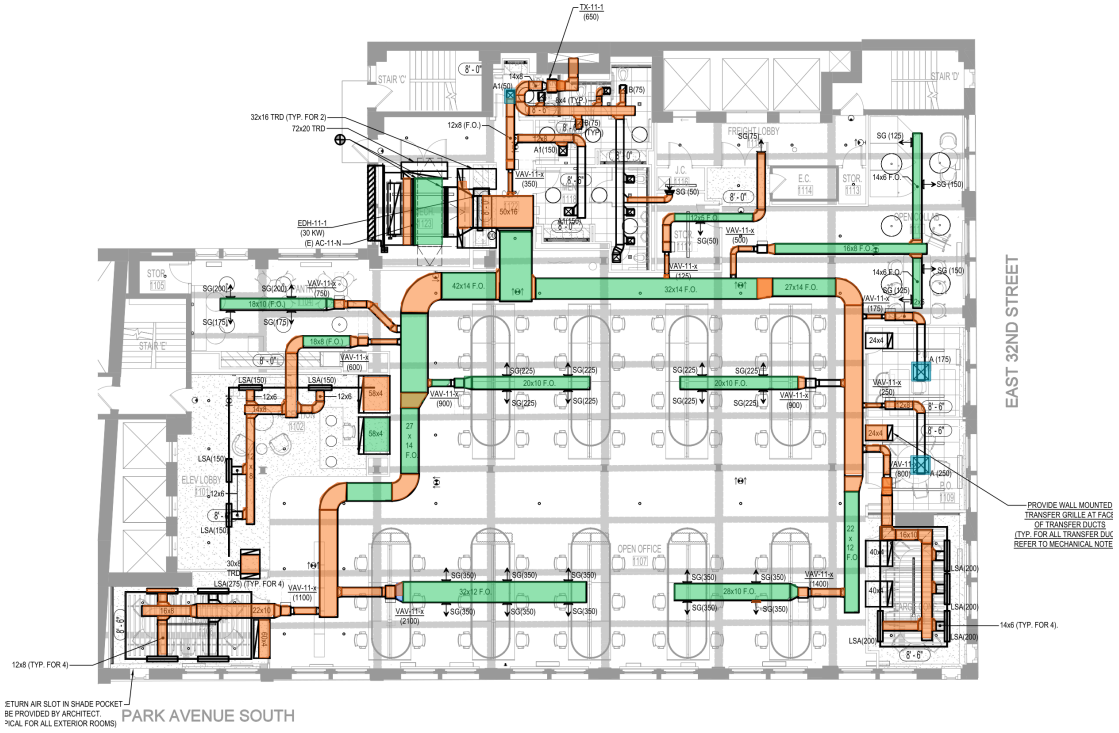
SheetMetalAI

INSTRUCTION MANUAL

From plan PDF to a checked quote.

A practical, illustrated guide for HVAC contractors and sheet metal shops.



Upload plans. Review the takeoff. Price and export.

Version 1.0 | November 2026 | Demo companion

Start here

Use this guide alongside the 3-minute, 39-second walkthrough.

A **takeoff** is the list of components and quantities taken from a drawing. SheetMetalAI helps organize that work into an estimate; you review the measurements, scope and prices before issuing a customer quote.

1	**Create a project and attach your PDF**	3
2	**Select the drawing and confirm its area**	4-5
3	**Check scale and review the takeoff**	6
4	**Review components and dimensions**	7
5	**Resolve scope and missing information**	8
6	**Check saved project rates**	9
7	**Include installation labor**	10
8	**Export and review the PDF quote**	11-12

BEFORE YOU START

Have the correct PDF revision, know which sheets and work you are quoting, and have the rates you intend to use. The example uses **physical PDF page 7**, sheet **M-501.00**, for an 11th-floor ductwork plan.

Need a quick reference? Common questions and key terms are on page 13. A reusable pre-send checklist is on page 14.

Watch the companion demo

1 Create the project

Give the job a clear name and attach the correct drawing set.

1. Open **Projects** and choose **Create Project**.
2. Enter a name you will recognize later, such as the building and floor.
3. Choose **Select PDF files** and attach the drawing set. Check the filename and revision.
4. With the intended file attached, choose **Create Project**. Let the app prepare the pages.

