make maintenance planning simpler.

The CH860i and CH865i comes with the new generation world-class Automation and Connectivity System (ACS) as standard. The system continuously monitors and optimizes crusher performance and controls the complete lubrication system, increasing uptime and reliability. It can automatically adjust crusher settings to compensate for crushing chamber wear, ensuring consistent product size. Hydroset™ and the advanced dump valve automatically provide overload protection to let tramp iron or other uncrushable material pass through.

### Key Features

- **New generation world-class Automation & Connectivity System (ACS)**
  - Automatically adapts the crusher to varying feed conditions ensuring maximum 24/7 performance

- **Hydroset™ system**
  - Provides safety and setting adjustment functions

- **Mainframe is built as a unibody without moving parts**
  - For optimal strength and less components requiring maintenance

- **Top serviceability**
  - Lifting from above minimizes risks, and allows for quicker and safer maintenance

- **Adjustable eccentric throw**
  - To exactly balance capacity to the process thus harmonizing the crushing stages

- **Constant liner profile**
  - Maintains the feed opening and performance during the entire service life of the liners

- **Wide range of crushing chambers suited for all types of applications**
  - Choose from extra coarse crushing chambers with the largest intake to extremely fine crushing chambers

- **PLC controlled electric dump valve for tramp iron protection**
  - Reduces pressure peaks and mechanical stress on the crusher, greatly improving reliability

- **Full lubrication monitoring and control**
  - Real-time monitoring of the crusher lubrication system for increased uptime and reliability
### GENERAL INFORMATION

**GENERAL DESIGN CRITERIA**

<table>
<thead>
<tr>
<th>CH860</th>
<th>CH865</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crusher type</td>
<td>Cone crusher, hydraulically adjusted</td>
</tr>
<tr>
<td>Application</td>
<td>Minerals processing</td>
</tr>
<tr>
<td>Crushing stage</td>
<td>Secondary</td>
</tr>
<tr>
<td>Max. feed size, F100</td>
<td>315 mm</td>
</tr>
<tr>
<td>CSS range</td>
<td>13–51 mm</td>
</tr>
<tr>
<td>Nominal capacity</td>
<td>250–910 mtph</td>
</tr>
<tr>
<td>Altitude of site</td>
<td>≤ 2000 m</td>
</tr>
</tbody>
</table>

* Capacity and possible CSS is dependent on the crushing chamber, the eccentric throw, the crusher’s setting and the feed material’s bulk density, crushability, size analysis, moisture content, etc.

### GENERAL CRUSHER DATA

**CH860**

- **Weight**: 39,710 kg
- **Main frame**: Two-part unibody structure without moving parts. Cast steel
- **Top shell**: Two-arm design
- **Bottom shell**: Four-arm design, Two inspection hatches.
- **Feed hopper**: Rubber-lined steel hopper. Two inspection doors.

**CH865**

- **Weight**: 38,930 kg
- **Main frame**: Two-part unibody structure without moving parts. Cast steel
- **Top shell**: Two-arm design
- **Bottom shell**: Two inspection hatches.
- **Feed hopper**: Rubber-lined steel hopper. Two inspection doors. Two inspection hatches.

### CRUSHER WEAR PROTECTION

**CH860**

- **No. of wear components**: 16
- **Max. weight**: 11 kg
- **Material**: Metal

**CH865**

- **No. of wear components**: 16
- **Max. weight**: 11 kg
- **Material**: Sandvik WT6000 rubber

**Additional lifting and maintenance tools included**

### CRUSHER DRIVE SYSTEM

**MOTOR CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>WEG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>HGF 450</td>
</tr>
<tr>
<td>Type</td>
<td>Three-phase, squirrel cage</td>
</tr>
<tr>
<td>Weight</td>
<td>5,880 kg</td>
</tr>
<tr>
<td>Rated power</td>
<td>500 kW</td>
</tr>
<tr>
<td>Frequency</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td>Poles</td>
<td>6</td>
</tr>
</tbody>
</table>

