

Medical Diagnostic Device

# ACCUNIQ BC720

Body Composition Analyzer

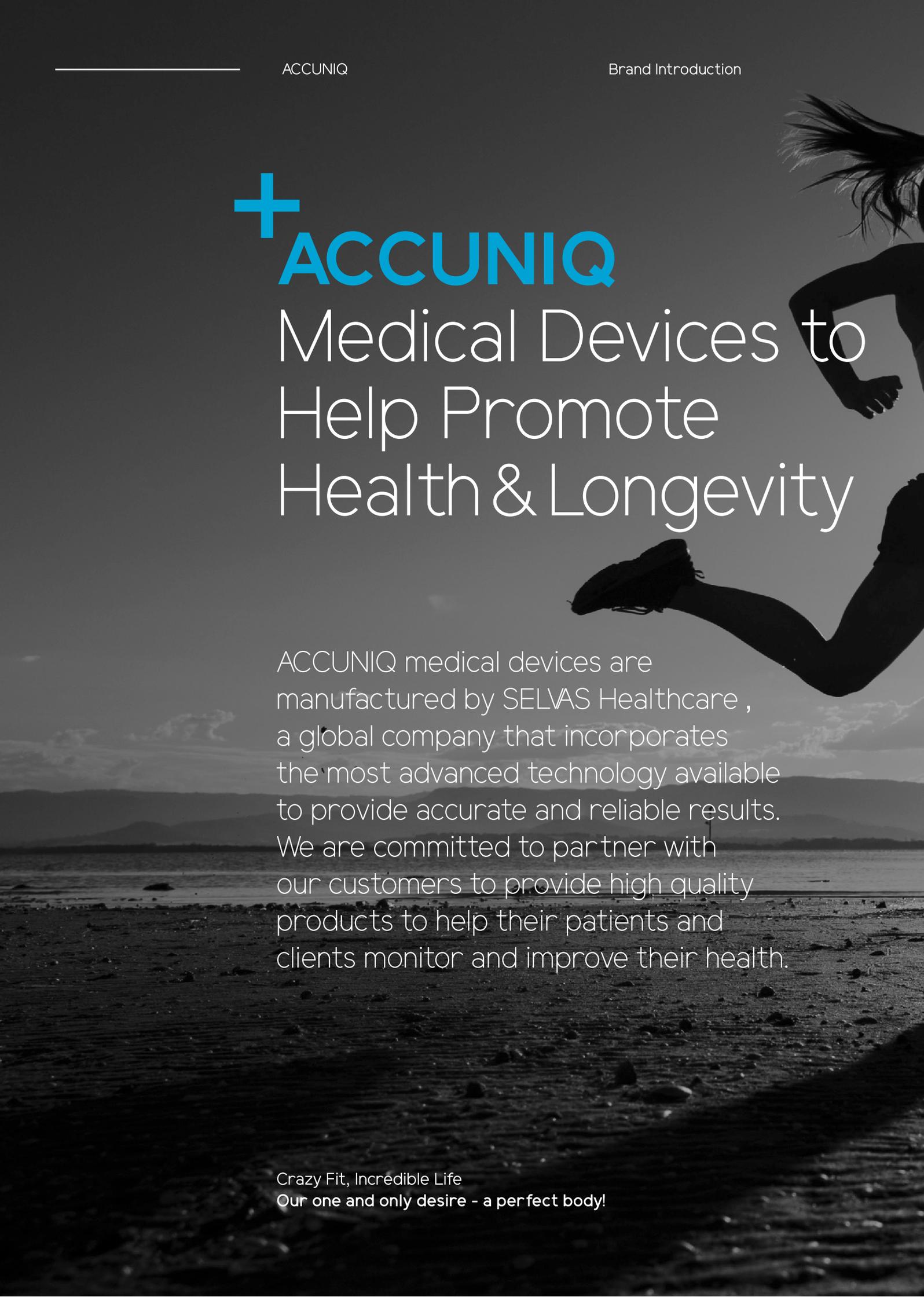
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## THE NEW STANDARD IN BCA

The BC720 is a multi-frequency, whole body and segmental Body Composition Analyzer that utilizes innovative BIA technology to ensure accurate and precise results. This cutting edge technology utilizes harmless, low-level frequencies to offer quick and easy total body composition assessments through the LCD touch screen, printouts and client tracking software.

