Pocket Refractometer

Pocket >> Palm >> Perform
IoT Supported
With NFC Technology

Pocket Refractometer

PAL series

GOOD DESIGN

JP	PAT# 4094972, PAT# 4467933, PAT# 4889772
US	PAT# 7,492,447 B2

Pocket >> Palm >> Perform
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Detail page of each product is here

Choose model

JP	PAT# 4094972, PAT# 4467933
	PAT# 4889772
US	PAT# 7,492,447 B2

PRODUCT LINEUP

Popular Model

PAL-3
Wide & High Accuracy

PAL-1
The Most Popular

PAL-α
Wide Range

PAL-H
High Temperature

PAL-S
Milky sample

PAL-BX/RI
Brix & Refractive Index

PAL-RI
Refractive Index

PAL-2
Brix

PAL-LOOP
Brix

Special scales

Coffee

Pâtissier

Honey Moisture

Brine

Ramen

Soy Milk

Condiment

Cutting oil

Urea

H_2O_2

Urine S.G

Ethylene Glycol

Sodium hydroxide

Cleaning agent

Soil

PAL Special scales list

Cooking

Model	Scale
PAL-96S	Soup Baume of Kansui
Ramen Meister Set	Soup Salt
Dashi Meister Set	Dashi Salt
PAL-98S	Condiment
PAL-Pâtissier	Brix Baume

Brine

Model	Scale
PAL-03S	Brine (g/100g)
PAL-106S	Brine (g/100mL)
PAL-04S	Brine
PAL-05S	Baume of Brine

Spirit / Beer

Model	Scale
PAL-Whiskey	Ethyl alcohol (mL/100mL)
PAL-Vodka	Ethyl alcohol (mL/100mL)
PAL-Tequila	Ethyl alcohol (mL/100mL)
PAL-Shochu	Ethyl alcohol (mL/100mL)
PAL-Gin	Ethyl alcohol (mL/100mL)

Soymilk / Nigari

Model	Scale
PAL-27S	Soymilk
PAL-43S	Magnesium chloride

Honey

Model	Scale
PAL-22S	Honey Moisture
PAL-2	Brix

Seawater

Model	Scale
PAL-06S	Seawater
PAL-07S	Seawater specific gravity
PAL-08S	Baume of Seawater
PAL-Fish Tank	Seawater

Carp Set

Model	Scale
Koi Meister Set	Brine pH

Alcohol

Model	Scale
PAL-33S	Ethyl alcohol (mL/100mL)
PAL-34S	Ethyl alcohol (g/100g)
PAL-36S	Methyl alcohol
PAL-37S	Isopropyl alcohol (g/100g)
	Isopropyl alcohol

Coffee

Model	Scale
PAL-COFFEE	Coffee (Brix)
PAL-COFFEE (TDS)	Coffee (TDS)
PAL-COFFEE (BX/TDS)	Coffee (Brix&TDS)

Tea

Model	Scale
PAL-Tea	Tea

Milk

Model	Scale
PAL-MILK	Non-fat milk solids

Sterilization

Model	Scale
PAL-39S	H_2O_2

Sugar

Model	Scale
PAL-12S	Dextran
PAL-14S	Fructose
PAL-15S	Glucose
PAL-16S	HFCS-42
PAL-17S	HFCS-55
PAL-18S	Inverted suger
PAL-19S	Lactose

PAL-Rum	Ethyl alcohol (mL/100mL)
PAL-Brandy	Ethyl alcohol (mL/100mL)
PAL-Plato	Plato

Moisture

Model	Scale
PAL-Moisture	Moisture

Dried fruit

Model	Scale
PAL-Dried Fruit Moisture	Moisture

Colostrum

Model	Scale
PAL-Colostrum	Colostrum

Metal Processing / Automobile

Model	Scale
PAL-102S	Cutting oil
PAL-Antirust	Anti-Rust Agent
PAL-Release Agent	Releasing Agent
PAL-Urea	Urea

Medical

Model	Scale
PAL-10S	Urine S.G
PAL-Easy SALT	Salt
PAL-1	Brix
ATAGO DEHYD-RATION CHECKER	Brix
PAL-11S	Serum protein
PAL-42S	Cesium chloride

PAL-131S	(mL/100mL)
PAL-85S	Polyvinyl alcohol

Wine

Model	Scale
PAL-79S	T.A.1990
PAL-80S	T.A.1971
PAL-83S	KMW (or Babo)
PAL-84S	Baume
PAL-86S	Oe (GER) Brix
PAL-87S	Oe (Oechsle) Brix Temperature

Food Additive

Model	Scale
PAL-29S	Citric acis
PAL-30S	Acetic acid
PAL-32S	Phosphoric acid
PAL-64S	Sodium bicarbonate
PAL-65S	Sodiun tartrate
PAL-70S	Potassium phosphate

Snow-melting Agent

Model	Scale
PAL-03CS	Snow-melting Agent (Sodium chloride)
PAL-03S	Snow-melting Agent (Sodium chloride)
PAL-41S	Snow-melting Agent (Calcium chloride)
PAL-43S	Snow-melting Agent (Magnesium chloride)

Printing

PAL-20S	Maltose

Coolant / Antifreeze / Heat refrigerant liquid / Cryoprotectant

Model	Scale
PAL-88S	Propylene glycol Freezing point°C
PAL-91S	Ethylene glycol Freezing point°C

Cleaning agent

Model	Scale
PAL-Cleaner	Dextran
PAL-Hydrocarbon Cleaner	Hydrocarbon Cleaner contamination

Leather / Textile

Model	Scale
PAL-38S	Dimethyflormamide

Chemical

Model	Scale
PAL-23S	Glycerin (Low)
PAL-24S	Glycerin (high)
PAL-30S	Acetic acid
PAL-31S	Formic acid
PAL-32S	Phosphoric acid
PAL-44S	Lithium chloride
PAL-45S	Barium chloride
PAL-46S	Cobalt chloride
PAL-47S	Ferric chloride
PAL-48S	Strontium chloride
PAL-49S	Potassium chloride
PAL-50S	Potassium bromide
PAL-51S	Sodium bromide
PAL-52S	Potassium iodide

PAL-53S	Copper sulfate(Concentration)
PAL-54S	Copper sulfate(S.G.)

Animal

Model	Scale
PAL-DOG&CAT	Dog&Cat Urine(S.G.)
PAL-DOG	Dog Urine(S.G.)
PAL-CAT	Cat Urine(S.G.)
PAL-RABBIT	Rabbit Urine(S.G.)

Construction / Agriculture

Model	Scale
PAL-Soil	Soil Moisture Soil sediment moisture content

Alkaline solution

Model	Scale
PAL-40S	Sodium hydroxide

Refractive Index

Model	Scale
PAL-BX/RI	Brix + Refractive Index
PAL-RI	Refractive Index

Model	Scale
PAL-37S	Isopropyl alcohol
PAL-131S	Isopropyl alcohol

Pharmaceutical

Model	Scale
PAL-12S	Dextran
PAL-13S	Creatine
PAL-23S	Glycerin (Low)
PAL-24S	Glycerin (High)
PAL-25S	Inulin
PAL-26S	Mannitol
PAL-31S	Formic acid
PAL-32S	Phosphoric acid
PAL-51S	Sodium bromide
PAL-55S	Magnesium sulfate
PAL-64S	Sodium bicarbonate
PAL-65S	Sodium tartrate
PAL-66S	Potassium oxalate
PAL-68S	Potassium dichromate
PAL-70S	Potassium phosphate
PAL-72S	Sodium tungstate

PAL-53S	Copper sulfate
PAL-54S	Copper sulfate
PAL-55S	Magnesium sulfate
PAL-56S	Potassium sulfate
PAL-57S	Nickel sulfate
PAL-58S	Sodium sulfate
PAL-59S	Zin sulfate
PAL-60S	Silver nitrate
PAL-61S	Sodium nitrate
PAL-62S	Potassium carbonate
PAL-63S	Sodium carbonate
PAL-64S	Sodium bicarbonate
PAL-67S	Potassium chlomate
PAL-68S	Potassium dichromate
PAL-69S	Sodium thiosulfate
PAL-70S	Potassium phosphate
PAL-71S	Sodium molybdate
PAL-72S	Sodium tungstate

Paste

Model	Scale
PAL-21S	Dextran

Pocket Refractometer [Product details]

Digital Hand-held "Pocket" Refractometer PAL-3

Designed with a full Range (Brix 0.0 to 93.0%), the PAL-3 works perfectly for measuring almost any samples.This model has been modified to have a high measurement accuracy at +/-0.1% Brix, the highest accuracy model in PAL series.

Enlargement

Specifications

Model	PAL-3
Cat.No.	3830

Range	Brix : 0.0 to 93.0 %
Accuracy	±0.1 %
Temperature compensation	10 to 100 ° C

Options

· MAGIC™ (for PAL) : RE-39411

· STRAP : RE-39410

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· 10% Sucrose (±0.03%) : RE-110010

· 20% Sucrose (±0.03%) : RE-110020

· 30% Sucrose (±0.03%) : RE-110030

· 40% Sucrose (±0.04%) : RE-110040

· 50% Sucrose (±0.05%) : RE-110050

· 60% Sucrose (±0.05%) : RE-110060

* Calibration Certificate : Contact an ATAGO representative for details.

Patent for Invention Registration No. ZL200310103015.2 (China)
Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)
Patent Granted in countries around the world.

The PAL-1 works perfectly in measuring almost any fruit juice, food, or drink, such as soup, sauce, ketchup, tomato sauce, low-sugar jam, or marmalade. PAL series comes with Data Transmission Function with NFC （Near Field Communication)technology.Data history can be accessed by bringing PAL-NFC to any Android devices or PC-linked USB NFC Reader.

Specifications

Model	PAL-1
Cat.No.	3810
Range	Brix 0.0 to 53.0 %
Accuracy	±0.2 %
Temperature compensation	10 to 100° C

Options

· MAGIC™ (for PAL) : RE-39411

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

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Digital Hand-held "Pocket" Refractometer PAL-1

Digital Hand-held "Pocket" Refractometer PAL-α

Digital Hand-held "Pocket" Refractometer PAL-H

Digital Hand-held "Pocket" Refractometer PAL-S

Digital Hand-held "Pocket" Refractometer PAL-BX/RI

Digital Hand-held "Pocket" Refractometer PAL-RI

Enlargement

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Digital Hand-held "Pocket" Refractometer PAL-2

Digital Hand-held "Pocket" Refractometer PAL-LOOP

Digital Hand-held "Pocket"

· SUPER EXTRACTOR : RE-29401

· 10% Sucrose (±0.03%) : RE-110010

· 20% Sucrose (±0.03%) : RE-110020

· 30% Sucrose (±0.03%) : RE-110030

· 40% Sucrose (±0.04%) : RE-110040

· 50% Sucrose (±0.05%) : RE-110050

* Calibration Certificate : Contact an ATAGO representative for details.

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

Released on ATAGO's 65th Anniversary, the PAL-α is a special model with a wide brix range (0-85%) offered at a very reasonable price. PAL-α is useful for measuring most kinds of samples as well as samples that are in the cooking process. Designed with a water resistant feature, the PAL-α can be washed under running water. PAL-α is equipped with the same great features as the other PAL units.

Specifications

Model	PAL-α
Cat.No.	3840
Range	0.0 to 85.0 %
Accuracy	±0.2 %
Temperature compensation	10 to 100 ° C

Options

· MAGIC™ (for PAL) : RE-39411

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

· 10% Sucrose (±0.03%) : RE-110010

· 20% Sucrose (±0.03%) : RE-110020

· 30% Sucrose (±0.03%) : RE-110030

· 40% Sucrose (±0.04%) : RE-110040

· 50% Sucrose (±0.05%) : RE-110050

· 60% Sucrose (±0.05%) : RE-110060

* Calibration Certificate : Contact an ATAGO representative for details.

