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## Ergonomic Material

The material in this package is available to you for worksite evaluations and personnel training. Should you require customization of the forms, the forms in digital format, or assistance in establishing an ergonomic assessment program, please contact Sitmatic at 1 (800) 288-1492. With attribution to Sitmatic, the forms can be reproduced by you, in whole or part

- It's All About Fit
- Chair Fitting & Training
- Ergonomic Posture
- Bad Backs
- Carpal Tunnel Syndrome
- Ergonomic Evaluation- Employee Questionnaire
- Measuring System
- Anthropometric Example
- Custom Fit
- Meeting Special Needs
- Typical Option Matrix
- Seat Heights
- Special Seats
- Special Seat Angles
- Instruction Cards



## Chair Fitting & Training



Sitmatic is the industry leader in proper specification and set-up of office seating. Although many manufacturers claim to sell ergonomic chairs, there is nothing ergonomic about setting a chair under an employee without a thorough evaluation of the person and the work environment. This includes the size of the person, the tasks performed, keyboard height and monitor height. The cost of this service should be discussed with your Sitmatic dealer. Below is the typical evaluation process:

- 1) Meet with client to set schedule
- 2) Client to coordinate with employees regarding time, place and purpose of evaluations. Schedule 7 minutes between people.
- 3) Evaluation day (Team of 5: 1 ea Measurer, 1 ea Input, 3 ea Evaluators)
  - A) Set up anthropometric jig and computer in common area
  - B) Measure each employee
  - C) Print Anthropometric Evaluation for each employee
  - D) Accompany each employee back to workstation
    - i) Adjust worksurface height as per Anthropometric Evaluation  
(If adjustment of worksurface height is possible or practical)
    - ii) Explain 90°-90°-90° Elbows and Eyes posture
    - iii) Adjust seat height- Carpal tunnel risk
    - iv) Adjust lumbar support- Bad back
    - v) Adjust armrest height- Neck and shoulder
    - vi) Adjust tension- Microbreaks
    - vii) Check monitor height
    - viii) Check keyboard height
    - ix) Have employee sign waiver
    - x) Leave tape measurers for future use by employee
- 4) Recap with client report on any special needs identified and possible solutions.



## Why training?

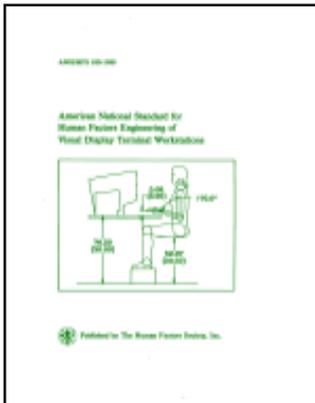


Clients who spend money for this process fall into two main categories.

If a company's corporate culture encourages intangible benefits that employees appreciate, this ergonomic evaluation process tells the employee that the company is concerned about their well-being as individuals as well as employees. This is common if the work force is comprised of workers who have easily transported skills. Employee retention is a huge benefit to these companies.



The second reason organizations undergo this process is simply for economic reasons. Most seating manufacturers are proud to claim that their chairs comply with ANSI-HFS 100, the only existing American ergonomic standard. The standard, however, clearly explains that it can only be used for 5th percentile females through the 95th percentile males. This means that 10% of the workforce will be poorly fitted and at ergonomic risk. A case of carpal tunnel syndrome conservatively costs an organization \$35,000. If you have 100 employees, 10 poorly fitted, and one who files a workman's compensation claim, you have paid for the chairs twice, once for the initial cost and the second time for the claim.

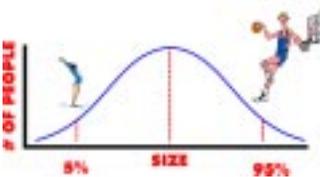


An added advantage of the evaluation process is that it is scientific and done by a third party. Should an employee be given special treatment because of their size (be it large or small), it is the vendor, and not management that specified the chair.

Finally, if an organization shows a true concern for the health and safety of their employees by investing in this process, employees are slower to sue.