**Insulation class**: F

**Protection class**: IPE6

### CRUSHER TRAMP IRON PROTECTION

**HYDRAULIC PRESSURE RELIEF VALVE**

- **System description**: Mechanical spring loaded hydraulic valve

**ELECTRIC DUMP VALVE**

- **System description**: Electrically controlled hydraulic valve

**Pressure transmitter and an electric pilot valve connected to a dedicated, rapid sampling PLC system**

### CRUSHER DUST EXCLUSION

**SYSTEM CHARACTERISTICS**

- **Type**: Over-pressure air system
- **Air input**: Blower (standard) or air regulator (option)
- **Air quality**: Filtered
- **Air flow**: ≤ 0.3 m³/min
- **Air pressure**: > 600 Pa when crusher is operating

**Weight (blower, hoses)**: 25 kg

**Motor power**: 0.75 kW

**Motor speed**: 2,800 rpm (50 Hz)

**Phases**: 2

**Protection class**: IP55

### LOWER FEED HOPPER

<table>
<thead>
<tr>
<th>CH860</th>
<th>CH865</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of rubber liners</td>
<td>12</td>
</tr>
<tr>
<td>Max. weight</td>
<td>10 kg</td>
</tr>
<tr>
<td>Material</td>
<td>Sandvik WT6000 rubber</td>
</tr>
</tbody>
</table>

### TOP SHELL SPIDER CAP

- **Max. weight**: 372 kg
- **Material**: Carbon steel

### TOP SHELL ARM SLEEVES

- **No. of sleeves**: 12
- **Max. weight**: 230 kg
- **Material**: Manganese steel

### BOTTOM SHELL BODY LINERS

- **No. of liners**: 8
- **Max. weight**: 70 kg
- **Material**: Wear-resistant hardened steel

### BOTTOM SHELL ARM LINERS

- **No. of liners**: 4
- **Max. weight**: 200 kg
- **Material**: Manganese steel

* No main frame welding.
### ELECTRICAL HARDWARE
- **Setting regulation control**
- **Power measurement unit**
- **Customer interface gateway**
- **Connection box crusher**
- **Cable kit**

### LUBRICATION CONTROL (ACS)

#### OPERATIONAL FUNCTIONS
- Oil heaters
- Main lubrication oil pump
- Pinion lubrication oil pump
- Over-pressure fan
- Pinion cooler
- Offline filter functions

#### SAFETY FUNCTIONS
- Protects the crusher from overload by automatically regulating the crusher based on preset operational limits and the real-time input from the crusher
- Alarm severity levels: Direct Stop, Sequential Stop, Feeder stop, Notices and Events
- Signal permitting operation of the crusher drive motor
- Alarm log

### OTHER FUNCTIONS & CABINET DIMENSIONS
- Push button box for manual setting of CSS
- Setting regulation cabinet (LxHxD): 1200x600x250 mm
- Connection box crusher: 600x350x155 mm
- Network repeater box (LxHxD): 300x300x210 mm (Recommended for distances over 100m)

### OPERATOR’S PANEL
- **Dimensions (LxHxD):** 316x251x72.5 mm
- **Weight:** 3.5 kg
- **Operational temperature:** -25°C to +70°C
- **Protection class:** IP65
- **Power supply:** 10–30 VDC

### COMMUNICATIONS
- **Communication gateway interface:**
  - ControNet
  - DeviceNet
  - EtherCAT/IP
  - Modbus TCP
  - Profinet
- **Win:** Simultaneously control up to 9 different crushers with ACS from a PC via Ethernet network
- **Operating system compatibility:**
- **ACS Reporter:** Export data from the Automation & Connectivity System to a PC for analysis and storage