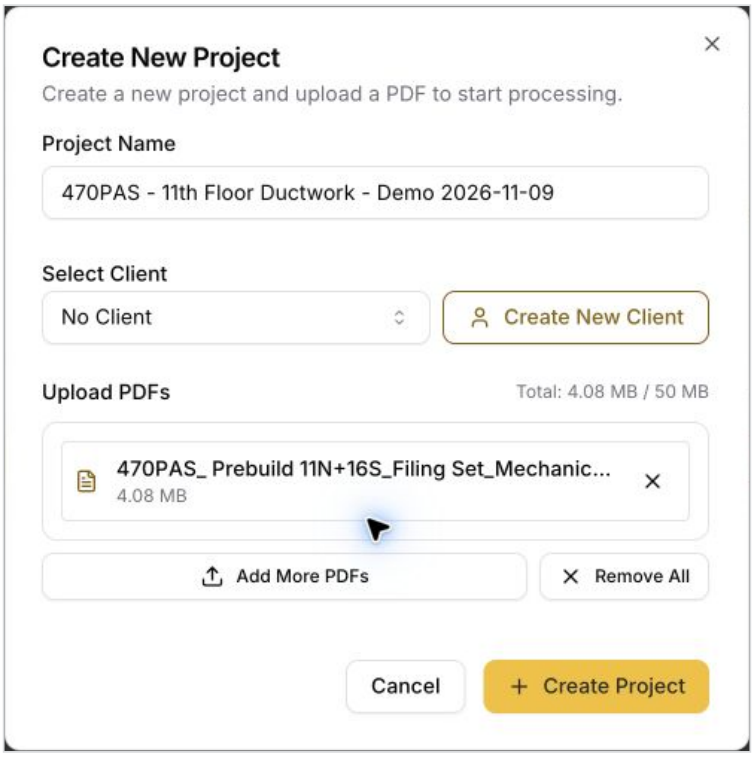


Figure 1. The example project has its PDF attached and is ready to create.

> **CHECK BEFORE CONTINUING**
>
> The correct file is attached to the correct project. A clear job name makes it easier to find the estimate later. The demo leaves the client unassigned.

2 Select the drawing

Choose the pages that belong in this takeoff.

1. Find the sheet you intend to quote in the page list.
2. Select **page 7** for this example. Check the sheet title: **Mechanical 11th Floor Ductwork Plan**, **M-501.00**.
3. Choose **Submit Selected Pages**.



Figure 2. The selected thumbnail and “This page has plans” indicator identify the sheet. Use the submit control after checking your selection.

> **PAGE NUMBER IS NOT THE SHEET NUMBER**
>
> “Page 7” is the seventh page in the PDF file. “M-501.00” is the drawing’s printed sheet number. Check both so that you take off the intended floor and revision.

2 Confirm the plan area

Make sure the entire drawing you need is included.

1. Inspect the **blue boundary** around the plan area.
2. Check the outer branches and edges of the drawing. Identify anything in your scope that falls outside the boundary.
3. Once the area is correct, choose **Submit All** and confirm.

