# Custom exports: using the Expression Builder

Updated January 21, 2026

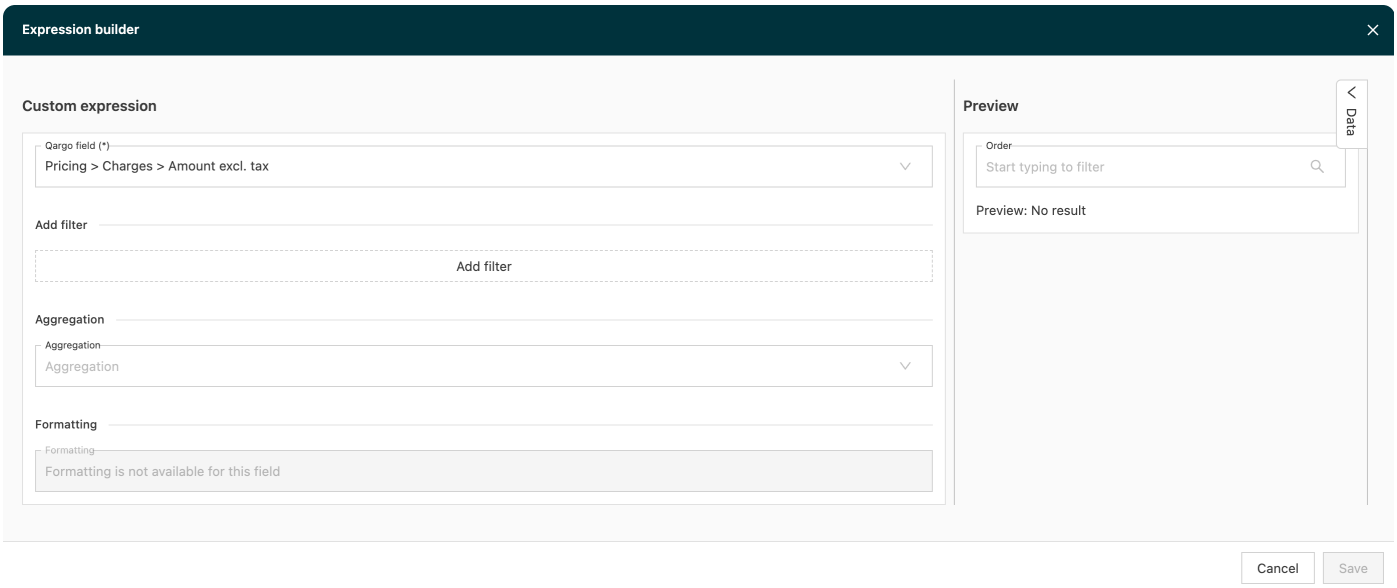
This article explains what the Expression Builder is, why to use it for custom exports, and the common terminology. It also includes a step-by-step walkthrough with an example. Features and terms reflect the current implementation of the Expression Builder and its underlying query model.

---

## What is the Expression Builder?

The Expression Builder shapes data for custom exports without any code. It can:

- Filter lists down to just the items needed
- Aggregate values such as sum, count, min, or max
- Format dates, date/times, and numbers for the target system
- Preview results during configuration




🧰 Admins can optionally switch to a raw expression mode for advanced use cases.

## Why use it?

- **Flexibility:** Create tailored CSV or spreadsheet outputs for partners, BI tools, or finance systems.
- **Consistency:** Save and reuse export mappings across teams.
- **Precision:** Filter and aggregate directly at export time so downstream spreadsheets stay simple.

