QH441 CONE CRUSHER
FEATURES & BENEFITS
QH441

HOPPER DOORS

• Heavy duty fixed hopper design enables a quick set-up time
• Reinforcing ribs along the length of the hopper sides
• 6.3m³ / 8.25yds³ nominal hopper capacity
• 10.2m³ / 13.3yds³ hopper capacity with extensions
• Hydraulically folding rear hopper door
• Rear loading height standard 3490mm / 11’ 5½”
  Rear door lowered 3090mm / 10’ 1½”
  Rear door height with extensions 3884mm / 12'9”
• Rear loading width 2630mm 8’ 7½”
  Rear loading width with extensions 3822mm / 12’ 6½”
• 10mm / ⅜” thick hopper with 10mm / ¾” thick wear resistant liner plates as standard
QH441
HOPPER & FEED CONVEYOR

- Impact cradle protects the belt from feed material weight and impact
- Material spreader plate evenly distributes the material across the belt
- 1200mm / 47” belt width
- Hydraulic drive via motor and gearbox with proportional control
- Hydraulically raised and lowered for transport
- Feed material is automatically maintained at optimal levels by a level monitor & automatic proportional feeder speed control
**QH441**

**METAL DETECTOR**

- Metal detector fitted as standard
- Over and under system for maximum stability and detection control
- Stops the feed conveyor when steel is present in the feed material also acoustic and visual system to warn that the feeder has stopped
- Prevents ferrous tramp metal entering the crushing chamber
- Top coil hinges open to easily access the belt to remove the tramp material
QH441
GREASING AND MAINTENANCE

- Remote greasing lines for the feed conveyor bearings
- Located in one place for ease of maintenance
- Tail drum access door
- Easy access to tensioners
- Greasing from ground level
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CH440 CONE CRUSHER

• CH440 cone crusher which is a proven design of strength and reliability
• Maximum feed size of up to 215mm / 8½” depending on liner option
• Minimum CSS (Close Side Setting) down to 8mm / 5/16” depending on application, liner option and bush setting
• Maximum CSS up to 48mm / 1⅞”
• Standard bush 32, 36, 40, 44mm / 1¼”,1⅜”,1⅜”,1¾”
• Factory bush setting 36mm / 1⅜”
• Variable crusher speed via the engine to manipulate product gradation
• Up to 388 tph / 435 stph
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MAINTENANCE

• All maintenance for the machine can be easily carried out from the top
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CONE ACCESS

• Access doors located around the cone
• These allow easy maintenance of the cone arm shields
• Good access from below the crusher
QH441 PRESSURISED CONE

• Pressurised cone prevents dust ingress into the cone bearings
• Achieved by pumping air into the mainframe which is then forced out through the dust seal below the cone head
• Prolongs the life of the internal parts of the crusher and lubrication oil
• Pressure provided by a 24 volt air pump with easy change filter
QH441
GAP SETTING

- Gap setting is done at the push of a button on the main control panel
- Quick and easy adjustment of the CSS whilst crushing
- The whole cone and shaft assembly raises and lowers when changing the gap setting
- CSS range from 8–48mm / 5/8” – 1⅞”
- Overload protection into an accumulator system
QH441

CONCAVE LINER PROFILES

- 8 different throws varying from 16-44mm / $\frac{5}{8}$” – 1¾”.
- Making this one of the most versatile cones on the market today
- Ability to suit most applications
- Best application tailored chamber in the industry
- There are 6 liner options available for the CH440 cone:
  - EC maximum feed size 215mm (8½”)
  - C maximum feed size 175mm (6⅞”)
  - MC maximum feed size 140mm (5½”)
  - M maximum feed size 110mm (3¾”)
  - MF maximum feed size 85mm (3⅜”)
  - F maximum feed size 70mm (2¾”)
The throw range available is the most extensive in the market.

A choice of 3 bushes available with the following throws available:

- 16mm / ⅜”, 20mm / ¾”, 24mm / 1”, 24mm / 1”
- 28mm / 1½”, 32mm / 1¼”, 32mm / 1¼”
- 36 mm / 1¾”, 40mm / 1½”, 44mm / 1¾”

The eccentric throw can be changed by simply turning the bush.
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CONSTANT LINER PERFORMANCE (CLP)

- CLP is a standard feature of the Sandvik CH440 Cone Liners
- CLP Liners are designed to keep maximum feed size into the cone all through the wear life of the liners. All liner options fit in one top shell.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Opening (mm)</th>
<th>CSS (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>New liner</td>
<td>185</td>
<td>30</td>
</tr>
<tr>
<td>Worn: CLP</td>
<td>180</td>
<td>30</td>
</tr>
<tr>
<td>Worn: Without CLP</td>
<td>180</td>
<td>30</td>
</tr>
</tbody>
</table>

Gain with CLP:

- Capacity (t/h)
- Operating hours

With CLP chamber: Without CLP chamber
The lubrication tank is located at the rear of the machine under the feed conveyor.