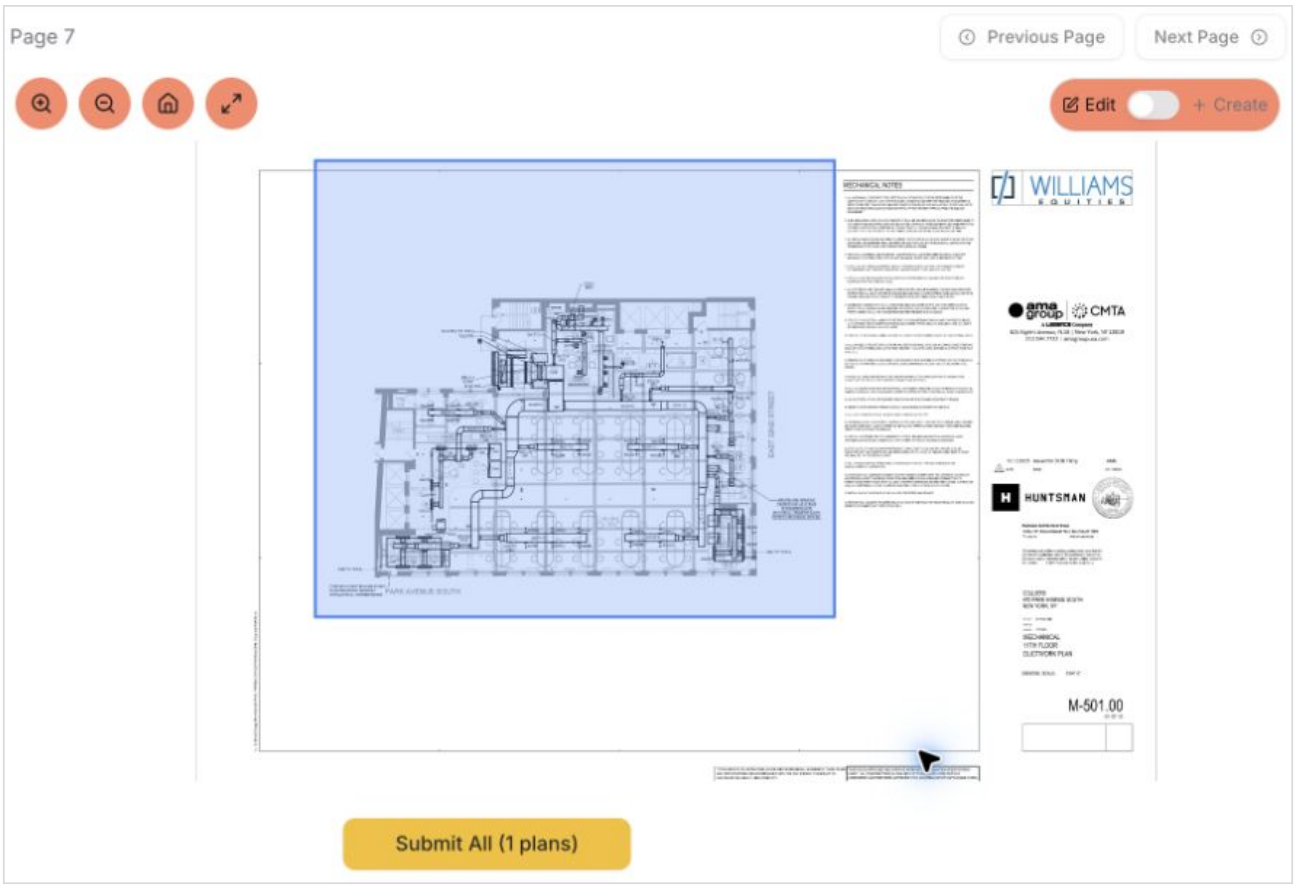


Figure 3. The blue boundary shows the area selected for processing.

> **PAUSE IF THE AREA IS WRONG**
>
> Do not submit an incomplete drawing area. Resolve the selection before continuing, then check the boundary again. The area-selection correction controls are not covered in this guide.

3 Check scale and the takeoff

Verify measurements before relying on lengths or quantities.

Read the printed scale: **1/8 inch = 1 foot** in this example. Compare app measurements with known dimensions on the drawing.

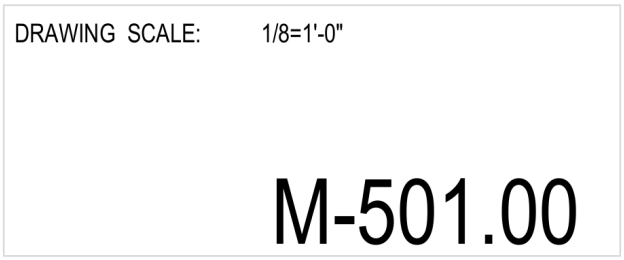


Figure 4. Original sheet number and printed scale.

1. Review the highlighted main runs, branches and fittings. Zoom in where needed.
2. Check for missed sections and work that does not belong in your scope.
3. After the review, choose **Submit Segmentations** and confirm to run the calculation.

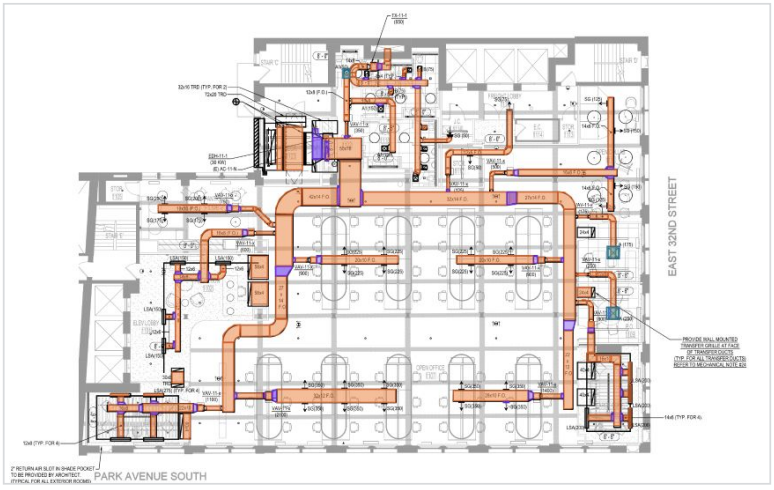


Figure 5. Review the detected ductwork before accepting the calculated takeoff.