Patent for Invention Registration No. ZL200310103015.2 (China)

Refractometer PAL-Pâtissier

Honey Refractometer PAL-22S

Salinity Refractometer PAL-03S

Ramen Soup Refractometer PAL-96S

Soy Milk Refractometer PAL-

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27S

Condiment Refractometer PAL-98S

Cutting Oil Refractometer PAL-102S

"Pocket" Refractometer PAL-Urea

Hydrogen Peroxide Refractometer PAL-39S

"Pocket" Urine Specific Gravity Refractometer PAL-10S

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

Mode H™ Technology measure high temperature sample in 2 seconds

Samples with high temperature such as ramen soup, tare sauce for beef bowl, syrup, jam, soy milk etc. had to wait 15 to 20 seconds for measurement.The PAL-H is a high temperature sample, and it has Mode H that can perform stable measurements at a high speed of 2 seconds. "

Specifications

Model	PAL-H
Cat.No.	3870
Range	Brix : 0.0 to 93.0%
Accuracy	±0.5%
Temperature compensation	10 to 100°C

Options

· MAGIC TM (for PAL MIM) : RE-39446

· STRAP : RE-39410

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· 10% Sucrose (±0.03%) : RE-110010

· 20% Sucrose (±0.03%) : RE-110020

· 30% Sucrose (±0.03%) : RE-110030

· 40% Sucrose (±0.04%) : RE-110040

· 50% Sucrose (±0.05%) : RE-110050

· 60% Sucrose (±0.05%) : RE-110060

Improved Repeatability with Mode S™ Technology.

Mode S™ is the solution to fluctuating measurement values.Ideal for fatty and/or dark samples, such as dairy products.

Specifications

Model	PAL-S
Cat.No.	3860
Range	Brix : 0.0 to 93.0 %
Accuracy	±0.2 %
Temperature	

"Pocket" Ethylene Glycol Refractometer PAL-91S

Enlargement

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Industrial Wash Solutions Refractometer PAL-Cleaner

Sodium Hydroxide Refractometer PAL-40S

Soil Moisture Meter PAL-Soil

Enlargement

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compensation	10 to 100° C

Options

· MAGIC™ (for PAL) : RE-39411

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· SUPER EXTRACTOR : RE-29401

· STRAP : RE-39410

· 10% Sucrose (±0.03%) : RE-110010

· 20% Sucrose (±0.03%) : RE-110020

· 30% Sucrose (±0.03%) : RE-110030

· 40% Sucrose (±0.04%) : RE-110040

· 50% Sucrose (±0.05%) : RE-110050

· 60% Sucrose (±0.05%) : RE-110060

* Calibration Certificate : Contact an ATAGO representative for details.

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

PAL-BX/RI has dual scales of Brix full range : Brix 0.0 to 93.0%, high measurement accuracy : Brix ±0.1% and Refractive Index (resolution 0.0001). RI and measurement temperature will continuously scroll across the display. The PAL-BX/RI works perfectly for measuring almost any sample.

Specifications

Model	PAL-BX/RI
Cat.No.	3852
Scale	Brix Refractive Index
Range	Brix : 0.0 to 93.0 % Refractive Index :1.3306 to 1.5284 Temperature : 5 to 45° C
Accuracy	Brix : ±0.1% Refractive Index : ±0.0003 (water at 20° C)
Temperature compensation	10 to 100° C (Brix only)

Options

· MAGIC™ (for PAL) : RE-39411

· STRAP : RE-39410

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· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· 10% Sucrose (±0.03%) : RE-110010

· 20% Sucrose (±0.03%) : RE-110020

· 30% Sucrose (±0.03%) : RE-110030

· 40% Sucrose (±0.04%) : RE-110040

· 50% Sucrose (±0.05%) : RE-110050

· 60% Sucrose (±0.05%) : RE-110060

* Calibration Certificate : Contact an ATAGO representative for details.

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

The long-awaited "Pocket" digital and compact sized PAL-RI was released.When the start key is pressed after placing some droplets of sample on the prism, the Refractive Index (resolution 0.0001) and temperature °C of the measurement will be displayed continuously.

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Specifications

Model	PAL-RI
Cat.No.	3850
Scale	Refractive Index
Range	Refractive Index:1.3306 to 1.5284 Temperature 5 to 45° C
Accuracy	Refractive Index:±0.0003 (water at 20° C)
Measurement Temperature	5 to 45° C

Options

· MAGIC™ (for PAL) : RE-39411

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

* Calibration Certificate : Contact an ATAGO representative for details.

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

Since the measurement range of PAL-2 is Brix 45.0 - 93.0%, it can measure various high concentration samples such as jam, marmalade, jelly, honey and concentrated juice.The International Protection class of PAL-2 is IP65, so it can clean thick samples under running water.If you measure boiling jam or marmalade, we recommend PAL-H

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Specifications

Model	PAL-2
Cat.No.	3820
Range	Brix : 45.0 to 93.0 %
Accuracy	±0.2 %
Temperature compensation	10 to 100° C

Options

· MAGIC™ (for PAL) : RE-39411

· STRAP : RE-39410

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· 50% Sucrose (±0.05%) : RE-110050

· 60% Sucrose (±0.05%) : RE-110060

* Calibration Certificate : Contact an ATAGO representative for details.

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

Released on ATAGO's 70th Anniversary, the PAL-LOOP is a special model with new Continuous Measurement feature to give you extra method tailored to meet your needs - select either the new continuous and conventional single measurement mode. Since the measurement range of PAL-LOOP is Brix 0.0 - 85.0%, it can be used to measure almost any samples.

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Specifications

Model	PAL-LOOP
Cat.No.	3842
Measurement mode	1. Single measurement 2. Continuous measurement
Range	Brix : 0.0 to 85.0 %
Accuracy	±0.2 %

Temperature compensation	10 to 100 ° C

Options

· MAGIC™ (for PAL) : RE-39411

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

· 10% Sucrose (±0.03%) : RE-110010

· 20% Sucrose (±0.03%) : RE-110020

· 30% Sucrose (±0.03%) : RE-110030

· 40% Sucrose (±0.04%) : RE-110040

· 50% Sucrose (±0.05%) : RE-110050

· 60% Sucrose (±0.05%) : RE-110060

* Calibration Certificate : Contact an ATAGO representative for details.

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

NEW PAL Series, PAL-Pâtissier debut for pâtissiers. PAL-Pâtissier has dual scale of Brix and Baume, this is ideal refractometer for cooking sweets. Wide range of 0.0-85.0 Brix can be measured.

Enlargement

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-Pâtissier
Cat.No.	4508
Scale	Brix Sugar Baume
Range	Brix : 0.0 to 85.0 % Sugar Baume : 0 to 45°
Accuracy	Brix : ±0.2 % Sugar Baume : ±1°
Temperature compensation	10 to 100°C

Options

· PAL-CASE : RE-39409

· STRAP : RE-39410

· 10% Sucrose (±0.03%) : RE-110010

· 20% Sucrose (±0.03%) : RE-110020

· 30% Sucrose (±0.03%) : RE-110030

· 40% Sucrose (±0.04%) : RE-110040

· 50% Sucrose (±0.05%) : RE-110050

· 60% Sucrose (±0.05%) : RE-110060

* Calibration Certificate : Contact an ATAGO representative for details.

· PAL Silicone Cover : RE-39413

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

The "Pocket" Honey Refractometer, PAL-22S can measure the % water content of honey easily and displays readings digitally. Comfortable, easy to use, light & compact. Measurements can be taken anywhere.

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Specifications

Model	PAL-22S
Cat.No.	4422
Scale	Honey moisture
Range	Honey moisture : 12.0 to 30.0 %
Accuracy	±0.2 %
Temperature compensation	10 to 40° C

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

PAL-03S is suitable for measurement of salt water(g/100g).This model is also used as the important management tool of the spraying the snow-melting agent on the road. For the model with g/100ml, please choose PAL-106S. We also have Specific Gravity model and Baume model.

Specifications

Model	PAL-03S

Cat.No.	4403
Scale	Sodium chloride (g/100g)
Range	Sodium chloride : 0.0 to 28.0%
Accuracy	±0.2%
Temperature compensation	10 to 40° C

Enlargement

Send an inquiry

Quantity Request Quotation

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

This is the essential item in creasing your Ramen.This model can measure not noly the concentration of Soup and Tare but also baume of kansui used during making the noodle. If you are interested in Meister set of refractometer and salt meter, pleas choose Ramen Meister Set.
For user testimonials of Japanese famous ramen restaurants, click here.

Enlargement

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-96S
Cat.No.	4496
Scale	Ramen noodle soup Baume Kansui
Range	Ramen noodle soup : 0.0 to 53.0% Baume Kansui : 0.0 to 9.9°
Accuracy	Chinese noodle soup : ±0.2% Baume Kansui : ±0.3°
Temperature compensation	10 to 100° C

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Parts

· MAGIC™ (for PAL) : RE-39411

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

You can measure solid contents of soybeans in the soymilk by PAL-27S.It is extremely water resistant for easy clean up. Just run it under the faucet!

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-27S
Cat.No.	4427
Scale	Soybean solids
Range	Concentration of Soy Milk : 0.0 to 20.0 %
Accuracy	±0.2 %
Temperature compensation	10 to 100° C

Options

· PAL-CASE : RE-39409

· STRAP : RE-39410

· PAL Silicone Cover : RE-39413

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

Digital Hand-held "Pocket" Condiment Meter PAL-98S is ideal for measuring the concentration of various condiments. Use it to measure soy sauce, ketchup, marinades, curry and many other sauces. Finding the relationship between the actual taste and the measurement value using the PAL-98S will help any chef ensure the best taste every time.

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-98S
Cat.No.	4498
Range	Condiment Concentration : 0.0 to 70.0 %
Accuracy	±0.2 %
Temperature compensation	10 to 100° C

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

This is most suitable for the measurement of the percent dilution and controlling the percent concentration of hydraulic oil and cleaning liquid. Cutting oil, molding lubricant and rust resistance liquid are also well within the measurement range of the PAL-102S. With a water resistant design, the PAL-102S can also float in water which will help to prevent unforeseen accidents. Quick and easy measurements can be taken with the PAL-102S anywhere on your factory floor.

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-102S
Cat.No.	4502
Range	Cutting Oil : 0.0 to 70.0%
Accuracy	±0.2%
Temperature compensation	10 to 100° C

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

The PAL-Urea is specifically designed to measure the Urea concentration of Diesel Exhaust Fluid (DEF), also known as AdBlue* in Europe. Already proven in Europe as the only reliable, go-to instrument for easy and accurate checks, the PAL-Urea is now available in North America in time for new 2010 EPA regulations on diesel emissions.DEF needs to have a 32.5% Urea concentration in order to work effectively in SCR engines. Make sure that the DEF that comes out of your pump and into your tank is pure in quality and safe from potentially harmful additives by using the only digital hand-held refractometer already trusted by European

consumers.* AdBlue is a trademark of VDA.

Enlargement

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-Urea
Cat.No.	4518
Scale	Urea
Range	Urea : 0.0 to 55.0 %
Accuracy	± 0.3 %
Temperature compensation	10 to 40° C

Options

· MAGIC™ (for PAL) : RE-39411

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

This is ideal to measure Hydrogen peroxide concentration commonly used as a disinfectant.

