

Parts catalogue: Structured catalogue for standard and series components

The parts catalogue is a structured directory of components, standard parts and series parts from which purchasers and designers can select and order products. It links technical product data with commercial information such as prices, delivery times and supplier terms. In industrial procurement it is the central data foundation for direct requirements, repeat orders and system support through ERP and e-procurement solutions.

Key facts

- A parts catalogue typically contains the article number, description, technical characteristics, unit of measure, price and delivery time per item.
- Catalogues can be distinguished into manufacturer catalogues, dealer catalogues and internal plant catalogues.
- In the ERP system, the parts catalogue often corresponds to the material master; its maintenance falls under master data management.
- Well-maintained parts catalogues reduce maverick buying because approved sources and prices are directly visible in the system.
- Classification standards such as eCl@ss or UNSPSC enable cross-supplier product comparisons.
- Parts catalogues are an essential data basis for Material Requirements Planning (MRP) and automated replenishment processes.

Definition: parts catalogue

A parts catalogue is a systematically structured directory of parts and components with technical and commercial master data. It serves as a reference for design, demand determination and ordering and forms the interface between product data and procurement processes.

Distinction from material master and range catalogue

The parts catalogue is not identical to the material master but overlaps considerably with it: the material master maps all materials managed within the company, whereas a parts catalogue often also contains standard parts that have not yet been ordered but are available. Distributor range catalogues, in turn, cover their entire trading assortment, regardless of actual demand. In practice, internal plant catalogues are frequently synchronised from external supplier catalogues and the company's own material master.

Types of parts catalogues

Depending on source and purpose, several catalogue types can be distinguished:

- Manufacturer catalogues: original data from the producer, usually with CAD data and standard parts information
- Distributor and dealer catalogues: assortment from several manufacturers with catalogue-specific

terms

- Internal plant catalogues: approved articles with plant prices, discounts and preferred sources
- Standard parts catalogues: standardised parts such as screws, bearings or seals according to DIN/ISO

Structure and data content of a parts catalogue

The benefit of a parts catalogue stands or falls with data quality and structure. Every catalogue item should be uniformly structured so that searches, comparisons and system interfaces work reliably.

Typical fields and attributes

Standard fields include the article number, manufacturer and manufacturer part number, short and long text, technical characteristics as structured attributes, unit of measure, packaging unit, price, price validity, delivery time and source reference. For C-parts, classification codes and attribute sets according to eCl@ss or UNSPSC are added. Image and CAD attachments significantly improve the accuracy of part selection.

Classification and search logic

Without a uniform classification, even the duplicate entry of the same part under different designations leads to duplicate stock and additional costs. Attribute-based classifications allow searching by properties rather than free text. Especially when consolidating multiple supplier catalogues, a uniform attribute model is a prerequisite for a meaningful price comparison, for example in the form of a price actual-vs-target comparison based on historical procurement prices.

Maintenance within master data management

Catalogue content depends on continuous maintenance: price changes, delistings and replacement types must be uploaded promptly. A well-organised master data management with defined responsibilities, approval processes and update cycles prevents outdated prices and incorrect planning data. Catalogue updates are typically uploaded monthly or quarterly, with critical items updated more frequently.

Methods and approach: building a parts catalogue into the procurement process

Building an effective parts catalogue follows a repeatable approach: analyse requirements, define the range, record data in a structured manner, store sources and conditions, and integrate the catalogue into the ordering process.

Range decision and parts master cleansing

Before building the catalogue, it is worth analysing order volumes using ABC criteria and carrying out a slow-mover analysis to identify which parts are worth cataloguing at all. Rare one-off purchases often do not belong in the catalogue but rather in demand-based enquiries via RFX in procurement. Duplicate and outdated article numbers are cleansed before new catalogue data is uploaded.

Source assignment and approval strategy

For each catalogue item, preferred sources are defined – often the result of supplier segmentation and a derived supplier strategy. Framework agreements and list prices with graduated discounts are stored

as condition records. A clear approval logic restricts ordering to approved sources and thus structurally combats maverick buying.

Integration into ERP, e-procurement and planning

The parts catalogue is integrated via interfaces into ERP systems, e-procurement platforms and usually also into Material Requirements Planning (MRP). Materials planners order directly from the catalogue, and designers can draw on approved parts for new developments. In mature processes along the Source-to-Pay (S2P) chain, this creates a seamless digital flow from requisition to order.

Key KPIs and benefits of a well-maintained parts catalogue

The success of a parts catalogue can be measured – both through data quality and through behavioural and cost effects in procurement.

Data quality metrics

Key metrics include the completeness rate (proportion of items with complete mandatory fields), the hit rate of catalogue searches and the proportion of duplicate article numbers. In practice, more mature organisations aim for rates of over 95 per cent, often close to 100 per cent, for mandatory fields. The duplicate rate should typically be below five per cent.

Process and procurement metrics

Important indicators are the catalogue penetration rate (proportion of order items originating from a catalogue), the share of approved sources and the price deviation from contract prices. A regular price actual-vs-target comparison between catalogue prices and actually paid prices reveals deviations. Shortening replenishment lead times and fewer follow-up queries demonstrate the process impact.

Benefits for materials planning and the supply chain

With reliable delivery times and reorder data from the catalogue, Material Requirements Planning (MRP) becomes more stable: materials planners plan with real parameters instead of estimates. For C-parts, catalogue data complements blocked stock management, because blocked or superseded parts are clearly marked in the catalogue and alternative sources are visible.

Risks and controls: typical weaknesses in catalogue management

Poorly maintained parts catalogues cause measurable damage: incorrect prices, duplicate stock, mis-planning and uncontrolled purchases outside agreed channels.