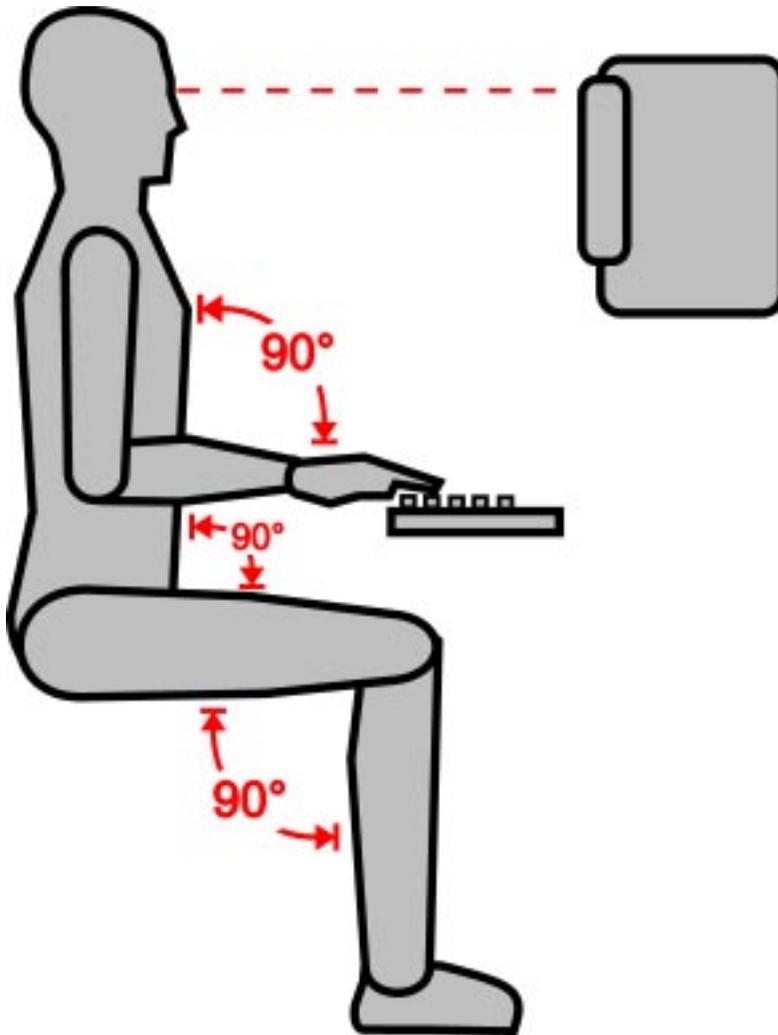
Employers who fall into this second category generally have a clear understanding of their worker's compensation costs and consequently will be senior level management.

Regardless of which category your organization falls into, the training each employee receives from this process is valuable and should be learned during the course of a career involving the use of a computer.





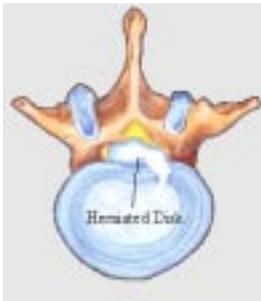
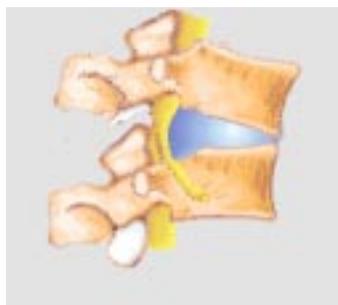
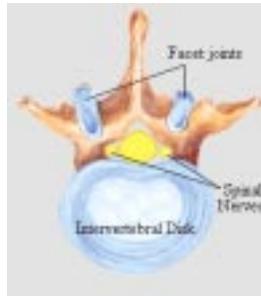
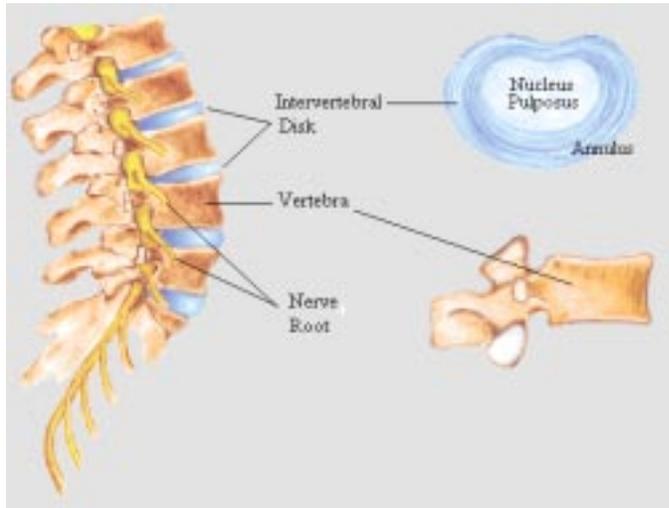
## Ergonomic Posture