Enlargement

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-39S
Cat.No.	4439
Scale	Hydrogen peroxide (g/100g)
Range	Hydrogen peroxide : 0.0 to 50.0%
Resolution	0.2%
Accuracy	±0.6%
Temperature compensation	10 to 35° C

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

The PAL-10S is a digital hand-held compact refractometer to measure urine S.G. To operate it, simply place a drop of urine on the prism top and press the "Start"key. Then, the urine S.G. value will be displayed on the LCD instantly.

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-10S
Cat.No.	4410
Scale	Urine (S.G.)
Range	Urine S.G. : 1.0000 to 1.0600
Resolution	Urine S.G. : 0.0001
Accuracy	Urine S.G. : ±0.001
Temperature compensation	10 to 35°C

Options

· PAL-CASE : RE-39409

· STRAP : RE-39410

* Calibration Certificate : Contact an ATAGO representative for details.

Patent for Design Registration No. ZL200310103015.2 (China)

Patent for Invention Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

PAL-91S, easily measure the coolant in brine and other agents of Ethylene Glycol.Antifreezing solution (coolant) whose main ingredient is ethylene glycol is widely used as mixed in cooling water of car's radiator, as cooling medium for central air - conditioning system, freezer / refrigerator, cooling coil, cooling fixture etc. The higher the concentration is, the lower the temperature at which ethylene glycol is frozen is. Therefore, it is needed to adjust freezing temperature of antifreezing solution so that it dose not freeze under a specific operation temperature.For Prolylene Gycol, please choose PAL-88S.

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-91S
Cat.No.	4491
Scale	Ethylene glycol Freezing point of E.G(° C)

	Temperature
Range	E.G:0.0 to 90.0 % (V/V) Freezing point: 0 to -50° C
Accuracy	Ethylene glycol: ±0.4 %(V/V)Freezing point: ±1° C
Temperature compensation	10 to 40° C

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world

PAL- cleaner is a model that can be measured with high resolution of decimal two digits of 0.01%.This is ideal for measuring low concentration of the solution, such as industrial cleaning fluid.

Enlargement

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-Cleaner
Cat.No.	4536
Scale	Cleaner
Range	Cleaner : 0.00 to 25.00%
Accuracy	±0.10%
Temperature compensation	10 to 100° C

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

PAL-40S is suitable to measure the concentration of Sodium hydroxide (g/100g)/water solution.

Specifications

Model	PAL-40S
Cat.No.	4440
Scale	Sodium hydroxide (g/100g)
Range	0.0 to 38.0%
Accuracy	±0.2%
Temperature compensation	10 to 35° C

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

Send an inquiry

Quantity Request Quotation

PAL-Soil has dual scales of Gravimetric soil moisture and Volumetric soil moisture.Save on time, labor, and material with PAL-Soil. A measurement only takes 10 minutes whether out in the fields or in the lab.In accordance with ISO 16586:2003 “Soil quality – Determination of soil water content as a volume fraction on the basis of known dry bulk density – Gravimetric.”

Specifications

Model	PAL-Soil
Cat.No.	4571
Range	Gravimetric soil moisture : 0 to 200% Volumetric soil moisture : 0 to 100%
Accuracy	Gravimetric soil moisture: ±2% (0 to 40%) ±5% (41 to 100%) Volumetric soil moisture: ±1% (0 to 60%) ±2%(61 to 100%)
Temperature compensation	10 to 40° C

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

Send an inquiry

Quantity Request Quotation

· STRAP : RE-39410

· Digital scale : RE-39450

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

PAL-Special scales

Refractive Index

(Medical / Cosmetics / Perfume / Chemical)

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
3850	Pocket Refractometer Click here for details >>	PAL-RI	Refractive Index	Refractive Index 1.3306 to 1.5284	Refractive Index ±0.0003 (20°CIn water)
3852	Pocket Refractometer Click here for details >>	PAL-BX/RI	Brix Refractive Index	Brix 0.0 to 93.0% Refractive Index：1.3306 to 1.5284	Brix ±0.1% Refractive Index ±0.0003 (20°CIn water)

Sugar

(Processed Sugar / Food / Pharmaceutical / Beverage)

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
4412	"Pocket" Dextran Refractometer Click here for details >>	PAL-12S	Dextran	0.0 to 15.0 (g/100g)	±0.2
4414	"Pocket" Fructose Refractometer	PAL-14S	Fructose	0.0 to 50.0	±0.2
4415	"Pocket" Glucose Refractometer	PAL-15S	Glucose	0.0 to 50.0	±0.2
4416	"Pocket" High Fructose Corn Syrup (HFCS-42) Refractometer	PAL-16S	High Fructose Corn Syrup (HFCS-42)	0.0 to 85.0	±0.2
4417	"Pocket" High Fructose Corn Syrup (HFCS-55) Refractometer	PAL-17S	High Fructose Corn Syrup (HFCS-55)	0.0 to 85.0	±0.2
4418	"Pocket" Inverted sugar Refractometer	PAL-18S	Inverted sugar	0.0 to 50.0	±0.2
4419	"Pocket" Lactose Refractometer	PAL-19S	Lactose	0.0 to 20.0	±0.2

4420	"Pocket" Maltose Refractometer	PAL-20S	Maltose	0.0 to 25.0	±0.2

Pâtissie [Pastry]

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
4508	"Pocket" Pâtissier Meter Click here for details >>	PAL-Pâtissier	Brix Sugar Baume	Brix 0.0 to 85.0% Sugar Baume 0 to 45°	Brix ±0.2% Sugar Baume ±1°

Honey

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
4422	"Pocket" Honey Refractometer Click here for details >>	PAL-22S	Honey moisture	12.0 to 30.0%	±0.2%
3820	"Pocket" Refractometer Click here for details >>	PAL-2	Brix	Brix 45.0 to 93.0%	±0.2%

Coffee (Beverage)

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
4523	Pocket Refractometer Click here for details >>	PAL-COFFEE	Brix	Brix 0.00 to 25.00%	Brix ±0.2%
4532	Pocket Refractometer (TDS) Click here for details >>	PAL-COFFEE (TDS)	TDS	TDS 0.00 to 22.00%	TDS ±0.15%
4533	Pocket Refractometer (BX/TDS) Click here for details >>	PAL-COFFEE (BX/TDS)	Brix & TDS	Brix 0.00 to 25.00% TDS 0.00 to 22.00%	Brix ±0.2% TDS ±0.15%

Tea (Beverage)

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
4535	Pocket Tea Concentration Meter Click here for details >>	PAL-Tea	Tea	Brix 0.0 to 25.0%	Brix ±0.10%

Milk (Beverage)

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
3807	"Pocket" Milk Refractometer Click here for details >>	PAL-MILK	Non-Fat Milk Solids	0.0 to 23.0%	±0.2%

Soy Milk・Nigari

(Tofu / Beverage / Food etc.)

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
	Pocket Soy Milk Refractometer		Soybean		

4427	Click here for details >>	PAL-27S	solids	0.0 to 20.0%	±0.2%
4443	"Pocket" Magnesium chloride / Snow-melting agent Refractometer Click here for details >>	PAL-43S	Magnesium chloride	0.0 to 30.0% (g/100g)	±0.2%

Ramen noodle soup(Ramen store / Noodles)

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
4496	"Pocket" Chinese noodle soup Refractometer Click here for details >>	PAL-96S	Ramen noodle soup Baume Kansui	Ramen noodle soup 0.0 to 53.0% Baume Kansui 0.0 to 9.9°	Ramen noodle soup ±0.2% Baume Kansui ±0.2°
4003	Ramen Meister Set Click here for details >>	PAL-Ramen PAL-Easy SALT	Ramen noodle soup Salt concentration	Ramen noodle soup 0.0 to 53.0% Salt concentration 0.0 to 10.0° (g/100g)	Ramen noodle soup ±0.2% Salt concentration Display value ±0.05% (0.00-0.99%) Relative precision ±5% (1.00-10.0%)

Udon / Soba

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
4001	Dashi Meister Set Click here for details >>	PAL-Easy Salt PAL-Dashi	soup stock Salt concentration	soup stock 0.0 to 53.0% Salt concentration 0.0 to 10.0° (g/100g)	Salt concentration hyou±0.2% Salt concentration Display value ±0.05% (0.00-0.99%) Relative precision ±5% (1.00-10.0%)

Condiment

(Soup / Soy Sauce / Sauce / Tare)

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
4498	"Pocket" Condiment Meter Click here for details >>	PAL-98S	Condiment Concentration	0.0 to 70.0%	±0.2%

Brine

(Seafood / Pickles / Side dish / Noodles / Refrigeration apparatus)

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
			Salt		Display value ±0.05%

4250	"Pocket" SALT METER Click here for details >>	PAL-SALT	concentration (Conductivity method)	0.0 to 10.0% (g/100g)	(0.00 to 0.99%) Relative precision ±5% (1.00 to 10.0%)
4251	"Pocket" SALT METER PAL-SALT Mohr Click here for details >>	PAL-SALT Mohr	Salt concentration (Conductivity method)	0.0 to 10.0%(g/100g)	Display value ±0.05% (0.00 to 0.99%) Relative precision ±5% (1.00 to 10.0%)
4222	"Pocket" Salt-meter PAL-SALT PROBE Click here for details >>	PAL-SALT PROBE	Salt concentration (Conductivity method)	Absolute precision 0.0 to 7.0% (g/100g)	0.00 to 2.0% ±0.1% Relative precision 2.1 to 5.0% ±5% Relative precision 5.1 to 7.0% ±10%
4101	"Pocket" Salt-meter Click here for details >>	PAL-Easy SALT	concentration	0.0 to 10.0° (g/100g)	Display value ±0.05% (0.00-0.99%) Relative precision ±5% (1.00-10.0%)
4403	"Pocket" Salinity / Snow-melting agent Refractometer Click here for details >>	PAL-03S	Sodium chloride	0.0 to 28.0% (g/100g)	±0.2% (g/100g)
4506	"Pocket" Sodium Chloride Meter Click here for details >>	PAL-106S	Sodium Chloride	0.0 to 33.0% (g/100mL)	±0.2%
4404	"Pocket" Sodium chloride (S.G.) Refractometer Click here for details >>	PAL-04S	Sodium chloride (S.G.)	1.000 to 1.217	±0.002
4405	"Pocket" Sodium chloride (Baume) Refractometer Click here for details >>	PAL-05S	Sodium chloride (Baume)°	0.0 to 25.7°	±0.2°
4221	Dried Fish Salt meter Click here for details >>	PAL-FM1	Salt	0.0 to 10.0%	

Seawater

(Seafood / Refrigeration apparatus / Aquaculture / Fish restaurant)

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
4406	"Pocket" Salinity Refractometer Click here for details >>	PAL-06S	Salinity	Salinity 0 to 100‰	±2%
4407	"Pocket" Sea water (S.G.) Refractometer Click here for details >>	PAL-07S	Sea water (S.G.)	1.000 to 1.070	±0.002

4408	"Pocket" Sea water (Baume) Refractometer Click here for details >>	PAL-08S	Sea water (Baume)°	0.0 to 10.0°	±0.2°
4121	"Pocket" Seawater meter Click here for details >>	PAL-Fish Tank	Seawater	0.0 to 45.0°	± °

Carp

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
4020	Koi Meister Set Click here for details >>	PAL-SALT DPH-2	Brine pH	Brine 0.00 to 10.0% pH 0.0 to 14.0	Brine Display value ±0.05% (0.00 to 0.99%) Relative accuracy ±5% (1.00 to 10.0%) pH±0.1(pH2.0 to 12.0)

Food additive (Food / Beverage)

