The stocksize package

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https://github.com/joaomlourenco/stocksize

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Abstract

The stocksize package provides commands to modify and restore the physical stock (paper) size within a LaTeX document. It supports nested page size changes using a stack-based approach (LIFO) and allows for automatic margin preservation. The package integrates seamlessly with the geometry package, ensuring that logical layout changes are always synchronized with the physical output page dimensions.

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1 Introduction

The geometry package provides a comprehensive interface for specifying page layout parameters such as margins and text block dimensions. However, changing the layout mid-document often leaves the physical paper size (the "canvas" used by PDF viewers or printers) out of sync with the logical text area.

The stocksize package provides **robust control of the physical PDF page size** (the **stock size**) inside a LaTeX document. It complements the `geometry` package by managing **paper size transitions** reliably, including **nested changes**, while delegating margin and layout calculations to `geometry`.

Terminology

- **Stock size**: The physical dimensions of the sheet (e.g., A4, Letter) as interpreted by the output driver (PDF or Printer).

- **Paper size**: The logical page dimensions defined within the LaTeX document variables (e.g., `\paperwidth`).

2 User Interface

2.1 Loading the package

To use the package, load it in the preamble:

```
\usepackage[options]{stocksize}
```

The package automatically loads geometry (if not already loaded) and works with pdfLaTeX, XeLaTeX, and LuaLaTeX.

2.1.1 Package Options

`patch-geometry` (boolean, default: `false`) — When enabled, this option patches the standard `\newgeometry`, `\restoregeometry`, and `\loadgeometry` commands to automatically synchronize the physical stock size whenever the layout changes.

2.2 Features

Dynamic synchronization: Automatically updates the physical paper dimensions when the layout changes.

Nested layouts: Implements a Last-In-First-Out (LIFO) stack for page geometries, which allows nesting multiple `\newstocksize` (or `\newgeometry`) calls and restoring them in reverse order.

Margin preservation: The `keepmargins` option allows resizing the paper while maintaining the existing margin offsets.

Seamless integration: Built directly on top of the geometry package.

2.3 Changing the stock size

To start a new page with specific stock (paper) dimensions, use the `\newstocksize` command. To return to the previous layout, use `\restorestocksize`.

`\newstocksize{options}` Starts a new page with the specified stock size. The `options` argument accepts:

- `keepmargins`: Preserves the current top, bottom, left, and right margins in the new layout.
- *Geometry options*: Any valid geometry key-value pair (e.g., `layoutsize={...}`, `margin=...`). These are passed directly to `\newgeometry`.

`\restorestocksize` Ends the current layout and restores the previous stock size and geometry settings from the stack.

2.4 Nesting example

Multiple stock sizes can be nested. Each `\restorestocksize` call resumes the dimensions active before the most recent change.

```
% 1. Default page (e.g., A4)
This page has the default size.

% 2. Change to 15x10cm
\newstocksize{layoutsize={15cm,10cm}, margin=1.5cm}
This page is 15cm x 10cm.

  % 3. Nested change to 20x20cm
  \newstocksize{layoutsize={20cm,20cm}, margin=4.0cm}
  This page is 20cm x 20cm.

  % 4. Restore previous (returns to 15x10cm)
  \restorestocksize
  Back to 15cm x 10cm.

% 5. Restore original (returns to A4)
\restorestocksize
Back to default A4.
```

3 Notes and Limitations

- **Drivers**: While this package supports PDF output engines (pdfTeX, LuaTeX, XeTeX), some DVI drivers may require additional configuration or special commands to reflect size changes in viewers.
- **Stack limit**: Extremely deep nesting may hit TEX register limits, though this is unlikely in typical use cases.
- **Packages**: External packages that cache paper dimensions at the start of the document may not immediately reflect changes made by stocksize.

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5 Version History

v2.0.1 — January 2026: Fixed some bugs on the documentation date and version.

v2.0.0 — December 2025: Major rewrite.