Easy maintenance access to the lubrication tank, oil cooler and tail conveyor.

Lube tank capacity of 250 litres / 66 US Gal.

Dual heating system for rapid start up in cold conditions.

The Hydroset is located directly underneath the centre of the crusher.

Its operation is incorporated into the main plant hydraulic system.
QH441
CRUSHER DRIVE

- The cone is driven through a 14” PT-Tech wet clutch (hydraulically operated)
- Oil immersed clutch plates are able to control the slippage and give a known friction and heat generation allowing for controlled engagement for a smooth start up.
- This slippage allows controlled torque limiting which protects the clutch and engine
- The PT-Tech clutch is a stand alone unit that takes the drive directly from the engine.
- PTO drives for the hydraulic pumps
QH441
NEW DRIVE SYSTEM

- Simplified grooved pulley system
- Easy belt adjustment without moving the engine
- 10 single SPC belts for maximum power transmission
- Shock absorber & bush system to allow for crusher movement
- Belt slippage warning to protect the belts
QH441
LEVEL MONITORING AND CAMERA

• Automatic proportional speed control of the feed conveyor
• Monitored by a level sensor mounted over the crushing chamber
• Ensures the cone is continually choke fed
• Camera attached to level sensor with small screen in cabinet for visual monitoring of feed material
• Display screen is located at ground level for improved operator safety
QH441
MAIN CONVEYOR

• 1200mm / 47” belt width
• Under crusher impact bed to protect and prolong belt life
• Remote greasing of bearings
• 3739mm / 12’ 3¼” discharge height
• Canvas dust covers fitted as standard
• Low friction liners along the whole length of the conveyor belt frame providing a maintenance and spillage free solution
QH441

DUST SUPPRESSION

• Environmentally friendly dust suppression feature fitted as standard
• Dust suppression spray bars located at:
  - Cone hopper
  - Cone discharge
  - Product conveyor discharge
• Canvas covers on the main conveyor
QH441
ENGINE

• Powered by a Caterpillar C13 Acert Stage 3A/Tier 3 or optional Stage 3B/Tier 4i engine
• Stage 4 / Tier 4 final introduction during 2015 to replace Stage 3B/Tier 4i engines
• Developing 328kW / 440hp
• Complies with current global emissions laws
• 50°C ambient capability (engine and hydraulics)
• Easy access for maintenance via three canopy doors
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HYDRAULIC TANK

• 990 litre / 262 US Gal capacity hydraulic tank
• Multi stage filtration system to ensure maximum oil cleanliness and component life
• Filters located at the top of the unit for ease of maintenance via platform
• Hydraulic oil cooled via a hydraulic driven oil cooler
• Oil temperature monitored and controlled to protect the hydraulic system
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HYDRAULIC SYSTEM

- Sauer Danfoss variable displacement load sensing pumps
- PVG 32 controlling all major functions around the machine
- Steel pipe work for total reliability under extreme working conditions
- Metric soft seals on the steel pipes to ensure leak free operation
- Dissipates heat
QH441

FUEL TANK

• 990 litre / 262 US Gal capacity diesel tank
• Optical level gauge
• Heavy duty industrial size lockable filler cap
• Electronic fuel level sensor
• Low level fuel warning stops the feed belt and initiates a programmed machine shut down
QH441

TRACKS

• Integral hydraulically driven crawler tracks for full site mobility.
• Speed (proportional) 0-1.3km/h / 0-0.8mph

500mm / 19¾” wide

3715mm / 12’ 2” long
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CONTROL PANEL

- Full colour display screen
- Simple user friendly push button control panel layout
- All functions clearly marked for simple, error free operation
- All engine and plant operating parameters can be viewed from the PLC screen
- Screen is still visible in hot (+40°C) and cold (-30°C) conditions
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CONTROL FUNCTION