---

## Terminology

| Term | Definition |
|---|---|
| Path | A pointer to the data to extract. For example, trip > charges points to the list of charges on a load. |
| Filter | A condition that narrows a list to only matching items. Example: charge_type = “Transport”. |
| Operator | The comparison used in a filter, such as EQ, NEQ, GT, GTE, LT, LTE, IN, NONE_IN. |
| Aggregation | A way to reduce a list into a single value. Options include SUM, COUNT, DISTINCT, MIN, MAX, EXISTS, NOT_EXISTS. |
| Formatting | Output presentation controls for dates, date/times, and numbers, and an optional cast to string for CSV safety. |
| Expression mode\ | |
| (advanced) | A raw expression editor available to admins for complex transformations. |
| Preview | A live rendering that shows the result of the configuration before export. |

## Notes and current limitations

- Enum values are not yet translated.
- Filtering inside certain nested lists may require workarounds if a typed path is not available.
- Unit conversions and “combine multiple fields into one column” are tracked separately.

---

## Walkthrough: configure and use the Expression Builder

Below is a common scenario built as two export columns: exporting a load’s transport charge total and a formatted pickup date/time.
Before starting:

- Open an existing custom export mapping or create a new one.
- Identify the entity to export from, such as orders.

**Column A: Total transport charges**

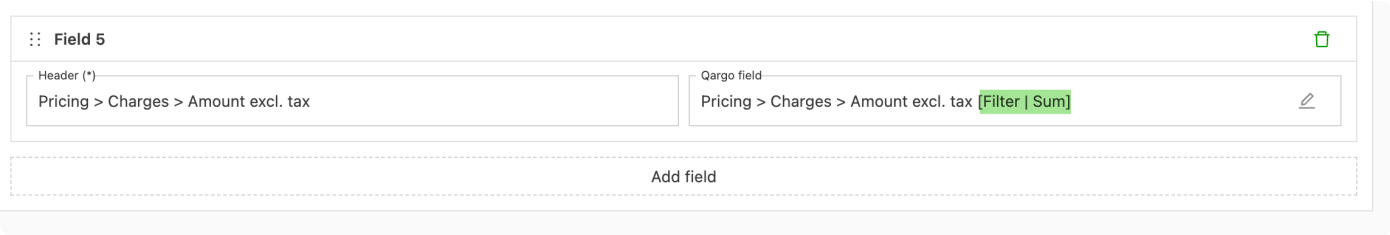
1. Add a new column
    1. Name: Total Transport Charge
2. Choose a path
    1. Path: orders > charges
    2. This points to the list of all charges on the load.
3. Add a filter
    1. Filter path: charge_type
    2. Operator: EQ
    3. Value: Transport

4. Result: Only charges with type Transport are considered.

4. Set an aggregation
    1. Aggregation: SUM
    2. Field summed: amount
    3. Result: Sums the amount across the filtered charges.
5. Formatting
    1. Numeric format: #,###.00
    2. Cast to string: On, to ensure CSV cells are never blank and are treated as text if required.
6. Preview
    1. Use Preview to confirm the resulting number matches expectations.

**What this does**

- Starts from the charges list
- Filters to charge_type = Transport
- Sums the amount
- Outputs a formatted string fit for CSV importing in accounting tools.




📚 Where an expression is included, details are shown in parentheses.

**Column B: Pickup date/time (US format)**

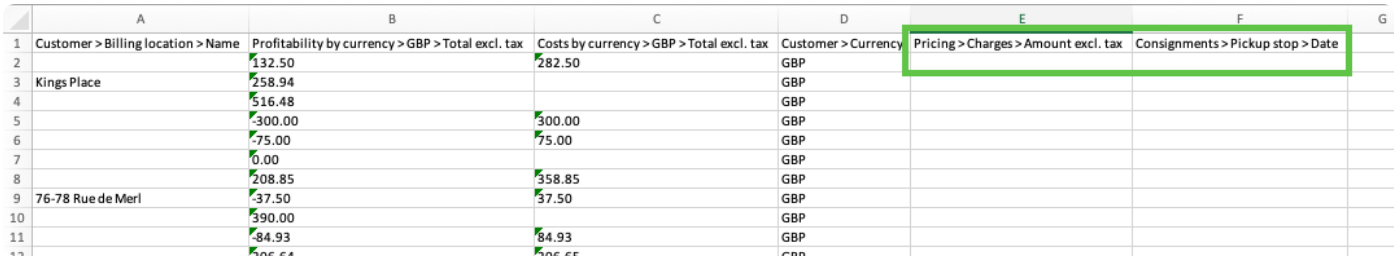
1. Add a new column
    1. Name: Pickup Date/time (US)
2. Choose a path
    1. Path: trip > pickup_datetime
3. Formatting
    1. Datetime format: yyyy-MM-dd HH:mm:ss
    2. Example: 2025-12-31 16:45:00
    3. Cast to string: On, to keep CSV output consistent.
4. Preview
    1. Confirm the date and time appear in the requested format.