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
4429	"Pocket" Citric acid Refractometer Click here for details >>	PAL-29S	Citric acid	0.0 to 10.0	±0.2
4430	"Pocket" Acetic acid Refractometer Click here for details >>	PAL-30S	Acetic acid	0.0 to 20.0	±0.4
4432	"Pocket" Phosphoric acid Refractometer Click here for details >>	PAL-32S	Phosphoric acid	0.0 to 20.0	±0.4
4464	"Pocket" Sodium bicarbonate Refractometer Click here for details >>	PAL-64S	Sodium bicarbonate	0.0 to 10.0	±0.3
4465	"Pocket" Sodium tartrate Refractometer Click here for details >>	PAL-65S	Sodium tartrate	0.0 to 25.0	±0.2
4470	"Pocket" Potassium phosphate Refractometer Click here for details >>	PAL-70S	Potassium phosphate	0.0 to 15.0	±0.3

Cutting Oil

(Metal Processing oil / Quenching oil / Grinding oil / Rolling oil / White release agent / Hydraulic oil)

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
4502	"Pocket" Cutting Oil Meter	PAL-102S	Cutting Oil	0.0 to 70.0	±0.2%

	Click here for details >>				

Anti-Rust Agent

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
4537	"Pocket" Meter for Corrosion Inhibitor Solutions Click here for details >>	PAL-Antirust	AntiRust	0.00 to 25.00%	±0.10%

Release agent

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
4538	"Pocket" Release Agent Refractometer Click here for details >>	PAL-Release Agent	Release Agent	0.00 to 25.00%	±0.10%

Cleaning solution

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
4536	"Pocket" Meter for Industrial Wash Solutions Click here for details >>	PAL-Cleaner	Cleaner	0.00 to 25.00%	±0.10%
4558	"Pocket" Hydrocarbon Cleaner Contamination Refactometer Click here for details >>	PAL-Hydrocarbon Cleane	Contam.	0.0 to 30.0%	±1.00%

Spirit / Beer

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
4540	"Pocket" Ethyl alcohol refractometer(V/V) PAL-Whiskey Click here for details >>	PAL-Whiskey	Ethyl alcohol	0.0 to 53.0% (mL/100mL)	±1.0%
4541	"Pocket" Ethyl alcohol refractometer(V/V) PAL-Vodka Click here for details >>	PAL-Vodka	Ethyl alcohol	0.0 to 53.0% (mL/100mL)	±1.0%
4542	"Pocket" Ethyl alcohol refractometer(V/V) PAL-Tequila Click here for details >>	PAL-Tequila	Ethyl alcohol	0.0 to 53.0% (mL/100mL)	±1.0%
4543	"Pocket" Ethyl alcohol refractometer(V/V) PAL-Shochu Click here for details >>	PAL-Shochu	Ethyl alcohol	0.0 to 53.0% (mL/100mL)	±1.0%
	"Pocket" Ethyl alcohol			0.0 to 53.0%	

4544	refractometer(V/V) PAL-Gin Click here for details >>	PAL-Gin	Ethyl alcohol	(mL/100mL)	±1.0%
4545	"Pocket" Ethyl alcohol refractometer(V/V) PAL-Rum Click here for details >>	PAL-Rum	Ethyl alcohol	0.0 to 53.0% (mL/100mL)	±1.0%
4546	"Pocket" Ethyl alcohol refractometer(V/V) PAL-Brandy Click here for details >>	PAL-Brandy	Ethyl alcohol	0.0 to 53.0% (mL/100mL)	±1.0%
4590	"Pocket" Refractometer Click here for details >>	PAL-Plato	Plato	0.0 to 30.0° P	±0.2° P

Wine

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
4479	"Pocket" Wine Refractometers Click here for details >>	PAL-79S	T.A. 1990	0.0 to 26.0%	±0.2%
4480	"Pocket" Wine Refractometers Click here for details >>	PAL-80S	T.A. 1971	0.0 to 25.0%	±0.2%
4483	"Pocket" Wine Refractometers Click here for details >>	PAL-83S	KMW (or Bado)	0.0 to 40.0°	±0.2°
4484	"Pocket" Wine Refractometers Click here for details >>	PAL-84S	Baume	0.0 to 21.0°	±0.2°
4486	"Pocket" Wine Refractometers Click here for details >>	PAL-86S	Oe (GER) Brix	Oe (GER) 0 to 240° Brix 0.0 to 53.0%	Oe (GER) ±1° Brix ±0.2%
4487	"Pocket" Wine Refractometers Click here for details >>	PAL-87S	Oe (Oechsle) Brix	Oe (Oechsle) 0 to 240° Brix 0.0 to 53.0%	Oe (Oechsle) ±1° Brix ±0.2%

Alcohol liquid （Chemical industry・Cleaning・Printing・Refrigeration apparatus）

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
4433	"Pocket" Ethyl alcohol Meter(mL/100mL) Click here for details >>	PAL-33S	Ethyl alcohol (mL/100mL)	0.0 to 53.0%	±1.0%
4434	"Pocket" Ethyl alcohol Meter(g/100g) Click here for details >>	PAL-34S	Ethyl alcohol (g/100g)	0.0 to 45.0	±1.0
4436	"Pocket" Methyl alcohol Refractometer	PAL-36S	Methyl alcohol (g/100g)	0 to 35	±2

4437	"Pocket" Isopropyl alcohol Refractometer Click here for details >>	PAL-37S	Isopropyl alcohol (g/100g)	0.0 to 60.0	0 to 30% ±0.6 40% to 60% ±1.6
4530	"Pocket" Isopropyl alcohol Refractometer Click here for details >>	PAL-131S	Isopropyl alcohol (mL/100mL)	0.0 to 20.0	±0.6
4485	"Pocket" Polyvinyl alcohol Refractometer Click here for details >>	PAL-85S	Polyvinyl alcohol	0.0 to 20.0	±0.2

Reagents for pharmaceuticals

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
4412	"Pocket" Dextran Refractometer Click here for details >>	PAL-12S	Dextran(g/100g)	0.0 to 15.0	±0.2
4413	"Pocket" Creatine Refractometer	PAL-13S	Creatine(g/100g)	0.0 to 10.0	±0.2
4423	"Pocket" Glycerin Low concentration Refractometer Click here for details >>	PAL-23S	Glycerin	0.0 to 65.0	±0.4
4424	"Pocket" Glycerin High concentration Refractometer Click here for details >>	PAL-24S	Glycerin	60.0 to 99.0	±0.4
4425	"Pocket" Inulin Refractometer	PAL-25S	Inulin	0.0 to 15.0	±0.2
4426	"Pocket" Mannitol Refractometer	PAL-26S	Mannitol	0.0 to 15.0	±0.3
4431	"Pocket" Formic acid Refractometer	PAL-31S	Formic acid	0.0 to 90.0	±1.0
4432	"Pocket" Phosphoric acid Refractometer Click here for details >>	PAL-32S	Phosphoric acid	0.0 to 20.0	±0.4
4451	"Pocket" Sodium bromide Refractometer	PAL-51S	Sodium bromide	0.0 to 30.0	±0.2
4455	"Pocket" Magnesium sulfate Refractometer	PAL-55S	Magnesium sulfate	0.0 to 25.0	±0.2
4464	"Pocket" Sodium bicarbonate Refractometer Click here for details >>	PAL-64S	Sodium bicarbonate	0.0 to 10.0	±0.3
4465	"Pocket" Sodium tartrate Refractometer Click here for details >>	PAL-65S	Sodium tartrate	0.0 to 25.0	±0.2

4466	"Pocket" Potassium oxalate Refractometer	PAL-66S	Potassium oxalate	0.0 to 10.0	±0.2
4468	"Pocket" Potassium dichromate Refractometer	PAL-68S	Potassium dichromate	0.0 to 15.0	±0.2
4470	"Pocket" Potassium phosphate Refractometer Click here for details >>	PAL-70S	Potassium phosphate	0.0 to 15.0	±0.3
4472	"Pocket" Sodium tungstate Refractometer	PAL-72S	Sodium tungstate	0.0 to 10.0	±0.4

Clinical examination・Experiment

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
4410	"Pocket" urine S. G. refractometer Click here for details >>	PAL-10S	Urine (S.G.)	1.000 to 1.060	±0.001
4442	"Pocket" Cesium chloride Refractometer	PAL-42S	Cesium chloride	0.0 to 60.0	±0.4
4453	"Pocket" Copper sulfate (Concentration) Refractometer Click here for details >>	PAL-53S	Copper sulfate (Concentration)	0.0 to 20.0	±0.2
4454	"Pocket" Copper sulfate (S.G.) Refractometer Click here for details >>	PAL-54S	Copper sulfate (S.G.)	1.000 to 1.210	±0.002
4401	"Pocket" Serum protein Refractometer Click here for details >>	PAL-11S	Serum protein scale	0.0 to 12.0 (g/100mL)	±0.2
4529	"Pocket" Dog&Cat Urine Specific gravity Refractometer Click here for details >>	PAL-DOG&CAT	Urine Specific Gravity (Dog) Urine Specific Gravity (Cat)	(Dog) 1.000 to 1.060 (Cat) 1.000 to 1.080	±0.001
4510	"Pocket" Dogt Urine S. G. refractometer Click here for details >>	PAL-DOG	Urine Specific Gravity (Dog)	1.000 to 1.060	±0.001
4511	"Pocket" Cat Urine S. G. refractometer Click here for details >>	PAL-CAT	Urine Specific Gravity (Cat)	1.000 to 1.080	±0.001
4512	"Pocket" Rabbit Urine Specific Gravity Refractometer	PAL-RABBIT	Urine Specific	1.000 to 1.100	±0.002

	Click here for details >>		Gravity (Rabbit)		
4565	"Pocket" Urine Specific gravity Refractometer Click here for details >>	ATAGO DEHYDRATION CHECKER	-	-	-

Urea

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
4518	"Pocket" Refractometer Click here for details >>	PAL-Urea	Urea	0.0 to 55.0%	±0.3%

Sterilization

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
4439	"Pocket" Hydrogen peroxide Refractometer Click here for details >>	PAL-39S	Hydrogen peroxide	0.0 to 50.0	±0.6

Alkaline solution（Drink factory / Chemical industry）

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
4440	"Pocket" Sodium hydroxide Refractometer Click here for details >>	PAL-40S	Sodium hydroxide	0.0 to 38.0	±0.2

Snow-melting Agent (Management of roads, runways, parking lots)

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
4393	"Pocket" Refractometer Click here for details >>	PAL-03CS	Sodium chloride + Freezing point	0.0 to 28.0% (g/100g) Freezing point 0 to -22°C	±0.2% (g/100g) Freezing point ±1°C
4403	"Pocket" Salinity / Snow-melting agent Refractometer Click here for details >>	PAL-03S	Sodium chloride	0.0 to 28.0% (g/100g)	±0.2% （g/100g）
4441	"Pocket" Snow-melting agent Refractometer Click here for details >>	PAL-41S	Calcium chloride	0.0 to 35.0% (g/100g)	±0.2%
4443	"Pocket" Magnesium chloride / Snow-melting agent Refractometer Click here for details >>	PAL-43S	Magnesium chloride	0.0 to 30.0% (g/100g)	±0.2%

Coolant / Antifreeze / Heat refrigerant liquid / Cryoprotectant

(Car maintenance・Thermal refrigerant equipment - Building・Ice skating rink・Refrigeration apparatus)

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
4488	"Pocket" Propylene Glycol Refractometer Click here for details >>	PAL-88S	Concentration of Propylene Glycol (V/V) & Freezing point	0.0 to 90.0% （V/V） Freezing point 0 to -50°C	±0.4% (V/V) Freezing point ±1°C
4491	"Pocket" Ethylene Glycol refractometer Click here for details >>	PAL-91S	Ethylene Glycol & Freezing point of E.G	0.0 to 90.0% (V/V) Freezing point 0 to -50°C	±0.4% (V/V) Freezing point ±1°C

