
Kalmar Group Standard

KGS 40902

Part

Method Standard

Name

Fork arm - Tolerances

Group

R&D Standards

1 Scope

This Kalmar Group Standard hereinafter referred to as KGS cover requirements of shape and dimensional tolerances for fork arms.

2 Purpose

This KGS set the requirements on fork arms to ensure proper functioning and performance of the fork arm in conjunction with a forklift truck.

3 Responsibilities

Principal Systems Engineer - Mechanics & Analysis - R&D/FLT is the requirement setter for this KGS and also has the responsibility to ensure that the requirements of this KGS are on drawings. Sourcing ensures that the selected supplier can meet the tolerance requirements in this KGS.

4 Definitions

R&D Research & Development

FLT Forklift truck

L Total length

L₁ Straight length

b Width

T Thickness

T₁ Tip thickness

R Bending radius

Fork arms can also be named Fork Blank in the Forklift truck business

5 Records / references / attachments

N/A

6 Procedure description / Requirements

This standard includes the tolerances regarding form, orientation and dimension that the fork arm forging /plate slab must be fulfilled.

The basic dimensions L, L₁, b, T, T₁ etc. (see Figure 1) are to be given when ordering.

Calculation example of planarity tolerance is described under figure 1

The manufacturer chooses a bending radius according to the intervals in Table 1.

Thickness tolerances according to Table 2 and Table 3 for Tip thickness.

Document ID: IMS-K-009963
 Last update date: 09/05/2023
 Approver: jonas.disman@kalmarglobal.com
 Version: 1

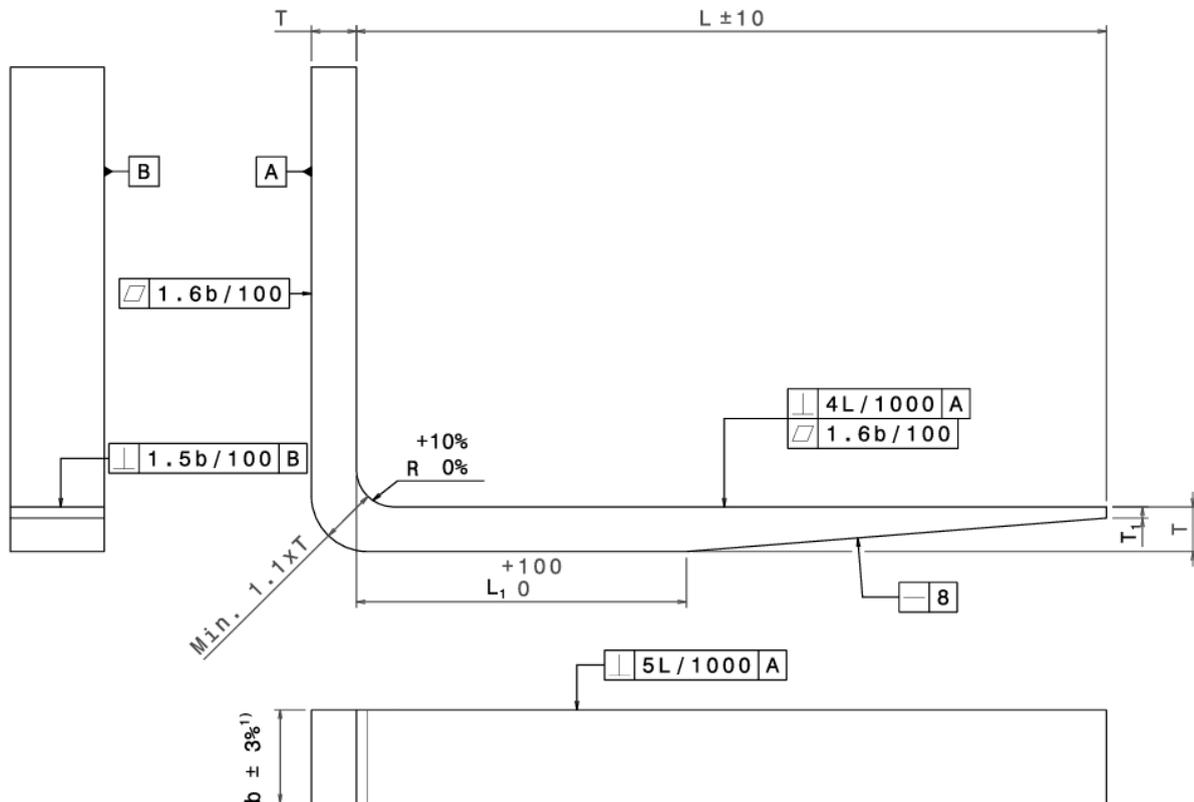


Figure 1- Basic dimensions

¹) If $b > 160$ tolerance is ± 5 mm

Example: Planarity tolerance for 200mm wide fork (b): $\frac{1,6 \times 200}{100} = 3,2$ mm

Table 1 Bending Radius

T (mm)	R (mm)
$T < 70$	25 - 40
$70 \leq T \leq 95$	30 - 60
$T > 95$	40 - 70

Table 2 Fork Thickness tolerance

Thickness (T)	Tolerance
$T \leq 50$	-1 / +2
$50 < T \leq 90$	-1 / +3
$90 < T \leq 110$	-1.5 / +4
$T > 110$	-2 / +5

Table 3 Fork tip tolerance

Fork tip (T ₁)	Tolerance
$T_1 \leq 15$	-1 / +3
$T_1 > 15$	-3 / +3