# Market evolution: Fans pumps compressors (CN 8414) — 2015–2025

## Introduction

EU external trade in air or vacuum pumps, compressors, fans, ventilating hoods and related parts (CN 8414) expanded markedly between 2015 and 2025. Exports climbed from €11.68 bn to €14.66 bn (+25.5 %), while imports grew from €5.77 bn to €8.37 bn (+45.1 %). The bloc maintained a solid trade surplus, but the composition of flows and the list of key partners shifted profoundly. This report uses official dashboard data to describe and interpret the main dynamics.

## 1. Aggregate picture: price-led export growth meets volume-driven import surge

### Export values rise despite a fall in tonnage, reflecting a clear move upmarket

Over the eleven-year window, the EU's extra-EU exports of CN 8414 goods advanced by a quarter in value, yet the quantity shipped declined from 659.9 k tonnes to 580.8 k tonnes (–12.0 %). Consequently, the average unit price soared from €17 702 / tonne to €25 236 / tonne (+42.6 %). This indicates a sustained shift towards higher-value pumps, compressors and fans, with volume becoming less important than the value content of each item.

### Import expansion is sustained by both larger quantities and moderate price increases

Imports rose faster than exports in both value and volume. Tonnage increased by 23.9 % (from 593.8 k to 735.8 k tonnes) and the average import price moved from €9 717 / tonne to €11 378 / tonne (+17.1 %). The dual growth in quantity and unit value signals that extra-EU suppliers not only expanded their presence in volume terms but also gradually improved the quality or value-mix of the products sold to the EU.

### The trade surplus remains robust but its composition is being reshaped

Despite the faster import growth, the EU’s trade balance stayed strongly positive, rising marginally from €5.91 bn to €6.29 bn (+6.3 %). The unchanged surplus masks a notable change: while exports are increasingly driven by price, imports are gaining ground through sheer volume. This implies that external competition in mid-range machinery segments is intensifying, even as EU producers defend their high-end market niches.

General Overview

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## 2. Geopolitical pivot: China dominates imports as Russia vanishes from the export map

### China’s import surge and the 2022 price shock reshape supply chains

China consolidated its position as the EU’s premier supplier of CN 8414 products. EU imports from China jumped from €1.53 bn to €3.56 bn (+132.2 %), far outpacing the overall import growth. At the same time, a notable price shock occurred in 2022: the unit value of Chinese goods leapt 51.7 % compared with the 2020-2021 baseline, while the volume temporarily contracted. By 2025, volumes had recovered, but prices remained elevated, permanently raising the entry cost of Chinese-sourced equipment.

### Russian sanctions erase a major export market; India, US and Switzerland fill the gap

EU exports to the Russian Federation collapsed from €0.83 bn to only €0.07 bn (–92.0 %). This steep drop was more than compensated by gains elsewhere. Exports to the United States rose by 49.4 % (to €2.84 bn), to India by 106.3 % (to €0.55 bn) and to Switzerland by 45.2 % (to €0.53 bn). The United Kingdom remained the second-largest destination, but its growth was modest (€1.45 bn to €1.56 bn, +7.7 %).

**Top extra-EU partners by trade value (€ million)**

| Imports from | 2015 | 2025 | Change % |
|---|---|---|---|
| China | 1 531 | 3 555 | +132.2 |
| Japan | 961 | 517 | –46.2 |
| United Kingdom | 707 | 680 | –3.8 |
| United States | 774 | 863 | +11.5 |
| Korea, Rep. | 314 | 431 | +37.3 |
| Türkiye | 104 | 277 | +165.7 |
| India | 151 | 268 | +77.7 |

| Exports to | 2015 | 2025 | Change % |
|---|---|---|---|
| United States | 1 899 | 2 837 | +49.4 |
| United Kingdom | 1 446 | 1 557 | +7.7 |
| China | 1 254 | 1 515 | +20.8 |
| Türkiye | 506 | 727 | +43.6 |
| Russian Fed. | 831 | 66 | –92.0 |
| Switzerland | 364 | 528 | +45.2 |
| India | 265 | 547 | +106.3 |

Top partners by value

## Import concentration climbs, while export markets stay relatively diversified

The Herfindahl-Hirschman Index (HHI) for imports rose from 1433 to 2128 (+48.5 %), reflecting the growing dominance of a handful of suppliers, primarily China. For exports, the HHI increased only modestly from 694 to 762 (+9.9 %), confirming that the EU's customer base, though centred on a few large markets, remains more diverse. This asymmetry means the bloc's import-side vulnerability has increased, whereas its export portfolio is better hedged.

