# SMITH BITS
A Schlumberger Company

# XCDR casing running reamer
## 9⅞-in × 11½-in XCDR 513 reamer

## Where it is used
The XCDR* casing running reamer aids the running of casing in difficult wellbore conditions.

## How it improves wells
The XCDR reamer helps navigate past ledges, low-side cuttings beds, and faults where casing can hang up. The reamer's cutting structure includes tungsten carbide cutters set at a nonaggressive rake angle to avoid overtorquing the casing string.
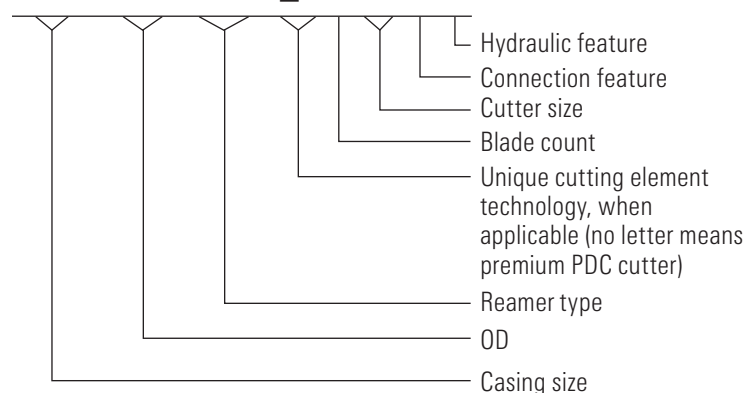
Large waterways between the blades maximize the junk-slot area. Engineered ports are drilled into the blades to strategically direct drilling fluid and optimize cleaning and cooling of the cutting structure. The reamer's alloy body can be easily drilled out with a standard PDC bit, eliminating a dedicated drillout run or use of a special drillout bit.

## Features
- Tungsten carbide cutters on each blade enhance drilling performance
- Spiral gauge pads maximize stabilization and reduce vibration
- Optional lateral ports provide a secondary means of cementation

## Nomenclature

### 9⅞ × 11½ XCDR _R 5 13 B H

- Hydraulic feature
- Connection feature
- Cutter size
- Blade count
- Unique cutting element technology, when applicable (no letter means premium PDC cutter)
- Reamer type
- OD
- Casing size

| Connection Features | |
|---|---|
| B | Blank thread form |
| WP | Weld preparation |
| BTC | API buttress-threaded connection |
| C | Premium threaded per request |
| **Hydraulic Features (Internal)** | |
| H | Higher number of nozzles than standard |
| L | Lower number of nozzles than standard |
| E | Erosion-resistant nozzles |

| Cutting Element Technology | |
|---|---|
| Y | Hyper* hyperbolic diamond cutting element |
| X | Axe* ridged diamond element |
| S | Stinger* conical diamond element |
| R | Enduro 360* rolling diamond cutting element |
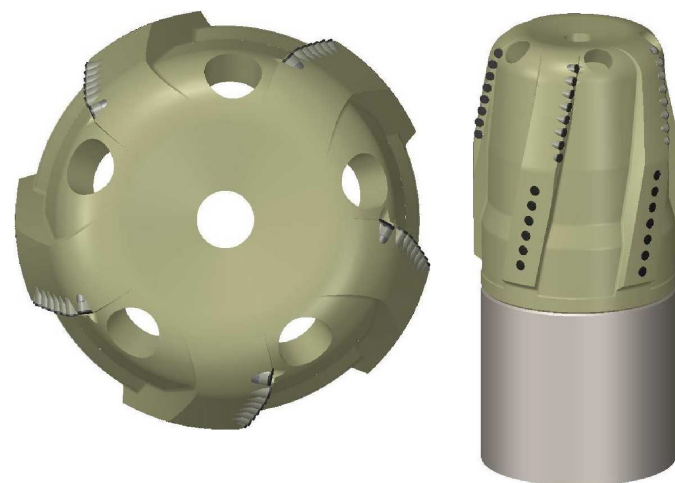


*9⅞-in × 11½-in XCDR 513 reamer.*

| Specifications | |
|---|---|
| Casing diameter, in [mm] | 9.875 [250.8] |
| OD, in [mm] | 11.5 [292.1] |
| Connection type | Blank |
| Drillout bit size, in [mm] | 8.75 [222.25] |
| Body material | Copper-based alloy |
| Number of blades | 5 |
| Tungsten carbide face cutter size, in [mm] | 0.512 [13] |
| Face cutter count | 34 |
| Tungsten carbide gauge cutter size, in [mm] | 0.512 [13] |
| Gauge cutter count | 5 |
| Junk-slot area, in$^2$ [mm$^2$] | 18.42 [11,883.85] |
| Gauge protection type | TCI |
| Gauge length, in [mm] | 6.5 [165.1] |
| Nozzles | Open ports |
| Nozzle total flow area, in$^2$ [mm$^2$] | 11.69 [7,541.92] |
| Nozzle count | 6 |
| Bit sub material | Steel |
| Bit sub material grade yield, kPa | 861,845 |

**slb.com/XCDR**