



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

GB 12691-1990

Air compressor oils

空气压缩机油

(English Translation)

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Foreword

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

This document replaces GB/T 12691-1990 "Air Compressor Oil" and GB/T 5904-1986 "Light Load Oil Injection Rotary Air Compressor" Compared with GB/T 12691-1990 and GB/T 5904-1986, except for structural adjustments and editorial changes, the main the technical changes are as follows:

- a) Change the scope to read "This document specifies the product classification and marking of mineral oil, semi-synthetic and synthetic air compressor oils, Requirements and test methods, inspection rules and signs, packaging, storage and delivery, and acceptance of delivery: This document applies to reciprocating or dripping slew Air compressor oil, oil injection rotary air compressor oil (see Chapter 1, Chapter 1 of GB/T 12691-1990 and GB/T 5904-1986 "scope");
- b) Modified normative references (see Chapter 2, Chapter 2 of GB/T 12691-1990 and Chapter 1 of GB/T 5904-1986 chapter);
- c) add product classification (see 4.1);
- d) Two viscosity grades of L-DAA220 and L-DAB220 were added (see Table 1);
- e) Kinematic viscosity (40°C) and kinematic viscosity (100°C) increase test methods GB/T 30515 and NB/SH/T 0870 (see Table 1 and table 2);
- f) For L-DAA and L-DAB, the viscosity index item is added, and the indicator is reporting; the viscosity index is increased in the test method GB/T 1995, and use it as an arbitration method (see Tables 1 and 2);
- g) The technical requirements for L-DAA to increase demulsibility (the time for the emulsification layer to reach 3mL), and the L-DAB demulsibility item is changed from "Demulsibility (40-37-3)" was changed to "Demulsibility (time for emulsification layer to reach 3 mL)" (see Table 1);

- h) L-DAA adds liquid phase rust items, and the index is qualified (see Table 1);
- i) The test method for aging characteristics of L-DAA and L-DAB was changed from SH/T 0192 to GB/T 12709: L-DAB aging characteristics the value-added of carbon residue (200°C, Fe₂O₃) index is changed to not more than 2 (see Table 1, Table 1 of GB/T 12691-1990);
- j) Change the item of L-DAA and L-DAB neutralization value (without and after addition) to acid value, and add test method GB/T 7304 (See Table 1, Table 1 of GB/T 12691-1990);
- k) Added the detection method GB/T 17144 for carbon residue items (see Table 1 and Table 2);
- l) Added moisture detection method GB/T 11133 (see Table 1 and Table 2);
- m) L-DAA and L-DAB demulsibility, aging properties, residue properties after 80% distillation under reduced pressure, and moisture added Footnotes (see Table 1);
- n) L-DAG viscosity grades are only reserved for 32, 46 and 68 (see Table 2);
- o) L-DAG adds the item of kinematic viscosity at 100°C, which is required to be reported (see Table 2);
- p) The L-DAG foaming 24°C indicator was changed to 50mL/0mL, and the 93:5°C and post-24°C items were added, and the indicators were respectively 30mL/0mL and 50mL/0mL (see Table 2, Table 1 of GB/T 5904-1986);
- q) L-DAG has added a rotating oxygen bomb item, the index is reporting, and the test method is SH/T 0193 (see Table 2);
- r) L-DAG has added the item of acid value, the indicator is report, and the test method is GB/T 7304 and GB/T 4945 (see Table 2);
- s) L-DAG demulsibility, oxidation stability and moisture added footnotes (see Table 2);
- t) Added technical requirements for L-DAH and L-DAJ (see Table 2);
- u) Amend Chapter 5 "Sampling" of GB/T 12691-1990 and Chapter 4 "Sampling" of GB/T 5904-1986 to Chapter 6 "Inspection rules" (see Chapter 6, Chapter 5 of GB/T 12691-1990 and Chapter 4 of GB/T 5904-1986):

Please note that some content of this document may be patented: The issuing agency of this document assumes no responsibility for identifying patents:

1 Scope

This document specifies product classification and marking, requirements and test methods, inspection methods for mineral oil, semi-synthetic and synthetic air compressor oils Inspection rules and signs, packaging, storage, and delivery acceptance:

This document applies to reciprocating or dripping rotary air compressor oils and oil-injected rotary air compressor oils:

2 Normative references

The contents of the following documents constitute essential provisions of this document through normative references in the text: Among them, dated citations documents, only the version corresponding to that date applies to this document; for undated references, the latest edition (including all amendments) applies to this document:

GB/T 259 Determination of water-soluble acids and bases of petroleum products GB/T 260 Determination of Water Content of Petroleum Products Distillation Method GB/T 265 Petroleum Products Kinematic Viscosity Determination Method and Dynamic Viscosity Calculation Method GB/T 268 Determination of carbon residues in petroleum products (Kang's method) GB/T 511 Determination of Mechanical Impurities in Petroleum and Petroleum Products and Additives GB/T 1995 Petroleum Products Viscosity Index Calculation Method GB/T 2433 Additive and additive-containing lubricating oil sulfate ash determination method GB/T 2541 Petroleum Products Viscosity Index Calculation Table GB/T 3141 ISO Viscosity Classification of Industrial Liquid Lubricants GB/T 3535 Determination of Pour Point of Petroleum Products GB/T 3536 Determination of flash point and fire point of petroleum products Cleveland open cup method GB/T 4756 Petroleum liquid manual sampling method GB/T 4945 Determination of acid value and base value of petroleum products and lubricants (color indicator method) GB/T 5096 Petroleum Products Copper Corrosion Test Method GB/T 7304 Determination of acid value of petroleum products by potentiometric titration GB/T 7305 Determination of Water Separability of Petroleum and Synthetic Liquids GB/T 7631.9 Classification of Lubricants, Industrial Oils and Related Products (Class L) Part 9: Group D (Compressors) GB/T 9168 Determination method of vacuum distillation of petroleum products GB/T 11133 Determination of Water Content in Petroleum Products, Lubricants and Additives Karl Fischer Coulometric Titration GB/T 11143 Anti-rust performance test method of mineral oil with inhibitor in the presence of water GB/T 12579 Determination method for foam characteristics of lubricating oil GB/T 12581 Determination of Oxidation Characteristics of Mineral Oil with Inhibitors GB/T 12709 Determination method for aging characteristics of lubricating oil (Kang's carbon residue method) GB/T 17144 Trace method for determination of carbon residues in petroleum products