The results sheet displays an easy-to-read graphical analysis to help maintain healthy body composition and whole body health trending.





# + ACCUNIQ

## Medical Devices to Help Promote Health & Longevity

ACCUNIQ medical devices are manufactured by SELVAS Healthcare, a global company that incorporates the most advanced technology available to provide accurate and reliable results. We are committed to partner with our customers to provide high quality products to help their patients and clients monitor and improve their health.

Crazy Fit, Incredible Life  
Our one and only desire - a perfect body!

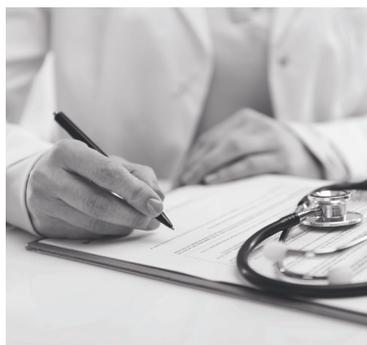
## History

- 2016 Corporate name changed to SELVAS Healthcare , Inc., and listed in KOSDAQ
- 2015 World's first dual-type sphygmomanometer system approved by the US FDA
- 2014 Grand Prize, 1st People's Happiness Premium IT-incorporated Korean Medical Device Awards  
Popularity Award, Analysis and Diagnosis System Segment 2014 Selected by "Health & Beauty," a German fitness magazine
- 2010 Advanced Venture Company Award
- 2006 Director's Award by the Korea Food and Drug Administration (KFDA)
- 2005 Bronze Prize, 13th Republic of Korea Technical Awards  
Silver Prize, Venture Design Awards  
Bronze Medal of Industrial Effort, 35th Precision Technology Promotion Contest
- 2004 Body Fat Analyzer Selected as a World-Class Product (Ministry of Commerce Industry and Energy)
- 2003 Director's Award by the Korea Food and Drug Administration (KFDA)
- 2001 Prime Minister's Award, Trade Day  
KGMP(Korea Good Manufacturing Practice)-Certified
- 2000 Top Prize , Leaders' Venture Awards  
President Kim, Dae-Jung and First Lady visited our company
- 1999 Presidential Award in National Venture Awards  
Selected as a World Top-class Company

## Certifications and Awards



ACCUNIQ medical devices have been used globally to measure and analyze overall health results with our healthcare and fitness professionals in mind where accuracy is of the utmost importance. They are currently used globally in hospitals, medical facilities, doctor's offices, weight loss centers, Fitness Centers, nursing homes, public health facilities, and retail locations.





- 8.4 Inch Wide Color LCD Touch Screen
- 6 Available Frequencies: 1, 5, 50, 250, 550, 1000 KHz
- Pediatric Mode Support
- ECW-to-TBW segmental analysis data and ECF-to-TBF ratio segmental analysis
- Store up to 100,000 analysis data that can be recalled with an ID number
- Client Tracking Software Provided (ACCUNIQ MANAGER)
- Body Composition Analysis (includes 8 previous analysis to track client progress)
- USB and RS232 ports for computer or printer interface
- Optional Bluetooth Wireless Communication

Innovative technology meets stylish design. The BC720 utilizes the most advanced bio-electrical impedance (BIA) analysis technology to provide accurate and dependable results that have been validated by DEXA analysis.



## + Diverse Range of Options

ACCUNIQ body composition analyzers offer multiple options to meet multiple end-user requirements.



