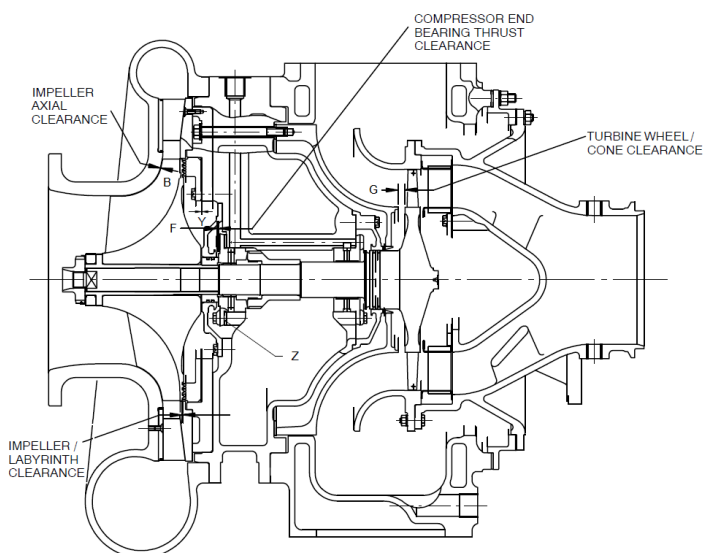


Service report

Turbo charger

Client	Fornaes ApS	Job number	120389
Ships' name	NAPIER	Component No.	C209080
Engineno.	NAPIER	Date Workshop In	2024-09-12
Engine type		Print Date	2025-01-29
Engine rHrs(calc)		Quality control by	Bolier iPad Turbo
Turbo charger serial No.	705539	Type	NA297
		Specification	4G87B132K

1. Drawing and condition at arrival



2. Maintenance overview

A. Standard overhaul has been executed, including:

- Disassembly
- Cleaning
- Inspection & measurement
- Assembly with new gaskets and seals

Service report

Turbo charger cont.

Ships' name	NAPIER	Job number	120389
Engineno.	NAPIER	Component No.	C209080
Turbo charger serial No.	705539	Type	NA297
		Specification	4G87B132K

3. Measurements & wear limits

Item	Min. value	Min. limit	Max. value	Max. limit	Measured value	Remark
Compressor end bearing trust clearance	0,095	0,095	0,335	0,335	0,23	

4. Findings

Item	Serial No./IMO No.	Condition	Recommendation	Decision	Remark
Turbine inlet casing		N/A	-		
Turbine outlet casing		N/A	-		
Shroud		N/A	-		
Nozzle ring		N/A	-		
Compressor inlet casing		N/A	-		
Volute insert		N/A	-		
Rotor with blisc and vanes		OK	Reuse		
Lacing wire		OK	Reuse		
Compressor wheel		OK	Reuse		
Diffuser		N/A	-		
Bearing casing		OK	Reuse		
Bearing turbine side		Worn	Replace		
Bearing housing turbine end		OK	Reuse		
Bearing compressor side		Worn	Replace		
Bearing housing compressor end		OK	Reuse		
Seal Plate		OK	Reuse		
Thrust collar		OK	Reuse		
RPM pickup		N/A	-		
Packing ring		N/A	-		

A more comprehensive overview of the components that were not found in "OK" condition, can be seen on the next pages.

Service report*Turbo charger cont.*

Ships' name	NAPIER	Job number	120389
Engineno.	NAPIER	Component No.	C209080
Turbo charger serial No.	705539	Type	NA297
		Specification	4G87B132K

5. Findings elaboration

Item	Serial No./ IMO No.	Condition	Recommendation	Decision	Remark
Bearing turbine side		Worn	Replace		



Service report

Turbo charger cont.