### OVER-PRESSURE AIR SYSTEM
- **Type:** Over-pressure air system
- **Air input:** Blower (standard) or air regulator (option)
- **Air quality:** Filtered
- **Air flow:** 20 m³/h
- **Air pressure:** ~ 1 bar
- **Weight (blower, hoses):** 20 kg
- **Motor power:** 0.37 kW (60 Hz)
- **Motor speed:** 1,180 rpm (60 Hz)
- **Motor capacity:** 0.46 kW (60 Hz)
- **Motor speed:** 1,350 rpm (60 Hz)
- **Phases:** 3
- **Oil filter:** 1
- **Blocked filter sensor:** Pressure switch

### MAIN CRUSHER LUBRICATION SYSTEM
- **System design:** Closed circuit, single pump, gravity return
- **Oil tank reservoir capacity:** 600 liters
- **Pump design:** Screw pump
- **Standby pump:** Available as option
- **Pump capacity:** 216 l/min (60 Hz)
- **Insulation class:** F
- **Protection class:** IP55

### PINIONSHAFT LUBRICATION SYSTEM
- **System design:** Closed circuit, single pump, gravity return
- **Oil Tank reservoir capacity:** 66 liters
- **Pump design:** Gear pump
- **Pump capacity:** 0.30 l/min (60 Hz)
- **Insulation class:** F
- **Protection class:** IP55

### SOFTWARE PACKAGE (OPTIONAL)
- **Communication gateway interface:**
  - ControNet
  - DeviceNet
  - EtherCAT/IP
  - Modbus TCP
  - Profinet
- **Win:** Simultaneously control up to 9 different crushers with ACS from a PC via Ethernet network
- **Operating system compatibility:**
- **ACS Reporter:** Export data from the Automation & Connectivity System to a PC for analysis and storage

### MAIN CRUSHER LUBRICATION SYSTEM
- **System design:** Closed circuit, single pump, gravity return
- **Oil tank reservoir capacity:** 600 liters
- **Pump design:** Screw pump
- **Standby pump:** Available as option
- **Pump capacity:** 216 l/min (60 Hz)
- **Insulation class:** F
- **Protection class:** IP55

### PINIONSHAFT LUBRICATION SYSTEM
- **System design:** Closed circuit, single pump, gravity return
- **Oil Tank reservoir capacity:** 66 liters
- **Pump design:** Gear pump
- **Pump capacity:** 0.30 l/min (60 Hz)
- **Insulation class:** F
- **Protection class:** IP55
## AIR/OIL COOLERS

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Remove particles, degrading particles, and water from the main lubrication system in a continuous slow offline filtration process.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Offshore filter unit for main lubrication</strong></td>
<td><strong>Model</strong></td>
</tr>
<tr>
<td><strong>Oil capacity</strong></td>
<td>40 litres</td>
</tr>
<tr>
<td><strong>Dimensions (LxWxH)</strong></td>
<td>650x450x1518 mm</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>125 kg</td>
</tr>
<tr>
<td><strong>Filter housing material</strong></td>
<td>Cast iron</td>
</tr>
<tr>
<td><strong>Filter type</strong></td>
<td>B 2727</td>
</tr>
<tr>
<td><strong>No. of filter inserts</strong></td>
<td>4</td>
</tr>
<tr>
<td><strong>Blocked filter sensor</strong></td>
<td>Pressure switch</td>
</tr>
<tr>
<td><strong>Filter insert material</strong></td>
<td>Cellulose</td>
</tr>
<tr>
<td><strong>Filter grade</strong></td>
<td>3 µm absolute (β, ≤ 70)</td>
</tr>
<tr>
<td><strong>Pump design</strong></td>
<td>Gear wheel</td>
</tr>
<tr>
<td><strong>Pump capacity</strong></td>
<td>400 l/h (50 Hz)</td>
</tr>
<tr>
<td><strong>Pump motor</strong></td>
<td>Three-phase,quirrel cage</td>
</tr>
</tbody>
</table>