### Ankle Electrode

This option helps you proceed with the analysis without taking off your socks or nylons and protects you from germs or fungi. It can also provide a more accurate analysis for users with thick dead skin cells on their feet.



### Bluetooth

Connect the thermal printer to your PC or mobile device wirelessly via Bluetooth. Data is transferred and saved as soon as the analysis is complete without QR code or result sheet.



### Ultrasonic Anthropometer

This option accurately and quickly measures your height automatically with the distance analysis method based on the AI and ultrasonic sensor.



### Fully Automatic Sphygmomanometer

Connect our fully automatic sphygmomanometer for hospitals to control your blood pressure in connection with your body fat, which can help manage your body weight more efficiently.



### Segmental Result and Result Sheet for Infants

The result sheet provides details on the analysis results from 5 different body parts and also data on infants including infant growth curve.



### USB Memory

Use the USB memory to save the analysis data and view it on your PC.



# Various Results and Descriptions

**ACCUNIQ**

BC720

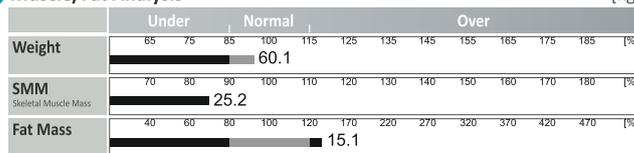
ID / NAME : Michael

Height : 170.6 cm Age : 35 years Gender : Male Test Date/Time : 21 - 09 - 2016 09:34

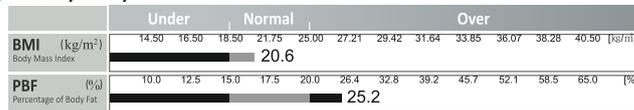
### 1 Body Composition Analysis

	values	Body Water	Soft Lean Mass	Fat-Free Mass	Weight
Body Water (ℓ)	32.8 (37.4 ~ 39.7)	32.8	41.9 (44.1 ~ 53.9)	45.0 (51.2 ~ 54.4)	60.1 (54.4 ~ 73.6)
Proteins (kg)	9.1 (10.2 ~ 11.5)				
Minerals (kg)	3.1 (3.7 ~ 3.8)				
Body Fat (kg)	15.1 (9.0 ~ 13.4)				

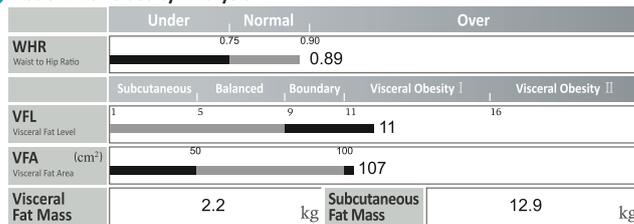
### 2 Muscle/Fat Analysis [kg]



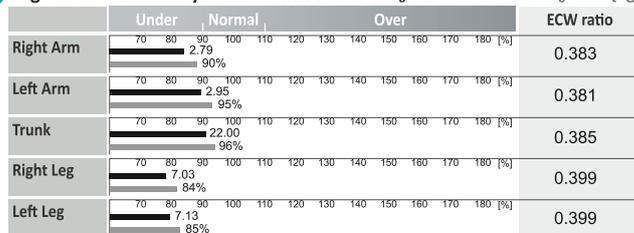
### 3 Obesity Analysis



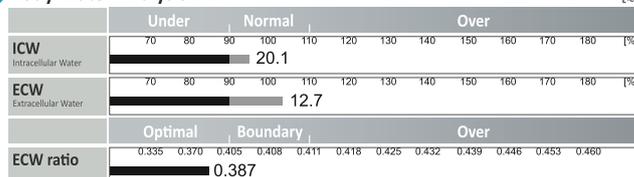
### 4 Abdominal Obesity Analysis



### 5 Segmental Lean Analysis [kg]



### 6 Body Water Analysis [ℓ]



### 7 Comprehensive Evaluation

Body Type	over fat class 2
Biological Age	38 years
Basal Metabolic Rate(BMR)	1340 kcal
Total Daily Energy Expenditure	2063 kcal
Body Cell Mass	30.7 kg

