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INTERNATIONAL STANDARD

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Arc welding equipment –
Part 8: Gas consoles for welding and plasma cutting systems

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

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ARC WELDING EQUIPMENT –

Part 8: Gas consoles for welding and plasma cutting systems

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International Standard IEC 60974-8 has been prepared by IEC technical committee 26: Electric welding.

This third edition cancels and replaces the second edition, published in 2009. This edition constitutes a technical revision.

The significant technical changes with respect to the previous edition are the following:

- changes induced by the publication of IEC 60974-1:2017;
- requirements for the rating plate as in IEC 60974-1:2017, Clause 15;
- requirements for the instructions in 13.2.

This part of IEC 60974 is to be used in conjunction with IEC 60974-1.

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

FDIS	Report on voting
26/719/FDIS	26/723/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.

In this standard, the following print types are used:

– conformity statements: in *italic type*.
– terms defined in Clause 3: in SMALL ROMAN CAPITALS.

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INTRODUCTION

If the console is designed to operate with explosive gases, the manufacturer should perform an assessment for applicability of local legislation for explosive atmospheres (example: ATEX regulation).

ARC WELDING EQUIPMENT –

Part 8: Gas consoles for welding and plasma cutting systems

1 Scope

This part of IEC 60974 specifies safety and performance requirements for GAS CONSOLES intended to be used with combustible gases or oxygen. These GAS CONSOLES are designed to supply gases for use in arc welding, plasma cutting, gouging and allied processes in non-explosive atmospheres.

The GAS CONSOLE can be external or internal to the power source enclosure. In the latter case, ~~this standard also applies to~~ the power source shall meet the requirements of both IEC 60974-1 and this document.

NOTE See Annex A for mechanised plasma system diagram.

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 60050-151:2001, *International Electrotechnical Vocabulary (IEV) – Part 151: Electrical and magnetic devices*
IEC 60050-151:2001/AMD1:2013
IEC 60050-151:2001/AMD2:2014
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IEC 60529:1989, *Degrees of protection provided by enclosures (IP Code)*
IEC 60529:1989/AMD1:1999
IEC 60529:1989/AMD2:2013

IEC 60664-1, *Insulation coordination for equipment within low-voltage supply systems – Part 1: Principles, requirements and tests*

IEC 60974-1:~~2005~~2017, *Arc welding equipment – Part 1: Welding power sources*
IEC 60974-1:2017/AMD1:2019

IEC 60974-10, *Arc welding equipment – Part 10: Electromagnetic compatibility (EMC) requirements*

ISO 10225, *Gas welding equipment — Marking for equipment used for gas welding, cutting and allied processes*

IEC 60974-8

Edition 3.0 2021-04

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Arc welding equipment –
Part 8: Gas consoles for welding and plasma cutting systems

Matériel de soudage à l'arc –
Partie 8: Consoles de gaz pour soudage et systèmes de coupage par plasma

IEC 60974-8:2021-04(en-fr)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

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MATÉRIEL DE SOUDAGE À L'ARC –

Partie 8: Consoles de gaz pour soudage et systèmes de coupage par plasma

AVANT-PROPOS

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La Norme internationale IEC 60974-8 a été établie par le comité d'études 26 de l'IEC: Soudage électrique.

Cette troisième édition annule et remplace la deuxième édition, parue en 2009. Cette édition constitue une révision technique.

Les modifications techniques majeures par rapport à l'édition précédente sont les suivantes:

- modifications qui résultent de la publication de l'IEC 60974-1:2017;
- exigences relatives à la plaque signalétique comme celles spécifiées à l'Article 15 de l'IEC 60974-1:2017;
- exigences relatives aux instructions en 13.2.

La présente partie de l'IEC 60974 doit être utilisée conjointement avec l'IEC 60974-1.

Le texte de cette Norme internationale est issu des documents suivants:

FDIS	Rapport de vote
26/719/FDIS	26/723/RVD

Le rapport de vote indiqué dans le tableau ci-dessus donne toute information sur le vote ayant abouti à l'approbation de cette Norme internationale.

La version française de la norme n'a pas été soumise au vote.

Ce document a été rédigé selon les Directives ISO/IEC, Partie 2.

Dans la présente norme, les caractères d'imprimerie suivants sont utilisés:

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– termes définis à l'Article 3: PETITES MAJUSCULES EN CARACTERES ROMAINS.

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INTRODUCTION

Lorsque la console est conçue pour fonctionner avec des gaz explosifs, il convient que le fabricant évalue l'applicabilité de la législation locale relative aux atmosphères explosives (exemple: Réglementation ATEX).

MATÉRIEL DE SOUDAGE À L'ARC –

Partie 8: Consoles de gaz pour soudage et systèmes de coupage par plasma

1 Domaine d'application

La présente partie de l'IEC 60974 spécifie les exigences de performance et de sécurité concernant les CONSOLES DE GAZ destinées à être utilisées avec des gaz combustibles ou de l'oxygène. Ces CONSOLES DE GAZ sont conçues pour fournir du gaz qui est utilisé pour le soudage à l'arc, le coupage par plasma, le gougeage et les procédés connexes dans des atmosphères non explosives.

La CONSOLE DE GAZ peut se trouver soit à l'extérieur, soit à l'intérieur de l'enceinte de la source de courant. Dans ce dernier cas, la source de courant doit satisfaire aux exigences de l'IEC 60974-1 et du présent document.

NOTE Voir l'Annexe A pour le schéma du système de plasma mécanisé.

2 Références normatives

Les documents suivants sont cités dans le texte de sorte qu'ils constituent, pour tout ou partie de leur contenu, des exigences du présent document. Pour les références datées, seule l'édition citée s'applique. Pour les références non datées, la dernière édition du document de référence s'applique (y compris les éventuels amendements).

IEC 60050-151:2001, *Vocabulaire électrotechnique international (IEV) – Partie 151: Dispositifs électriques et magnétiques*
IEC 60050-151:2001/AMD1:2013
IEC 60050-151:2001/AMD2:2014
IEC 60050-151:2001/AMD3:2019
IEC 60050-151:2001/AMD4:2020

IEC 60529:1989*, Degrés de protection procurés par les enveloppes (Code IP)*
IEC 60529:1989/AMD1:1999
IEC 60529:1989/AMD2:2013

IEC 60664-1, *Coordination de l'isolement des matériels dans les réseaux d'énergie électrique à basse tension – Partie 1: Principes, exigences et essais*

IEC 60974-1:2017*, Matériel de soudage à l'arc – Partie 1: Sources de courant de soudage à l'arc*
IEC 60974-1:2017/AMD1:2019

IEC 60974-10, *Matériel de soudage à l'arc – Partie 10: Exigences de compatibilité électromagnétique (CEM)*

ISO 10225, *Matériel de soudage aux gaz — Marquage des matériels de soudage aux gaz, de coupage et pour techniques connexes*