

ABBE REFRACTOMETERS – AR4 AND AR2008

MEASUREMENTS OF LIQUIDS, PASTES, FOILS AND SOLIDS

The Abbe refractometer was developed around 1869 by Ernst Abbe and was one of the first laboratory instrument for determining the refractive index of liquids. Its measuring principle is based on the total reflection. Thanks to the favourable purchase prices, the easy operation and reliability, it still has a firm presence in the laboratory. With the AR4 and AR2008, A.KRÜSS has two classic Abbe refractometers in its product line. They measure the refractive index n_D , the dry substance content in % and the dispersion value $n_F - n_C$ of liquid, viscous as well as solid samples. As a standard, contact liquid for the optical coupling is included in the delivery for the determination of solids. The scope of delivery also includes a calibration body for the calibration and adjustment, a mains adaptor and a dust cover. For the temperature control, the devices are

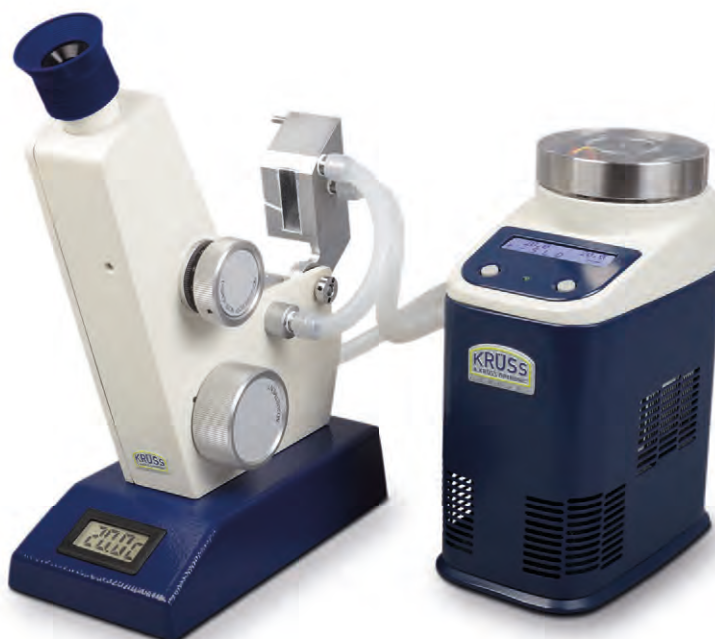
equipped on both sides on the upper and lower prisma holder with thermostat connections that allow for the temperature control with an external thermostat.

ANALOGUE ABBE REFRACTOMETER

The AR4 determines the refractive index between n_D 1.3000–1.7200 and the sugar content in the range of 0–95 % Brix. The scales can be adjusted manually using the drive knob. The measured value is then read via an eyepiece. The refractometer can be connected to a thermostat, e. g. our circulating thermostat PT31 with Peltier element in order to maintain the temperature at 20°C or 25°C. The temperature will be measured with the integrated digital thermometer and shown on the LCD display.



THERMOSTAT TEMP. CONTROL



AR4 with circulating thermostat PT31

AR4

SCALES	Refractive index (n_D), concentration of sucrose [%Brix]
MEASUREMENT RANGE	n_D 1,3000–1,7200 0–95 %Brix
MEASUREMENT ACCURACY	$n_D \pm 0,0002$ $\pm 0,1$ %Brix
SCALE MARKING (RESOLUTION)	n_D 0,0005 0,25 %Brix
READING ACCURACY	n_D 0,0005 0,25 %Brix
TEMP. MEASUREMENT RANGE	0–99 °C

PT31

ACCURACY OF TEMP. CONTROL	± 0.2 °C
TEMP. CONTROL RESOLUTION	0.1 °C
TEMP. CONTROL RANGE	8–35 °C
HEATING CAPACITY	30 W
COOLING CAPACITY AT 20 °C	20 W
PUMP PRESSURE	2000 Pa
PUMP CAPACITY	20 l/h
FILLING VOLUME	100 ml