### 8 Body Balance Assessment

Upper Body L/R  balanced  imbalanced  imbalanced I  
Lower Body L/R  balanced  imbalanced  imbalanced I

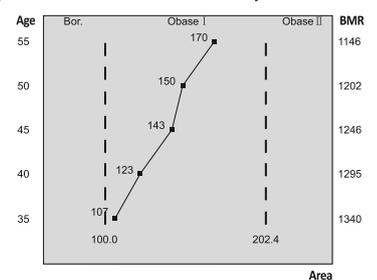
### 9 Control Guide

Target Weight	63.2	kg
Weight Control	+3.1	kg
Muscle Control	+7.1	kg
Fat Control	-3.9	kg

### 10 Obesity Assessment

BMI  underweight  normal  overweight  obese  
PBF  low-fat  normal  over-fat  obese  
Obesity Degree -6.1 (-10.0~+10.0) %  
Abdominal Circumference 82.0 ( Less than 102cm ) cm

### 11 Predicted abdominal obesity



### 12 Impedance (597)

Freq	1K	5K	50K	250K	550K	1M
RA.Imp	336	333	308	215	199	107
LA.Imp	335	321	293	213	191	106
Trunk	31	30	24	24	15	13
RL.Imp	292	247	225	215	60	59
LL.Imp	278	221	220	189	56	55

### 13 Phase Angle : 8.0 °

### 14 Blood Pressure Analysis

Systolic Lt 125 mmHg  
Rt 111 mmHg  
Diastolic Lt 65 mmHg  
Rt 69 mmHg  
Pulse 76 bpm  
Blood pressure difference between right arm and left arm  
Systolic 14 mmHg,  
Diastolic 04 mmHg



For history management, please upload this results at the website using QR code scanning.



# Various Results and Descriptions

**ACCUNIQ**

BC720

ID / NAME : Michael

Height : 170.6 cm Age : 35 years Gender : Male Test Date/Time : 21 - 09 - 2016 09:34

### Segmental Lean Mass [kg]

	Under	Normal	Over
Right Arm	70 80 90 100 110 120 130 140 150 160 170 180 [%]	2.79	
Left Arm	70 80 90 100 110 120 130 140 150 160 170 180 [%]	2.95	
Trunk	70 80 90 100 110 120 130 140 150 160 170 180 [%]	22.00	
Right Leg	70 80 90 100 110 120 130 140 150 160 170 180 [%]	7.03	
Left Leg	70 80 90 100 110 120 130 140 150 160 170 180 [%]	7.13	

### Body Type

Skinny fat class 2	Over fat class 3	Obesity class 2	Obesity class 3
Skinny fat class 1	Over fat class 2	Obesity class 1	Obesity class 2
Lack of muscle	Over fat class 1	Pre-obesity	Obesity class 1
Underweight	Standard	Muscular overweight level 1	Muscular overweight level 2
Underweight low-fat	Fit	Muscular	Athlete

### Segmental Fat Mass [kg]

	Under	Normal	Over
Right Arm	40 60 80 100 120 170 220 270 320 370 420 470 [%]	0.82	
Left Arm	40 60 80 100 120 170 220 270 320 370 420 470 [%]	0.81	
Trunk	40 60 80 100 120 170 220 270 320 370 420 470 [%]	7.86	
Right Leg	40 60 80 100 120 170 220 270 320 370 420 470 [%]	2.79	
Left Leg	40 60 80 100 120 170 220 270 320 370 420 470 [%]	2.87	

