

5.3.3 Entering H-only cut values and reading output

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5.3.3

oval method

Once your Oval Cut Direction is set to **H** and you have confirmed that your drill press setup produces a pure horizontal cut (see **5.3.2**), entering the cut value in Spectre Cloud is straightforward. This page covers how to enter an H-only cut value in the Oval Calculator, what the output fields display, and how to read the result correctly before applying it to a spec sheet.

What You Are Entering

In H-only mode, the Oval Calculator requires a single directional cut value — the **horizontal stretch** applied beyond the starting round hole. The vertical dimension is not stretched and remains equal to the starting bit size. Spectre Cloud uses these two facts to compute and display the full oval pair automatically.

-  **Starting bit size** — the diameter of the round bit used to open the hole
-  **H cut value** — the horizontal stretch applied beyond the round hole
-  **V value** — not entered; Spectre Cloud sets this equal to the starting bit size automatically
-  **Resulting oval** — displayed as  in your configured H-first format
-  **DIFF** — calculated automatically as the decimal difference between H and V

☐☐ How to Enter an H-Only Cut Value

☐☐ Desktop

1. Open the **Oval Calculator** and confirm the mode selector shows **H** or **H-only**.
2. Click the **Starting Bit** field and enter the drill bit diameter — as a fraction (e.g.,) or decimal (e.g.,) depending on your input mode.
3. Press ↓ (**arrow-down**) to move to the **H cut** field.
4. Enter the horizontal cut width (e.g., or). Use a negative value if the cut was made in the negative horizontal direction — see **5.2.6** for sign conventions.
5. Press ↓ to confirm. Spectre Cloud calculates and displays the oval result and DIFF immediately.

☐☐ Mobile / Tablet

1. Open the **Oval Calculator** and confirm **H** or **H-only** mode is selected.
2. Tap the **Starting Bit** field and enter the bit diameter.
3. Tap the **H cut** field and enter the horizontal stretch value. Apply a minus sign if the cut direction is negative.
4. The oval result and DIFF appear automatically once both fields are filled.

☐☐ Reading the Output

After confirming your entry, Spectre Cloud displays three output values for the row. Each has a specific meaning in the context of an H-only cut:

Output Field	What It Shows	Example Value
H dimension	Starting bit size plus the H cut width — the larger of the two oval dimensions	<input type="text" value="1-1/16"/>
V dimension	Starting bit size only — unchanged, equal to the round hole diameter	<input type="text" value="1"/>
Oval pair (H × V)	Both dimensions displayed in H-first order per your cut direction setting	<input type="text" value="1-1/16 × 1"/>

Output Field	What It Shows	Example Value
DIFF	Decimal difference between H and V — equal to the H cut width converted to decimal	0.0625

In an H-only cut, the DIFF will always equal the decimal equivalent of your H cut value — because the V dimension has not changed. If the DIFF displays a value that does not match your expected H cut width, recheck the starting bit entry before confirming the row.

☐ Example Outputs — Common H-Only Entries

Starting Bit	H Cut	Oval (H × V)	DIFF
1"	1/32"	1-1/32 × 1	0.03125
1"	1/16"	1-1/16 × 1	0.0625
1"	3/32"	1-3/32 × 1	0.09375
1"	1/8"	1-1/8 × 1	0.125
1-3/16"	1/16"	1-1/4 × 1-3/16	0.0625
1-3/16"	1/8"	1-5/16 × 1-3/16	0.125

☐ Sense-Checking Your Output

Before confirming the row and moving on, run a quick sense check against these expectations for a valid H-only output:

- ☐ **H dimension is always larger than V** — if V appears larger than H in the output, the sign of your H cut value or the order of your dimensions may be wrong
- ☐ **V dimension equals your starting bit size exactly** — any difference indicates an unintended V component was introduced, either by a data entry error or a press alignment issue
- ☐ **DIFF equals your H cut width in decimal** — a mismatch here points to a starting bit entry error
- ☐ **Oval pair is displayed H first** — if V appears first, your Oval Cut Direction setting may have reverted or been changed; check Settings before saving
- ☐ **DIFF of 0.0000 on an H-only entry** — means either the H cut value was entered as zero, or the same value was entered in both dimensions; review the row before confirming

□ Tips for H-Only Entry

- □ **Use the arrow-down key to confirm each field** — pressing ↓ after the H cut entry triggers the calculation immediately, so you see the result before moving to the next row (see **5.2.7**)
- □ **Cross-check against a physical gauge reading** — if you have already measured the finished hole, the H dimension in the output should match your gauge's side-to-side reading within your shop's measurement tolerance
- □ **Add further rows with the + button** for multi-hole sessions — H-only mode works across multiple rows exactly as described in **5.2.5**; each row holds its own H cut entry and produces its own oval pair and DIFF
- □ **Do not enter a V cut value in H-only mode** — if your press produced a measurable vertical stretch, switch to full H/V mode and record both dimensions rather than forcing the result into H-only

Related Sections

- 5.3.1 — Setting up: Oval Cut Direction = H in Settings
- 5.3.2 — When to use H-only mode and which drill presses it suits
- 5.2.4 — Reading the DIFF (decimal difference) auto-calculation
- 5.2.5 — Adding oval cut rows using the + button
- 5.2.6 — Entering V and H cut values (positive and negative)
- 5.2.7 — Confirming cuts using the arrow-down key
- 5.3.4 — Worked example: full H-only oval from start to finish

Tip: The fastest way to verify an H-only output is to look at the DIFF first — in a pure horizontal cut, the DIFF should always be the decimal equivalent of exactly what you cut. If you stretched the hole 1/16", the DIFF should read . If it reads anything else, stop and recheck your starting bit entry before the row gets applied to a spec sheet. ⚠ *Verify that H-only mode presents a single H cut input field rather than separate V and H fields, and confirm the exact output display format against your live Spectre Cloud instance — contact the Spectre team if the calculator layout differs from the description above.*

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