Maverick buying and lack of channel loyalty

If the catalogue is incomplete, slow or confusing, buyers switch to other channels – maverick buying arises. Controls include the regular analysis of orders placed outside the catalogue, refresher training and eliminating the actual root cause, such as missing items or approval routes that are too long. It is important to understand substitute purchases rather than merely sanction them.

Outdated prices and conditions

Catalogue prices that have not been updated lead to incorrect budget estimates and prevent a reliable factual invoice verification, because invoices are compared against outdated reference prices. Contracts should contain fixed update intervals and price adjustment mechanisms. Automated validity checks

before each catalogue upload date minimise the risk.

Dependence on individual catalogue providers

Anyone integrating only one distributor catalogue is effectively tied to its assortment and pricing logic. Deliberate supplier consolidation can make sense but should be questioned periodically – for example at a Supplier Day or as part of risk management. In addition, regular market price comparisons across multiple sources help, for example using a structured scoring model for alternative suppliers.

Current developments: digitalised and networked parts catalogues

Parts catalogues are evolving from static price lists into dynamic, networked data products with machine-readable content and stronger integration into planning and sustainability processes.

Classification standards and machine-readable catalogues

Attribute-based standards such as eCl@ss enable the exchange of catalogue data between manufacturer, dealer and customer without manual rework. CAD and configuration data are increasingly flowed directly into the catalogue, allowing designers to select standard-compliant parts with up-to-date planning data. AI-supported de-duplication and attribute completion noticeably reduces manual maintenance effort.

Integration into procurement platforms and marketplaces

Punch-out and cXML interfaces connect internal catalogues live to supplier systems, so that prices and availability are up to date daily. B2B marketplaces complement the internal catalogue with sources for requirements without a framework agreement, often with a non-binding offer as an entry point into price negotiations. This turns the catalogue into a control instrument between contractual business and spot demand.

Sustainability and regulatory data

Sustainability and compliance data are increasingly being integrated into parts catalogues, for example material origins, recycling information and values for calculating Scope 3 emissions. Regulatory requirements for packaging and materials, for example in the context of the PPWR, shift data obligations towards product data. Purchasers are well advised to design catalogue models so that such attributes can be added without restructuring.

Typical metrics

Catalogue penetration rate: > 80 %

Proportion of order items originating from the catalogue; typically considerably higher in mature organisations

Mandatory field completeness: > 95 %

Proportion of catalogue items with complete mandatory attributes

Duplicate rate: < 5 %

Proportion of duplicate article numbers in the material master

Search hit rate: > 90 %

Proportion of catalogue searches leading to an order or a clear rejection

Price deviation from contract: < 2 %

Deviation of paid prices from catalogue/contract prices determined via price actual-vs-target comparison

Practical example

A mid-sized mechanical engineering company with around 40,000 active articles suffered from duplicate parts, outdated distributor catalogues and high levels of maverick buying for C-parts. The procurement team introduced a central plant catalogue, cleansed the inventory in a multi-month project and shifted small-part requirements to a priced distributor catalogue with a fixed discount structure.

- Cleansing of around 15 per cent duplicate and obsolete stock items in the material master before catalogue introduction
- Attribute-based classification according to eCl@ss for all standard and purchased parts
- Connection of the distributor catalogue via punch-out with daily updated prices and delivery times
- Monthly analysis of orders placed outside the catalogue to monitor maverick buying

Conclusion

The parts catalogue is far more than a list of articles: it is the operational backbone linking design, materials planning and procurement. Its value is created through structured master data, clear source assignment and continuous maintenance within master data management. Those who systematically measure catalogue penetration, data quality and price deviations reduce process costs and create transparency beyond C-parts. At the same time, dependence on individual catalogue providers decreases when alternative sources are regularly reviewed. Investment in catalogue quality typically pays off several times over through lower transaction costs and more stable materials planning.

Frequently asked questions

What is a parts catalogue?

A parts catalogue is a structured directory of components and standard parts with technical characteristics, prices and delivery times. It serves as a basis for part selection by designers and as a reference for ordering and planning by purchasers and materials planners. In ERP systems it is closely related to the material master, but it often also contains externally available items.

What is the difference between a parts catalogue and the material master?

The material master maps all materials managed within the company, whereas a parts catalogue additionally contains not yet created but procurable articles from manufacturers and distributors. Internal plant catalogues are often created by reconciling both data sources. Data consistency between the two systems is what matters most in practice.

What data belongs in a parts catalogue?

Typical fields include the article number and manufacturer part number, description, structured technical characteristics, unit of measure, price, delivery time and source reference. These are supplemented by classification codes such as eCl@ss, images and CAD data. The more complete the attributes, the higher the hit rate and the lower the risk of mis-ordering.

How does a parts catalogue reduce maverick buying?

It provides a simple, fast and compliant way of ordering with approved sources and contract prices. If the search returns hits and the prices are plausible, the incentive to buy outside the system disappears. As a supplement, analysing orders placed outside the catalogue should reveal root causes such as missing items.

How often should a parts catalogue be updated?

In practice, a monthly to quarterly update cycle has proven effective, with critical items maintained more frequently. It is important to agree update cycles and price validity periods contractually with the catalogue providers. Automated validity checks before each upload prevent outdated prices.

What does implementing a parts catalogue cost?

The costs consist of licence or platform fees, catalogue preparation, interface development and internal maintenance effort. Often the one-off effort of cleansing the material master outweighs the ongoing costs. The return typically comes from reduced transaction costs, better prices and less duplicate stock.