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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 20914.3-2019

**Stamping dies -- Gas springs -- Part 3: Gas spring with
increased spring force and compact built height**

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Foreword

GB/T 20914 "die nitrogen gas spring" is divided into 4 parts.

- Part 1. General specifications;
- Part 2. Accessories specifications;
- Part 3. Compact and powerful nitrogen springs;
- Part 4. Contour high-strength gas springs.

This part is the third part of GB/T 20914.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This section uses the redrafting method to modify the use of ISO 11901-3.2014 "die gas springs part 3. compact and powerful nitrogen bombs

Spring.

There are technical differences between this part and ISO 11901-3.2014, and the terms involved in these differences have been passed on the outside margins.

The vertical single line (-) of the position is marked. The corresponding technical differences and their reasons are as follows.

---About the normative reference documents, this part has made technical adjustments to adapt to China's technical conditions, adjustments

The situation is reflected in Chapter 2, "Regulatory Citations", and the specific adjustments are as follows.

- * Replace ISO 2768-1 with GB/T 1804 equivalent to the international standard;
- * Replace ISO 7-1 with GB/T 7306.1 and GB/T 7306.2 equivalent to international standards.

--- In Table 2, the "l6" tolerance was changed from "10" to "+/-0.3" to facilitate spring assembly.

--- Table 3, "l1" increases the tolerance "1 0", "l6" increases the tolerance "+/-0.3", unified with Table 2.

This section has made the following editorial changes.

--- "1 Scope", the description of "unit is millimeter" is deleted;

--- "3 terms and descriptions", "see Figure 1." changed to "nitrogen spring terminology shown in Figure 1.", the picture title is changed accordingly;

--- In Figure 1, the footnote "c" is changed to the number "4", and the footnote "b" is changed to F, which represents the working force, and the corresponding changes are made in the description;

--- In Figure 1, add the label and explain "5---cylinder";

---4.1, change "see Table 1" to "general nominal specifications see Table 1";

--- Table 1, change the head "stroke end point working force increase coefficient" to "boost ratio a", increase the footnote "a boost ratio. end of stroke

The ratio of the force to the nominal initial force. ";

---4.2, change "see Figure 2 and Table 2." to "Model 1700 and 3200 gas spring structure type shown in Figure 2, size is shown in Table 2.";

--- Change "4.3 model 3500 and 15000 nitrogen gas spring" to "4.3 model 3500 to 15000 nitrogen gas spring", due to model

Other types of nitrogen springs are included between 3500 and 15000;

---4.3, will be changed to "see Figure 3, Figure 5, Table 3 and Table 4." to "Model 3500 ~ 15000 gas spring structure type shown in Figure 3 and

Figure 5, dimensions are shown in Tables 3 and 4. ";

---4.4, will change "see Figure 4, Figure 5, Table 3 and Table 4." to "Model 24000 ~.200000 gas spring structure type shown in Figure 4 and

Figure 5, dimensions are shown in Tables 3 and 4. ";

--- "5 inflation pressure" was changed to "5 pressure inflation hole" to comply with the contents of this chapter;

--- "5 pressure inflation hole", the "model 1700 and 3200 gas spring pressure inflation hole at the bottom of the cylinder" is changed to "model

The pressure inflation holes of the 1700 and 3200 gas springs are located at the center of

the cylinder bottom", and the position of the inflation holes is clearly defined, which is unified with FIG. 2;

--- In Figure 5, the figure "inflating pressure hole" is changed to "pressure inflation hole", which is unified with the description of Figures 1 to 5;

--- Table 4, the head "to the inflation hole distance" is changed to "inflated hole to cylinder bottom distance", corresponding to the table title "pressure inflation hole position";

--- "8 mark", delete "Model 1700 ~ 3200 gas spring pressure inflation hole position", and all other models of nitrogen bombs

The marking of the spring is uniform, the position of the 1700 and 3200 gas spring pressure inflating holes is unique, as shown in Figure 2

Label.

This part is proposed and managed by the National Die Standardization Technical Committee (SAC/TC33).

This section drafted by. Anhui Jianghuai Automobile Group Co., Ltd., Chongqing Pingwei Automobile Technology Co., Ltd., Hubei Sanhuan Forging

Manufacturing Co., Ltd., South China University of Technology, Dongguan Zhongtai Mould Co., Ltd., Shenzhen Digital Mould Automotive Technology Co., Ltd., Changzhou Dongli

Machinery Co., Ltd., SAIC-GM-Wuling Automobile Co., Ltd. Chongqing Branch, Guangdong Changying Precision Technology Co., Ltd., Yiwu Jinglong

Mould Co., Ltd., Xiamen Kunjin Electronic Technology Co., Ltd., Xi'an Xumai Intelligent Appliance Technology Co., Ltd., Xiamen Wanming Electronics Co., Ltd.

Shaanxi Zeqin Industrial Co., Ltd., Xiamen Meike Security Technology Co., Ltd., Xiamen Sanxing Electronics Co., Ltd., Guilin Electric Apparatus Research Institute

Limited company.

Introduction

Users of GB/T 20914 "die nitrogen gas spring" please note that the nitrogen gas spring must comply with the relevant national regulations.

Die nitrogen gas spring

Part 3. Compact and powerful gas springs

1 Scope

This part of GB/T 20914 specifies the size, nominal initial force and type, marking, delivery technical conditions of the compact and powerful gas spring.

mark.

This section applies to model 1700~200000, using nitrogen pressure, nominal initial force is $1700 \times (1 \pm 5\%) \text{ N} \sim 200000 \times$

The $(1 \pm 5\%) \text{ N}$ die uses a compact and powerful gas spring.

Note. For specifications of nitrogen spring installation accessories, refer to GB/T 20914.2.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 1804 General tolerances Part 1. Tolerances to linear and angular dimensions without tolerances (GB/T 1804-2000, eqv

ISO 2768-1. 1989)

GB/T 7306.1 55° sealing pipe thread Part 1. cylindrical internal thread and cylindrical external thread (GB/T 7306.1-2000, eqv

ISO 7-1.1994)

GB/T 7306.2 55° sealed pipe thread Part 2. Conical internal and conical external threads (GB/T 7306.2-2000, eqv

ISO 7-1.1994)

3 Terms and description

The gas spring terminology is shown in Figure 1.

Description.

1---plunger rod;

2---top dead center;

3---valve;

4---nitrogen;

5---cylinder;

F---Working power.

a Pressure inflation hole.