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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 20914.5-2023

Tools for pressing - Gas springs - Part 5: Safety instructions for gas springs

冲模 氮气弹簧 第5部分：氮气弹簧安全规范

(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents" Drafting:

This document is Part 5 of GB/T 20914: GB/T 20914 has released the following 5 parts:

---Part 1: General specifications;

---Part 2: Accessory specifications;

---Part 3: Compact and powerful nitrogen gas spring;

---Part 4: Conformal high strength nitrogen gas spring;

---Part 5: Nitrogen gas spring safety specifications:

This document is equivalent to ISO 11901-5:2021 "Die Nitrogen Gas Spring Part 5: Safety Specifications for Nitrogen Gas Spring":

Please note that some content in this document may be subject to patents: The publisher of this document assumes no responsibility for identifying patents:

Introduction

GB/T 20914 adopts the ISO 11901 series of international standards: Each part is consistent with the international standard and is planned to be composed of 5 parts:

---Part 1: General specifications: The purpose is to unify the dimensions and specifications of general-purpose nitrogen gas springs:

---Part 2: Accessory specifications: The purpose is to unify the dimensions and specifications of standard accessories for nitrogen gas springs:

---Part 3: Compact and powerful nitrogen gas spring: The purpose is to unify the

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dimensions and specifications of compact and powerful nitrogen gas springs:

---Part 4: Equal-height and powerful nitrogen gas springs: The purpose is to unify the dimensions and specifications of high-strength nitrogen gas springs:

---Part 5: Nitrogen gas spring safety specifications: The purpose is to provide safe usage guidance for nitrogen gas spring users:

Die nitrogen gas spring Part 5: Safety Specifications for Nitrogen Gas Springs

1 Scope

This document specifies the safety requirements and correct specifications for nitrogen gas springs for dies in accordance with ISO 11901-1, ISO 11901-3 and ISO 11901-4:

correct installation method:

The instructions and operating requirements in Appendix A of this document can help extend the service life of the nitrogen gas spring and ensure safe operation:

2 Normative reference documents

This document has no normative references:

3 Terms and definitions

There are no terms or definitions to be defined in this document:

4 Nitrogen spring safety protection

4.1

General requirements Improper use of nitrogen gas springs may cause harm to people, equipment, molds, etc:

4:2~4:4 describe some causes of potential injuries and the operation methods of corresponding protective devices:

4.2

Uncontrolled backhaul security protection Due to factors such as mold parts or wedge jamming, the plunger rod of the nitrogen gas spring may not necessarily follow the pressure return stroke, see Figure 1: When stuck After the part is retracted, the return speed of the plunger rod will exceed the maximum allowable speed and hit the end point without restraint (the plunger rod has no punch reaction force, and the jamming parts are pushed out during the return journey), causing serious damage or failure of the nitrogen spring: To avoid this from happening, exhaust should be set up Device, when the nitrogen spring plunger rod exceeds the maximum allowable speed, it can exhaust and reduce pressure:

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This will reduce injuries caused by nitrogen spring parts being pushed out risks of:

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