### Segmental Body Water

Right Arm	2.23kg	[ 1.94 ~ 2.22 ]
Left Arm	2.23kg	[ 1.94 ~ 2.22 ]
Trunk	17.20kg	[ 15.19 ~ 17.36 ]
Right Leg	5.58kg	[ 4.88 ~ 5.58 ]
Left Leg	5.56kg	[ 4.88 ~ 5.58 ]

### Segmental Extracellular Water ratio

	Optimal	Boundary	Over
Right Arm	0.335 0.370 0.405 0.408 0.411 0.418 0.425 0.432 0.439 0.446 0.453 0.460	0.383	
Left Arm	0.335 0.370 0.405 0.408 0.411 0.418 0.425 0.432 0.439 0.446 0.453 0.460	0.381	
Trunk	0.335 0.370 0.405 0.408 0.411 0.418 0.425 0.432 0.439 0.446 0.453 0.460	0.385	
Right Leg	0.335 0.370 0.405 0.408 0.411 0.418 0.425 0.432 0.439 0.446 0.453 0.460	0.399	
Left Leg	0.335 0.370 0.405 0.408 0.411 0.418 0.425 0.432 0.439 0.446 0.453 0.460	0.399	

### Segmental Intracellular Water

Right Arm	1.29kg	[ 1.29 ~ 1.58 ]
Left Arm	1.37kg	[ 1.29 ~ 1.58 ]
Trunk	10.15kg	[ 9.89 ~ 12.09 ]
Right Leg	3.23kg	[ 3.25 ~ 3.97 ]
Left Leg	3.28kg	[ 3.25 ~ 3.97 ]

### Segmental Extracellular Water

Right Arm	0.80kg	[ 0.65 ~ 0.79 ]
Left Arm	0.84kg	[ 0.65 ~ 0.79 ]
Trunk	6.35kg	[ 4.95 ~ 6.05 ]
Right Leg	2.15kg	[ 1.62 ~ 1.98 ]
Left Leg	2.18kg	[ 1.62 ~ 1.98 ]

### History

Weight (kg)	60.1	63.9	62.4	61.8	62.3	60.9	60.5
SMM (kg) <small>Skeletal Muscle Mass</small>	25.2	28.0	28.0	27.9	27.9	27.6	27.8
Fat mass (kg)	15.1	28.0	28.0	27.9	27.9	27.6	27.8
PBF (%) <small>Percentage of Body Fat</small>	25.2	28.0	28.0	27.9	27.9	27.6	27.8
BMI (kg/m <sup>2</sup> ) <small>Body Mass Index</small>	20.6	28.0	28.0	27.9	27.9	27.6	27.8
WHR <small>Waist to Hip Ratio</small>	0.89	0.75	0.74	0.74	0.75	0.74	0.75
ECW ratio	0.387	0.310	0.298	0.298	0.300	0.298	0.298
Test date	2016.09.21 (09:34)	2016.08.19 (12:10)	2016.07.12 (15:46)	2016.06.05 (12:20)	2016.04.20 (18:17)	2016.03.25 (14:45)	2015.12.25 (15:25)

### Impedance (597)

Freq	1K	5K	50K	250K	550K	1M
RA.Imp	336	333	308	215	199	107
LA.Imp	335	321	293	213	191	106
Trunk	31	30	24	24	15	13
RL.Imp	292	247	225	215	60	59
LL.Imp	278	221	220	189	56	55



For history management, please upload this results at the website using QR code scanning.



### 1 Body Composition Analysis

This is a measurement of analysis results of body components (e.g., body water, proteins, minerals and body fat) relative to normal ranges.

### 2 Muscle/Fat Analysis

This graph of the Skeletal Muscle Mass (SMM) and fat mass illustrates the proportion of skeletal muscle and body fat that comprise the total body weight.

### 3 Obesity Analysis

This graph of percentage of body fat (PBF) and body mass index (BMI), of which the latter is critical in assessing the prevalence of obesity, illustrates clinical data needed for obesity analysis.

