




INFRASTRUCTURE MAINTENANCE

PROCUREMENT SPECIFICATION

Specification For A Heavy Duty Hydraulic Nut Splitter

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Transnet Freight Rail - Infrastructure

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1. Scope

- 1.1 This specification outlines the requirements of a heavy duty, Hydraulic nut splitter required by Transnet Freight Rail.
- 1.2 Each Hydraulic nut splitter shall be supplied with three sets of blades as detailed in this specification.
- 1.3 Transnet Freight rail requires that the supplier should ensure that the complete set of heavy-duty Hydraulic nut splitters to be supplied must be of high quality, robust material.

2. Operating Conditions

- 2.1 Nut splitter will be operated in all weather conditions at altitudes varying from sea level to 1850 m above sea level, relative humidity 10% to 90% and atmospheric conditions which vary from heavily saline to dry and dusty.
- 2.2 Ambient air temperatures ranging from -5° C to 45° C.

3. Qualifications

- 3.1 The design of the Hydraulic nut splitter is to be that of the manufacturer but must be of robust construction in order to meet sustained heavy-duty demands of railway infrastructure environment.
- 3.2 A “no-tool” adjustment machine is preferred.

4. Performance

- 4.1 A service life of not less than 7 years is expected from each device. The actual design life of the device is to be stated.
- 4.2 The Hydraulic nut splitter are to be easily and economically maintained with standard workshop tools and equipment.

5. General Requirements

- 5.1 The Hydraulic nut splitter is to be designed for professional use, it must be able to perform in rugged conditions and in a wide variety of applications.
- 5.2 The Hydraulic nut splitter must be easy to use, safe for handling and operation.
- 5.3 The Hydraulic nut splitter and its blades must be of high quality to handle any job.
- 5.4 The splitter must be supplied complete in a carry case.
- 5.5 The nut splitter must be supplied complete.

6. Detailed Requirements

6.1 Hydraulic nut splitter Head

Below table outline the technical requirements for the Hydraulic nut splitter:

Technical data	
Bolt Range	M6 - M48
Hexagon Nut Range	10 - 75 mm
Splitting Force	45 - 882 kN
Maximum Operating Pressure	700 bar

6.2 Manual hydraulic pump and hoses

- 6.2.1 Lightweight hand pump is required.
- 6.2.2 Set model number: • SCR-106H Included: • HC-7206 hose • GF-10B gauge • GA-2 adaptor.
- 6.2.3 The high-pressure hose must be equipped with 70MPa rated screw collar or other approved lockable high pressure quick couplers.
- 6.2.4 A 1 meter, 70MPa rated working pressure hydraulic hose with a minimum bursting pressure of 280MPa, complete with collar or other approved high pressure quick couplers for connecting Nut splitter head is required.
- 6.2.5 Hoses to be detachable at hydraulic splitter head end.
- 6.2.6 Hose must come with pressure gauge and a hose adaptor.

6.3 Weight

The weight of the machine excluding nut splitter bits should range between 5kg

6.4 Body

- 6.4.1 The body of the nut splitter and its components must be robust.
- 6.4.2 The nut splitter must be well protected against rust.
- 6.4.3 The grip on the handles must have a non-slip surface.
- 6.4.4 Nut splitter will be acceptable in standard factory production finish and colour.
- 6.4.5 Details to be furnished.
- 6.4.6 Due cognisance must be given to the life requirement of the machine.

6.5 Safety

- 6.5.1 More safety features should be installed for operators safety and comfort.

6.6 Ergonomics

The hand nut splitter must be ergonomically designed for maximum operator productivity and safety.

7. Quality Control

- 7.1 All nut splitter must be manufactured in an environment that complies to the latest ISO 9000 to ISO

9004 or similar quality control standards. Details must be furnished.

7.2 Nut splitter will be subject to a technical evaluation and the final decision will, amongst others, be based on these findings.

8. Data Plate

8.1 The device must come with a data plate.

8.2 The maximum no load speed in RPMs must be clearly marked.

8.3 The actual weight in kilograms (Kg) of the machine must be shown on the machine.

9. Legal and Operational

9.1 All nut splitter must comply with the requirements of the Machinery safety and Occupational Safety Act, (Act 85 of 1993 – General and Driven Machinery Regulations).

9.2 The machine must be completely assembled and filled with lubricants and ready for service in all respects.

9.3 An operator's handbook, service manual and spare parts list must be supplied with each machine in order to ensure that the machine is operated in accordance to the manufacturer's instructions.

9.4 All nut splitter and equipment must be supplied complete with essential tools such as allen keys, spanners etc. in order to make essential adjustments as well as to fit or remove consumable items.

9.5 Consumable items must be available locally and must be of standardised format in order to be used on equipment of more than one supplier.

9.6 All nut splitter and equipment is to be guaranteed for a minimum period of 12 months against faulty material and workmanship - fair wear and tear excluded. Full details of guarantee is to be submitted.

9.7 The information as requested by the various clauses in this specification are to be supplied in the form of technical data, pamphlets and/or drawings. If this is not complied to, offers may be overlooked.

9.8 Sufficient training must be given to all operators of these nut splitter.

9.9 Nut splitter not already in service with Transnet Freight Rail must be made available for testing/evaluation during the adjudication of the tender. Technical improvements on existing nut splitter/equipment is to be substantiated by physical examples.

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