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SPRING HAND DYNAMOMETER(SH5002)

User Manual



Grip **SAEHAN**[®]

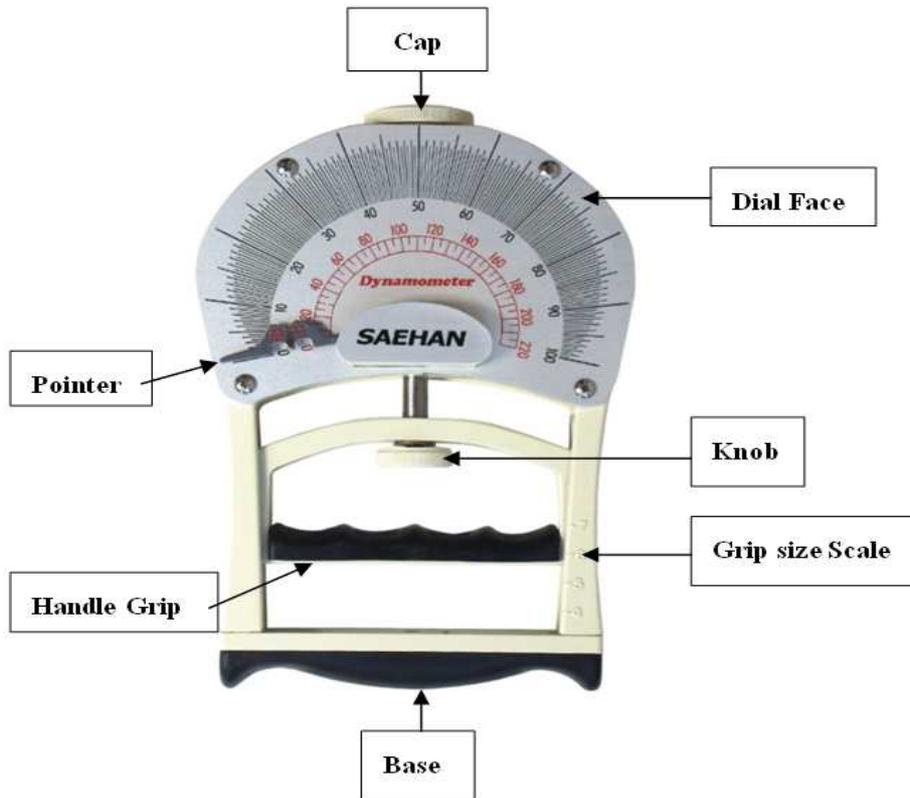
INSTRUCTIONS FOR USE
SAEHAN SPRING HAND DYNAMOMETER
SH5002

GENERAL:

This device is to measure hand grip strength and used to secure an index of general upper body strength adjust the hand grip size to exert the subject's maximum grip. Move pointer lever to zero with your finger allow three trials with each hand alternating. The device should be checked for correct condition prior to each usage by a person familiar with proper operation of the balance.

For continuous use for years, take care of it, keep in the protective carrying case to prevent damage from water and accidental dropping. Wipe off any water or liquid to prevent the spring from rusting.

INFORMATION ON COMPONENTS, PACKAGE CONTENT :



No.	Name	Function
1	Dial Face	Scale measures up to 100kg(220 lbs)
2	Cap	Keep spring securely
3	Pointer	Pointer on the dial indicates force exerted
4	Handle Grip	Handle for gripping, Adjustable for hand size
5	Base	Base for handle
6	Grip size Scale	Adjustable for hand size scale
7	Knob	Rotate the knob to adjust hand size



Scope of supply :

- Device
- Soft case
- Operating instructions

SAFETY PRECAUTION :

Carefully read this operation manual before setup, even if you are already familiar with SAEHAN Spring dynamometer.

