ICS 21.060.60
CCS J 15

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 5652-2008

Flared couplings - Flared end

扩口式管接头扩口端尺寸

Issued on: May 7, 2008 **Implemented on: November 1, 2008**

Issued by: General Administration of Quality Supervision, Inspection and Quarantine;
Standardization Administration of the PRC

Table of Contents

Foreword

This standard is one of the series of standards on flared pipe couplings.

The use of the designation GB/T 5652-2008 is intended to reflect the series character of the flared coupling standards, but this standard does not replace the former GB/T 5652-1985, Lock nut gaskets for flared pipe couplings. The former GB/T 5652-1985 was replaced by GB/T 5649-2008.

This standard was proposed by the China Machinery Industry Federation.

This standard is under the jurisdiction of the National Technical Committee for the Standardization of Pipeline Fittings.

The organisation responsible for drafting this standard is the China Machinery Productivity Promotion Centre. The participating drafting organisations are Haiyan Pipe Fittings Manufacturing Company Limited, Eaton (Ningbo) Fluid Connectors Company Limited, Jiaxing Maisite Pipe Fittings Manufacturing Company Limited, Jianhu Tejia Hydraulic Pipe Fittings Company Limited, Haiyan Gaobo Pipe Fittings Company Limited, Haiyan Haiguan Pipe Fittings Manufacturing Company Limited and Jiaozuo Lutong Hydraulic Fittings Company Limited.

It was issued on 7 May 2008 by the General Administration of Quality Supervision, Inspection and Quarantine together with the Standardization Administration of the People's Republic of China, and has been in force since 1 November 2008. The /T in the designation marks it as a recommended national standard.

1 Scope

China's national dimensional standard for the flared end of a flared pipe coupling. A flared coupling seals by forcing the mouth of the tube, opened out into a cone, against a matching cone on the fitting body, with a nut pulling the two together; no welding, no thread on the tube itself, and the joint can be broken and remade with hand tools. That makes it the common way of connecting small-bore hydraulic and general purpose lines, but it also means the seal depends entirely on the geometry of the flare matching the geometry of the seat. If the cone angle, the flared diameter or the depth of the flare is even slightly wrong,

the joint will either leak under pressure or crack the tube mouth in service. This standard therefore fixes those dimensions: for each tube outside diameter from 4 mm to 34 mm it gives the bore, the connecting thread, the flared diameters, the flare depth and the cone angle, which is 74 degrees plus or minus 1 degree for type A and 90 degrees plus or minus 1 degree for type B, together with the coaxiality tolerance. It applies to hydraulic fluid power and general purpose piping systems with tube outside diameters of 4 mm to 34 mm and maximum working pressures of 3.5 MPa to 16 MPa, and it is one of the series of Chinese standards on flared couplings, used with GB/T 5653-2008 for the technical requirements.

This standard specifies the dimensions of the flared end of flared pipe couplings.

This standard applies to hydraulic fluid power and general purpose piping systems with tube outside diameters of 4 mm to 34 mm and maximum working pressures of 3.5 MPa to 16 MPa.

2 Normative references

The provisions of the following document become provisions of this standard through reference in this standard. For dated references, subsequent amendments (excluding corrections) or revisions do not apply to this standard; however, parties to agreements based on this standard are encouraged to investigate whether the most recent edition may be used. For undated references, the latest edition applies.

GB/T 5653-2008 Flared couplings - Technical specifications

3 Dimensions

The dimensions of the flared end of flared pipe couplings shall comply with the provisions of Figure 1 and Table 1.

Figure 1 shows the flared end in section: the tube outside diameter D0, the bore d0, the connecting thread d1, the flared diameters d2 and d3, the depth of the flare h and the cone angle a, with a coaxiality tolerance of 0.20 mm with respect to datum A.

Table 1 gives the dimensions in millimetres for each tube outside diameter D0 from 4 mm to 34 mm. For D0 = 4, d0 = 3, thread M10 x 1, d2 = 8.4, d3 = 3.6, h = 4.5. For D0 = 5, d0 = 3.5, thread M10 x 1, d2 = 8.4, d3 = 4.3, h = 4.5. For D0 = 6, d0 = 4, thread M12 x 1.5, d2 = 10, d3 = 4.8, h = 5.5. For D0 = 8, d0 = 6, thread M14 x 1.5, d2 = 11.7, d3 = 7, h = 5.5. For D0 = 10, d0 = 8, thread M16 x 1.5, d2 = 13.7, d3 = 9, h = 6. For D0 = 12, d0 = 10, thread M18 x 1.5, d2 = 15.7, d3 = 11, h = 6. For D0 = 14, d0 = 12, thread M22 x 1.5, d2 = 19.7, d3 = 13, h = 6.

For D0 = 16, d0 = 14, thread M24 x 1.5, d2 = 21.7, d3 = 15, h = 6.5. For D0 = 18, d0 = 15, thread M27 x 1.5, d2 = 24.7, d3 = 16.5, h = 7. For D0 = 20, d0 = 17, thread M30 x 2, d2 = 27, d3 = 18.5, h = 8. For D0 = 22, d0 = 19, thread M33 x 2, d2 = 30, d3 = 20.5, h = 8. For

D0 = 25, d0 = 22, thread M36 x 2, d2 = 33, d3 = 23.5, h = 8. For D0 = 28, d0 = 24, thread M39 x 2, d2 = 36, d3 = 26, h = 9.5. For D0 = 32, d0 = 27, thread M42 x 2, d2 = 39, d3 = 29, h = 9.5. For D0 = 34, d0 = 30, thread M45 x 2, d2 = 42, d3 = 32, h = 9.5.

The cone angle a is 74 degrees plus or minus 1 degree for type A over the whole range of tube outside diameters. For type B the cone angle is 90 degrees plus or minus 1 degree, and type B is given only for the tube outside diameters from 4 mm to 18 mm; above 18 mm no type B value is specified.