A simple, easy-to-use, ergonomically designed instrument that objectively measures push, pull and lift forces for manual muscle testing, functional capacity evaluation and job task evaluation at a remarkably affordable price. Because the instrument is lightweight, small and portable, you can perform precise, objective evaluations in your office, at the client's location, or in the field. Ergonomically designed dynamometer is easy to grasp while testing small forces. The easy-to-attach single or dual grip handle can be used when measuring larger forces. Can be used with functional lift platform to perform lifting evaluations.

◆ **muscle strength measurement**
This hand-held dynamometer lets you objectively measure manual muscle strength.

◆ **job task analysis**
Measure actual push, pull and lift forces needed to perform a particular task (function).

◆ **functional capacity evaluation**
Quantitatively evaluate an individual's push, pull or lift capacity to perform a given task (function).
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Introduction to Manual Muscle Testing (MMT)

General Testing Concepts

This instruction manual contains some standard test protocols to demonstrate the types of tests that can be performed using various Baseline® dynamometers. Refer to appropriate textbooks and manual muscle testing resources and guides for patient conditions suitable for dynamometry testing, further testing methods and protocols, and for evaluation of test data.

Reasons for Muscle testing:

Screening: measurement of the subject's strength against a known norm (i.e., grip strength of fireman) or against a benchmark value needed to perform a given task (i.e., ability to lift a box)

Comparative: to measure the subject's strength dominant side vs. non-dominant side (right hand against left hand) to ascertain extent of "impairment." To measure the subject's strength over time to ascertain the effectiveness of a treatment protocol.

Muscle testing methodology:

Positioning the subject: The angle of the joint during the test has a direct effect on the strength measurement result. If the objective is to simulate a given activity, then the joint angle should be as close as possible to the angle required by the activity to be performed.

Stabilizing the subject: The subject's body should be stabilized to ensure that the muscle or muscle group being tested is isolated.

Testing methodology:

Break test: The tester firmly holds the dynamometer and applies force against the subject's body until it begins to move. The reading represents the muscle strength "break" point at which the subject could not overcome the tester's force.

Make test: The subject initiates and exerts a force against the dynamometer (that is firmly held by the tester) until it begins to move. The reading represents the muscle strength "make" point at which the subject overcomes the tester's force of resistance.

Instrument test: The subject gradually (no sudden, jerky or abrupt movements) exerts force against the instrument until the strength or pain threshold is reached. The final result is not dependent upon the tester's resistance, only upon the instrument.

Consistent results: Regardless of the test, the subject should be made to perform the test three (3) times. If the individual readings are inconsistent, wait a few minutes and repeat the test. If possible, test the uninjured side first.
Baseline® Push-Pull Dynamometer  The heavy-duty dynamometer features the hydraulic system that is used in the industry accepted Baseline® and Jamar® hand dynamometers and pinch gauges. Hydraulic system ensures accurate readings. Much lighter (1½ lb. vs. 6lb.) and easier to use than spring push-pull dynamometers that are in common use today.

Dial continuously shows instantaneous force and holds the maximum force reading. This maximum reading should be manually recorded prior to resetting for the next test.

Available with either an analog (dial) or a digital (LCD) readout. Choose either 50 lb., 100 lb., 250 lb., or 500 lb. force capacity unit. Comes with 3 push pads (padded curved, padded straight, and 1cm² circular), 1 pull hook and 1 snap-lock hook. Comes in cushioned carrying case with muscle test manual. 1 year warranty. CE certified.

**push-pull dynamometers**

- **analog (Dial) readout**
  - 12-0392 50 lb./22.5 kg.
  - 12-0393 100 lb./45 kg.
  - 12-0394 250 lb./115 kg.
  - 12-0388 500 lb./225 kg.

- **Digital (LCD) readout**
  - 12-0397 50 lb./22.5 kg.
  - 12-0398 100 lb./45 kg.
  - 12-0399 250 lb./115 kg.
  - 12-0387 500 lb./225 kg.