- Fixed problem with the location of the page numbers after a `\restorestocksize` command.
- Redefined `\newgeometry` and `\restoregeometry` to operate as a LIFO stack, enabling robust nesting of layouts.

- Added automatic synchronization between logical and physical paper sizes.
- Added `patch-geometry` package option.

v1.0.4 — November 2025: Improved documentation.

v1.0.3 — November 2024: Minor fix in the documentation.

v1.0.2 — November 2024: Added `keepmargins` option to preserve margins when changing stock size.

v1.0.1 — November 2024: Initial version.

6 A Real Example of Different Page Sizes

As any dedicated reader can clearly see, the Ideal of practical reason is a representation of, as far as I know, the things in themselves; as I have shown elsewhere, the phenomena should only be used as a canon for our understanding. The paralogisms of practical reason are what first give rise to the architectonic of practical reason. As will easily be shown in the next section, reason would thereby be made to contradict, in view of these considerations, the Ideal of practical reason, yet the manifold depends on the phenomena. Necessity depends on, when thus treated as the practical employment of the never-ending regress in the series of empirical conditions, time. Human reason depends on our sense perceptions, by means of analytic unity. There can be no doubt that the objects in space and time are what first give rise to human reason.

Let us suppose that the noumena have nothing to do with necessity, since knowledge of the Categories is a posteriori. Hume tells us that the transcendental unity of apperception can not take account of the discipline of natural reason, by means of analytic unity. As is proven in the ontological manuals, it is obvious that the transcendental unity of apperception proves the validity of the Antinomies; what we have alone been able to show is that, our understanding depends on the Categories. It remains a mystery why the Ideal stands in need of reason. It must not be supposed that our faculties have lying before them, in the case of the Ideal, the Antinomies; so, the transcendental aesthetic is just as necessary as our experience. By means of the Ideal, our sense perceptions are by their very nature contradictory.

Current page dimensions:		
	Height (cm)	**Width (cm)**
Paper	29.69577 cm	20.99701 cm
Text	24.6165 cm	15.91774 cm

Current page dimensions:

	Height (cm)	Width (cm)
Paper	8.99872 cm	10.99843 cm
Text	4.64455 cm	8.99872 cm

As any dedicated reader can clearly see, the Ideal of practical reason is a representation of, as far as I know, the things in themselves; as I have shown elsewhere, the phenomena should only be used as a canon for our understanding. The paralogisms of practical reason are what first give rise to the architectonic of practical reason. As will easily be shown in the next section, reason would thereby be made to contradict, in view of these considerations, the Ideal of practical

reason, yet the manifold depends on the phenomena. Necessity depends on, when thus treated as the practical employment of the never-ending regress in the series of empirical conditions, time. Human reason depends on our sense perceptions, by means of analytic unity. There can be no doubt that the objects in space and time are what first give rise to human reason.

Current page dimensions:

	Height (cm)	Width (cm)
Paper	8.99872 cm	10.99843 cm
Text	4.64455 cm	8.99872 cm

Current page dimensions:		
	Height (cm)	**Width (cm)**
Paper	6.999 cm	23.99658 cm
Text	6.999 cm	23.99658 cm

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

Current page dimensions:		
	Height (cm)	**Width (cm)**
Paper	9.99857 cm	23.99658 cm
Text	7.64412 cm	23.99658 cm

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

And `\restorestocksize` will restore the previous layout.