Synthetic leather / Textile

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
4438	"Pocket" Dimethyl formamide Refractometer Click here for details >>	PAL-38S	Dimethyl formamide	0.0 to 45.0	±0.4

Paste （Paper / Chemical industry）

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
4421	"Pocket" Dextrin Refractometer	PAL-21S	Dextrin	0.0 to 30.0	±0.3

Chemical / Processing chemicals

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
4423	"Pocket" Glycerin (Low concentration) Refractometer Click here for details >>	PAL-23S	Glycerin	0.0 to 65.0	±0.4
4424	"Pocket" Glycerin (High concentration) Refractometer Click here for details >>	PAL-24S	Glycerin PAL-2 correspondence	60.0 to 99.0	±0.4
4430	"Pocket" Acetic acid Refractometer Click here for details >>	PAL-30S	Acetic acid	0.0 to 20.0	±0.4
4431	"Pocket" Formic acid Refractometer	PAL-31S	Formic acid	0.0 to 90.0	±1.0
4432	"Pocket" Phosphoric acid Refractometer	PAL-32S	Phosphoric acid	0.0 to 20.0	±0.4

	Click here for details >>				
4444	"Pocket" Lithium chloride Refractometer	PAL-44S	Lithium chloride	0.0 to 20.0	±0.2
4445	"Pocket" Barium chloride Refractometer	PAL-45S	Barium chloride	0.0 to 25.0	±0.2
4446	"Pocket" Cobalt chloride Refractometer	PAL-46S	Cobalt chloride	0.0 to 15.0	±0.2
4447	"Pocket" Ferric chloride Refractometer	PAL-47S	Ferric chloride	0.0 to 15.0	±0.2
4448	"Pocket" Strontium chloride Refractometer	PAL-48S	Strontium chloride	0.0 to 25.0	±0.2
4449	"Pocket" Potassium chloride Refractometer	PAL-49S	Potassium chloride	0.0 to 30.0	±0.2
4450	"Pocket" Potassium bromide Refractometer	PAL-50S	Potassium bromide	0.0 to 35.0	±0.2
4451	"Pocket" Sodium bromide Refractometer	PAL-51S	Sodium bromide	0.0 to 30.0	±0.2
4452	"Pocket" Potassium iodide Refractometer	PAL-52S	Potassium iodide	0.0 to 30.0	±0.2
4453	"Pocket" Copper sulfate (Concentration) Refractometer Click here for details >>	PAL-53S	Copper sulfate (Concentration)	0.0 to 20.0	±0.2
4454	"Pocket" Copper sulfate (S.G.) Refractometer	PAL-54S	Copper sulfate (S.G.)	1.000 to 1.210	±0.002
4455	"Pocket" Magnesium sulfate Refractometer	PAL-55S	Magnesium sulfate	0.0 to 25.0	±0.2
4456	"Pocket" Potassium sulfate Refractometer	PAL-56S	Potassium sulfate	0.0 to 15.0	±0.3
4457	"Pocket" Nickel sulfate Refractometer	PAL-57S	Nickel sulfate	0.0 to 10.0	±0.2
4458	"Pocket" Sodium sulfate Refractomete	PAL-58S	Sodium sulfate	0.0 to 30.0	±0.2
4459	"Pocket" Zinc sulfate Refractometer	PAL-59S	Zinc sulfate	0.0 to 20.0	±0.2
4460	"Pocket" Silver nitrate Refractometer	PAL-60S	Silver nitrate	0.0 to 35.0	±0.3

4461	"Pocket" Sodium nitrate Refractometer	PAL-61S	Sodium nitrate	0.0 to 35.0	±0.3
4462	"Pocket" Potassium carbonate Refractometer	PAL-62S	Potassium carbonate	0.0 to 25.0	±0.2
4463	"Pocket" Sodium carbonate Refractometer	PAL-63S	Sodium carbonate	0.0 to 15.0	±0.2
4464	"Pocket" Sodium bicarbonate Refractometer Click here for details >>	PAL-64S	Sodium bicarbonate	0.0 to 10.0	±0.3
4467	"Pocket" Potassium chromate Refractometer	PAL-67S	Potassium chromate	0.0 to 20.0	±0.2
4468	"Pocket" Potassium dichromate Refractometer	PAL-68S	Potassium dichromate	0.0 to 15.0	±0.2
4469	"Pocket" Sodium thiosulfate Refractometer	PAL-69S	Sodium thiosulfate	0.0 to 20.0	±0.2
4470	"Pocket" Potassium phosphate Refractometer Click here for details >>	PAL-70S	Potassium phosphate	0.0 to 15.0	±0.3
4471	"Pocket" Sodium molybdate Refractometer	PAL-71S	Sodium molybdate	0.0 to 10.0	±0.2
4472	"Pocket" Sodium tungstate Refractometer	PAL-72S	Sodium tungstate	0.0 to 10.0	±0.4

Moisture

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
4573	"Pocket" Moisture Refractometer Click here for details >>	PAL-Moisture	Moisture content (g/100g)	7.0 to 100%	±0.2%

Dried Fruit

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
4574	'Pocket' Dried Fruit Moisture Meter Click here for details >>	PAL-Dried Fruit Moisture	Moisture	7.0 to 100%	±0.2%

Colostrum

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy

3805	"Pocket" Refractometer Click here for details >>	PAL-Colostrum	Brix	0.0 to 53.0%	±0.2%

Printing

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
4437	"Pocket" Isopropyl alcohol Refractometer Click here for details >>	PAL-37S	Isopropyl alcohol (g/100g)	Isopropyl alcohol 0.0 to 60.0%	Isopropyl alcohol ±0.6% upto 30% and 1.6% upto 60%
4530	"Pocket" Isopropyl alcohol Refractometer Click here for details >>	PAL-131S	Isopropyl alcohol (mL/100m)	Isopropyl alcohol 0.0 to 20.0%	Isopropyl alcohol ±0.6%

Soil

Cat.No.	Model Name	Model No.	Scale	Range	Accuracy
4571	Gravimetric/Volumetric Soil Moisture Click here for details >>	PAL-Soil	Water content ratio Deposited moisture content	Water content ratio 0 to 200% Deposited moisture content 0 to 100%	Water content ratio ±2% (At a water content ratio of 41 to 100%) ±5% (At a water content ratio of 0 to 40%)

PAL Special scales [Product details]

Digital Pocket Refractometer PAL-COFFEE

PAL-COFFEE(Brix scale), which famous Baristas are using for their important tools, has the high resolution of 0.01%.The subtle difference in the concentration of coffee and espresso can be measured.Stable readings are possible even with high-temperature, fresh brew due to the continuous measurement feature.
For TDS scale, please choose PAL-Coffee(TDS).
For Double scales of Brix and TDS, pleas choose PAL-Coffee(BX/TDS).

Send an inquiry

Quantity Request Quotation

Digital Pocket

Specifications

Model	PAL-COFFEE
Cat.No.	4523
Scale	Brix
Range	Brix : 0.00 to 25.00%
Accuracy	Brix : ±0.10%

Temperature compensation	10 to 100° C

Options

· MAGIC™ (for PAL) : RE-39411

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

PAL-COFFEE(TDS scale), which famous Baristas are using for their important tools, has the high resolution of 0.01%.The subtle difference in the concentration of coffee and espresso can be measured.Stable readings are possible even with high-temperature, fresh brew due to the continuous measurement feature.
For Brix scale, please choose PAL-Coffee(Brix).
For Double scales of Brix and TDS, pleas choose PAL-Coffee(BX/TDS).

Specifications

Model	PAL-COFFEE （TDS）
Cat.No.	4532
Scale	Todal Dissolved Solids(TDS)
Range	TDS : 0.00 to 22.00%
Accuracy	±0.15%
Temperature compensation	10 to 100° C

Options

· MAGIC™ (for PAL) : RE-39411

· STRAP : RE-39410

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

PAL-COFFEE(Dual sale of Brix and TDS), which famous Baristas are using for their important tools, has the high resolution of 0.01%.The subtle difference in the

Refractometer PAL-COFFEE （TDS）

Digital Pocket Refractometer PAL-COFFEE （BX/TDS）

Pocket Tea Concentration Meter PAL-Tea

"Pocket" Milk Refractometer PAL-MILK

Send an inquiry

Quantity Request Quotation

Magnesium chloride Refractometer PAL-43S

PAL-Ramen Meister-Set

PAL Dashi Meister set

Digital Hand-held "Pocket" SALT METER PAL-SALT

Digital Hand-held "Pocket" SALT METER PAL-SALT Mohr

Digital Hand-held “Pocket” Salt-meter PAL-SALT PROBE

concentration of coffee and espresso can be measured.Stable readings are possible even with high-temperature, fresh brew due to the continuous measurement feature.
For Brix scale, please choose PAL-Coffee(Brix).
For TDS scale, pleas choose PAL-Coffee(TDS).

Specifications

Model	PAL-COFFEE （BX/TDS）
Cat.No.	4533
Scale	Brix Todal Dissolved Solids(TDS)
Range	Brix : 0.00 to 25.00% TDS : 0.00 to 22.00%
Accuracy	Brix : ±0.10% TDS : ±0.15%
Temperature compensation	10 to 100℃

Options

· MAGIC™ (for PAL) : RE-39411
· PAL-CASE : RE-39409
· PAL Silicone Cover : RE-39413
· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)
Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)
Patent Granted in countries around the world.

The PAL-Tea is capable of measurements at a high resolution (RES). The 0.01% RES (up to the second decimal) allows for precise management of even the slightest variations in tea concentration.The unit is capable of automatically detecting temperature stability, which allows for stable, consistent measurements even at high temperatures—such as measuring hot, freshly brewed tea.

Specifications

Model	PAL-Tea
Cat.No.	4535
Scale	Brix
Range	Brix : 0.00 to 25.00%
Accuracy	±0.10%
Temperature	

Send an inquiry

Quantity Request Quotation

Dried fish Salt-meter PAL-FM1

Salinity Refractometer PAL-106S

Salinity Refractometer PAL-04S

Salinity Refractometer PAL-05S

Seawater Refractometer PAL-06S

Sea water Refractometer

Send an inquiry

Quantity Request Quotation

PAL-07S

compensation	10 to 100°C

The unit displays the non-fat solids contained in milk.
The unit is equipped with a scale that corresponds to measurement values obtained from ultrasonic milk analyzers, allowing the non-fat solied contained in milk to quickley be determined.

Specifications

Model	PAL-MILK
Cat.No.	3807
Scale	Non-Fat Milk Solids
Range	Non-Fat Milk Solids: 0.0 to 23.0%
Accuracy	±0.2%
Temperature compensation	10 to 100°C

You can measure Magnesium chloride based Snow-melting agent by PAL-43S easily on the road. Also, PAL-43S can be used to measure magnesium chloride solution used as coagulant when making Tofu.

Specifications

Model	PAL-43S
Cat.No.	4443
Scale	Magnesium chloride
Range	Magnesium chloride : 0.0 to 30.0%
Accuracy	±0.2%
Temperature compensation	10 to 40° C

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)
Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)
Patent Granted in countries around the world.

