

HK INSTRUMENT SYSTEMS

Pittsburgh, PA

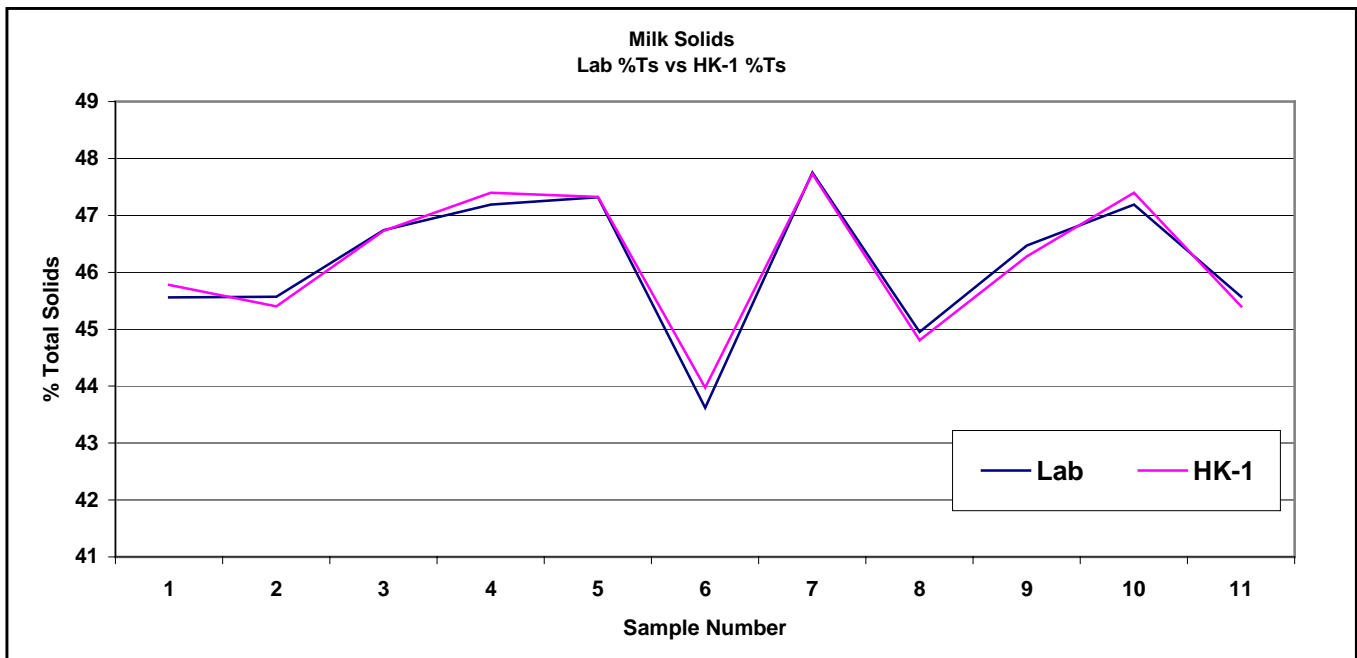
INDUSTRY: FOOD (DAIRY/MILK PRODUCTS)

APPLICATION: MEASURE THE % TOTAL SOLIDS OF CONCENTRATED LIQUID MILK IN A PIPE

INSTALLATION: THE MICROWAVE SENSORS WERE INSTALLED ON A VERTICAL PIPE USING A 3A SANITARY SPOOL PIECE WITH TRI-CLOVER FITTINGS. TEMPERATURE COMPENSATION WAS INSTALLED.

TESTING: SAMPLES WERE COLLECTED AND ANALYZED IN THE LAB USING AN OVEN. LOSS OF WEIGHT BY DRYING WAS USED TO DETERMINE THE % TOTAL SOLIDS. READINGS FROM THE MICROWAVE WERE RECORDED EACH TIME A SAMPLE WAS COLLECTED. THE RESULTS ARE ON THE GRAPH BELOW.

RESULTS: CORRELATION BETWEEN THE LAB VALUES AND THE HK-1 MICROWAVE INSTRUMENT READINGS IS EXCELLENT. AFTER EXTENSIVE TESTING, A REGRESSION ANALYSIS OF THE DATA INDICATES A NEAR PERFECT FIT OF THE MICROWAVE DATA WITH THE LAB DATA.



CONCLUSIONS: THE HK-1 MICROWAVE INSTRUMENT SYSTEM HAS DEMONSTRATED ITS ABILITY TO MONITOR AND CONTROL THE % TOTAL SOLIDS OF CONCENTRATED LIQUID MILK IN A PIPELINE OR VESSEL.

IT IS AN EXCELLENT PROCESS CONTROL TOOL FOR ANY APPLICATION IN MILK OR MILK PRODUCT PROCESSING.