NTN's Sealed Ball Bearings Reduce Cost to Operate Wire Braiding Equipment

A leading global supplier of equipment for the industrial and hydraulic hose industry was experiencing problems with the bearings it was using in its wire braiding machine. The bearings originally used in the machine were discontinued and the replacement bearings they received from a low cost country manufacturer were failing every *four months* from fatigue flaking due to extreme misalignment and contamination. The customer reached out to NTN's engineering and sales support team for help identifying a solution to the problem.

NTN's team analyzed the failed bearings and determined the current bearing being used had two times as much radial clearance as the original bearing designed for the application. Being a single bearing support, the increase in radial clearance decreased the system stiffness and allowed the bearing to operate in a misaligned position. Additionally, because of the high misalignment, the single-lip seal on the failed bearings lost contact with the inner ring, thus allowing contamination to freely enter the bearing.

The NTN Solution

Using the information from the analysis in concert with the requirements of the application, NTN Engineering recommended a bearing with a tighter clearance range to help reduce the potential for misalignment within the application. Furthermore, NTN implemented our standard double-lip contact seals which, due to having dual lips, maintain better contact with the sealing surfaces than single-lip seals, espcially in misaligned conditions.

The Result

NTN's specially designed lasted *12 months*; a 200% increase in bearing life! The decrease in bearing spend and maintenance cost enjoyed by the customer after switching to the NTN bearing resulted in a cost savings of over *$100,000*.

VALUE ADDED BREAKDOWN

REDUCED ACQUISITION COST

$69,888

MAINTENANCE REDUCTION

$30,240

DOCUMENTED COST SAVINGS

$100,128

CS-1330

ANNUALIZED COST SAVINGS
$100,128

GI GENERAL INDUSTRY