**What this does**

- Reads the load's pickup date/time and outputs it in a clear, consistent format for downstream tools.

**Export**

- Save the mapping and run the export. The CSV includes both columns, using the configured transformation rules.



| | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|
| 1 | Customer > Billing location > Name | Profitability by currency > GBP > Total excl. tax | Costs by currency > GBP > Total excl. tax | Customer > Currency | Pricing > Charges > Amount excl. tax | Consignments > Pickup stop > Date | |
| 2 | | 132.50 | 282.50 | GBP | | | |
| 3 | Kings Place | 258.94 | | GBP | | | |
| 4 | | 516.48 | | GBP | | | |
| 5 | | -300.00 | 300.00 | GBP | | | |
| 6 | | -75.00 | 75.00 | GBP | | | |
| 7 | | 0.00 | | GBP | | | |
| 8 | | 208.85 | 358.85 | GBP | | | |
| 9 | 76-78 Rue de Merl | -37.50 | 37.50 | GBP | | | |
| 10 | | 390.00 | | GBP | | | |
| 11 | | -84.93 | 84.93 | GBP | | | |

## Charge type filter options

Filters can now be applied to expressions that reference charges. This gives full control over which charges are included in the calculation.

## 1. Surcharges: now fully supported

Previously, the Data Feed only exposed *index* surcharges (fuel surcharges), which meant UI and export logic were not aligned. The Expression Builder now supports two configuration options:

- **Surcharges (all types)**
  Includes all surcharge types used in the UI:
  - General surcharges
  - Index surcharges (FSC)
  - Any future surcharge types
- **Other surcharges (excluding FSC)**
  Designed for cases like Mulgrews, where FSC should not be mixed into the surcharge bucket.

This gives teams the flexibility to choose the behavior that matches their reporting model.

## 2. Extras revenue (new category)

**Extras** can now be selected as a dedicated category.
Extras include:

- All charges where `addon_type` ≠ surcharge
- Any **ad-hoc charges**

This makes it easy to calculate "All revenue except transport/fuel" or to report on miscellaneous charge items.

## 3. Consistent filtering across UI and export

The Expression Builder now uses the same charge-filtering logic as Qargo's rating UI, including:

- Filtering out approved **DONT_INVOICE** charges
- Correct handling of transport charges
- Full alignment with existing frontend behavior

This ensures that what users see in the UI matches what they get in exports and automated calculations, with no surprises.

## 4. Include documentation

Users can now include documentation details in reporting, using the Expression Builder aggregation option “Exists”. Details include:

- Name, description, date/time stamps
- Using the aggregation ‘exists’ adds the column with ‘true/false’ descriptions
  - True = documentation attached to the order
  - False = no documentation attached to the order

---

## Tips

- Start with a path and a single filter, then add aggregation and formatting once the preview looks right.
- Use COUNT or EXISTS when a yes/no or a simple quantity of matches is needed.
- Use DISTINCT to deduplicate values when exporting lists into a single cell.

---

## Advanced: expression mode

Workspace admins can switch to a raw expression mode to author complex logic directly. This is useful for edge cases where the form-based builder is too limited. Saved expressions should be documented for maintainability.

---

## Troubleshooting

- Empty cells: Turn on Cast to string to avoid blank values being misread by spreadsheet tools.
- Unexpected totals: Check the filter operator and value spelling. Verify that the path points to the intended list.
- Date formatting: Confirm the date/time format string and whether the source field contains a date or a date-time.