SCALE CHECKPOINT

Resolve any scale or measurement mismatch before pricing. This guide shows the check; it does not demonstrate a scale-calibration procedure.

4 Review the components

Check the details behind the totals.

1. Choose **Export to Quote** to open **Review Components**. The example calculation returns **162 components**.
2. Expand a group, such as **Rectangular Duct**, and inspect its summary and individual items.
3. Choose **Edit item**. Verify any correction against the plan before using **Save**.

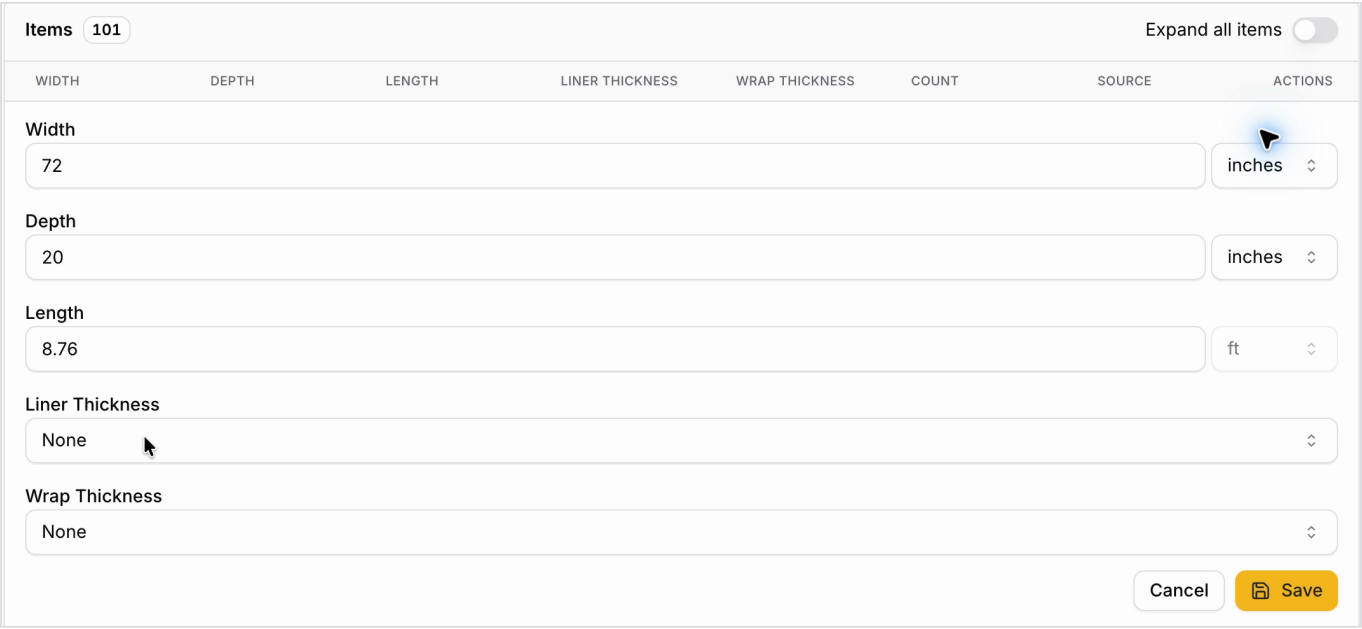


Figure 6. The editable fields show the dimensions, length, liner and wrap. The demo inspects these fields without changing values.

Field	What to check
Width and Depth	Dimensions are shown in **inches**.
Length	Length is shown in **feet**.
Liner Thickness / Wrap Thickness	Match the specified construction; do not assume **None** is correct.

Remember: checking the component count does not replace checking the dimensions and construction requirements.

5 Resolve the job requirements

The drawing notes matter as much as the highlighted ductwork.

Review the notes, specifications and referenced sheets before treating the takeoff as a customer-ready estimate. Resolve missing information rather than assuming an excluded item has no cost.

