



TRANSNET ENGINEERING

PRODUCT SYSTEMS DEVELOPMENT

WAGONS

BALL VALVE SPECIFICATION FOR XB TANK WAGONS

Revision 01

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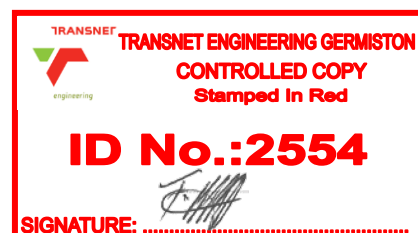
SUMMARY OF REVISION

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The following revisions have been made in this revision:

Change	Description
Rev 00 – Rev 01 (ECN0003123)	Clause 1.1 – Item Number 068063353 added Clause 1.1 - Wagon XB-10 to XB-14 added and XB-7 removed



Document Name: Ball Valve

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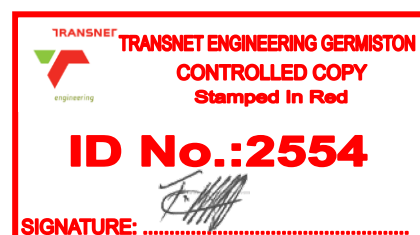
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1.1 Scope of Specification

This specification covers the technical requirements for an air ball valve (Item No. **068054572**) used on the XB-5, XB-6, and XB-8 up to XB-14 tank wagons to transport cement.

Note: Item No. 068054572 must be supplied without a handle in line with drawing CME68_31032_413/L.

1.2 Design Standards

The ball valve shall meet the requirements mentioned in Pressure Equipment Regulations (PER), the latest, as issued by the Department of Labour, Occupational Health, and Safety Act, 1993. Where **no** PER applies or exists, the valve must meet all relevant International Railway Standards & European Norms which are:

- I. Association of American Railroads (AAR).
- II. American Society of Mechanical Engineers (ASME).
- III. American National Standards Institute (ANSI).
- IV. European standards (EN).
- V. British standards (BS).
- VI. International Standards Organisation (ISO).
- VII. International union of railways (UIC).

1.3 Ball Valve Requirements

The specifications of the ball valve shall comply with the following criteria as indicated in Table 1.

Figure 1 is a guiding illustration, which indicates the required dimensions used in Table 1.

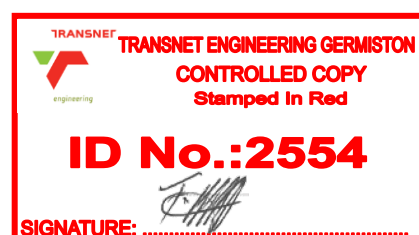


Table 1: Specification Requirements

Valve Type	Ball Valve
Size	50 mm
Design Pressure	4.1 MPa
Working Pressure	690 kPa
Min & Max Design Temperature	-20°C to 82°C
Height (H from Figure 1)	120 mm
Face to Face distance (L from Figure 1)	190 mm
Handle (D from Figure 1)	230 mm (when required)
Manufacturing	Cast body & cast cap from SG iron/malleable iron
Handle Material	Mild steel
Ball Material	304 Stainless Steel
Spindle Material	Mild Steel or Stainless Steel
Seats Material	Nitrile
Seal Material	Ethylene Propylene (EPDM)
Washer	High tensile spring washer
Bolt & Nut	High tensile bolt and nut
Actuation	Manual/Hand lever
End connection	Flanged
Flange Size	OD =152mm; PCD = 114; 4 holes x Ø18mm
Figure 1	For example, the ball valve

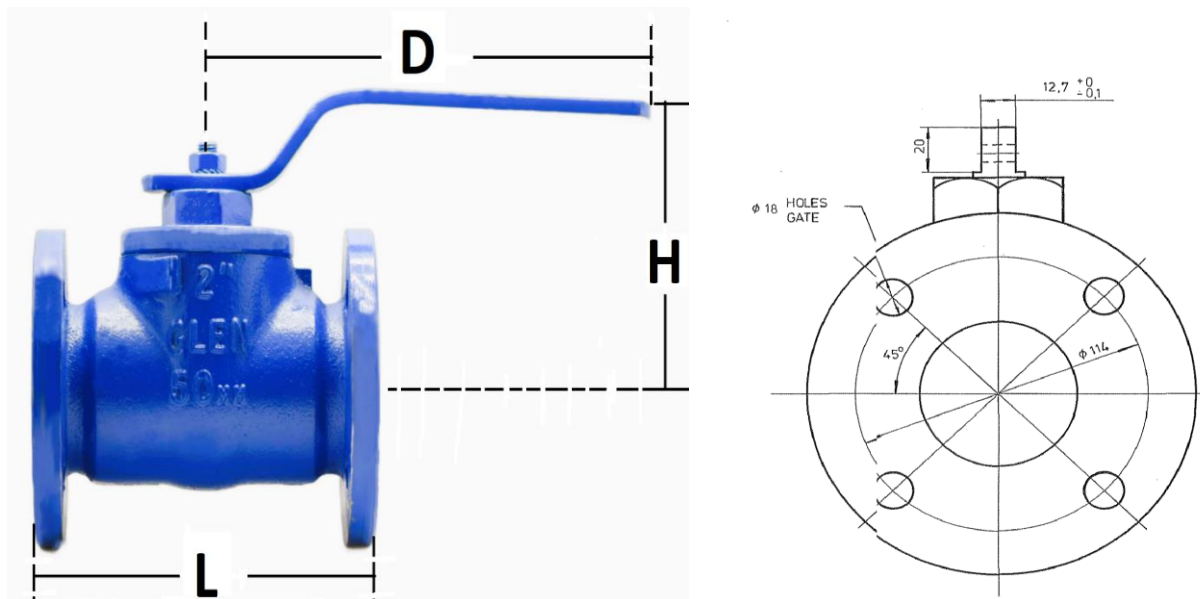


Figure 1: Ball valve design dimensions

1.4 Certification and Guarantee

- The Ball Valve is to be supplied with all relevant certificates as proof of guarantee.

1.5 Documentation and identification

The following documents are required for acceptance of the ball valve.

- Material specifications.
- ISO/SANS specifications for material and product compliance.
- Material and product compliance certificates (Test certificate).

1.6 Test Certificate

The test certificate must include the following information:

- Name of Company
- Company Valve description or Item No
- Maximum Pressure
- Seal and seat material
- Test Date
- Serial Number

1.7 Ball Valve Marking

The manufacturer must ensure that the body marking is permanently fixed and include the following information:

- Size of the ball valve
- Body and cap material
- Serial number
- Seal material

1.8 Quality Assurance Provision

The supplier must be ISO accredited, however, if that is not the case the supplier must have a proper quality management system that is in line with the principles in the policy on the supplier quality management framework Doc No: OPS_CQ_KLP_PP_0001.

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