

TRANSNET ENGINEERING
RESEARCH AND DEVELOPMENT MECHANICAL

MUNCHER GEARS SPECIFICATION

RDM_KDS_SPEC_2006

Revision 02

Date of release: 26 May 2025

COMPILED BY:

A handwritten signature in black ink, appearing to read "Kgositshwene Mokgosi", written over a horizontal line.

KGOSITSHWENE MOKGOSI

Engineer in Training

Research and Development

Transnet Engineering

Date: 26 May 2025

APPROVED BY:

A handwritten signature in black ink, appearing to read "Johan Kruger", written over a horizontal line.

JOHAN KRUGER, Pr.Eng

Senior Engineer

Research and Development

Transnet Engineering

Date: 28 / 05 / 2025

Bidder Signature: _____

1. SCOPE

This specification states the minimum requirements relating to the services required and in no way absolves the contractor from responsibility for sound engineering practice. Any omissions or sub-standard requirements of this specification must be brought to the attention of Transnet Engineering at tender stage and optional prices for addressing such omissions must be provided. The Supplier shall supply all the labour, tools, material, equipment, consumables, facilities, testing, and supervision required for servicing the specified equipment on site.

2. INFORMATION REQUIRED

- 2.1. Tenders shall provide enough details at the tendering stage to enable the Transnet Technical Officers the opportunity to assess each offer properly.
- 2.2. Tenders shall complete the relevant questionnaire in full and must indicate whether their offer complies with each item of the specification.
- 2.3. Should there be insufficient space for providing full details, bidders shall provide the additional details in their covering letter. The additional details shall be numbered in accordance with the applicable clause specified in the specification.

3. NORMATIVE REFERENCES

Unless otherwise specified all materials used, equipment developed and supplied shall comply with the latest edition of the relevant International Organization for Standardization (ISO), South African National Standards (SANS), American Gear Manufacturers Association (AGMA) or Transnet publications.

4. GENERAL REQUIREMENTS

4.1. Roles and Responsibilities

To ensure any remaining confusion is addressed the roles and responsibilities, at a high-level, for each envisaged phase of this project has been tabulated. The responsible person/entity is indicated with applicable action and should be considered within the context of this specification.

Bidder Signature: _____

Table 1: Table of Responsibilities (To Be Considered in Conjunction with Table of Deliverables)

#	Action	Supplier	Transnet
1	Gears (Drive and driven gears) according to the requirements in this specification.	✓	
2	Provision of datasheet for all the listed components which will correspond to the requirements in this specification.	✓	
3	Provision of material laboratory test certificates for all the listed components which will correspond to the requirements in this specification.	✓	

4.2. Alternative Proposals

In addition, to offers which in the first instance comply with the requirements outlined in this Specification, Respondents may also offer, as alternatives, variations of detail that they consider might be compliant, advantageous and acceptable to TE. The respondent may also offer additions to the scope, either being requested or of their own accord. The final decision on additions rests upon TE. In all instances where alternatives are offered for consideration, the following information shall be furnished:

1. The same amount and extent of information, comments, and data applicable to the original component offered.
2. The detailed reasons for offering the alternative(s).
3. The detailed implications in terms of price, reliability, maintenance considerations, local stock holding, performance, etc. in comparison with the basic offer.
4. The supplier may deviate from the design/drawings in terms of the gear teeth and keyways provided that the final product overall dimensions are in line with what is provided and that any proposed alterations are to be submitted to TE for approval before manufacturing commences.

Bidder Signature: _____

4.3. Testing and Quality Assurance

- 4.3.1. All test reports and associated documentation shall be provided as part of the required deliverables.

4.4. Delivery

- 4.4.1. Delivery of all items quoted on shall be included within the offer of the supplier.
- 4.4.2. Please confirm quality officer/stock controller who needs to receive the goods with the supply chain representative before delivery.
- 4.4.3. All items shall be delivered to the following address:

R&D Department at Bay 8, Transnet Engineering Koedoespoort Depot,
Corner of Lynette Street and Koedoespoort Road,
Koedoespoort,
Pretoria,
0184.

Note: Delivery date to be communicate with Transnet before date of delivery to ensure that staff are available to receive items. Please note, no delivery will be taken after 15:00.