Check	What remains open in this example
Lining and construction	**Liner Thickness** is **None**, although the plans call for lining and special duct construction in specified areas. These requirements still need to be accounted for.
Missing sizes	Two flex connections lack diameters and are excluded from the price. Other flex sizes and default lengths also require verification.
New work vs. existing	Confirm which runs, equipment and connections belong in the quoted scope. Do not price existing-to-remain items automatically.
Referenced details	Use the related sheets where page 7 refers to them. In this set, branch sizes refer to **M-401** and details to **M-901**.
Accessories	Reconcile required dampers, supports and other accessories, even if an automatic total is zero.

> **KEEP THE ESTIMATE PRELIMINARY**
>
> The demo’s quantities and prices are a worked example, not a complete bid. Close the scale, scope, sizing and construction checks before preparing the customer version.

For this project, the drawing notes include different liner thicknesses and special construction near the air handler. Use the actual location-specific requirements; do not apply one blanket allowance to every duct.

6 Check the project rates

Use rates that fit your shop and this job.

1. Open **Project Configurations**, then **Pricing Configurations**.
2. Review the saved fabrication rates and the applicable lining, wrap and accessory costs.
3. Confirm the intended rates before relying on the estimate.

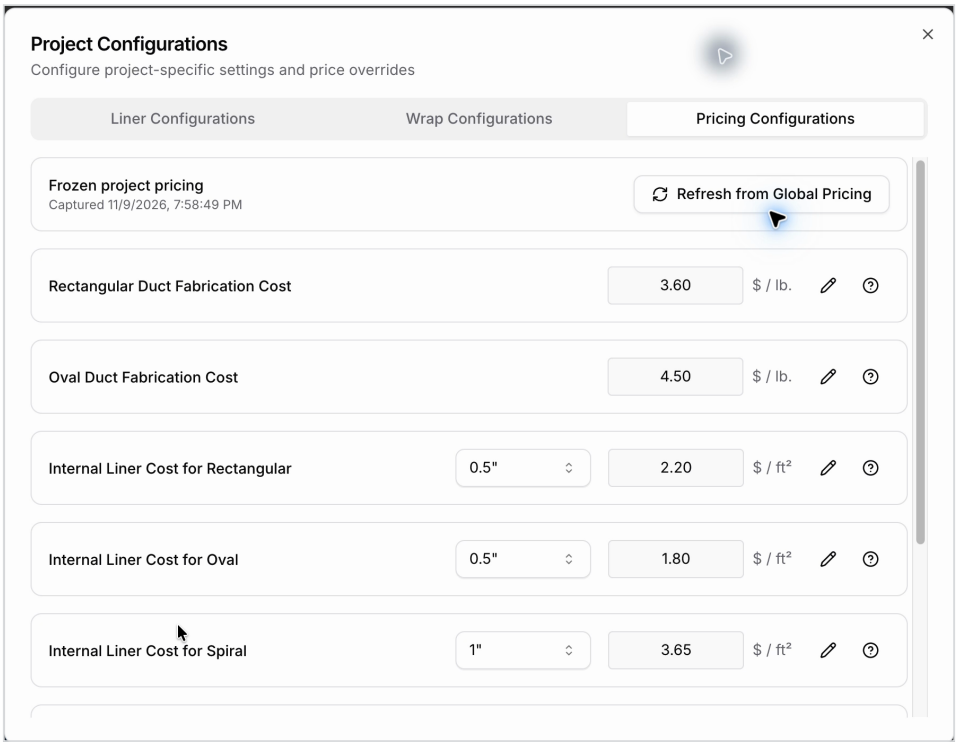


Figure 7. Saved example pricing. Rectangular fabrication is $3.60/lb and oval fabrication is $4.50/lb. These are not recommended shop rates.

> **SAVED PROJECT PRICING**
>
> The screen identifies **Frozen project pricing**. Do not assume these values match today's global rates. **Refresh from Global Pricing** is visible, but it was not used in the demo; rate updates and their recalculation are outside this guide.

Example only: verify all applicable rates and construction requirements. A correct rate applied to an incomplete quantity still produces an incomplete estimate.

7 Include installation labor

Use installation costs only when they belong in your scope.

1. Turn on **Labor cost** in **Review Components** for an installed quote.
2. Check **Quote Overview**. It separates component cost from installation labor.
3. Inspect the labor breakdown and confirm that the saved rates fit the job.