### 4 Abdominal Obesity Analysis

Fat in the body is divided into subcutaneous fat and visceral fat. Visceral fat is closely connected with adult diseases, and measured based on several factors.

### 5 Segmental Lean Analysis

Displays the results of SLM measurements as a graph. There are five body parts that include the left arm, right arm, left leg, right leg and trunk.

### 6 Body Water Analysis

This is a measure of the intracellular water, the extracellular water, and the extracellular water ratio.

### 7 Comprehensive Evaluation

This item shows your body type, biological age, basal metabolic rate (BMR), total daily energy expenditure (TEE), and body cell mass.

### 8 Body Balance Assessment

Assesses the lateral balance of the upper and lower bodies, and the vertical balance between the upper and lower bodies.

### 9 Control Guide

This item presents your recommended target weight, weight, and muscle and fat mass control.

### 10 Obesity Assessment

This item assesses your BMI, PBF and indicates your obesity degree and abdominal circumference.

### 11 Predicted Abdominal Obesity

A diagram used to predict the subject's abdominal obesity, as they grow old, compared to the current degree of their abdominal obesity, based on the results of analysis of their abdominal obesity and body composition.

### 12 Impedance

Impedance using frequency applied to a body part. Impedance is a resistance value when electric current is passed through the body. Each subject has a unique impedance.

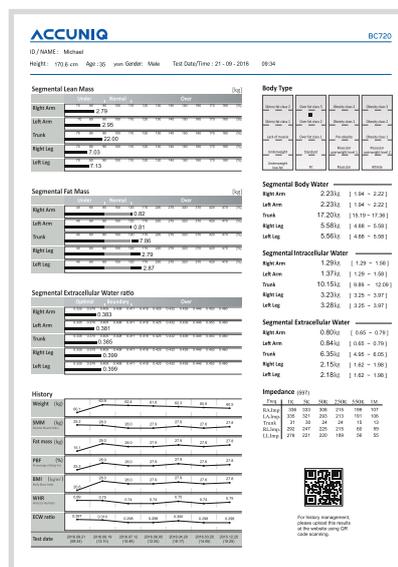
### 13 Phase Angle

Phase Angle (PA) is an index for evaluating the cell membrane's health.

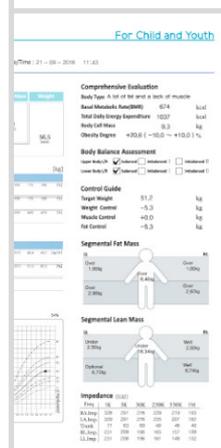
### 14 Blood Pressure Analysis

This item indicates your blood pressure data when the product is connected to the sphygmomanometer provided by ACCUNI-Q. This is especially useful because it assesses your obesity level and blood pressure at the same time.