• Tracking controlled by wired umbilical controller
• Full proportional control
• Variable speed for ease of loading and on site mobility
• Spare battery and on plant charger
• Optional radio control for the following areas:
  • Track control
  • Stop engine button
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JACKING LEGS

• Jacking leg at each corner to provide additional stability whilst in operation
• Assists with plant maintenance
• Hydraulically controlled
### TRANSPORT DIMENSIONS

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport length</td>
<td>17.21m / 56' 5(^{\frac{5}{8}})“</td>
</tr>
<tr>
<td>Transport width</td>
<td>2.95m / 9' 8(^{\frac{1}{2}})”</td>
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<tr>
<td>Transport height</td>
<td>3.8m / 12' 5(^{\frac{1}{2}})”</td>
</tr>
<tr>
<td>Standard weight</td>
<td>50,488kg / 111,307lbs</td>
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</tbody>
</table>
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TRANSPORT DRAWINGS
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WORKING DIMENSIONS

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working length</td>
<td>16.56m / 54’ 4”</td>
</tr>
<tr>
<td>Working width</td>
<td>3.32m / 10’ 10½”</td>
</tr>
<tr>
<td>Working height</td>
<td>4.91m / 16’ 1”</td>
</tr>
<tr>
<td>Standard weight</td>
<td>50,488kg / 111,307lbs</td>
</tr>
</tbody>
</table>
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WORKING DRAWINGS
NOISE EMISSIONS
QH441

STANDARD FEATURES

• Feed hopper complete with 10mm / ¾” wear resistant liners
• 1200mm / 47” wide feed conveyor belt
• Metal detector (over and under)
• Sandvik CH440 cone crusher with extra coarse (EC) chamber (18%), 36mm bush setting
• CAT C13 Stage 3A / Tier 3 (328kW / 440hp) engine
• 14” direct drive PT tech wet clutch
• 1200mm / 47” wide main conveyor with dust covers
• Camera on crusher feed hopper
• Dust suppression spray bars
• Proportional tracking via wired umbilical controller
• 50ºC ambient capability
• Level sensor on crusher chamber
• Four jacking legs
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AVAILABLE OPTIONS

• C chamber kit
• MC chamber kit
• M chamber kit
• MF chamber kit
• F chamber kit
• Hydraulic folding hopper extensions for rear loading
• Central autolube (all bearings)
• Central autolube all bearings including hanging screen (excluding screen bearings)
• Arctic package -20ºC (-4ºF) (32 grade hydraulic oil, engine oil and 100 grade lubrication oil)
• Arctic package -30ºC (-22ºF) (arctic hydraulic oil, engine oil, 100 grade lubrication oil and webasto coolant heater)
• Tropical package (220 grade lubrication oil) for +30ºC ambient
• Main conveyor level sensor (stockpile monitor)
• Fines conveyor level sensor (stockpile monitor – HS only)
• 13 x 5' (4 x 1.5m) single deck hanging screen unit complete with re-circulating conveyor

• Lighting mast and cabinet lights
• Remote diesel pump (electric)
• Pull stop cords on the main conveyor
• Pull stop cords on the recirculating and fines conveyor
• Water pump (hydraulic)
• Overband magnet (not available with hanging screen)
• Engine filter kit - 250 hours (air and oil filters - for 3A engines only)
• Plant and engine filter kit - 500 hours (3A engine)
• Plant and engine filter kit - 500 hours (3B & 4 Final engine)
• Intelligent line multi-machine communication
• Tool box and contents
• Head drum guard on the main conveyor only (not available with hanging screen)
• Main conveyor under guards, head drum guard and additional side and rear guards (blue chip guarding) (not available with hanging screen)
• Radio remote control
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OPTIONAL HANGING SCREEN

• 4m x 1.5m (13’ x 5’) single deck hanging screen complete with re-circulating conveyor

• Allows the machine to produce a screened product and recirculate the oversize back into the feed conveyor.

• The oversize conveyor can be hydraulically rotated through 90º to stockpile onto the floor to product two products.
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BENEFITS OVERVIEW

• World class production and reliability
• Maximum tonnage and high capacity, combined with economy and maximum uptime
• Direct drive for optimum efficiency and power transfer
• Hydroset cone adjust system capable of adjustment whilst operational
• Remote camera for visibility of the crushing chamber from ground level
• Excellent maintenance and service access, especially during liner changes
• High reduction ratios & low fines generation
• High work index capability
• Four hydraulic jacking legs for stability to provide a level operating platform
Australian dealers for Sandvik’s range of mobile crushing and screening equipment