**optional accessories**

- **handles**
  - 12-0385 single grip
  - 12-0389 dual grip

- **functional lift bases**
  - 12-0406 regular (15”x15”)
  - 12-0407 large (24”x24”)

- **WalSlide™ wall anchor**
  - slides and locks to any position along 6’ system.
  - 10-5094 adjustable anchor

- **hardware**
  - 12-0443 chain (per foot)
  - 12-0445 snap oval (pair)
  - 12-0446 threaded oval (pair)

**MORE BASELINE PRODUCTS ON THE WEB:**
WWW.FABRICATIONENTERPRISES.COM

DISTRIBUTED BY:
Testing Protocol: Elbow and Forearm

### Patient Start Position

- **FLEXION (RIGHT/LEFT)**
  - seated
  - shoulder flexed 45°
  - elbow flexed 45°
  - palm up

- **EXTENSION (RIGHT/LEFT)**
  - seated
  - shoulder flexed 45°
  - elbow flexed 45°
  - palm up

- **FOREARM ROTATOR**
  - seated
  - shoulder flexed 45°
  - elbow flexed 45°
  - palm in

### Placement of Dynamometer

- **FLEXION (RIGHT/LEFT)**
  On the inside of the arm just above the wrist of the arm being tested.

- **EXTENSION (RIGHT/LEFT)**
  On the outside of the arm just above the wrist of the arm being tested.

- **FOREARM ROTATOR**
  On the outside of the rod held by hand.

### Position of Therapist

- **FLEXION (RIGHT/LEFT)**
  Hand not holding dynamometer stabilizing underneath the upper arm of patient.

- **EXTENSION (RIGHT/LEFT)**
  Hand not holding dynamometer stabilizing on the front of the upper arm of patient.

- **FOREARM ROTATOR**
  Hand not holding dynamometer stabilizing on the front of the upper arm of patient.

### Test

- **FLEXION (RIGHT/LEFT)**
  Break test - exert force to push arm downward

- **EXTENSION (RIGHT/LEFT)**
  Break test - exert force to push arm upward.

- **FOREARM ROTATOR**
  Break test - exert force on rod to push arm inward.
Testing Protocol: Wrist

