



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

GB/T 14034.1-2023

**Connections for hydraulic fluid power - Metallic tube
connectors - Part 1: 24° cone connectors**

Issued on: August 6, 2023

Implemented on: October 1, 2023

Issued by: SAMR; SAC

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Foreword

This document was drafted in accordance with the provisions of GB/T 1.1-2020

"Directives for standardization - Part 1.Rules for the structure and drafting of standardizing documents".

This document is Part 1 of GB/T 14034 "Connections for hydraulic fluid power - Metallic pipe connectors". GB/T 14034 has published the following parts.

- Part 1.24° cone connectors;
- Part 2.37° flared connectors;
- Part 4.60° cone connectors.

This document replaces GB/T 14034.1-2010 "Metallic pipe connections for fluid power

and general use - Part 1.24° cone connectors". Compared with GB/T 14034.1-2010, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

- a) CHANGE the "Terms and definitions" (see Chapter 3; Chapter 3 of the 2010 edition);
- b) CHANGE the requirements for carbon steel pipes (see Chapter 7; Chapter 7 of the 2010 edition);
- c) CHANGE the hexagonal end face from "10° ~ 30°" to "15° ~ 30°" (see 8.2; 8.2 of the 2010 edition);
- d) CHANGE the requirements for oil ports and stud ends in newly designed hydraulic systems (see 9.6; 9.6 of the 2010 edition);
- e) CHANGE the thread compliance standards for the inner cone end of the connector and the nut (see 10.1; 10.1 of the 2010 edition);
- f) CHANGE the thread compliance standard for the stud end of the connector (see 10.1; 10.1 of the 2010 edition);
- g) ADD that "Due to the environment, parts manufactured according to this document shall not be cadmium-plated. Hexavalent chromium plating is not preferred. Changes in plating may affect the assembly torque and require re-verification if necessary" to the "Surface treatment" (see 11.3);
- h) CHANGE the requirements for airtightness test (see 15.7; 15.7 of the 2010 edition);
- i) CHANGE the "overtightening test" to "overload tightening test", as well as the corresponding test method (see 15.8; 15.8 of the 2010 edition);
- j) ADD the "vacuum test" (see 15.9);
- k) DELETE the dimension a (see Figure 8 and Table 4 of the 2010 edition);
- l) ADD a normative appendix (see Appendix A).

This document modifies and adopts ISO 8434-1:2018 "Metallic pipe connections for fluid power and general use - Part 1.24° cone connectors".

Compared with ISO 8434-1.2018, this document has made the following structural adjustments.

- Tables 5 ~ 23 correspond to Tables 4 ~ 22 of ISO 8434-1.2018;
- Figures 8 ~ 27 correspond to Figures 7 ~ 26 of ISO 8434-1.2018.

The technical differences between this document and ISO 8434-1.2018, as well as their reasons, are as follows.

- USE the normatively referenced GB/T 17446 to replace ISO 5598.2008 (see Chapter 3), to adapt to China's technical conditions and improve operability;
- USE the normatively referenced GB/T 3452.2 to replace ISO 3601-3, USE the normatively referenced GB/T 6031 to replace ISO 48 (see 4.5), to adapt to China's technical conditions and improve operability;
- DELETE the normatively referenced ISO 3304 and ISO 3305 (see Chapter 7 of ISO 8434-1.2018) to adapt to China's technical conditions;
- USE the normatively referenced GB/T 3103.1 to replace ISO 4759-1.2000 (see 8.2), to adapt to China's technical conditions and improve operability;
- CHANGE that the hexagonal end face shall be chamfered for "10° ~ 15°" into "15° ~ 30°" (see 8.2), to adapt to China's technical conditions and improve operability;
- USE the normatively referenced GB/T 2878 to replace ISO 6149 (see 9.6, Table 13, Table 14, Table 20), to adapt to China's technical conditions and improve operability;
- USE the normatively referenced GB/T 196 to replace ISO 724, USE the normatively referenced GB/T 197 to replace ISO 965-1 (see 10.1), to adapt to China's technical conditions and improve operability;
- USE the normatively referenced GB/T 7307 to replace ISO 228-1 (see 10.2), to adapt to China's technical conditions and improve operability;
- USE the normatively referenced GB/T 10125 to replace ISO 9227 (see 11.3), to adapt to China's technical conditions and improve operability;
- USE the normatively referenced GB/T 26143 to replace ISO 19879 (see Chapter

15), to adapt to China's technical conditions and improve operability;

- CHANGE the requirements for the roundness or straightness deviation of the straight pipe section (see Table A.1 and Table A.2), to adapt to China's technical conditions and improve operability.

This document has made the following editorial changes.

- CHANGE the standard name to "Connections for hydraulic fluid power - Metallic pipe connectors - Part 1.24° cone connectors";
- DELETE the pressure unit "bar";
- MOVE the informative references ISO 1179-1, ISO 1179-2, ISO 1179-4, ISO 9974-1, ISO 9974-2, ISO 9974-3 to references;
- For the convenience of standard users, PRESENT the connector types and codes in table form (see Table 4);
- ADD Figure 7.

1 Scope

This document specifies the general design requirements, basic dimensions, performance requirements, qualification tests for 24° cone connectors, which are suitable for ferrule and O-ring seals. This type of connector is suitable for metal pipes, which have an outer diameter of 4 mm ~ 42 mm.

2 Normative references

The contents of the following documents constitute essential clauses of this document through normative references in the text. Among them, for reference documents with dates, only the versions corresponding to the dates apply to this document; for reference documents without dates, the latest versions (including all amendments) apply to this document.

GB/T 196 General purpose metric screw threads - Basic dimensions (GB/T 196-2003, ISO 724:1993, MOD)

3 Terms and definitions