#### ▼ Segmental Results Sheet (Option)

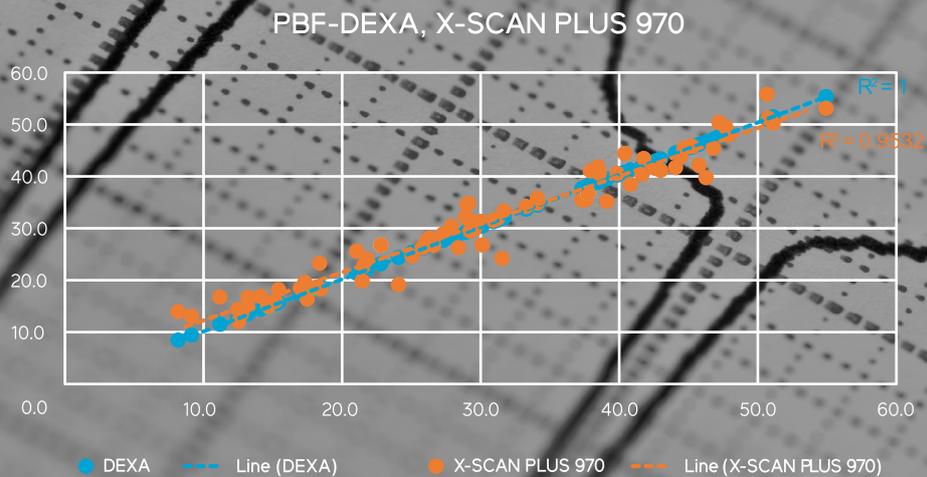


#### ▼ Result Sheet for Infants (Option)



# + High Consistency with DEXA

The methods of analyzing your body composition include computed tomography(CT), magnetic resonance imaging(MRI), and underwater weighing. Dual-energy X-ray absorptiometry(DEXA) is currently considered the gold standard since it accurately analyzes your fat, muscles, and bones and does not involve any radiation exposure. ACCUNIQ conducted clinical tests with IHT, a professional clinical organization based in Texas, USA, to verify our product's precision with DEXA. The result shows that our analysis is more accurate than our competitors.



※Determination of coefficient(R2) of DEXA is 1, and the accuracy of ACCUNIQ is higher if R2 value is close to 1.

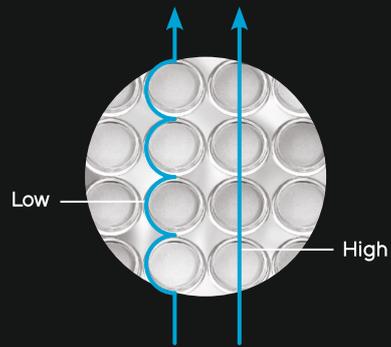
※ The accuracy of X-SCAN PLUS 970 is proved through clinical study with DEXA at IHT center in USA, and the accuracy of other ACCUNIQ brands are guaranteed by high correlation each other.

DEXA-ACCUNIQ	Paired T-test Analysis of Body Composition								
	Percent Body Fat(%)			Body Fat Mass(kg)			Lean Body Mass(kg)		
	Mean± SD	p-value	p-value explanation	Mean± SD	p-value	p-value explanation	Mean± SD	p-value	p-value explanation
	-0.4± 0.7	0.17	DEXA PBF = ACCUNIQ PBF	-0.4± 0.2	0.06	DEXA PBF = ACCUNIQ PBF	0± 0.3	0.99	DEXA PBF = ACCUNIQ PBF

Coefficient of Determination between Our Products (X-SCAN PLUS 970 and ACCUNIQ BCA)	LBM R <sup>2</sup>		
	BC720	BC510	BC360
	0.9967	0.9949	0.9962

## Multi-Frequency Analysis

ACCUNIQ uses 6 frequencies between 1 kHz and 1000kHz to analyze your intracellular water, extracellular water, and total body water accurately. A frequency lower than 100kHz is used to analyze extracellular water since it flows along the cell membrane, whereas a frequency above 100kHz is used to analyze total body water as it flows through the cell membrane.



## Eight-Point Touch Electrodes

ACCUNIQ uses the 8-point touch electrodes method, which is highly accurate despite its complexity. Eight electrodes may be placed on the hands and feet or wrists and ankles to analyze body composition stably.

## Ankle Electrodes

ACCUNIQ provides the ankle electrodes as a convenient option to enable users to proceed with analysis without taking off their socks. This option differentiates ACCUNIQ from all of its competitors.