<table>
<thead>
<tr>
<th>PATIENT START POSITION</th>
<th>PLACEMENT OF DYNAMOMETER</th>
<th>POSITION OF THERAPIST</th>
<th>TEST</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLEXION (RIGHT/LEFT)</td>
<td>On the palm of the hand being tested just below the bend of the fingers.</td>
<td>In front of patient, stabilizing patient’s forearm against table.</td>
<td>Break test - exert force to push hand out</td>
</tr>
<tr>
<td>EXTENSION (RIGHT/LEFT)</td>
<td>On the back of the hand being tested just below the bend of the fingers.</td>
<td>In front of patient, stabilizing patient’s forearm against table.</td>
<td>Break test - exert force to push hand down</td>
</tr>
<tr>
<td>ULNAR DEVIATION (RIGHT/LEFT)</td>
<td>On the outside of the hand being tested just below the bend of the little finger.</td>
<td>In front of patient, stabilizing patient’s forearm against table.</td>
<td>Break test - exert force to push hand in</td>
</tr>
<tr>
<td>RADIAL DEVIATION (RIGHT/LEFT)</td>
<td>On the inside of the hand being tested just below the bend of the index finger.</td>
<td>In front of patient, stabilizing patient’s forearm against table.</td>
<td>Break test - exert force to push hand out</td>
</tr>
<tr>
<td>Patient Start Position</td>
<td>Placement of Dynamometer</td>
<td>Position of Therapist</td>
<td>Test</td>
</tr>
<tr>
<td>------------------------</td>
<td>--------------------------</td>
<td>-----------------------</td>
<td>------</td>
</tr>
</tbody>
</table>
| **FLEXION (RIGHT/LEFT)** | - seated  
- shoulder flexed to 90°  
- elbow straight  
- palm facing in | Slightly above elbow of test arm. | At patients side, opposite hand on shoulder of test arm.  
Break test - exert force to push arm downward. |
| **EXTENSION (RIGHT/LEFT)** | - prone w/ head to side  
- arms at sides w/ arm being tested slightly extended & straight  
- palm facing in | Slightly above elbow of test arm. | To the side of test arm, opposite hand stabilizes test shoulder.  
Break test - exert force to push arm downward. |
| **ADDUCTION (RIGHT/LEFT)** | - standing  
- arm being tested out to side 8-10" from body  
- palm facing in | Slightly above elbow on inside of test arm. | To the front-side of patient, with opposite hand on patient's hip.  
Break test - exert force to push arm out. |
| **ABDUCTION (RIGHT/LEFT)** | - seated  
- arm out to side at 90°  
- elbow flexed 90°  
- palm facing down | Slightly above elbow of test arm. | Behind and to the side of patient with the opposite hand on test shoulder.  
Break test - exert force to push arm downward. |
| **INTERNAL ROTATION (RIGHT/LEFT)** | - seated  
- arms at sides with 90° elbow flexion  
- palm facing in | Slightly above wrist on inside of test arm. | In front of patient with other hand stabilizing the outside of elbow.  
Break test - exert force to push arm out. |
| **EXTERNAL ROTATION (RIGHT/LEFT)** | - seated  
- arms at sides with 90° elbow flexion  
- palm facing in | Slightly above wrist on outside of test arm. | In front of patient with other hand stabilizing the inside of elbow.  
Break test - exert force to push arm in. |
| **UPPER TRAPEZIUS (RIGHT/LEFT)** | - seated  
- arms at sides  
- test shoulder shrugged slightly | On top of test shoulder. | Behind patient, stabilizing non test-side shoulder.  
Break test - exert force to push shoulder downward. |
Testing Protocol: Hip

<table>
<thead>
<tr>
<th>Test</th>
<th>Patient Start Position</th>
<th>Placement of Dynamometer</th>
<th>Position of Therapist</th>
<th>Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLEXION (RIGHT/LEFT)</td>
<td>Supine with knees bent and feet flat, hip of test leg flexed to about 90°</td>
<td>Slightly above knee of test leg.</td>
<td>To the side of test leg.</td>
<td>Break test - exert force to push leg downward.</td>
</tr>
<tr>
<td>EXTENSION (RIGHT/LEFT)</td>
<td>Prone with arms at side, test leg is bent at knee with hip extended and knee off table</td>
<td>Slightly above knee on back of test leg.</td>
<td>To the side of test leg.</td>
<td>Break test - exert force to push leg downward.</td>
</tr>
<tr>
<td>ADDUCTION (RIGHT/LEFT)</td>
<td>Lye on side with test leg touching table, in line with trunk, top leg in step position to allow movement.</td>
<td>Slightly above knee on inside of test leg.</td>
<td>To the side of patient.</td>
<td>Break test - patient lifts lower leg slightly off table, then exert force to push leg out.</td>
</tr>
<tr>
<td>ABDUCTION (RIGHT/LEFT)</td>
<td>Lye on side with test leg on top, in line with trunk, bottom leg bent to stabilize body.</td>
<td>Slightly above knee on outside of test leg.</td>
<td>To the side of patient.</td>
<td>Break test - patient lifts upper leg slightly off table, then exert force to push leg down.</td>
</tr>
<tr>
<td>INTERNAL ROTATION (RIGHT/LEFT)</td>
<td>Seated with legs over edge of table, knees bent 90°, hip rotated in slightly</td>
<td>Slightly above ankle on outside of test leg.</td>
<td>In front of patient with non-testing hand on inside of patient’s knee.</td>
<td>Break test - exert force to push leg in.</td>
</tr>
<tr>
<td>EXTERNAL ROTATION (RIGHT/LEFT)</td>
<td>Seated with legs over edge of table, knees bent 90°, hip rotated out slightly</td>
<td>Slightly above ankle on inside of test leg.</td>
<td>In front of patient with non-testing hand on outside of patient’s knee.</td>
<td>Break test - exert force to push leg in.</td>
</tr>
</tbody>
</table>
## Testing Protocol: Ankle