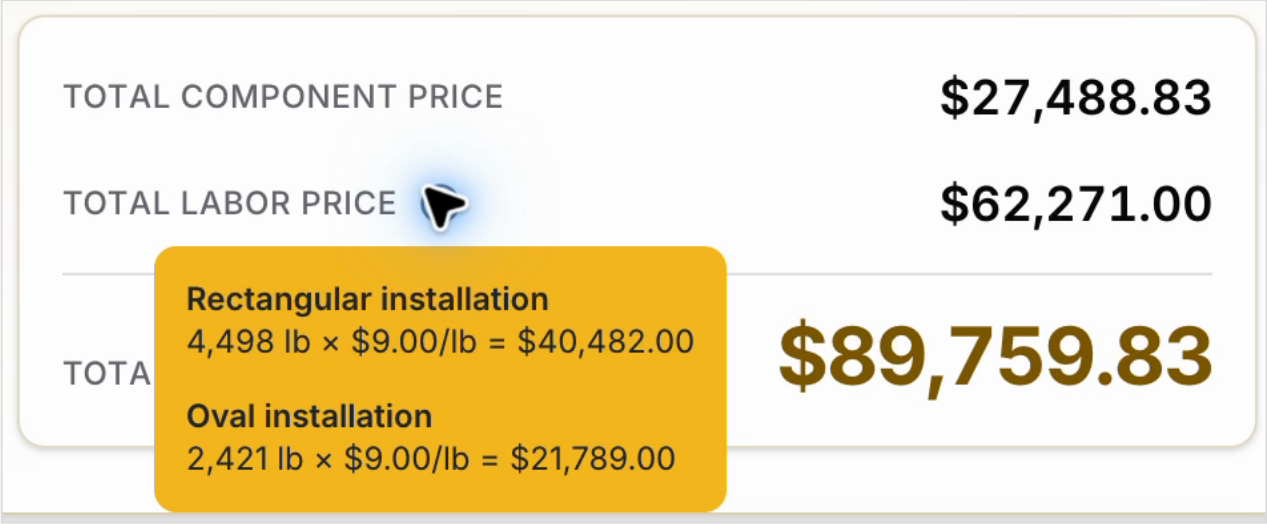


Figure 8. The labor breakdown shows the quantities and rates behind installation cost.

Worked example	Amount
Components	$27,488.83
Installation labor	$62,271.00
Preliminary total	**$89,759.83**

PRELIMINARY DEMO ESTIMATE

The example uses $9.00/lb for rectangular and oval installation. Tax is excluded in the exported template, and unresolved scope items remain. These figures are not a final bid or recommended pricing.

8 Export the quote

Choose the plan, component groups and costs to include.

1. Choose **Export to Quote** again to open **Export Options**.
2. Confirm **Selected Plans** and the **Components to include**.
3. For an installed quote, also check **Include labor cost** in this dialog. Then choose **Export** and save the download.