Precautions for use

- Do not set the handle grip to a position less than 4 cm as shown by the grip size scale.
- Do not turn the cap.
- Do not drop the instrument, otherwise, it may be damaged, Handle it carefully.
- Do not use or keep the device in direct sunlight, in area of high temperature, especially in places near heating equipment, in moist or dusty places, or where it will be directly exposed to water.
- If the device is dirty, wipe it with a soft, dry cloth, if very dirty, use a cloth wet with a neutral detergent. Do not use thinner, alcohol, or similar liquids. They will damage the surface of the device.
- Do not test if you have arm or shoulder pain, or high, uncontrolled blood pressure.
- Use the proper technique as described below for accurate and consistent results. If needed, ask for a demonstration.
- Adjust the handgrip dynamometer so the second joint of the fingers fit snugly on the handle when gripping. Hold the dynamometer with arm extended down about thigh level.
- Make a maximal squeeze. Don't let the dynamometer touch any part of the body or any other object. Also avoid sudden thrusts or jars, which can make the reading inaccurate.
- When squeezing, breathe out or exhale during contraction to prevent high intrathoracic pressure. Don't hold your breath and strain.
- Measure both hands. Take three tries per hand. Combine the best score of each hand to give a total grip strength reading. Record test results in kilograms.

OPERATING INSTRUCTION :

1. Have Subject hold the spring Hand Dynamometer with the scale facing away from his face. Adjust the grip size until the joints of the Subject's fingers are approximately on a plane perpendicular to the scale plate. When the adjustment is optimal, the subject will sense he can comfortably exert his maximum grip.
2. Move the pointer to zero with your finger.
3. Subject should stand straight with his weight evenly distributed on both feet. With his arms hanging at his sides, he should squeeze the Spring Hand Dynamometer with as

much force as possible being careful to squeeze only once. Record the resultant scale reading.

4. Allow three trials with each hand, right and left hand alternating. There should be a brief pause of about 10 to 15 seconds between each trial to avoid excessive fatigue. Record the amount registered at each trial, but use only the highest recorded for each hand. Compare your findings with the averages shown in Table 1 and 2.

Measurement :

1. Holding device in one of your hands, turn the knob to adjust the grip range until the second joint of your forefinger is bent through 90 degrees.
2. Stand upright and relaxed, extend your arms downward, and grip the device and exert full force without letting your arms touch your body. During the measurement, do not wave the device.
3. Read the value displayed on the dial face and record it.
 - Turn the pointer to set the pointer zero again.

Methods :

1. Have the subject hold the spring hand dynamometer with scale facing away from his face.
2. Adjust the grip size until the joints of the subject's finger same approximately on a plane perpendicular to the scale plate.
3. When the adjustment is optimal, the subject will sense he can comfortably exert his maximum grip.
4. Move the pointer lever to zero with your finger.
5. Force Range : Measures from zero to 100 kg (220 pound).
6. Resolution and precision
Measurement graduations are every five pounds (within the red inner ring) and every 0.5 kg (whthin the black outer ring).

STRENGTH NORMS :

Grip strength, measured with hand grip dynamometer, correlates with overall upper body strength and is an easy, safe test to perform, A good grip is linked to higher lean body mass, lower risk of disability in old age, and increased longevity. Compare your test results with the norms shown below.

CHILDREN DATA FOR SPRING GRIP TESTER

TABLE 1

Averages of Strength of Grip, In kg. for childrn

<u>AGE</u>	<u>BOYS</u>		<u>GIRLS</u>	
	<u>RIGHT HAND</u>	<u>LEFT HAND</u>	<u>RIGHT HAND</u>	<u>LEFT HAND</u>
6	9.21	8.48	8.36	7.74
7	10.74	10.11	9.88	9.24
8	12.41	11.87	11.18	10.48
9	14.34	13.47	12.77	11.97
10	16.52	15.59	14.65	13.72
11	18.85	17.72	16.54	15.52
12	21.24	19.71	18.92	17.78
13	24.44	22.51	21.84	20.39
14	28.42	26.22	24.79	22.92
15	33.39	30.88	27.00	24.92
16	39.37	36.39	28.70	26.56
17	44.74	40.96	29.56	27.48
18	49.28	45.01	29.75	27.66