<table>
<thead>
<tr>
<th>PLANTAR-FLEXION (RIGHT/LEFT)</th>
<th>PATIENT START POSITION</th>
<th>PLACEMENT OF DYNAMOMETER</th>
<th>POSITION OF THERAPIST</th>
<th>TEST</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- foot in neutral position</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DORSI-FLEXION (RIGHT/LEFT)</th>
<th>PATIENT START POSITION</th>
<th>PLACEMENT OF DYNAMOMETER</th>
<th>POSITION OF THERAPIST</th>
<th>TEST</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- test leg straight</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- ankle in neutral position</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INVERSION (RIGHT/LEFT)</th>
<th>PATIENT START POSITION</th>
<th>PLACEMENT OF DYNAMOMETER</th>
<th>POSITION OF THERAPIST</th>
<th>TEST</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- test leg straight</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- ankle inverted slightly</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EVERSION (RIGHT/LEFT)</th>
<th>PATIENT START POSITION</th>
<th>PLACEMENT OF DYNAMOMETER</th>
<th>POSITION OF THERAPIST</th>
<th>TEST</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- test leg straight</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- ankle everted slightly</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Testing Protocol: Knee

**knee flexion**

**knee extension**

<table>
<thead>
<tr>
<th>PATIENT START POSITION</th>
<th>PLACEMENT OF DYNAMOMETER</th>
<th>POSITION OF THERAPIST</th>
<th>TEST</th>
</tr>
</thead>
</table>
| **FLEXION (RIGHT/LEFT)** | - prone
- test leg flexed 90°
| **EXTENSION (RIGHT/LEFT)** | - sitting with legs over the table edge
# Testing Protocol: Cervical (neck)

<table>
<thead>
<tr>
<th></th>
<th>Patient Start Position</th>
<th>Placement of Dynamometer</th>
<th>Position of Therapist</th>
<th>Test</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Flexion</strong></td>
<td>- supine - head mid-line - chin slightly tucked - knees bent &amp; feet flat</td>
<td>On forehead.</td>
<td>Aside the patient.</td>
<td>Break test - have patient lift head slightly while keeping chin tucked. Exert force to push head down.</td>
</tr>
<tr>
<td><strong>Extension</strong></td>
<td>- prone - head mid-line - arms at sides - chin slightly tucked</td>
<td>On back of head (occipital).</td>
<td>Aside the patient.</td>
<td>Break test - have patient lift head slightly while keeping chin tucked. Exert force to push head down.</td>
</tr>
<tr>
<td><strong>Lateral Flexion (Right)</strong></td>
<td>- supine - head turned to left - chin tucked slightly - knees bent &amp; feet flat</td>
<td>On right temple.</td>
<td>Aside the patient.</td>
<td>Break test - have patient lift head and keep head turned and chin tucked. Exert force to push head down.</td>
</tr>
<tr>
<td><strong>Rotation (Right)</strong></td>
<td>- prone - head turned to right - arms at side - chin tucked slightly</td>
<td>Above and behind the ear on the right temporal area.</td>
<td>Aside the patient.</td>
<td>Break test - have patient lift and keep head turned and chin tucked. Exert force to push head down.</td>
</tr>
<tr>
<td>PATIENT START POSITION</td>
<td>PLACEMENT OF DYNAMOMETER</td>
<td>POSITION OF THERAPIST</td>
<td>TEST</td>
<td></td>
</tr>
<tr>
<td>------------------------</td>
<td>--------------------------</td>
<td>----------------------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td><strong>FLEXION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- supine</td>
<td>- On the sternum at the center of the chest.</td>
<td>- Above and to side of patient.</td>
<td>Break test - patient’s arms are relaxed and head + shoulders lifted off table, exert force to push down head.</td>
<td></td>
</tr>
<tr>
<td>- knees bent</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- feet flat</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- arms resting at side</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- head mid-line</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>EXTENSION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- prone</td>
<td>- At the inferior angle of the scapulae on the center of the back between the shoulder blades.</td>
<td>- Above and to side of patient.</td>
<td>Break test - patient’s arms are relaxed and head and chest lifted off table, exert force to push down body.</td>
<td></td>
</tr>
<tr>
<td>- arms resting at side</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- head mid-line</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>LATERAL FLEXION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- seated on table</td>
<td>- Under the arm of the rib cage (right side).</td>
<td>- In front of and to side of patient with non-dynamometer hand isolating the left hip.</td>
<td>Break test - have patient lean right slightly with buttocks on table, exert force to push patient inward.</td>
<td></td>
</tr>
<tr>
<td>- back laterally flexed to right</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- arms resting in lap</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- head mid-line</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Baseline® Lift (Back-Leg-Chest) Dynamometer