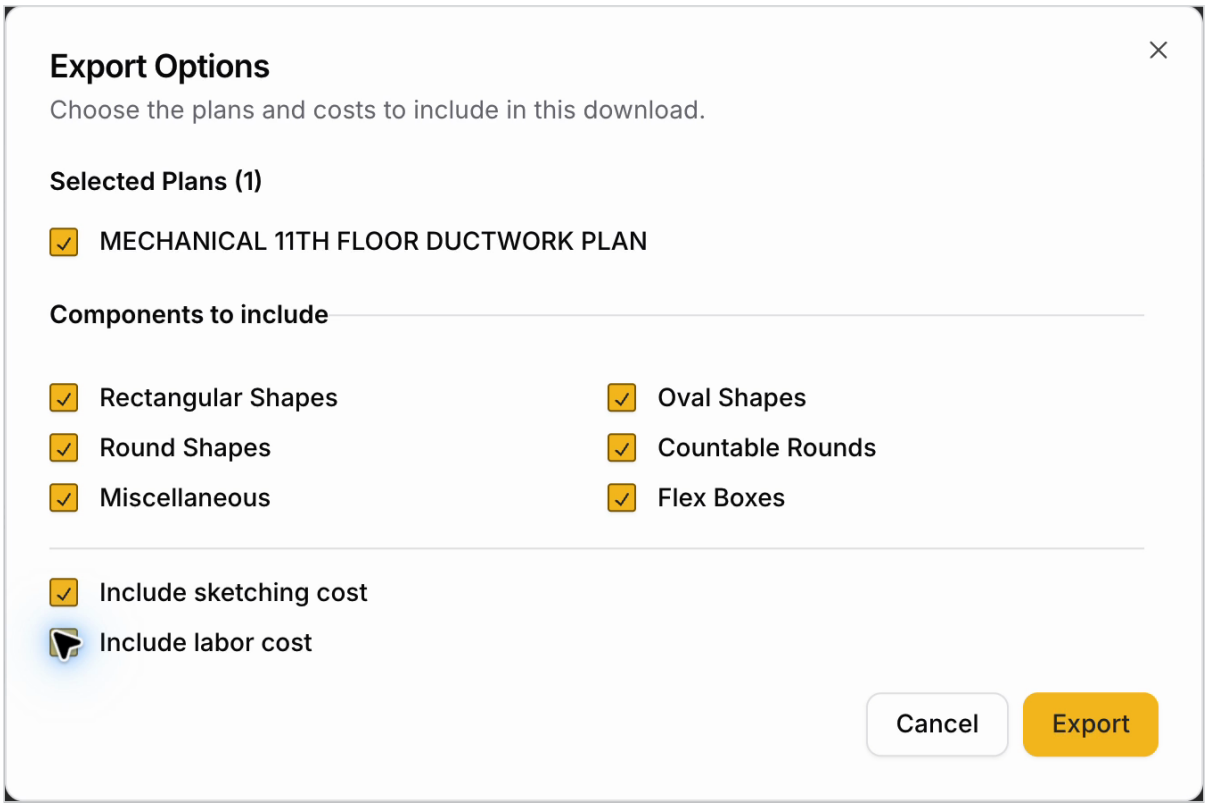


Figure 9. Export Options has its own Include labor cost checkbox. It is separate from Include sketching cost.

