

STN	Výkonové transformátory Časť 22-5: Príslušenstvo výkonových transformátorov a tlmiviek Čerpadlá	STN EN IEC 60076-22-5 35 1100
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Power transformers - Part 22-5: Power transformer and reactor fittings - Electric pumps for transformers

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 05/21

Obsahuje: EN IEC 60076-22-5:2021, IEC 60076-22-5:2021

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EN IEC 60076-22-5

March 2021

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English Version

**Power transformers - Part 22-5: Power transformer and reactor
fittings - Electric pumps for transformers
(IEC 60076-22-5:2021)**

Transformateurs de puissance - Partie 22-5 : Accessoires
pour transformateurs de puissance et bobines d'inductance
- Electropompes pour transformateurs
(IEC 60076-22-5:2021)

Leistungstransformatoren - Teil 22-5: Zubehörteile von
Leistungstransformatoren und Drosselspulen - Pumpen
(IEC 60076-22-5:2021)

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Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN IEC 60076-22-5:2021 (E)**European foreword**

The text of document 14/1021/CDV, future edition 1 of IEC 60076-22-5, prepared by IEC/TC 14 "Power transformers" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60076-22-5:2021.

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IEC 60076-6 NOTE Harmonized as EN 60076-6

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60034-1	2017	Rotating electrical machines - Part 1: Rating and performance	-	-
IEC 60034-5	-	Rotating electrical machines - Part 5: Degrees of protection provided by the integral design of rotating electrical machines (IP code) - Classification	EN IEC 60034-5	-
IEC 60034-9	-	Rotating electrical machines - Part 9: Noise limits	EN IEC 60034-9 ¹	-
IEC 60076-1	2011	Power transformers - Part 1: General	EN 60076-1	2011
IEC 60076-7	-	Power transformers - Part 7: Loading guide for oil-immersed power transformers	-	-
IEC 60085	-	Electrical insulation - Thermal evaluation and designation	EN 60085	-
IEC 60296	-	Fluids for electrotechnical applications - Mineral insulating oils for electrical equipment	EN IEC 60296	-
IEC 60529	-	Degrees of protection provided by enclosures (IP Code)	-	-
ISO 179-1	2010	Plastics - Determination of Charpy impact properties - Part 1: Non-instrumented impact test	EN ISO 179-1	2010
ISO 185	-	Grey cast irons - Classification	-	-

¹ To be published. Stage at the time of publication: prEN IEC 60034-9:2021.

EN IEC 60076-22-5:2021 (E)

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ISO 281	-	Rolling bearings - Dynamic load ratings and rating life	-	-
ISO 3522	-	Aluminium and aluminium alloys - Castings - Chemical composition and mechanical properties	-	-
ISO 4406	-	Hydraulic fluid power - Fluids - Method for coding the level of contamination by solid particles	-	-
ISO 7005-2	-	Metallic flanges; part 2: cast iron flanges	-	-
ISO 9906	-	Rotodynamic pumps - Hydraulic performance acceptance tests - Grades 1, 2 and 3	EN ISO 9906	-
ISO 12944	series	Paints and varnishes - Corrosion protection of steel structures by protective paint systems	-	-



IEC 60076-22-5

Edition 1.0 2021-01

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Power transformers –

Part 22-5: Power transformer and reactor fittings – Electric pumps for transformers

Transformateurs de puissance –

Partie 22-5: Accessoires pour transformateurs de puissance et bobines d'inductance – Électropompes pour transformateurs

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IEC 60076-22-5

Edition 1.0 2021-01

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Power transformers –

Part 22-5: Power transformer and reactor fittings – Electric pumps for transformers

Transformateurs de puissance –

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

POWER TRANSFORMERS –

**Part 22-5: Power transformer and reactor fittings –
Electric pumps for transformers**

FOREWORD

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The text of this International Standard is based on the following documents:

Draft	Report on voting
14/1021/CDV	14/1040A/RVC

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

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- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

POWER TRANSFORMERS –

Part 22-5: Power transformer and reactor fittings – Electric pumps for transformers

1 Scope

This part of IEC 60076 covers electric pumps used in the cooling circuits of power transformers and reactors. It applies to electric pumps mounted on liquid immersed power transformers according to IEC 60076-1 and reactors according to IEC 60076-6 with and without conservator for indoor or outdoor installation.

It outlines the operation requirements for the electrical and hydraulic performance, mechanical design, routine testing and type testing. Additionally, performance and dimensions of preferred sizes of pump sets are specified in informative annexes.

The pumps covered in this document are rotodynamic pumps driven by a squirrel cage induction motor that is immersed in the insulating liquid.

Pump sets conforming to this document can be of in-line or end suction design.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60034-1:2017, *Rotating electrical machines – Part 1: Rating and performance*

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IEC 60034-9, *Rotating electrical machines – Part 9: Noise limits*

IEC 60076-1:2011, *Power transformers – Part 1: General*

IEC 60076-7, *Power transformers – Part 7: Loading guide for mineral-oil-immersed power transformers*

IEC 60085, *Electrical insulation – Thermal evaluation and designation*

IEC 60296, *Fluids for electrotechnical applications – Mineral insulating oils for electrical equipment*

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ISO 4406, *Hydraulic fluid power – Fluids – Method for coding the level of contamination by solid particles*

ISO 7005-2, *Metallic flanges – Part 2: Cast iron flanges*

ISO 9906, *Rotodynamic pumps – Hydraulic performance acceptance tests – Grades 1, 2 and 3*

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