

ICS 75.180.10

CCS E92



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

GB/T 25429-2019

Replacing GB/T 25429-2010

**Petroleum drilling and production equipment - Drill string
non-return valve**

石油天然气钻采设备 钻具止回阀

Issued on: December 31, 2019

Implemented on: November 1, 2020

**Issued by: State Administration for Market Regulation;
Standardization Administration of China**

Table of Contents

1 Scope	1
2 Normative references	1
3 Terms and definitions, abbreviations	2
3.1 Terms and definitions	2
3.2 Abbreviations	3
4 Structure type	3
5 Requirement	4
5.1 General	4
5.2 Design requirements	4
5.3 Functional requirements	11
5.4 Design conditions	11
5.5 Confirmation test	12
6 Material	12
6.1 General	12
6.2 Metal	12
6.3 Non-metallic	13
6.4 Traceability	13
7 Quality control requirements	13
7.1 General	13
7.2 File Save	13
7.3 Personnel qualifications	13
7.4 Calibration	13
7.5 Dimension inspection	14
7.6 Thread Inspection	14
7.7 Welding and soldering	14
7.8 Heat treatment equipment	14
7.9 Coating, surfacing and surface treatment	14
7.10 Metal materials	15
7.11 Non-metallic materials	16
7.12 NDE requirements	16
8 Detection	19
8.1 General	19

8.2 NRV confirmation test	19
8.3 General requirements for NRV validation test equipment	19
8.4 NRV design validation test procedure	20
8.5 NRV nitrogen (N ₂) pressure test	20
8.6 NRV Hydrostatic Test	20
8.7 NRV cycle test	20
8.8 NRV erosion test (record results according to Table A.1)	21
8.9 NRV floating short joint and NRV positioning joint test	21
8.10 NRV pressure relief joint test	21
8.11 Sealing material confirmation test	22
8.12 Factory Acceptance Test	22
9 Signs, documents and transport preparations	24
9.1 Signs	24
9.2 File	24
26 References	29

Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009. This standard replaces GB/T 25429-2010 Specification for Drilling Check Valves. Compared with GB/T 25429-2010, the main technical changes as follows:

- Increased NRV structure type (see Chapter 4);
- Added legends and model, structure, and size basic parameters of 5 types of NRV equipment (see 5.2);
- Increased 103.4MPa (15000psi), 138.0MPa (20000psi) pressure levels (see 5.4);
- Increased "impact absorption energy", modified "yield strength" to "stress RP 0.2 at a specified plastic elongation of 0.2%" 6.2.1c)];
- Modified the pressure gauge range (see 7.4.3, see 6.4.3 of the.2010 version);
- Removed the hardness of O-rings or other elastic seals can use test specimens and according to ASTM D2240 or ASTM D1415 is determined (see 7.5.4 of the.2010 edition);
- Increased the length requirements of the tongs (see 7.5);

- Revised the specification of heat treatment furnace calibration reference, replaced SAEMS-H-6875 with BSIBS2M54 and MILH-6875H (See 7.8.1, see
- Increased the chemical composition requirements and analysis methods of metal materials GB/T 223, GB/T 4336 (see 7.10.1);
- Increased the mechanical performance requirements of NRV valve body materials (see 7.10.2.1);

1 Scope

GB/T 25429-2019 is the Chinese national standard on petroleum drilling and production equipment - drill string non-return valve, in the field of petroleum and related technologies. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 31 December 2019 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 November 2020. Classification: ICS 75.180.10, CCS E92. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This standard specifies the structural types, requirements, materials, and quality control of drill check valve (abbreviated NRV) equipment for the oil and gas industry. System and testing requirements. This standard applies to drilling check valves, short joints, positioning joints, pressure relief joints and all other components that may affect NRV equipment. The design, manufacture and inspection of related parts of NRV equipment performance or interchangeability are not applicable to maintenance and repair of NRV after leaving the factory and during use. test.

2 Normative references

The following documents are essential for the application of this document. For dated references, only the dated version applies to this article Pieces. For undated references, the latest version (including all amendments) applies to this document.

GB/T 223 (all parts) Chemical analysis methods for iron and steel

GB/T 228.1 Tensile test for metallic materials-Part 1. Test method at room temperature

GB/T 229 Charpy pendulum impact test method for metallic materials

GB/T 230.1 Rockwell hardness test for metallic materials-Part 1. Test method

GB/T 231.1 Brinell hardness test for metallic materials-Part 1. Test method

GB/T 2828.1 Sampling inspection procedures for counts. Part 1. Sampling plan for batch inspections retrieved by acceptance quality limit

GB/T 3452.1 O-ring rubber seals for hydraulic and pneumatic applications-Part 1. Dimension series and tolerances

GB/T 3452.2 O-ring rubber seals for hydropneumatics-Part 2. Specification for appearance quality inspection

GB/T 4336 Determination of multi-element content in carbon steels and low-alloy steels by spark discharge atomic emission spectrometry (conventional method)

GB/T 4340.1 Vickers hardness test for metallic materials. Part 1. Test method

GB/T 9445 Qualification and certification of non-destructive testing personnel

GB/T 16783.1 Field test of drilling fluids for the oil and gas industry. Part 1. Water-based drilling fluids

GB/T 20972.1 Materials used in hydrogen sulfide-containing environments in the oil and gas industry. Part 1. Selection of crack resistance General principles of materials