This is the essential item in creating your Ramen.The Ramen Meister Set is well known as the important item for Ramen.This set includes refractometer and salt

Sea water Refractometer PAL-08S

Send an inquiry

Quantity Request Quotation

Seawater meter PAL-Fish

Send an inquiry

Quantity Request Quotation

Tank

PAL-Easy SALT & DPH-2 Koi Meister Set

Digital Hand-held "Pocket" Meter for Corrosion Inhibitor Solutions PAL-AntiRust

Digital Hand-held "Pocket" Refractometer PAL-Release Agent

meter for measuring Soup/Tare.Please choose this item for keeping your taste.For user testimonials of Japanese famous ramen restaurants, click here.

Specifications	
Model	Meister-Set
Cat.No.	4003
Range	Salt meter :0.00～10.0% Refractometer:0.0～53.0%
Resolution	Salt meter:0.01%(0.00～2.99%),0.1%(3.0～10.0%) Refractometer:0.1%
Accuracy	Salt meter:±0.05%(0.00～0.99%), Relative accuracy±5% for 1.00% ～10.0% Refractometer: ±0.2%
Power Supply	AAA alkaline battery x 2

Send an inquiry

Quantity Request Quotation

For Hydrocarbon Cleaner Contamination PAL-

It is a set of Atago's salinity meter PAL-Easy Salt and a soup refractometer PAL-Dashi. Recommended for those who want to manage salty and concentration firmly. There are only two buttons. Easily check the difference in slight concentration of soup stock.

Specifications	
Model	Meister set
Cat.No.	4001
Range	Salt meter :0.00 to 10.0% Refractometer :0.00 to 25.00%
Resolution	Salt meter :0.01%(0.00 to 2.99%),0.1%(3.0 to 10.0%) Refractometer:0.01%
Accuracy	Salt meter :±0.05%(0.00 to 0.99%)　Relative precision±5%(1.00 to 10.0%) Refractometer:±0.10%
Power Supply	2 x AAA Battery

Send an inquiry

Quantity Request Quotation

Hydrocarbon Cleaner

“Pocket” Ethyl alcohol refractometer PAL-Whiskey

PAL-SALT is widely used in various industries for food and industrial solutions. For food products, in addition to checking salt content, salt meter is used to make sure salt is properly added and not forgotten for such product as bread, rice balls and frozen. For industrial use, salt meter is widely used for salt resistance test for cars and such.

*Offset feature use examples

#1. Program a dilution factor to display the original salt%

#2. Program a conversion factor to align the readings with titration methods.

Specifications	
Model	PAL-SALT

Send an inquiry

Cat.No.	4250
Scale	Salt concentration (g/100g) Temperature
Method	Conductivity method
Range	0.00 to 10.0% (g/100g)
Resolution	0.01% for salt concentration of 0.00 to 2.99% 0.1% for salt concentration of 3.0 to 10.0%
Accuracy	Displayed value ±0.05% (for salt concentration of 0.00 to 0.99%) Relative precision ±5% (for salt concentration of 1.00 to 10.0%)
Sample temp.	5 to 100°C

Options

· PAL-CASE : RE-39409

· STRAP : RE-39410

· NaCl Solution 2.50% (±0.05%) AB250 [*1] : RE-120250

[*1] Calibration Certificate : Contact an ATAGO representative for details.

PAL-SALT Mohr gives a reading similar to those obtained from the Mohr's method (titration). Like other ATAGO salt meters, PAL-SALT Mohr utilizes conductivity to measure samples. This unit also features an offset function which allows for readings to be compensated based on known standards.

Specifications

Model	PAL-SALT Mohr
Cat.No.	4251
Scale	Salt concentration (g/100mL) Temperature
Method	Conductivity method
Range	0.00 to 10.0% (g/100mL)
Resolution	0.01% for salt concentration of 0.00 to 2.99% 0.1% for salt concentration of 3.0 to 10.0%
Accuracy	Displayed value ±0.05% (for salt concentration of 0.00 to 0.99%) Relative precision ±5% (for salt concentration of 1.00 to 10.0%)
Sample temp.	5～100°C

Options

· PAL-CASE : RE-39409

Quantity Request Quotation

"Pocket" Ethyl alcohol refractometer PAL-Vodka

"Pocket" Ethyl alcohol refractometer PAL-Tequila

"Pocket" Ethyl alcohol refractometer PAL-Shochu

"Pocket" Ethyl alcohol refractometer PAL-Gin

"Pocket" Ethyl alcohol refractometer PAL-Rum

"Pocket" Ethyl alcohol refractometer PAL-Brandy

Enlargement

Send an inquiry

Quantity Request Quotation

Digital Hand-held "Pocket" Refractometer PAL-Plato

Wine Refractometer PAL-79S

Wine Refractometer PAL-80S

· STRAP : RE-39410

· PAL Silicone Cover : RE-39413

· NaCl Solution 2.50% (±0.05%) AB250 [*1] : RE-120250

The PAL-SALT PROBE features convenient operation of submerging the probe in a liquid for measuring the salt content in as fast as 3 seconds. The probe may be inserted directly into semi-solid food. However,measurements at different locations may be inconsistent,and such direct measurements may vary from measurements by dilution methods.

・Electrode pins have extended from 5mm to 10mm for easier measurement.

・Screen now features a backlight for an easier to read

Specifications

Model	PAL-SALT PROBE
Cat.No.	4222
Scale	Salt concentration (g/100g)
Method	Conductivity method
Range	0.00 to 7.0%
Resolution	0.01% (0.00 to 1.99%) 0.1% (2.0 to 7.0%)
Accuracy	± 0.1% (0.00 to 1.99%) Relative precision : ± 5% (2.1 to 5.0%) Relative precision : ± 10% (5.1 to 7.0%)
Power Supply	2 × AAA Batteries
International Protection Class	IP65 Water resistant
Included Accessories	NaCl Solution 2.5% (30mL) : RE-143025
Dimensions & Weight	Main Unit : 55(W)×31(D)×109(H)mm, 100g Electrode probe : Φ10×530mm (Cable length : applox.400mm)

The PAL-FM1 features convenient operation of direct measuring of salt in dried fish by the probe. It only takes 3 seconds to measure. However, measurements at different locations may be inconsistent, and such direct measurements may vary from measurements by dilution methods.

Specifications

Model	PAL-FM1
Cat.No.	4221
Scale	Dried fish salt %

Wine Refractometer PAL-83S

Wine Refractometer PAL-

Enlargement

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Quantity Request Quotation

84S

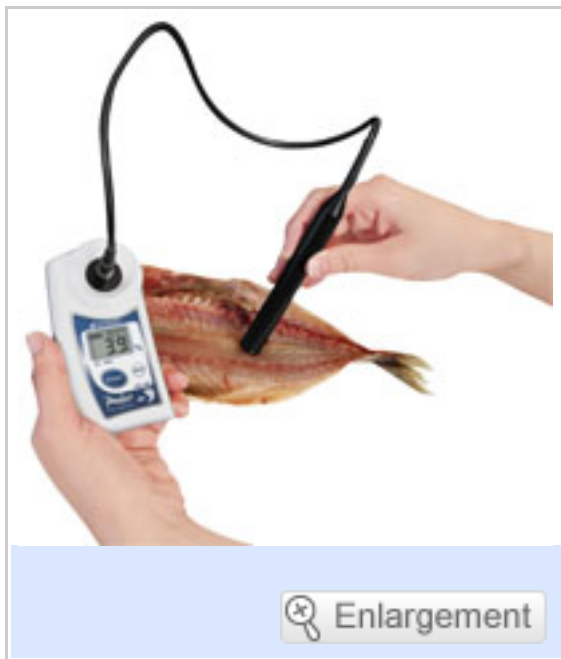
Wine Refractometer PAL-86S

Wine Refractometer PAL-87S

"Pocket" Urine Specific Gravity Refractometer PAL-10S

"Pocket" Salt-meter PAL-Easy SALT

Digital Hand-held "Pocket"



Enlargement

Send an inquiry

Range	0.0～10.0% (Automatic Temperature Compensation)
Resolution	0.1%
Power Supply	2 × AAA Batteries
International Protection Class	IP65 Water resistant
Dimensions & Weight	Main Unit:55(W)×31(D)×109(H)mm Electrode probe : Φ10×530mm (Cable length : applox.400mm)

PAL-106S is suitable for measurement and management of the salt concentration in salt water solution up to 33% (g/100mL).

Specifications

Model	PAL-106S
Cat.No.	4506
Scale	Sodium Chloride (g/100mL)
Range	0.0 to 33.0%(g/100mL)
Accuracy	Sodium Chloride : ±0.2%
Temperature compensation	10 to 40° C

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

PAL-04S is suitable to measure the specific gravity of salt water solution.We recommend this model to the customer who are using glass-made hydrometer as the scale is same as hydrometer.

Specifications

Model	PAL-04S
Cat.No.	4404
Scale	Sodium chloride (S.G.)
Range	1.000 to 1.217

Quantity Request Quotation

Serum protein Refractometer PAL-11S

''Pocket'' Dextran Refractometer PAL-12S

"Pocket" Glycerin

Enlargement

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Quantity Request Quotation

Refractometer PAL-23S

"Pocket" Glycerin Refractometer PAL-24S

Digital Hand-held "Pocket" Citric acid Refractometer PAL-29S

"Pocket" Acetic Acid

Enlargement

Send an inquiry

Accuracy	±0.002
Temperature compensation	10 to 40° C

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

PAL-05S is suitable to measure Baume of salt water concentration.
We recommend to the customer who are using Hydrometer as the scale is same as Hydrometer.

Specifications

Model	PAL-05S
Cat.No.	4405
Scale	Sodium chloride (Baume)
Range	0.0 to 25.7°
Accuracy	±0.2°
Temperature compensation	10 to 40° C

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

This model is for measuring the salinity in seawater.

Specifications

Model	PAL-06S
Cat.No.	4406

Quantity Request Quotation

Refractometer PAL-30S

"Pocket" Phosphoric Acid Refractometer PAL-32S

Ethyl alcohol Meter PAL-33S

Ethyl alcohol Meter PAL-34S

"Pocket" Dimethyl Formamide Refractometer

Send an inquiry

Quantity Request Quotation

PAL-38S

Urine Specific Gravity Refractometer PAL-DOG&CAT

Urine Specific Gravity Refractometer PAL-DOG

Urine Specific Gravity Refractometer PAL-CAT

Urine Specific Gravity Refractometer PAL-RABBIT

ATAGO DEHYDRATION

Scale	Salinity of Seawater
Range	0 to 100‰
Accuracy	±2‰
Temperature compensation	10 to 40° C

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

This model is suitable to measure the specific gravity of sea water.

Specifications

Model	PAL-07S
Cat.No.	4407
Scale	Sea water (S.G.)
Range	Sea water (S.G.) : 1.000 to 1.070
Accuracy	±0.002
Temperature compensation	10 to 40° C

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

This model is for measuring salinity in seawater by baume scale.

Specifications

Model	PAL-08S

Enlargement

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Quantity Request Quotation

CHECKER

Salinity Refractometer PAL-03CS

Enlargement

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Quantity Request Quotation

Calcium Chloride Refractometer PAL-41S

"Pocket" Copper Sulfate Refractometer PAL-53S

"Pocket" Copper Sulfate Refractometer PAL-54S

"Pocket" Sodium Bicarbonate Refractometer PAL-64S

Cat.No.	4408
Range	Sea water (Baume) : 0.0 to 10.0°
Resolution	0.1°
Accuracy	±0.2°
Temperature compensation	10 to 40° C

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

This model is for measuring the salinity in seawater.
The only one model in the world adopt the titanium as an electrode.
It is resistant to scratches and has much durability.

Specifications

Model	PAL-Fish Tank
Cat.No.	4121
Range	Salinity:0.0 to 45.0‰
Minimum Scale	0.1‰
Accuracy	±2.0‰

It is a set that can measure "salinity" and "pH" which are important for a carp.

