Fish Analyzer ™ PRO DFA110

The device to judge fish status such as fat ratio and freshness level.

Fish quality can be evaluated by its fat contain and freshness

Simple and quick fat measuring without damaging fish

Although this device is a non-destructive device that does not destroy the fish, it must touch and make contact with the fish to take a measurement.
Do not press firmly on the fish as it may distort the fish content that leads to inaccurate measurement results.

The device has an impedance mode. The impedance mode is for actual measurement value in ohm (Ω) for those who want to know:
  1) To know a guidance of fish fat percentage of unregistered fish species
  2) To make your own fish fat calibration.

Yellowtail
Fat **16** % A
Ave. 5.0 (0005)

DFA110

Judging frozen fish

Fat ratio and freshness level cannot be judged on any fish if it was once frozen. The device shows "Thawed" if so.

Multi-frequency measuring for higher accuracy

This device uses a multi-frequency measurement method.
The cell membrane has high electrical capacity and insulation at low frequency bands and as electricity flows around/outside the cell without flowing through/inside the cell, thus the impedance (electrical resistance) is high. Conversely, at the high frequency band, the cell membrane is electrically shorted and electricity flows through/inside the cell, resulting in low impedance.

Freshness measuring

As the fish dies, the fish cells change with time. Right after the fish dies, there is high impedance that is in proportion to the tightness or the firmness of the fish. If the fish meat is "tight" or firm, it is graded at "A" or "A'" level. After some time, the fish meat starts to soften and the impedance starts to decrease but the cell's electrical characteristics are still maintained. This status is graded at "B" level and so on gradually degraded as the time passes.

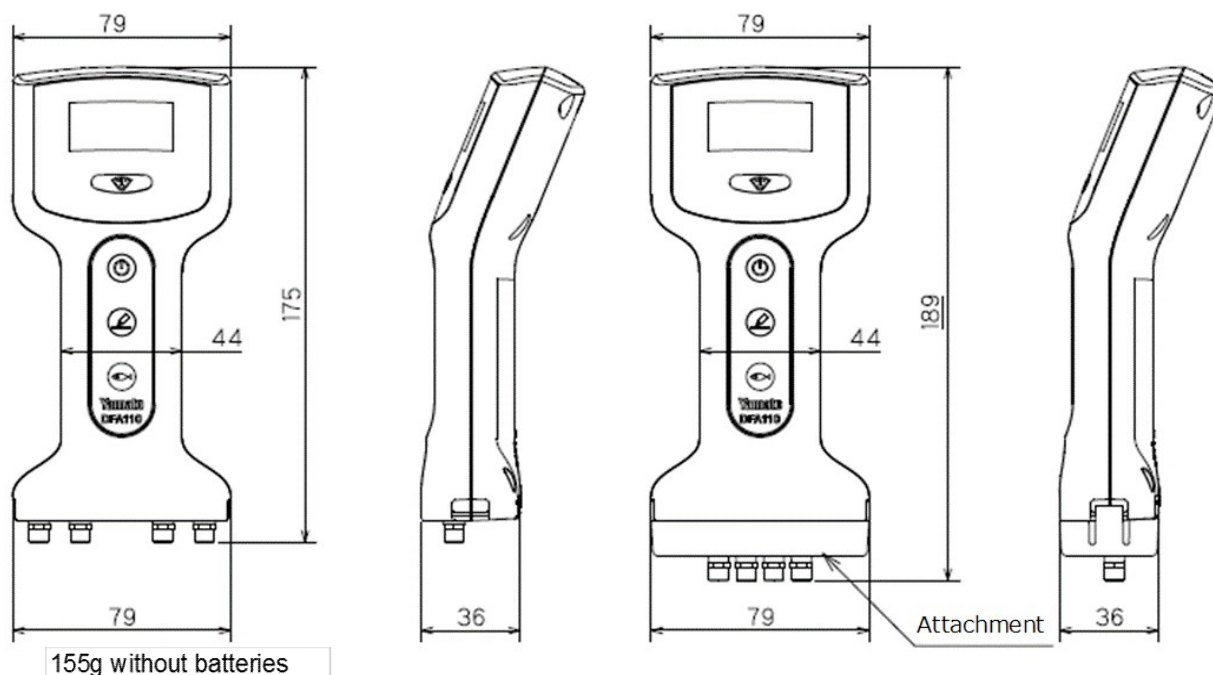| Status of Fish	A Or A'	B	C	D
How to eat	You can eat even raw.		You had better eat after cooking.	
Recommend				
K value (Ref.)	1% 10% 20%		30%	

Main specifications

Product name	Fish Analyzer TM PRO
Model	DFA110
Measuring method	Bioelectrical impedance method (4 sensor electrode type)
Measuring frequency	5, 20, 50 and 100kHz
Measuring time	Approx. 4 seconds
Display method	Organic EL display (white), dot matrix system
Fish species	20 species in total Horse mackerel 1, Horse mackerel 2, Mackerel 1, Mackerel 2, Sardine, Saury, Yellowtail, Bluefin tuna (back, belly and tail), Sea bream, Alfonsino, Bonito 1, Bonito 2, Salmon, Rainbow trout, Spanish mackerel, Butterfish, Sea bass, Sailfin sandfish, Grouper, Sea eel
Fat percentage	1 to 70%（unit: 1%）
Impedance	30Ω to 999Ω（unit: 1Ω）in impedance mode
Freshness level	A', A, B, C, and D, 5 level judgment
Other functions	Frozen judgment, impedance mode, auto power off, auto display turn off, measuring result memory, averaging display function, Brightness level
Material	Housing: ABS resin Electrode: SUS304
Accessories	Sensing electrode attachment for small fish
Options	Bluetooth wireless communication
Power	2 x AA size (UM-3) dry battery,
Power consumption	3VDC, More than 15,000 weighments with alkaline cell batteries
Protection	IP65
Operating environment	-10℃ to +40℃, 30% R.H. to 85% R.H.（no condensation）
Remarks	Any fish once frozen cannot be measured and "Thawed" is displayed on the device.

Dimensions

● Standard   ● With attachment

155g without batteries

All illustrations, photos and specifications are subject to change without notice.

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