**Baseline® back-leg-chest dynamometer**
Measure strength of back, leg and chest. Base provides sure footing. Chain length is adjusted to accommodate for height differences or to vary the point of force application. Shows pounds and kilograms. Pointer remains at maximum until reset. Comes with specified base.

- 12-0403 large base, 660 lb. adult
- 12-0400 regular base, 660 lb. adult
- 12-0401 regular base, 330 lb. adolescent
- 12-0402 regular base, 165 lb. child

**back-leg-chest hardware accessories**
Complete with 5 foot chain, snap hook and threaded oval.

**baseline® pull accessories**
Attachments can be used for a variety of tests.

- 12-0377 Medium Hook
- 12-0376 Small Hook
- 12-0379 Oval Snap Hook
curved push pad
straight push pad
small circular tip
large circular tip

**Baseline® push-pull dynamometers with lifting accessories**

**Dial (analog) hydraulic**

- 12-0392 50 lb./22.5 kg.
- 12-0393 100 lb./45 kg.
- 12-0394 250 lb./115 kg.
- 12-0388 500 lb./225 kg.

**Digital (LCD) hydraulic**

- 12-0397 50 lb./22.5 kg.
- 12-0398 100 lb./45 kg.
- 12-0399 250 lb./115 kg.
- 12-0387 500 lb./225 kg.

**Electronic**

- 12-0340 50 lb./22.5 kg
- 12-0341 100 lb./45 kg.
- 12-0342 250 lb./115 kg.
- 12-0343 500 lb./225 kg

**Baseline® push-pull handles**
Handle system screws onto push-pull dynamometer body. Allows for a variety of tests. Fits Baseline® hydraulic and electronic push-pull dynamometers.

- 12-0385 Single Grip Handle

**Baseline® pull accessories**

- 12-0377 Medium Hook
- 12-0376 Small Hook
- 12-0379 Oval Snap Hook
curved push pad
straight push pad
small circular tip
large circular tip

**back-leg-chest hardware accessories**

**chains/straps**

- 12-0443 chain (ft)