Specifications

Model	Koi Meister Set
Cat.No.	4020
Range	Salinity: 0.00 to 10.0% pH: 0.0 to 14.0pH
Minimum Indication	Salinity : 0.01%(0.00 to 2.99%) 0.1%(3.0 to 10.0%) pH :0.1pH
	Salinity:

Send an inquiry

Quantity Request Quotation

"Pocket" Sodium Tartrate Refractometer PAL-65S

"Pocket" Potassium Phosphate Refractometer

Send an inquiry

Quantity Request Quotation

PAL-7

Send an inquiry

Quantity Request Quotation

Accuracy	±0.05%(0.00 to 0.99%) Relative accuracy:±5%(1.00 to 10.0%) pH:±0.1pH(2.0～12.0pH)

The high resolution of 0.01% makes the PAL-AntiRust ideal for measuring low-concentration solutions, such as corrosion inhibitor fluids.

Specifications

Model	PAL-AntiRust
Cat.No.	4537
Scale	AntiRust
Range	AntiRust : 0.00 to 25.00%
Accuracy	±0.10%
Temperature compensation	10 to 100° C

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

This is for concentration of release agent.With high resolution of 2 decimal places 0.01%, you can use it for the management of slight changes in concentration.

Specifications

Model	PAL-Release Agent
Cat.No.	4538
Range	0.00 to 25.00%
Minimum Indication	0.01%
Accuracy	±0.10%
Temperature compensation	10 to 100° C

Displays Contam. (oil) % dissolved in hydrocarbon cleaner solution.

Polyvinyl alcohol Refractometer PAL-85S

Send an inquiry

Quantity Request Quotation

"Pocket" Propylene Glycol Refractometer PAL-88S

“Pocket” Moisture Refractometer PAL-Moisture

Digital ‘Pocket’ Dried Fruit Moisture Meter PAL-Dried Fruit Moisture

Send an inquiry

Quantity Request Quotation

Digital Hand-held “Pocket” Refractometer PAL-Colostrum

This instrument displays the Contam. (oil) % dissolved in hydrocarbon cleaner solution used in cleaning processes. If new cleaning solution is first measured and recorded on the instrument, then contaminated solution will display as "Contam. (oil)%." This measurement can be used to determine the timing of when to change (or distill) the cleaning solution.

Send an inquiry

Quantity Request Quotation

Isopropyl alcohol Refractometer PAL-37S

Specifications

Model	PAL-Hydrocarbon Cleaner
Cat.No.	4558
Scale	Contam. %
Range	Contam. %： 0.0 to 30.0%
Accuracy	±1.0%
Temperature compensation	10 to 100 ° C

This model has the ethyl alcohol scale, and concentrations are displayed in mL/100mL.

Send an inquiry

Quantity Request Quotation

Isopropyl alcohol Refractometer PAL-131S

Specifications

Model	PAL-Whiskey
Cat.No.	4540
Scale	Ethyl alcohol
Range	Ethyl alcohol : 0.0 to 53.00%
Accuracy	Ethyl alcohol: ±1.0%
Temperature compensation	5 to 30℃

The product is in conformity with the requirements of the EMC Directive 2004/108/EC.

Patent Granted in Japan, United States, Germany, China and Taiwan.

This model has the ethyl alcohol scale, and concentrations are displayed in mL/100mL.

Send an inquiry

Specifications

Model	PAL-Vodka
Cat.No.	4541
Scale	Ethyl alcohol
Range	0.0 to 53.00%
Accuracy	±1.0%

Temperature compensation	5 to 30°C

Quantity Request Quotation

Common Specification

The product is in conformity with the requirements of the EMC Directive 2004/108/EC.

Patent Granted in Japan, United States, Germany, China and Taiwan.

This model has the ethyl alcohol scale, and concentrations are displayed in mL/100mL.

Enlargement

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-Tequila
Cat.No.	4542
Scale	Ethyl alcohol
Range	0.0 to 53.00%
Accuracy	±1.0%
Temperature compensation	5 to 30°C

The product is in conformity with the requirements of the EMC Directive 2004/108/EC.

Patent Granted in Japan, United States, Germany, China and Taiwan.

This model has the ethyl alcohol scale, and concentrations are displayed in mL/100mL.

Enlargement

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-Shochu
Cat.No.	4543
Scale	Ethyl alcohol
Range	0.0 to 53.00%
Accuracy	±1.0%
Temperature compensation	5 to 30°C

The product is in conformity with the requirements of the EMC Directive 2004/108/EC.

Patent Granted in Japan, United States, Germany, China and Taiwan.

This model has the ethyl alcohol scale, and concentrations are displayed in mL/100mL.

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-Gin
Cat.No.	4544
Scale	Ethyl alcohol
Range	0.0 to 53.00%
Accuracy	±1.0%
Temperature compensation	5 to 30°C

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

The product is in conformity with the requirements of the EMC Directive 2004/108/EC.

Patent Granted in Japan, United States, Germany, China and Taiwan.

This model has the ethyl alcohol scale, and concentrations are displayed in mL/100mL.

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-Rum
Cat.No.	4545
Scale	Ethyl alcohol
Range	0.0 to 53.00%
Accuracy	±1.0%
Temperature compensation	5 to 30°C

The product is in conformity with the requirements of the EMC Directive 2004/108/EC.

Patent Granted in Japan, United States, Germany, China and Taiwan.

This model has the ethyl alcohol scale, and concentrations are displayed in mL/100mL.

Specifications

Model	PAL-Brandy
Cat.No.	4546
Scale	Ethyl alcohol
Range	0.0 to 53.00%
Accuracy	±1.0%
Temperature compensation	5 to 30° C

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

The product is in conformity with the requirements of the EMC Directive 2004/108/EC.

Patent Granted in Japan, United States, Germany, China and Taiwan.

Send an inquiry

Quantity Request Quotation

The PAL-Plato is designed for breweries to measure the specific gravity of sweet wort in degrees Plato.Advantages of the PAL-Plato include : Two buttons for easy operation, an LCD screen for objective readings, and Automatic Temperature Compensation up to 75°C (212°F)! Additionally, taking measurements with the PAL-Plato only requires a few drops of sample, and it provides accurate readings within 3 seconds!

Specifications

Model	PAL-Plato
Cat.No.	4590
Scale	Plato
Range	Plato : 0.0 to 30.0° P
Accuracy	± 0.2° P
Temperature compensation	10 to 75° C

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Send an inquiry

Quantity Request Quotation

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

PAL wine series are light and compact.PAL-79S has the scale of T.A.1990.

Enlargement

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-79S
Cat.No.	4479
Scale	T.A.1990
Range	0.0 to 26.0%
Accuracy	± 0.2%
Temperature compensation	10 to 40°C

Options

· PAL-CASE : RE-39409

· STRAP : RE-39410

* Calibration Certificate : Contact an ATAGO representative for details.

PAL's wine series are light and compact, it is portable for both indoor use and outdoors. PAL-80S has the scale of T.A.1971.

Enlargement

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-80S
Cat.No.	4480
Scale	T.A.1971
Range	0.0 to 25.0%
Accuracy	± 0.2%
Temperature compensation	10 to 40°C

Options

· PAL-CASE : RE-39409

· STRAP : RE-39410

* Calibration Certificate : Contact an ATAGO representative for details.

PAL wine series are light and compact, it has the scale of KMW (Babo).

Specifications

Model	PAL-83S
Cat.No.	4483
Scale	KMW (or Babo)
Range	0.0 to 40.0°
Accuracy	±0.2°
Temperature compensation	10 to 40°C

Options

· PAL-CASE : RE-39409

· STRAP : RE-39410

* Calibration Certificate : Contact an ATAGO representative for details.

Send an inquiry

Quantity Request Quotation

PAL wine series are light and compact, it is the scale of Baume.

Specifications

Model	PAL-84S
Cat.No.	4484
Scale	Baume
Range	0.0 to 21.0°
Accuracy	± 0.2°
Temperature compensation	10 to 40°C

Options

· PAL-CASE : RE-39409

· STRAP : RE-39410

* Calibration Certificate : Contact an ATAGO representative for details.

Send an inquiry

Quantity Request Quotation

PAL wine series are light and compact, it has dual scales of Oe (GER) and Brix.

Specifications

Model	PAL-86S
Cat.No.	4486
Scale	Oe (GER) / Brix
Range	Oe (GER) : 0 to 240° Brix : 0.0 to 53.0%
	Oe (GER) : ± 1°

Send an inquiry

Accuracy	Brix : ± 0.2%
Temperature compensation	10 to 40°C

Quantity Request Quotation

Options

· PAL-CASE : RE-39409

· STRAP : RE-39410

* Calibration Certificate : Contact an ATAGO representative for details.

PAL wine series are light and compact.PAL-87S has the dual scales of Oe (Oechsle) and Brix.

Enlargement

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-87S
Cat.No.	4487
Scale	Oe (Oechsle)/Brix
Range	Oe (Oechsle) : 0 to 240° Brix : 0.0 to 53.0%
Accuracy	Oe (Oechsle) : ± 1° Brix : ± 0.2%
Temperature compensation	10 to 40°C

Options

· PAL-CASE : RE-39409

· STRAP : RE-39410

* Calibration Certificate : Contact an ATAGO representative for details.

The PAL-10S is a digital hand-held compact refractometer to measure urine S.G. To operate it, simply place a drop of urine on the prism top and press the "Start"key. Then, the urine S.G. value will be displayed on the LCD instantly.

Enlargement

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-10S
Cat.No.	4410
Scale	Urine (S.G.)
Range	Urine S.G. : 1.0000 to 1.0600
Resolution	Urine S.G. : 0.0001
Accuracy	Urine S.G. : ±0.001
Temperature	

compensation	10 to 35°C

Options

· PAL-CASE : RE-39409

· STRAP : RE-39410

* Calibration Certificate : Contact an ATAGO representative for details.

Patent for Design Registration No. ZL200310103015.2 (China)

Patent for Invention Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

Professional salinity meter that can easily control salinity with high accuracy. It is the only titanium electrode in the world and durability is outstanding.

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-Easy SALT
Cat.No.	4101
Range	Sodium Chloride： 0.0 to 10.0%
Minimum Indication	0.01% (up to 2.99% salt) 0.1% (above 3.00% salt)
Accuracy	±0.05% (up to 0.99%) Relative precision of ±5% above 1.00%)
Temperature compensation	5 to 100°C

Blood Serum Protein Measurements with Only a Small Amount of Sample

The Digital Hand-held "Pocket" Blood Serum Protein Refractometer PAL-11S is simple to operate, allowing anyone to take precise and accurate blood serum protein measurements quickly and easily. It requires only a small amount of sample and measurement time is just 3 seconds. Its waterproof design allows the unit to be fully rinsed under running water, making clean-up after measurements a breeze.A small volume sample adaptor is included as a standard accessory.

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-11S
Cat.No.	4401
Range	Serum protein scale: 0.0～12.0g/100mL
Resolution	0.2g/100mL
Accuracy	±0.2g/100mL

Temperature compensation	10 to 35° C
Included Accessories	A very small amount of sample adapter standard attachment

Patent for Design Registration No. ZL200310103015.2 (China)

Patent for Invention Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

This model is suitable to measure the concentration of Dextran/water solution.

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-12S
Cat.No.	4412
Scale	Dextran (g/100g)
Range	0.0 to 15.0% (g/100g)
Accuracy	±0.2%
Temperature compensation	10 to 40° C

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

PAL-23S is suitable to measure the lower concentration of Glycerin water solution.