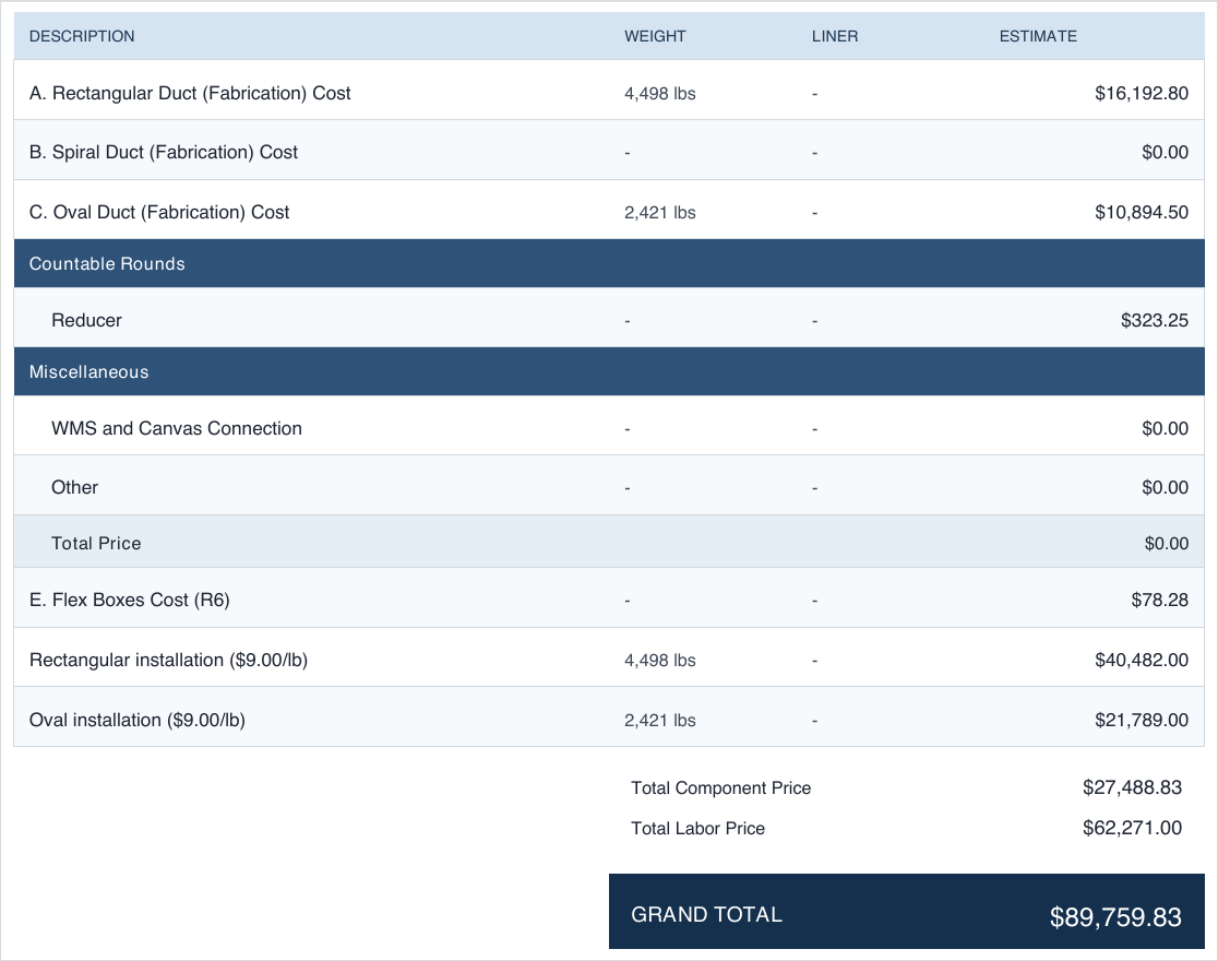
LABOR HAS TWO CONTROLS

The **Labor cost** switch changes the review screen. The separate **Include labor cost** checkbox controls the export selection. Check both when installation belongs in the quote.

8 Review the downloaded PDF

Open the file and inspect the document the customer would receive.

If the download is a ZIP package, extract it and open the PDF inside. Compare the exported totals with the reviewed estimate and confirm that the intended plan, component groups and labor are included.



DESCRIPTION	WEIGHT	LINER	ESTIMATE
A. Rectangular Duct (Fabrication) Cost	4,498 lbs	-	$16,192.80
B. Spiral Duct (Fabrication) Cost	-	-	$0.00
C. Oval Duct (Fabrication) Cost	2,421 lbs	-	$10,894.50
Countable Rounds			
Reducer	-	-	$323.25
Miscellaneous			
WMS and Canvas Connection	-	-	$0.00
Other	-	-	$0.00
Total Price			$0.00
E. Flex Boxes Cost (R6)	-	-	$78.28
Rectangular installation ($9.00/lb)	4,498 lbs	-	$40,482.00
Oval installation ($9.00/lb)	2,421 lbs	-	$21,789.00

Total Component Price	$27,488.83
Total Labor Price	$62,271.00
GRAND TOTAL	$89,759.83

Figure 10. An excerpt of the example PDF. The displayed amounts remain preliminary; this cropped illustration does not show all customer-facing details.

> **BEFORE SENDING**
>
> Confirm the full job name, drawing revision, date and contact information. Check payment terms, validity, taxes and exclusions. Review the header and footer, and resolve all outstanding scope items before issuing the customer version.

Common questions

Quick checks when something does not look right.

What you notice	What to check
Labor is missing from the export	Confirm both **Labor cost** on the review screen and **Include labor cost** in Export Options. Re-export and check the PDF.
Lengths or quantities look wrong	Recheck the selected sheet, drawing area, scale, units and component dimensions before pricing.
An item has no price or is excluded	Look for missing required information, such as a diameter. Resolve the measurement from the plans before accepting the estimate.
Lining shows None	Check the construction notes. Required lining still needs to be included and priced.
Saved rates look out of date	Review the project's saved pricing. Confirm which rates should apply before making a change.
The PDF has wrong details or terms	Do not send it. Correct the information and produce a customer version only after the exported document is right.

Key terms

Takeoff - Components and quantities taken from the drawing.

Fabrication - Shop work to make the ductwork and fittings.

Installation labor - Field labor included when the quote covers installation.

Liner / wrap - Internal lining / external insulation; follow the specifications.

Preliminary estimate - A working total that still has open checks or assumptions.

Before you send the quote

Use this page as a final review for each job.

Project

Date

Drawing / revision

Reviewed by

- [ ] Correct PDF revision, sheet and drawing area selected.
- [ ] Scale and representative measurements verified.
- [ ] Runs, branches, fittings and individual dimensions reviewed.
- [ ] Missing sizes and excluded components resolved.
- [ ] Lining, wrap, special construction and accessories included as required.
- [ ] New work and existing-to-remain scope confirmed.
- [ ] Project fabrication and installation rates checked.
- [ ] Labor reviewed and selected in the export, if installation is included.
- [ ] Exported totals, job name, date and contact information checked.
- [ ] Payment terms, validity, taxes and exclusions reviewed.
- [ ] Outstanding assumptions resolved before the customer version is issued.

Open items / notes

This manual follows the demonstrated workflow recorded on November 9, 2026. Screens and example figures may differ from your project. Use your actual drawings, requirements and approved shop rates.