**ovals**

- 12-0445 snap oval (pair)
- 12-0446 threaded oval (pair)
<table>
<thead>
<tr>
<th><strong>TEST</strong></th>
<th><strong>PATIENT START POSITION</strong></th>
<th><strong>PLACEMENT OF DYNAMOMETER</strong></th>
<th><strong>POSITION OF THERAPIST</strong></th>
<th><strong>POSITIVE START POSITION</strong></th>
</tr>
</thead>
</table>
| ARM LIFT (cervical/upper extremity) | - Stand on base with feet shoulder width apart  
- relax knees  
- elbows at 90°  
- palms facing up | Set correct start position by adjusting chain length and ensuring chain is perpendicular to base. | In front of and aside patient. Hand on patient hip to isolate movement. | Patient should pull straight up and hold without leaning back. |
| HIGH FAR LIFT (cervical/upper extremity) | - Stand on base with feet shoulder width apart  
- relax knees  
- elbows at 90°, palms up  
- shoulders flexed to 45° | Set correct start position by adjusting chain length and ensuring chain is perpendicular to base. | In front of and aside patient. Hand on patient hip to isolate movement. | Patient should pull straight up and hold without leaning back. |
| HIGH NEAR LIFT (cervical/upper extremity) | - Stand on base with feet shoulder width apart  
- relax knees  
- elbows at 45°, palms up  
- shoulders flexed to 45° | Chain length same as with high far lift. Ensure chain is perpendicular to base. | In front of and aside patient. Hand on patient hip to isolate movement. | Patient should pull straight up and hold without leaning back. |
| TORSO LIFT (lumbar/lower extremity) | - Stand on base with feet shoulder width apart  
- relax knees  
- arms straight, palms down  
- torso bent at hips | Set correct start position by adjusting chain length and ensuring chain is perpendicular to base. | In front of and aside patient. Hand on patient hip to isolate movement. | Patient should pull straight up and hold without leaning back. |
| LEG LIFT (lumbar/lower extremity) | - Stand on base with feet wider than shoulder width apart and knees bent  
- shoulders/head up  
- arms straight, palms down | Chain length same as with torso lift. Ensure chain is perpendicular to base, and bar is gripped at mid to lower thigh height. | In front of and aside patient. Hand on patient hip to isolate movement. | Patient should use his legs to pull straight up and hold without leaning back. |
| FLOOR LIFT (lumbar/lower extremity) | - Stand on base with feet wider than shoulder width apart and knees bent  
- feet flat  
- torso straight, palms down | Remove chain, and attach handle grip bar directly to gauge. Ensure gauge is aligned perpendicular to base. | In front of and aside patient. Hand on patient hip to isolate movement. | Patient should use his legs to pull straight up and hold without leaning back. |
Baseline® grip and pinch strength dynamometers

Baseline® hydraulic hand dynamometer
The Baseline® hand dynamometer gives accurate grip strength readings without the subject being able to "feel" the handle move. Results are consistent with published Baseline® and Jamar® studies. The internationally accepted design assures reliability, user convenience and measurement repeatability. The five position adjustable handle can accommodate any hand size. The maximum reading remains until the unit is reset. The strength reading can be viewed as pounds or kilograms. Each dynamometer comes in a molded carrying case. The unit is made in the USA and has a 1-year warrantee. CE certified.

Baseline® hydraulic pinch Gauges
The 50 pound hydraulic pinch gauge offers accurate and repeatable pinch strength measurements. The HiRes large head offers a bigger viewing dial and more measurement gradations. Indicator remains at the maximum reading until reset. Comes with hard shelled, padded protective case.

orthopaedic & sports medicine
12-0200  30 lb. with case, blue
12-0201  60 lb. with case, red

weak and damaged hand
12-0202  2 lb. with case, gold
12-0203  10 lb. with case, silver

Hydraulic Hand Dynamometer

200 Pound
The 200 pound Baseline hand dynamometer has become the standard tool used by therapists all across the world. The regular sized head is the industry standard and our most popular size. But...The new HiRes large head makes for easier reading. Comes standard with case.

200 lb. regular head
12-0240  standard

200 lb. HiRes™ large head
12-0243  HiRes large head

300 Pound
The 300 lb. (135 kg) digital hand dynamometer uses the same hydraulic system but has the added advantage of an easy-to-read LCD display. Features an electronic zero calibration system, a power management system that assures at least 1000 hours of use without changing the 2 "AAA" batteries, a low battery light, and an automatic shut off. Push button console includes a button to zero the last maximum reading stored in memory, a maximum button to display the highest reading since the last press of the maximum clear button, and a lb./kg. toggle button to change the measurement reading.