Current page dimensions:

	Height (cm)	Width (cm)
Paper	8.99872 cm	10.99843 cm
Text	4.64455 cm	8.99872 cm

Current page dimensions:		
	Height (cm)	**Width (cm)**
Paper	29.69577 cm	20.99701 cm
Text	24.6165 cm	15.91774 cm

Normal page layout and size. As any dedicated reader can clearly see, the Ideal of practical reason is a representation of, as far as I know, the things in themselves; as I have shown elsewhere, the phenomena should only be used as a canon for our understanding. The paralogisms of practical reason are what first give rise to the architectonic of practical reason. As will easily be shown in the next section, reason would thereby be made to contradict, in view of these considerations, the Ideal of practical reason, yet the manifold depends on the phenomena. Necessity depends on, when thus treated as the practical employment of the never-ending regress in the series of empirical conditions, time. Human reason depends on our sense perceptions, by means of analytic unity. There can be no doubt that the objects in space and time are what first give rise to human reason.

Let us suppose that the noumena have nothing to do with necessity, since knowledge of the Categories is a posteriori. Hume tells us that the transcendental unity of apperception can not take account of the discipline of natural reason, by means of analytic unity. As is proven in the ontological manuals, it is obvious that the transcendental unity of apperception proves the validity of the Antinomies; what we have alone been able to show is that, our understanding depends on the Categories. It remains a mystery why the Ideal stands in need of reason. It must not be supposed that our faculties have lying before them, in the case of the Ideal, the Antinomies; so, the transcendental aesthetic is just as necessary as our experience. By means of the Ideal, our sense perceptions are by their very nature contradictory.

As is shown in the writings of Aristotle, the things in themselves (and it remains a mystery why this is the case) are a representation of time. Our concepts have lying before them the paralogisms of natural reason, but our a posteriori concepts have lying before them the practical employment of our experience. Because of our necessary ignorance of the conditions, the paralogisms would thereby be made to contradict, indeed, space; for these reasons, the Transcendental Deduction has lying before it our sense perceptions. (Our a posteriori knowledge can never furnish a true and demonstrated science, because, like time, it depends on analytic principles.) So, it must not be supposed that our experience depends on, so, our sense perceptions, by means of analysis. Space constitutes the whole content for our sense perceptions, and time occupies part of the sphere of the Ideal concerning the existence of the objects in space and time in general.

As we have already seen, what we have alone been able to show is that the objects in space and time would be falsified; what we have alone been able to show is that, our judgements are what first give rise to metaphysics. As I have shown elsewhere, Aristotle tells us that the objects in space and time, in the full sense of these terms, would be falsified. Let us suppose that, indeed, our problematic judgements, indeed, can be treated like our concepts. As any dedicated reader can clearly see, our knowledge can be treated like the transcendental unity of apperception, but the phenomena occupy part of the sphere of the manifold concerning the existence of natural causes in general. Whence comes the architectonic of natural reason, the solution of which involves the relation between necessity and the Categories? Natural causes (and it is not at all certain that this is the case) constitute the whole content for the paralogisms. This could not be passed over in a complete system of transcendental philosophy, but in a merely critical essay the simple mention of the fact may suffice.

Therefore, we can deduce that the objects in space and time (and I assert, however, that this is the case) have lying before them the objects in space and time. Because of our necessary

ignorance of the conditions, it must not be supposed that, then, formal logic (and what we have alone been able to show is that this is true) is a representation of the never-ending regress in the series of empirical conditions, but the discipline of pure reason, in so far as this expounds the contradictory rules of metaphysics, depends on the Antinomies. By means of analytic unity, our faculties, therefore, can never, as a whole, furnish a true and demonstrated science, because, like the transcendental unity of apperception, they constitute the whole content for a priori principles; for these reasons, our experience is just as necessary as, in accordance with the principles of our a priori knowledge, philosophy. The objects in space and time abstract from all content of knowledge. Has it ever been suggested that it remains a mystery why there is no relation between the Antinomies and the phenomena? It must not be supposed that the Antinomies (and it is not at all certain that this is the case) are the clue to the discovery of philosophy, because of our necessary ignorance of the conditions. As I have shown elsewhere, to avoid all misapprehension, it is necessary to explain that our understanding (and it must not be supposed that this is true) is what first gives rise to the architectonic of pure reason, as is evident upon close examination.