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-23S
Cat.No.	4423
Scale	Glycerin (Low concentration) (g/100g)
Range	: 0.0 to 65.0%
Accuracy	±0.4%
Temperature compensation	10 to 40° C

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

PAL-24S is suitable to measure the higher concentration of Glycerin/water solution.

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-24S
Cat.No.	4424
Scale	Glycerin (High concentration) (g/100g)
Range	60.0 to 99.0%(g/100g)
Accuracy	±0.4%
Temperature compensation	10 to 40° C

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

PAL-29S is suitable to measure Citric acid/water solution.

Send an inquiry

Specifications

Model	PAL-29S
Cat.No.	4429
Scale	Citric acid (g/100g)
Range	Citric acid : 0.0 to 10.0%
Accuracy	±0.2%

Temperature compensation	10 to 40° C

Quantity Request Quotation

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

PAL-30S is suitable to measure the concentration of acetic acid /water solution.

Specifications

Model	PAL-30S
Cat.No.	4430
Scale	Acetic acid (g/100g)
Range	0.0 to 20.0%
Accuracy	±0.4%
Temperature compensation	10 to 40° C

Send an inquiry

Quantity Request Quotation

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

PAL-32S is suitable to measure the concentration of Phosphoric acid /water solution.

Specifications

Model	PAL-32S
Cat.No.	4432
Scale	Phosphoric acid (g/100g)
Range	0.0 to 20.0%

Accuracy	±0.4%
Temperature compensation	10 to 40° C

Send an inquiry

Quantity Request Quotation

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

This model is suitable for measuring the concentration of ethylalcohol water solution(ml/100ml)

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-33S
Cat.No.	4433
Scale	Ethyl alcohol (ml/100ml)
Range	Ethyl alcohol : 0.0 to 53.0%
Accuracy	±1.0%
Temperature compensation	5 to 30° C

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

This model is suitable for measuring the concentration of ethylalcohol water solution(g/100g)

Specifications

Model	PAL-34S
Cat.No.	4434

Scale	Ethyl alcohol (g/100g)
Range	Ethyl alcohol : 0.0 to 45.0%
Accuracy	±1.0%
Temperature compensation	10 to 35° C

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Send an inquiry

Quantity Request Quotation

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

PAL-38S is suitable to measure the concentration of Dimethyl formamide water solution.

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-38S
Cat.No.	4438
Scale	Dimethyl formamide
Range	0.0 to 45.0%
Accuracy	±0.4%
Temperature compensation	10 to 40° C

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

Simply and safely measure dog and cat urine specific gravity

This unit is a urine specific gravity refractometer programmed with the specific scales for both dogs and cats in one unit. Simply place 0.3mL of the sample

(urine) on the prism, press the start button and a digital measurement value will be displayed in 3 seconds.This compact-sized, 11cm unit is water resistant so it can be washed under running water after each reading.

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-DOG&CAT
Cat.No.	4529
Scale	Urine S. G.
Range	(Dog) 1.000 to 1.060 (Cat) 1.000 to 1.080
Resolution	0.001
Accuracy	±0.001
Temperature compensation	10 to 35°C

The PAL-USG (DOG) is designed for measuring Urine Specific Gravity for dog.

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-DOG
Cat.No.	4510
Scale	Urine S. G.
Range	Urine S. G. : 1.000 to 1.060
Resolution	Urine S. G. : 0.001
Accuracy	Urine S.G. : ±0.001
Temperature compensation	10 to 35°C

Options

· PAL-CASE : RE-39409

· STRAP : RE-39410

* Calibration Certificate : Contact an ATAGO representative for details.

Patent for Design Registration No. ZL200310103015.2 (China)

Patent for Invention Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

The PAL-USG (CAT) is designed for measuring Urine Specific Gravity for cat.

Specifications

Model	PAL-CAT

Cat.No.	4511
Range	Urine S. G. : 1.000 to 1.080
Resolution	Urine S. G. : 0.001
Accuracy	Urine S.G. : ±0.001
Temperature compensation	10 to 35°C

Send an inquiry

Quantity Request Quotation

Options

· PAL-CASE : RE-39409

· STRAP : RE-39410

* Calibration Certificate : Contact an ATAGO representative for details.

Patent for Design Registration No. ZL200310103015.2 (China)

Patent for Invention Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

PAL-Rabbit is designed for measuring Urine Specific Gravity for rabbit. Measurement time is 3 seconds. This is waterproof that can be wash away with water after use.

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-RABBIT
Cat.No.	4512
Scale	Urine Specific Gravity (Rabbit)
Range	1.000 to 1.100%
Resolution	0.001%
Accuracy	±0.002%
Temperature compensation	10 to 35° C

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

Puede comprobar fácilmente el estado de deshidratación.
Si deja caer unas gotas de orina y presiona la tecla [Sentencia], la lámpara verde o roja se enciende en solo 3 segundos y puede conocer el estado de deshidratación.

Specifications

Model	DEHYDRATION CHECKER

Cat.No.	4565
Measurement Readings	Luces LED (Verde OK, Rojo NG)
Measurement temperature	10°C a 35°C
Sample Volume	0.3mL
Measurement Time	3 segundos
Power Supply	Pila alcalina AAA x 2

Send an inquiry

Quantity Request Quotation

This is suitable to measure the concentration and freezing point of brine / deicer. Ideal for winter road maintenance.

Specifications

Model	PAL-03CS
Cat.No.	4393
Scale	Sodium chloride (g/100g) Freezing point
Range	Sodium chloride : 0.0 to 28.0% Freezing point : 0 to -22° C
Accuracy	Sodium chloride : ±0.2%(g/100g) Freezing point : 1° C
Temperature compensation	10 to 40° C

Send an inquiry

Quantity Request Quotation

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

PAL-41S is suitable to measure the concentration of Calcium chloride water solution.This model is pupolar for checking the snow-melting agent.

Specifications

Model	PAL-41S

Cat.No.	4441
Scale	Calcium chloride (g/100g)
Range	Calcium chloride : 0.0 to 35.0%
Accuracy	±0.2%
Temperature compensation	10 to 40° C

Send an inquiry

Quantity Request Quotation

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

PAL-53S is suitable to measure the concentration of Copper sulfate water solution.

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-53S
Cat.No.	4453
Scale	Copper sulfate (Concentration)(g/100g)
Range	0.0 to 20.0%
Accuracy	±0.2%
Temperature compensation	10 to 40° C

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

Digitally displays the specific gravity of copper sulfate used to measure the specific gravity of blood. Measurement time is just 3 seconds. Its waterproof design allows it to be fully rinsed under running water. Perfect for use in medical institutions and laboratory centers.

Specifications

Model	PAL-54S
Cat.No.	4454
Scale	Copper sulfate (S.G.)
Range	1.000 to 1.210
Resolution	0.001
Accuracy	±0.002
Temperature compensation	10 to 40° C

Send an inquiry

Quantity Request Quotation

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

PAL-64S is suitable to measure the concentration of Sodium bicarbonate/water solution.

Specifications

Model	PAL-64S
Cat.No.	4464
Scale	Sodium bicarbonate (g/100g)
Range	0.0 to 10.0%
Accuracy	±0.3%
Temperature compensation	10 to 40° C

Send an inquiry

Quantity Request Quotation

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

PAL-65S is suitable to measure the concentration of Sodium tartrate /water solution.

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-65S
Cat.No.	4465
Scale	Sodium tartrate (g/100g)
Range	0.0 to 25.0%
Accuracy	±0.2%
Temperature compensation	10 to 40° C

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world

PAL-70S is suitable to measure the concentration of Potassium phosphate/water solution.

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-70S
Cat.No.	4470
Scale	Potassium phosphate
Range	0.0 to 15.0%
Accuracy	±0.3%
Temperature compensation	10 to 40° C

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-85S
Cat.No.	4485
Scale	Polyvinyl alcohol
Range	Polyvinyl alcohol : 0.0 to 20.0%
Accuracy	±0.2%
Temperature compensation	10 to 35° C

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

The "Pocket" Propylene Glycol Refractometers, PAL-88S easily measures Propylene Glycol solutions and display the results digitally. The freezing point of the sample can also be measured and displayed.

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-88S
Cat.No.	4488
Scale	Concentration of Propylene Glycol (V/V) Freezing point (° C) Temperature
Range	Concentration of P.G: 0.0 to 90.0% (V/V) Freezing point: 0 to -50° C
Accuracy	Concentration : ±0.4% (V/V) Freezing point: ±1° C
Temperature	10 to 40° C

compensation	

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

This moisture meter provides quick estimation of water content, which is calculated by using the following formula : Moisture content = 100 – Brix
Brix represents the weight of sucrose in 100 grams of sucrose solution as percentage by weight. When other dissolved solids are present in the solution, Brix conversion may be applied.
Brix is a measure of the total dissolved solids in a solution and indicates the combined concentration of all soluble substances, such as sugar, salt, protein, and acids.

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-Moisture
Cat.No.	4573
Scale	Moisture content
Range	Moisture content : 7.0 to 100% (g/100g)
Accuracy	±0.2% (When measuring a standard sucrose solution)
Temperature compensation	10 to 100°C

Options

· PAL-CASE : RE-39409

· STRAP : RE-39410

· PAL Silicone Cover : RE-39413

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

For approximate water content of dried fruits
This measures in Brix and displays (100-Brix)% for approximate water content.Halve a piece of dried fruit and place it cut side down. Press it down with

the included MAGIC adapter.

Specifications

Model	PAL-Dried Fruit Moisture
Cat.No.	4574
Scale	Moisture
Range	Moisture : 7.0 to 100 %
Accuracy	±0.2 % (by sucrose solution)
Temperature compensation	10 to 100 ° C

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

Send an inquiry

Quantity Request Quotation

This model can be used for determining the quality of colostrum to protect and nurture the health of your livestock and newborn calves! The ideal colostrum (first milk) Brix level is 20% and above.It measures the Brix value of colostrum, which has a correlation with the immunoglobulin (IgG) value contained in colostrum. If the Brix value of the colostrum is over 20%, you can safely assume it is high-quality colostrum.

※Correlation coefficients may vary depending on the species of animal.

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-Colostrum
Cat.No.	3805
Scale	Brix
Range	Brix : 0.0 to 53.0% Brix
Accuracy	±0.2 %
Temperature compensation	10 to 100 ° C

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

This is for measuring the concentration of Isopropyl alcohol water solution by g/100g.

Enlargement

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-37S
Cat.No.	4437
Scale	Isopropyl alcohol (g/100g)
Range	Isopropyl alcohol : 0.0 to 60.0%
Accuracy	±0.6% upto 30% and ±1.6% upto 60%
Temperature compensation	10 to 35° C

Options

· PAL-CASE : RE-39409

· PAL Silicone Cover : RE-39413

· STRAP : RE-39410

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

This is for measuring the concentration of Isopropyl alcohol water solution by ml/100ml.

Enlargement

Send an inquiry

Quantity Request Quotation

Specifications

Model	PAL-131S
Cat.No.	4530
Scale	Isopropyl alcohol (ml/100ml)
Range	Isopropyl alcohol : 0.0 to 20.0%
Accuracy	±0.6%
Temperature compensation	10 to 35° C

Patent for Invention Registration No. ZL200310103015.2 (China)

Patent for Design Registration No. ZL03303431.1 (China), 089244 (Taiwan)

Patent Granted in countries around the world.

Sample Volume	2 to 3 drops
Measurement Time	About 3 seconds
Power Supply	2 × AAA Batteries
Battery Life	About 11,000 measurements (When using AAA Batteries. About 1,500 times for PAL-S only)
International Protection Class	IP65 Water resistant
Dimensions & Weight	5.5 × 3.1 × 10.9cm 100g (main unit omly)

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