Bidder Signature: _____

5. SPECIFICATION:

The following list of items below details the products required for Muncher manufacturing:

5.1. Muncher Gears

Table 2: Deliverables

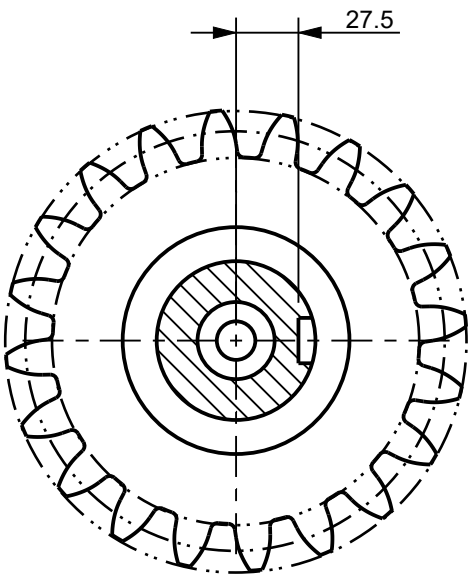
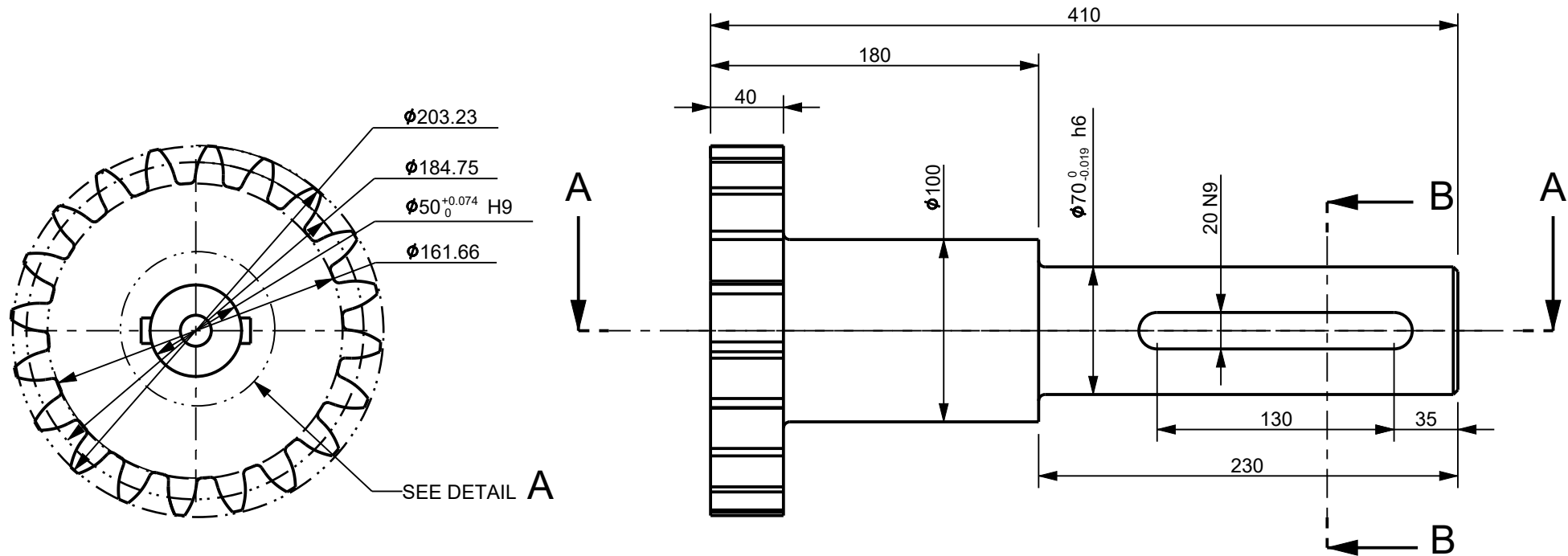
Component Details	Description	QTY	Comply (Yes/No)
Gear1- Drive Gear	Material: EN24Z, Case Hardening 50HRC 5mm Deep <i>Pressure angle = 20°</i> <i>Number of teeth(N) = 20</i> <i>Module(m) = 9 mm</i> <i>Tooth thickness(t) = 14.51mm</i> <i>Pitch diameter(d) = 184.75 mm</i> <i>Circular pitch(p) = 29.02</i> <ul style="list-style-type: none"> Drawing: RDM_G180_0038 	1	
Gear 2 – Driven Gear	Material: EN24Z, Case Hardening 50HRC 5mm Deep <i>Pressure angle = 20°</i> <i>Number of teeth(N) = 20</i> <i>Module(m) = 9 mm</i> <i>Tooth thickness(t) = 14.51mm</i> <i>Pitch diameter(d) = 184.75 mm</i> <i>Circular pitch(p) = 29.02</i> <ul style="list-style-type: none"> Drawing: RDM_G180_0037 	1	