### WATER/OIL COOLER (OPTION)

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Remove particles, degrading particles, and water from the main lubrication system in a continuous slow offline filtration process.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Offshore filter unit for main lubrication</strong></td>
<td><strong>Model</strong></td>
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</tr>
<tr>
<td><strong>Pump motor</strong></td>
<td>Three-phase,quirrel cage</td>
</tr>
</tbody>
</table>

### MANUALS

<table>
<thead>
<tr>
<th>Operator’s manual</th>
<th>CH860i, CH865i, CTBE, ACS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installation manual</td>
<td>CH860i, CH865i, CTBE, ACS</td>
</tr>
<tr>
<td>Installation manual appendix</td>
<td>CH860i, CH865i, CTBE, ACS</td>
</tr>
<tr>
<td>Maintenance manual</td>
<td>CH860i, CH865i</td>
</tr>
<tr>
<td>Spare parts catalogue</td>
<td>CH860i, CH865i</td>
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</table>

### PERFORMANCE

#### CH865I PERFORMANCE – NOMINAL CAPACITY* (MTPH)

<table>
<thead>
<tr>
<th>Concord</th>
<th>EC</th>
<th>C</th>
<th>MC</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. feed size (mm)</td>
<td>Closed side setting (CSS)</td>
<td>130-150</td>
<td>120-140</td>
<td>95-110</td>
</tr>
<tr>
<td></td>
<td>F85***</td>
<td>178</td>
<td>149</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>F90</td>
<td>216</td>
<td>181</td>
<td>157</td>
</tr>
<tr>
<td></td>
<td>F100</td>
<td>316</td>
<td>263</td>
<td>196</td>
</tr>
<tr>
<td>Max. motor power (kW)</td>
<td>500</td>
<td>500</td>
<td>500</td>
<td>500</td>
</tr>
<tr>
<td>Eccentric throw (mm)</td>
<td>30-70</td>
<td>30-70</td>
<td>30-70</td>
<td>30-70</td>
</tr>
<tr>
<td>CSS (mm)</td>
<td>250-292</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>250-292</td>
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<td></td>
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<tr>
<td>16</td>
<td>250-292</td>
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<td></td>
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<tr>
<td>18</td>
<td>250-292</td>
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<tr>
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<td>48</td>
<td>250-292</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>51</td>
<td>250-292</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### WEIGTH (KG)

<table>
<thead>
<tr>
<th>CH860</th>
<th>CH865</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top shell assembly</td>
<td>11,780</td>
</tr>
<tr>
<td>Bottom shell assembly</td>
<td>12,520</td>
</tr>
<tr>
<td>Main shaft assembly</td>
<td>7,930</td>
</tr>
<tr>
<td>Pinion housing assembly</td>
<td>6,700</td>
</tr>
<tr>
<td>Hydroset cylinder assembly</td>
<td>2,380</td>
</tr>
<tr>
<td>Feed hopper assembly</td>
<td>1,400</td>
</tr>
<tr>
<td>Eccentric assembly</td>
<td>1,850</td>
</tr>
<tr>
<td>Dust collar assembly</td>
<td>650</td>
</tr>
<tr>
<td>hoses and protection assembly</td>
<td>530</td>
</tr>
</tbody>
</table>

---

* based on material with bulk density of 1,600 kg/m³
** OB mantle (Oversize Breaker)
*** Additional feed size requirement applicable for FF mantle only (FlexiFeed)
DIMENSIONS*

3612 mm (CH865)
3306 mm (CH860)
5902 mm
4353 mm (CH865)
4047 mm (CH860)
3150 mm
1200 mm
3449 mm
1403 mm
2555 mm
3448 mm
1646 mm
900 mm
1600 mm
1403 mm
1600 mm

* Always refer to the installation manuals

Sandvik Mining and Rock Technology reserves the right to make changes to the information on this data sheet without prior notification to users. Please contact a Sandvik representative for clarification on specifications and options.