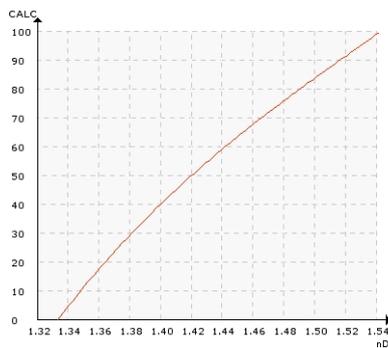


TOMATO CONCENTRATE

Typical end products

Tomato concentrate, tomato paste, tomato puree

Chemical curve: R.I. per Brix at Ref. Temp. of 20°C



Introduction

It is vital that the tomato concentrate processing line operates constantly at full capacity. It is not possible to work at reduced capacity, intermittently or every other day. Every time the tomato processing line is shut down, all the machinery must be cleaned with the subsequent loss of several working hours, wastage of both a great amount of water and great deal of product contained in the evaporator.

Furthermore, fresh and ripe tomatoes cannot be held in storage for processing at ambient temperatures of over 30°C (86°F) for more than 24-48 hours as this will result in an inferior, low quality finished product and low Brix level.

The entire production cycle is carried out according to extremely stringent sanitary and hygiene standards.

Application

Tomato juice concentration requires water content reduction, leaving all the original solid content as a concentrated solution.

Typically, single or multiple-stage (also called effect) evaporation plants are used for the tomato concentrate production. The juice inside the evaporator passes through different stages, where its concentration level will gradually increase until the required density is obtained at the final stage. Here, the tomato paste is automatically extracted via a K-Patents Process Refractometer PR-23-AC controlled pump.

Installation

The K-Patents Sanitary Refractometer PR-23-AC is installed on the evaporator outlet. It provides a signal to the controller, which adjusts the evaporator inlet flow and thereby regulates the Brix value. Typical measurement range is 5-35 Brix and typical process temperature about 95°C (203°F).

The K-Patents refractometer is also used for tomato pulp standardization control. Typical measurement range is 4-7 Brix and typical process temperature about 20°C (68°F).

FOOD AND BEVERAGE	
APPLICATION NOTE	2.11.00
TOMATO PASTE EVAPORATION	

Instrumentation	Description
 <p>The image shows a white rectangular handheld refractometer with a digital display showing '25.31'. Next to it is a red cylindrical sensor component with a silver metal tip.</p>	<p>K-Patents Sanitary Compact Refractometer PR-23-AC for small pipe line sizes of 2.5 inch and smaller.</p> <p>The PR-23-AC sensor is installed in the pipe bend. It is angle mounted on the outer corner of the pipe bend directly, or by a flow cell using a 3A Sanitary clamp or Varivent® connection.</p>
Measurement range:	Refractive Index (nD) 1.3200 – 1.5300, corresponding to 0-100 Brix.