

Sop(C) hot pump (2) report

unit	Equipment name	Motor details	Pump details	Iso 10816-3
SOP (C)	HOT PUMP (2)	160 KW	Center hung pump	Normal 4.5 mm/sec

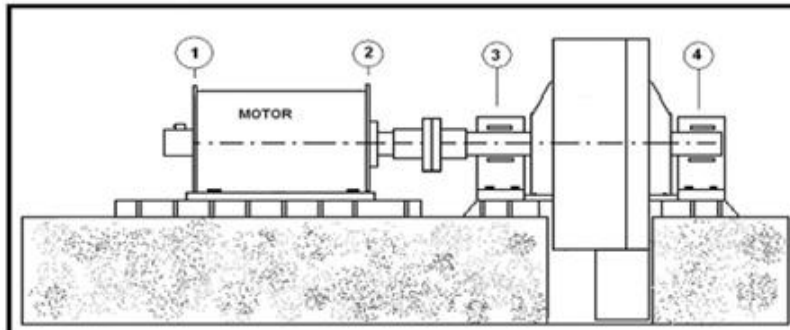


Fig 1. Schematic Layout of Motor and pump showing the Vibration Measuring Points

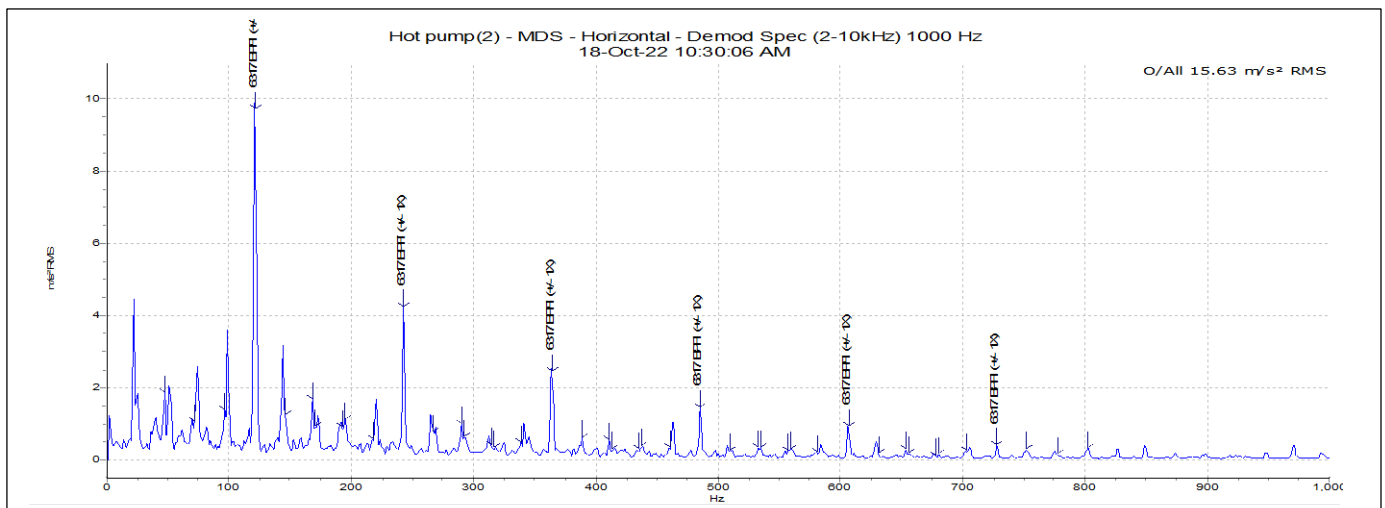
Introduction:

1. As per ISO 10816-3 standards, the health status of the machine is in Critical condition.
2. The maximum vibration acceleration (Arms) value is **18.39 m/s²** at motor DE bearing in Horizontal direction.

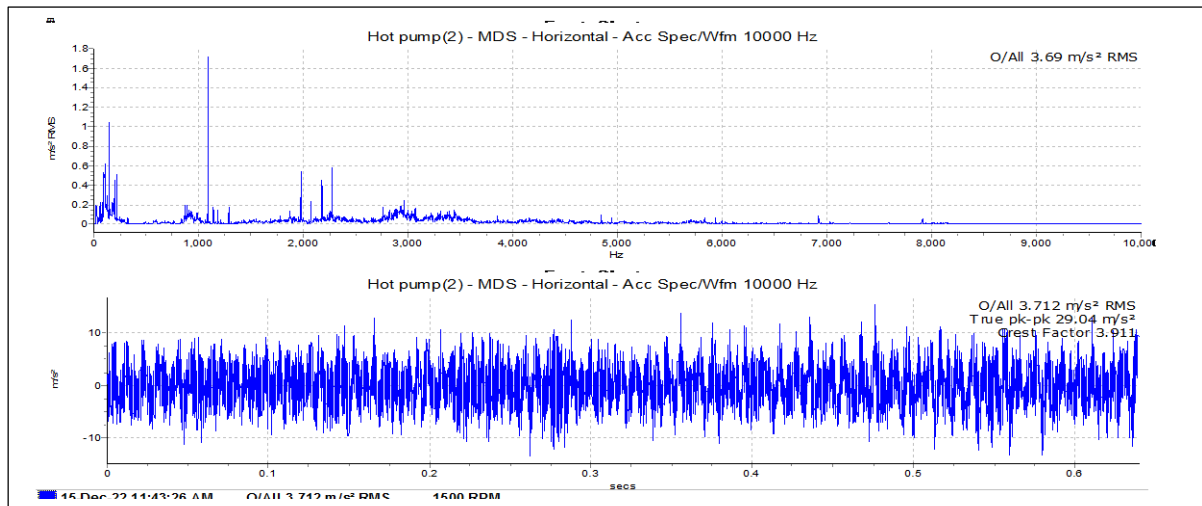
Analyzer used: commtest VB5

Data Interpretation:

1. Acceleration signatures representing peaks at inner race frequencies which indicates the
2. Failure of bearing inner race.