Bidder Signature: _____

FOR UNTOLERANCED DIMENSIONS SEE ISO 2768-1: DESIGNATION
FOR GENERAL TOLERANCE ON WELDED CONSTRUCTIONS SEE ISO 13920: CLASS

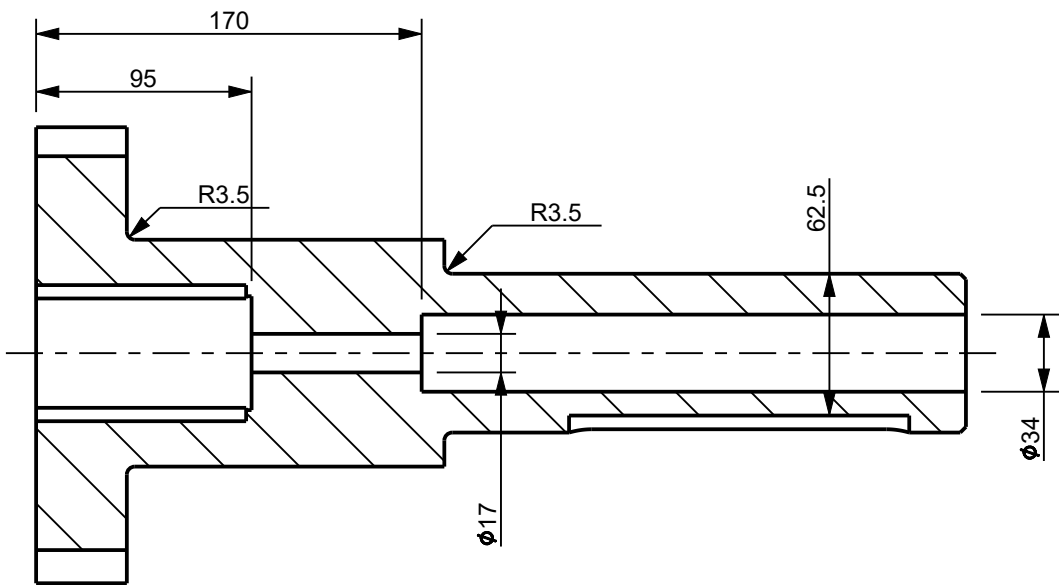


2D STATUS IN WORK

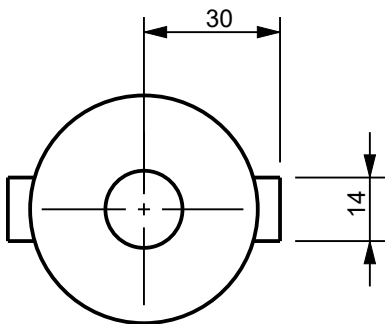


SECTION B-B
SCALE 3:10

REFERENCE AND MANUFACTURING DATA	Number of Teeth	20
	Pitch Diameter	184.75
	Pressure Angle	20
	Module	9
	Centre Distance (Shafts or Gear and pinion)	185
	Outside Diameter	203.23
	Root Diameter	161.66
Heat Treatment Requirements 1. Case Hardening(Carburised) 2. Case Depth = 5mm 3. Surface Hardness = 50HRC		



SECTION A-A
SCALE 3:10



DETAIL A
SCALE 3:5

AMENDMENTS	
MASS	20.12 Kg

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ASSEMBLY DRG No.	RDM_G180_0001 RDM_G180_0000	DRAWN	KP
		CHECKED	VM
CLASS		APPROVED	JK
TYPE		DATE	29/04/2025
		SCALE	1:5
DOCUMENT REFERENCE No.		G180-CA2208-0168	

KOEDOESPOORT R&D
DRIVE_GEAR
MUNCHER
MUNCHER CHUTE AND TROLLEY

MATERIAL

EN24Z
DIN 6885-1

SHEET 1 OF 1

A-3 PROJECTION

TRANSNET ENGINEERING No. **RDM_G180_0038** REV. 1