ADULT DATA FOR SPRING GRIP TESTER

TABLE 2

Averages of Strength of Grip, In kg. for ADULT

<u>MALE</u>										
<u>AGE</u>	<u>10TH%</u>		<u>25TH%</u>		<u>50TH%</u>		<u>75TH%</u>		<u>90TH%</u>	
	R	L	R	L	R	L	R	L	R	L
20-29	44	40	49	45	56	52	62	58	67	63
30-39	40	36	45	42	52	48	58	54	64	59
40-49	35	32	41	48	48	44	54	50	60	55
50-59	32	29	37	34	44	40	50	46	55	52
60-69	28	26	33	30	40	36	46	43	52	48
70-79	24	21	29	26	36	33	42	39	47	45

<u>FEMALE</u>										
<u>AGE</u>	<u>10TH%</u>		<u>25TH%</u>		<u>50TH%</u>		<u>75TH%</u>		<u>90TH%</u>	
	R	L	R	L	R	L	R	L	R	L
20-29	21	18	25	22	28	25	31	29	35	32
30-39	20	17	23	20	27	24	30	28	33	31
40-49	18	15	22	19	25	23	29	26	32	29
50-59	17	14	20	18	24	21	27	25	30	28
60-69	15	13	19	16	22	20	25	23	29	27
70-79	14	11	17	15	21	18	24	22	28	25

WARNING :

Changes to the unit's design are not permitted. This may lead to incorrect measuring results, safety-related faults and destruction of the device.

The device may only be operated in accordance with the described default settings. Other areas of use must be released by SAEHAN.

SPECIFICATIONS :

Measurement range	0 to 100kg / 0 to 220lbs
Minimum unit	0.5 kg (5 pound)
Accuracy	100kg \pm 2%
Dimension	Approx. 200(W) x 138(L) x 40(H) mm
Weight	Approx. 0.684kg(1.5 pounds)

TRANSPORTATION & STORAGE CONDITION :

Environment :

1. General :
 - It is not aimed to be used in households.
 - It is used in physical therapy rooms, doctors' offices and patients' rooms, etc.
 - Equipment can be damaged when dropped to the floor.
Impossible to expect to work properly any more
If it works properly, calibration / exactitude should be maintained.
2. Conditions of visibility :
 - Ambient luminance range : 100 lux ~ 1,500 lux
 - Viewing distance : 20 cm ~ 40 cm
 - Viewing angle : normal to the display \pm 20°
3. Physical :
 - Temperature range : 10°C ~ 40°C
 - Relative humidity range : 10 % ~ 90 %
 - Ambient pressure range : 700 hPa ~ 1,060 hPa

SERVICE, MAINTENANCE, DISPOSAL :

Cleaning :

Do not use aggressive detergents (solvents etc.). Apply soapy water to moist cloth or use household detergent. Prevent fluid from penetrating into device. Finish by polishing with dry soft cloth. Remove dirt immediately.

Service, maintenance :

The appliance may only be opened by trained service technicians who are authorized by SAEHAN.

Annual Calibration and Repair :

It is recommended that this instrument be checked for accurate calibration annually. If the instrument has been dropped or there is reason to suspect that calibration is required, the instrument should be serviced immediately. Contact your supplier or call SAEHAN at +82-55-294-0381, 24-hour phone support at +82-10-5282-0161, or send email to saehancorp@naver.com. Additional product and service information can be obtained at www.saehanmedical.com.

Disposal :

Disposal of packaging and appliance must be carried out by operator according to valid national or regional law of the location where the appliance is used.

Warranty : Warranty claims shall be voided in case

- Our conditions in the operation manual are ignored.
- The appliance is used outside the described uses
- The appliance is modified or opened
- Mechanical damage and damage caused by media, liquids
- Natural wear and tear
- Non-intended use or electric installation
- The measuring system is overloaded
- Dropping the balance
- One year warranty. Any defective unit caused by workmanship will be replaced with new unit.

Symbol description :

Definition of using symbols

Symbols	Meaning
	Manufacturer
	Date of manufactured
	Authorized representative in the European Community
	Medical device
	Serial number
	Batch code
	Catalogue number
	Caution
	Fragile, handle with care
	Keep dry
	Keep away from sunlight
	Consult instructions for use

※ If there has been occurred any serious accident in relation to the our device released in market, the quality management representative of our company will notify the Notified Body & the competent authority of any serious accident in accordance with the vigilance procedure.

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Manufacturer	EC Representative
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