## ACCUNIQ BC720 Specifications

Model	ACCUNIQ BC720
Measuring Method	Tetra-polar electrode method using 8 touch electrodes
Frequency Range	1, 5, 50, 250, 550, 1000kHz
Measuring Site	Whole body and segmental measurement (arms, legs and trunk)
Results Sheet Data	<p><b>Body Composition Results</b> Weight, Standard Weight, Lean Body Mass, Mass of Body Fat, Subcutaneous Fat Mass, Skeletal Muscle Mass, Soft Lean Mass, Protein Mass, Mineral Mass, Total Body Water, Intra Cellular Water, Extra Cellular Water, Body Mass Index, Percent of Body Fat, Ratio of E.C.F./TB.W , Waist to hip ratio, Visceral Fat Level, Visceral Fat Mass, Visceral Fat Area, Prediction of abdominal fat, Target to Control (Control of Body fat, Control of Soft lean mass, Control of Weight), Body Composition Change (8 times accumulated graph for Ratio of E.C.W/TB.W , Percent of body fat, Soft lean mass, Weight), Segmental dual graph of soft lean mass, Body Cell Mass, Basal Metabolic Rate, Total Energy Expenditure, Age Matched of Body, Total Score , Study Item (Segmental Impedance Classified by Frequency), Blood Pressure (In case of being connected with blood pressure monitor), QR Code</p> <p><b>Segmental Results (Option)</b> Segmental Total Body Water , Segmental Intra Cellular Water, Segmental Extra Cellular Water, Segmental ratio of E.C.W/TB.W , Segmental E.C.F./TB.F , Segmental Soft Lean Mass, Segmental Mass of Body Fat and Percent, Study Item (Segmental Impedance Classified by Frequency)</p> <p><b>Results Sheet for Infants (Option)</b> Weight, Standard Weight, Lean Body Mass, Mass of Body Fat, Subcutaneous Fat Mass, Skeletal Muscle Mass, Soft Lean Mass, Protein Mass, Mineral Mass, Total Body Water, Intra Cellular Water, Extra Cellular Water, Body Mass Index, Percent of Body Fat, Waist to hip ratio, Body Type, Fatness, Child Growth Curve (height, weight), Body Cell Mass, Basal Metabolic Rate, Total Energy Expenditure, Age Matched of Body, Nutritional Assessment, Body Composition Change, Segmental Soft Lean Mass, Segmental Mass of Body Fat, Study Item (Segmental Impedance Classified by Frequency), QR Code</p>
Power Consumption	60VA
Measuring Current	Approx. 180μA
Power Consumption	Input (AC 100~240V, 50~60Hz), Output (DC 12V, 5A adapter)
Display	8.4 Inch Wide Color LCD Touch Screen
Input Device	Touch Screen , Keypad, PC Remote Control
Transmission Device	USB Port, RS-232C, Bluetooth, Wi-Fi (Option), Available of external port extension (Option)
Printing Device	A4 Printer
Dimension	Main Unit 496x820x1150mm (WxDxH±10mm )   Main Unit+Height Meter 496x926x2260mm(WxDxH±10mm )
Weight	Approx. 42kg (main unit)
Measuring Range	100~950Ω
Measuring Time	Within 1 minute
Applicable Height	50~220cm
Measuring Weight	10~270kg
Applicable Age	1~99 years old
Operation Ambient	Ambient temperature range +5 to +40°C, Relative humidity range 15 to 93% (non condensing)
Storage Ambient	Ambient temperature range -25 to +70°C, Relative humidity range lower than 93% (non condensing)
Optional Equipment	Ultrasonic Anthropometer, Fully Automatic Sphygmomanometer, Ankle Electrode, Bluetooth, USB Memory Segmental assessment result sheet-Results sheet for Infants
Printing Logo	Printing logo or the name of hospital, address, contact information on the pre-printed result sheet
Touch Screen	Touch Screen 's sensor location adjustable
Data Storage	Maximum 100,000
Measurement Mode	Scale mode / Body Composition mode
Various Result Sheets	Body composition result sheet, Segmental assessment result sheet (Option), Results sheet for Infants (Option)
Measurement Result	LCD, Web, Data management program, ACCUNIQ MANAGER
USB Storage	Data storage and backup
QR Code	Scan the QR code on LCD & result sheet with your smart phone. all results transmitted to the web site. You can see the result whenever you want.

※ For purpose of improvement, specifications and design are subject to change without notice.  
This is a medical device. Read precaution and operation method before use.



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