Concentration HHI · Top shock events

# 3. Product engines: fans, compressors and parts drive high-value trade

## Exports of industrial fans and parts nearly double, highlighting EU manufacturing strengths

The product structure of extra-EU trade reveals a clear dual dynamic: exports are heavily concentrated in complex, high-value segments, while imports cover a broader mix including more standardised goods.

**Breakdown of extra-EU trade by main sub-headings, 2025 (€ million)**

| CN8 code | Product description (abridged) | Exports | Imports |
|---|---|---|---|
| 841480 | Air pumps, compressors and hoods > 120 cm | 4 847 | 2 370 |
| 841490 | Parts for pumps, compressors, fans, hoods | 3 259 | 1 724 |
| 841459 | Fans (excl. small and table fans) | 3 010 | 1 446 |
| 841430 | Compressors for refrigerating equipment | 1 589 | 1 471 |
| 841410 | Vacuum pumps | 1 245 | – |
| 841451 | Table, floor, wall etc. fans ≤ 125 W | – | 552 |
| 841440 | Wheeled air compressors | 232 | 64 |

Between 2015 and 2025, exports of **fans (841459)** soared from €1.68 bn to €3.01 bn (+79 %), and **parts (841490)** expanded from €2.77 bn to €3.26 bn (+18 %). The largest export category, **pumps/compressors/ hoods > 120 cm (841480)**, added roughly €0.62 bn in value, confirming the EU's competitive edge in industrial-scale equipment.

## Compressors and vacuum pumps remain core, but smaller segments post the highest price growth

While volumes of exported compressors for refrigeration (841430) and vacuum pumps (841410) edged down, the average export price for compressors (841430) rose from €8 026 / tonne to €12 822 / tonne (+60 %), and vacuum pumps (841410) from €32 626 / tonne to €44 413 / tonne (+36 %). The wheeled compressor segment (841440) saw an even steeper price jump, from €8 710 / tonne to €10 408 / tonne, though its weight in total trade is small. These shifts suggest that EU manufacturers are concentrating on advanced, technology-intensive variants while conceding volume in simpler lines.

## Central and Eastern European members specialise, reinforcing the bloc's production network

In 2025, the most specialised EU exporters (measured by RSCA) were Romania (RSCA 0.4575), Slovakia (0.3845), Hungary (0.2966), Slovenia (0.2451) and Portugal (0.1785). All recorded revealed comparative advantages well above the EU average, underlining a production geography that extends deep into Central and Eastern Europe. Germany and Italy remained the largest value-wise, but these smaller member states have carved out niches that strengthen the overall EU supply chain.

Product segment comparison · Specialisation (most / least)

## Conclusion

Between 2015 and 2025, the EU's extra-EU trade in pumps, compressors, fans and parts displayed three defining trends. First, export growth was almost entirely price-driven — a sign of successful up-market repositioning — while imports advanced on a broad combination of volume and price. Second, the partner landscape changed dramatically: China's dominance as a supplier reached new heights (punctuated by a 2022 price shock), Russia disappeared as a major customer, and the US, India and Switzerland provided export-side compensation. Third, the product-level data show that high-value industrial fans, complex compressor systems and related parts are the bloc's main trade engines, with Central and Eastern European countries playing an increasingly specialised role. The overall surplus remains comfortable, but the rising concentration of imports and the evolving product mix warrant close monitoring to ensure the EU's resilience in this essential machinery sector.

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If you need advice on European trade policy, or representation for your interests in Brussels, feel free to contact me at support@tradedashboard.eu. You can find my CV at this address.