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BSI Standards Publication

Fluid power — Specification of reference dictionary

Part 1: General overview on organization and structure

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National foreword

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A list of organizations represented on this committee can be obtained on request to its secretary.

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Foreword

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The committee responsible for this document is ISO/TC 131, *Fluid power systems*, Subcommittee SC 1, *Symbols, terminology and classifications*.

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Introduction

Modern business operations — known collectively as e-Business and including e-Marketplaces, e-Product catalogues and Lifecycle Management — are characterized by the following.

a) **Complex structures of the product lifecycle**

In each step of the product lifecycle (ranging from the first idea through development, manufacture, distribution, use and disposal of the product), information from another step or steps is required; moreover, new additional information is generated. Numerous parties and processes are involved in or form part of the product lifecycle. Hence, information needs to be transferred to or exchanged between those parties and processes, across company internal interfaces and across interfaces to external business partners (such as other manufacturers, suppliers and customers).

To ensure successful handling of these business operations, it is essential that the communication between parties and processes involved be independent from individual agreements on data and that the data, once created, be readily usable by other parties and in other processes without a need for conversion mechanisms.

b) **Availability of new electronic media**

To take advantage of the economic potential of these new media, product information provided by various suppliers needs to be clear and unambiguous (inter-comparable) for a potential buyer.

The requirement arising from both of these aspects is that the description of products and processes are:

— uniformly consistent and unambiguous;

— neutral (neither company-specific nor software-specific nor product-specific);

— available in electronic form for ready use without conversion.

This is generally true for any business area.

For the business area of fluid power systems, the situation that led to the decision to prepare ISO 18582 were:

a) available ISO Standards, such as the ISO 5598, provide some verbal definitions of properties, but do not provide sufficient detail of information required for an unambiguous data exchange;

b) programs (i.e. software, either commercially available or custom-made) used in different areas of a single company or amongst business partners (e.g. CAD-Systems, ERP-Systems, Office Tools) use different interfaces and different internal data representation (e.g. measurement unit, reference value); any attempt to exchange data between them requires multi-directional conversion mechanisms or is associated with a risk of introducing errors or simply is impossible.

On the basis of standardized and electronically available properties, data exchange between, and immediate use of transmitted data in, the software used in various departments or branches of one company or at various business partners can be implemented. Use of standardized properties increases process comprehensiveness at companies and permits closer IT-based links between customers and suppliers in the areas of development and supply. This, in turn, leads to cost savings by way of cuts in the number of required parts and shorter product-development time frames.

Though limited to the field of fluid power, the reference dictionary needs to include all relevant properties required for the full description of fluid power products and processes. Therefore, in addition to the properties that are peculiar to the field of fluid power systems, the reference dictionary also includes, be it by specification or be it by reference from other dictionaries, properties being of universal nature rather than specific to “fluid power systems”, e.g. quantities and units or fundamental physical entities, and the required properties from other technical fields, e.g. mechanical components such as mountings for fluid power elements, if they are not defined elsewhere (i.e. in ISO 23584) and so cannot be referenced.

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