After change bearing acceleration reduced to **3.69 m/s²** as shown in figure below:

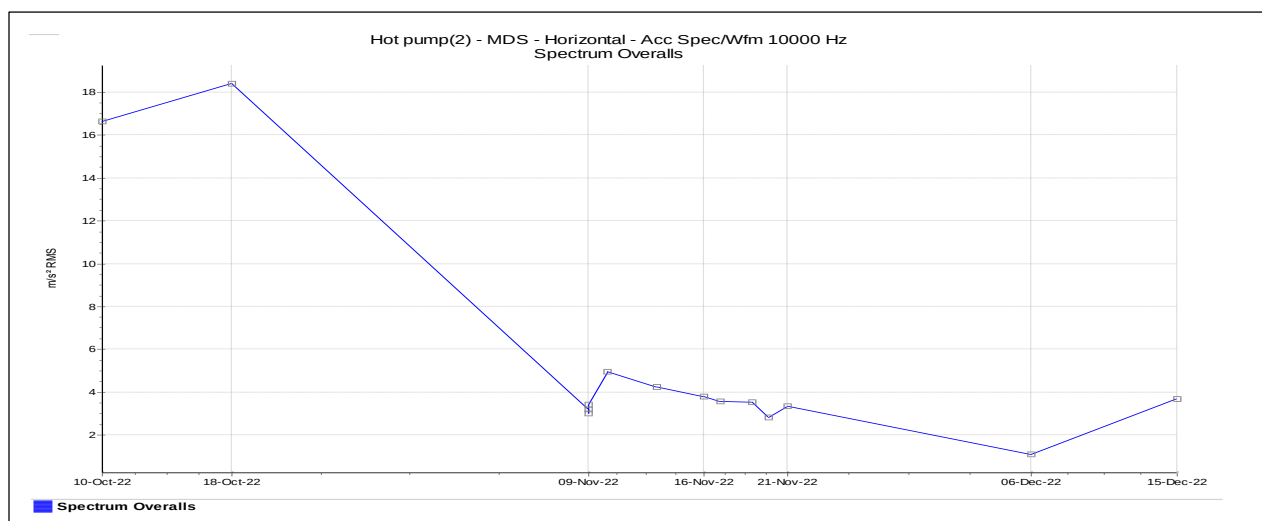


1. But we find high Velocity signatures representing dominant peaks which indicates the symptoms of cooked bearing.
2. The maximum vibration velocity (Vrms) value is **7.0 mm/sec** at motor DE bearing inHorizontal direction.

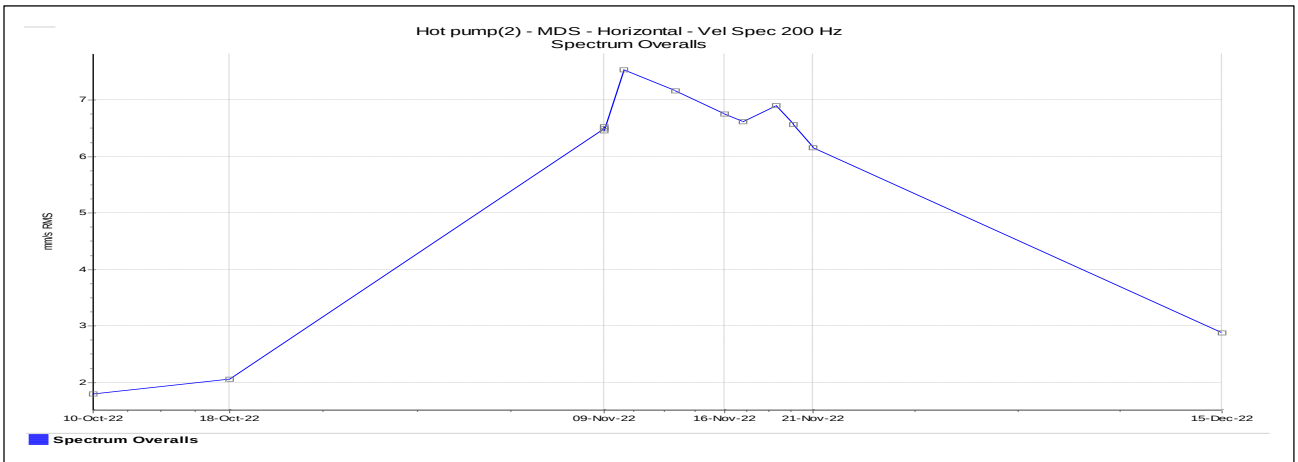
We make decision to check bearing installation

- 1-After removing motor drive side housing there is bad interference bearing with shaft
- 2-After solving the problem the maximum vibration velocity (Vrms) value is **2.8 mm/sec** at motor DE bearing inHorizontal direction.

Find the trend of acceleration



Find trend of velocity



Conclusion

Measuring location	Direction	Before	After
MDE	H	7.0 mm/sec	2.8 mm/sec
	V	4.5 mm/sec	1.3 mm/sec
	Acceleration	18.2 m/s ²	3.8 m/s ²

The pump now operate in comfort zone