Ships' name	NAPIER	Job number	120389
Engineno.	NAPIER	Component No.	C209080
Turbo charger serial No.	705539	Type	NA297
		Specification	4G87B132K

5. Findings elaboration

Item	Serial No./ IMO No.	Condition	Recommendation	Decision	Remark
Bearing compressor side		Worn	Replace		

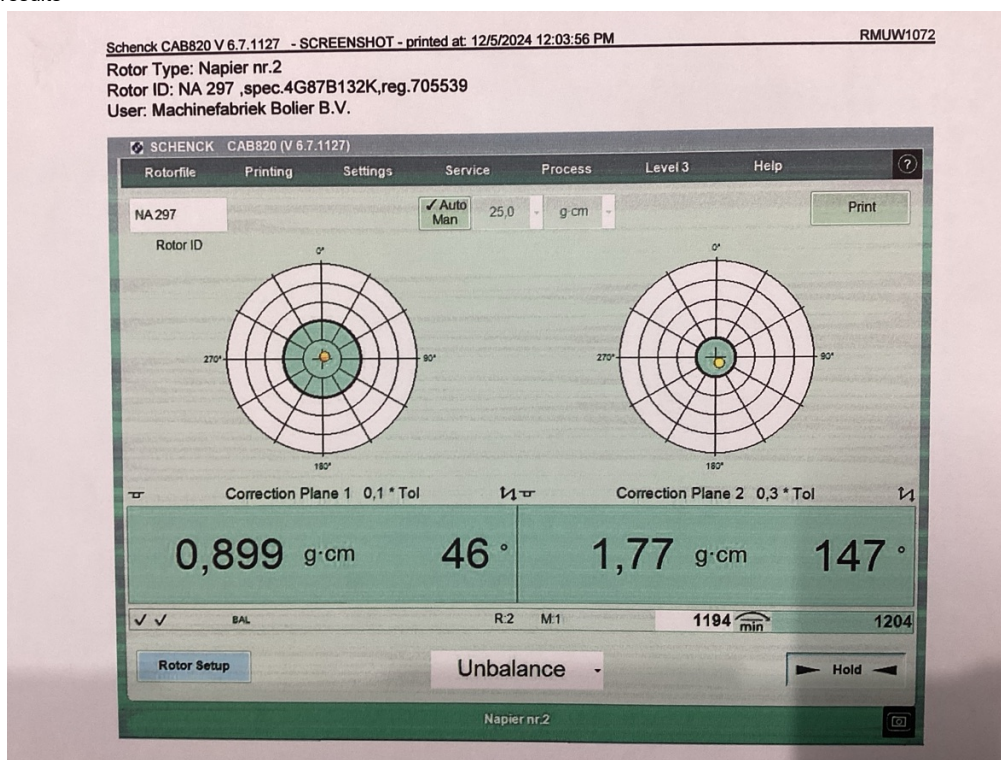


Service report

Turbo charger cont.

Ships' name	NAPIER	Job number	120389
Engineno.	NAPIER	Component No.	C209080
Turbo charger serial No.	705539	Type	NA297
		Specification	4G87B132K

Dynamic balancing results



Balancing report

User: Machinefabriek Bolier B.V. Order number: 120389

Type data

Rotor type: Napier nr.2
Last change: 12/5/2024 11:59 AM
Set speed: 1200 rpm

ABC geometry

Position of correction planes

Distance a	103 mm
Distance b	347 mm
Distance c	77 mm
Radius 1	150 mm
Radius 2	93 mm

Tolerance

Tolerance: User defined
Selected planes: Correction planes
Dynamic Tolerance of Unbalance: 4,0 g·in
Correction Plane 1: 2,0 g·in
Correction Plane 2: 2,0 g·in

Measuring Results, Run: 1

Rotor ID: NA 297 ,spec.4G87B132K,reg.705539
Measuring speed: 1205 rpm

Unbalance	14,9 g·cm	5 °	1,5 * Tol
Correction Plane 1	2,26 g·cm	159 °	in Tol
Correction Plane 2	995 mg	5 °	1,5 * Tol
Correction Plane 1 - Mass (Remove)	243 mg	159 °	in Tol
Correction Plane 2 - Mass (Remove)			

Rotor out of tolerance

Measuring Results, Run: 2

Rotor ID: NA 297 ,spec.4G87B132K,reg.705539
Measuring speed: 1204 rpm

Unbalance	0,899 g·cm	46 °	in Tol
Correction Plane 1	1,77 g·cm	147 °	in Tol
Correction Plane 2	59,9 mg	46 °	in Tol
Correction Plane 1 - Mass (Remove)	190 mg	147 °	in Tol
Correction Plane 2 - Mass (Remove)			

Rotor in tolerance