300 lb. digital head
12-0247  digital LCD sys.

300 lb. digital head
12-0247  digital LCD sys.

Baseline® Mechanical Pinch Gauges
Measure tip, key and palmer pinch strength in both pounds and kilograms. Measurements are accurate and repeatable. Results are consistent with published Markowitz studies. Indicator remains at the maximum reading until reset. Comes with hard shelled, padded protective case.

orthopaedic & sports medicine
12-0200  30 lb. with case, blue
12-0201  60 lb. with case, red

weak and damaged hand
12-0202  2 lb. with case, gold
12-0203  10 lb. with case, silver

Baseline® Hydraulic Pinch Gauges
The 50 pound hydraulic pinch gauge offers accurate and repeatable pinch strength measurements. The HiRes large head offers a bigger viewing dial and more measurement gradations.

50 lb. regular head
12-0235  standard

50 lb. HiRes™ large head
12-0228  HiRes large head

100 lb. HiRes™ large head
12-0228  HiRes large

100 lb. digital head
12-0237  digital LCD system
### Testing Protocol: Grip and Pinch

<table>
<thead>
<tr>
<th>POWER GRIP (RIGHT/LEFT)</th>
<th>PATIENT START POSITION</th>
<th>PLACEMENT OF DYNAMOMETER</th>
<th>POSITION OF THERAPIST</th>
<th>TEST</th>
</tr>
</thead>
<tbody>
<tr>
<td>- seated or upright</td>
<td>Adjust handle to</td>
<td>In front of and to the</td>
<td>Have patient</td>
<td></td>
</tr>
<tr>
<td>- test arm at side</td>
<td>appropriate rung,</td>
<td>side of patient.</td>
<td>squeeze, hold and</td>
<td></td>
</tr>
<tr>
<td>with elbow flexed 90°</td>
<td>where grip is</td>
<td></td>
<td>release. Patient</td>
<td></td>
</tr>
<tr>
<td>- palm facing inward</td>
<td>comfortable and the</td>
<td></td>
<td>should not feel grip</td>
<td></td>
</tr>
<tr>
<td></td>
<td>thumb overlaps the</td>
<td></td>
<td>move nor see gauge.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>fingernail of middle</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>finger.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Power Grip:**
- Seated or upright
- Test arm at side with elbow flexed 90°
- Palm facing inward

**Hand Grip Test:**
- Seated or upright
- Test arm at side with elbow flexed 90°
- Palm facing inward
- Adjust handle to appropriate rung, where grip is comfortable and the thumb overlaps the fingernail of middle finger.
- Have patient squeeze, hold and release. Patient should not feel grip move nor see gauge.

<table>
<thead>
<tr>
<th>PATIENT START POSITION</th>
<th>PLACEMENT OF PINCH GAUGE</th>
<th>POSITION OF THERAPIST</th>
<th>TEST</th>
</tr>
</thead>
<tbody>
<tr>
<td>LATERAL (KEY) PINCH (RIGHT/LEFT)</td>
<td>Pinch gauge between flexed PIP joint of index finger and thumb.</td>
<td>In front of patient, to the side, stabilizing pinch gauge.</td>
<td>Have patient squeeze, hold and release.</td>
</tr>
<tr>
<td>CHUCK PINCH (RIGHT/LEFT)</td>
<td>Pinch gauge between thumb and the index and middle fingers.</td>
<td>In front of patient, to the side, stabilizing pinch gauge.</td>
<td>Have patient squeeze, hold and release.</td>
</tr>
<tr>
<td>PULP PINCH (RIGHT/LEFT ON EACH FINGER)</td>
<td>Pinch gauge between thumb and test finger (make sure other fingers do not interfere).</td>
<td>In front of patient, to the side, stabilizing pinch gauge.</td>
<td>Have patient squeeze, hold and release.</td>
</tr>
</tbody>
</table>