

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Power transformers –

Part 22-4: Power transformer and reactor fittings – Insulating liquid to water heat exchangers

Transformateurs de puissance –

Partie 22-4: Accessoires pour transformateurs de puissance et bobines d'inductance – Hydroréfrigérants



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CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references	7
3 Terms and definitions	7
4 General requirements	8
4.1 Service conditions.....	8
4.2 Performance requirements.....	8
4.3 Degree of protection of electrical components (IP).....	8
4.4 Corrosion protection	8
4.4.1 External (atmosphere)	8
4.4.2 Insulating liquid side	9
4.4.3 Water side	9
4.5 Insulating liquid characteristics	9
5 Design and characteristics.....	9
5.1 General.....	9
5.2 Main components and characteristics	9
5.2.1 General	9
5.2.2 Shell	9
5.2.3 Tube bundle in double tube arrangement.....	9
5.2.4 Headers.....	10
5.3 General characteristics	10
5.3.1 Rating plate information.....	10
5.3.2 Information to be provided with enquiry and order.....	10
5.3.3 Rated cooling capacity.....	11
5.3.4 Mechanical design	11
5.3.5 Preparation for transport and storage	13
5.3.6 Mounting and operating conditions	14
6 Tests	14
6.1 General requirements for tests.....	14
6.1.1 General	14
6.1.2 List of tests.....	14
6.2 Routine tests.....	15
6.2.1 Tightness test insulating liquid side	15
6.2.2 Tightness test water side	15
6.2.3 Visual inspection	15
6.2.4 Cleanliness.....	15
6.3 Type tests – Rated values test.....	15
Annex A (informative) Details of the heat exchangers	16
A.1 Masses and dimensions.....	16
A.2 Collection and forms of suspensory types	16
A.3 Collection and forms of horizontal types.....	17
A.4 Collection and forms of vertical standing types.....	18
A.5 Parts list – Materials – Common selection of materials.....	19
A.6 Example for fresh water	20

Annex B (informative) Rating conditions of the heat exchangers	21
B.1 General.....	21
B.2 Definitions, symbols.....	21
B.3 Calculation of capacity in service	21
B.3.1 Service capacity for different temperatures at inlet according to Figure B.1	21
B.3.2 Service capacity for different mass flows according to Figure B.2 for plain tubes and according to Figure B.3 for finned tubes.....	21
B.3.3 Service capacity for different mass flows and different temperatures	22
B.3.4 Example for calculation of 25 % capacity margin of new heat exchangers.....	22
Annex C (informative) Example for calculation of capacity in service	26
Bibliography.....	28
Figure A.1 – Collection and forms of suspensory types	16
Figure A.2 – Collection and forms of horizontal types.....	17
Figure A.3 – Collection and forms of vertical standing types	18
Figure B.1 – Capacity factor depending on inlet temperatures of oil and water.....	23
Figure B.2 – Capacity factor depending on mass for plain tubes	24
Figure B.3 – Capacity factor depending on mass for finned tubes	25
Table 1 – Water quality data	12
Table 2 – Mandatory fittings.....	13
Table A.1 – Examples of material selection depending on water quality	20
Table A.2 – Average values for chemically neutral water (fresh water).....	20

INTERNATIONAL ELECTROTECHNICAL COMMISSION

POWER TRANSFORMERS –

**Part 22-4: Power transformer and reactor fittings –
Insulating liquid to water heat exchangers**

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International Standard IEC 60076-22-4 has been prepared by IEC technical committee 14: Power transformers.

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

FDIS	Report on voting
14/996/FDIS	14/1004/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 60076 series, published under the general title *Power transformers*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

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

INTRODUCTION

Under the part title “Power transformer and reactor fittings” this part of IEC 60076-22 covers the insulating liquid to water heat exchangers in the cooling circuits of power transformers and reactors.

Annex B gives guidance to the end user for approximation of the behaviour of the heat exchanger under different operation conditions. Annex C gives an example based on the calculation rules stipulated in Annex B.

POWER TRANSFORMERS –

Part 22-4: Power transformer and reactor fittings – Insulating liquid to water heat exchangers

1 Scope

This part of IEC 60076 applies to liquid to water heat exchangers, using forced water and forced liquid circuits, used 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 service conditions and the mechanical and electrical requirements that are common to this equipment.

It also outlines the operation requirements specific to this equipment as well as the preferred dimensions relevant for interchangeability and the type and routine tests to be performed.

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

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

IEC 60296, *Fluids for electrotechnical applications – Unused mineral insulating oils for transformers and switchgear*

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

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

ISO 12944 (all parts), *Paints and varnishes – Corrosion protection of steel structures by protective paint systems*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
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