Relax your arms so that they hang naturally from your shoulders. Bring your forearms so that they are parallel with the floor and the wrists are in a neutral position. Adjust the seat height so the elbows are at or above the keyboard height (Carpal Tunnel Syndrome). Adjust the backrest angle and seat pan so that the torso and the upper legs are at 90 degrees or slightly more reclined (Lower Back Support). If your feet dangle, find a footrest, or adjust the keyboard down.



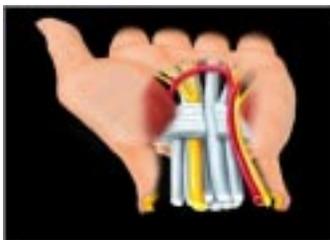
## Bad Backs



The vertebrae in your spine are a stack of bones. This stack naturally curves in at your lower back. Between each vertebra is a disk. This disk is like a jelly donut, strong on the outside, and full of jelly in the middle. As long as your vertebra stay in their normal position, the jelly in the disk evenly fill the space between the vertebra. Once you lean forward, the vertebrae push all the jelly to the rear. This bulge of jelly compresses the nerves that exit the spine. This nerve thinks that it is being told to contract the muscles in the lower back, and so it tightens up your back. The muscles pull the vertebra further out of line and the jelly gets pushed further back against the nerves. You now have a vicious circle. The constantly contracted muscles start to ache. The same nerve that runs out of the spine also runs down the leg to the foot. Soon the buttocks, leg and foot start to ache. In its worst form, the jelly donut can rupture, and surgery is required to remove the excess material and repair the wall of the disk. Proper lumbar support is part of the prevention.



## Carpal Tunnel Syndrome



The median nerve controls the sensations of our fingers and hands ("Carpus" is latin for wrist). It passes through our wrists in a "tunnel". The walls of the tunnel are formed by our wrist bones and ligaments. Also in this tunnel are the tendons that mechanically control our finger motion. These tendons are designed to move in a straight line. If we constantly move our fingers (eg type) with our wrists bent, the tendons rub and start to swell. Eventually, the swelling leaves no room for the median nerve. It becomes damaged by the compression and you lose sensation and strength in your hands. Corrective action is first, a wrist brace to keep the wrist straight, next, drugs, such as cortisone, to reduce the swelling, and finally surgery, to open up the carpal tunnel and make more room. Part of the prevention is proper keyboard/seat height.

# Ergonomic Evaluation - Employee Questionnaire

The company is concerned about safety in the working environment. You will be visited by an evaluator to ensure that the equipment in your workspace is adequate and adjusted properly. Please review and complete the following information prior to their visit.

To be completed by employee:

Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Name: \_\_\_\_\_

Phone: \_\_\_\_\_

Department: \_\_\_\_\_

Position: \_\_\_\_\_

Supervisor's Name: \_\_\_\_\_

Supervisor's Phone: \_\_\_\_\_

How much time do you spend a day:

On the computer? \_\_\_\_\_hrs \_\_\_\_\_min      On the phone? \_\_\_\_\_hrs \_\_\_\_\_min

Filing? \_\_\_\_\_hrs \_\_\_\_\_min      Stapling? \_\_\_\_\_hrs \_\_\_\_\_min

Removing Staples? \_\_\_\_\_hrs \_\_\_\_\_min      Writing? \_\_\_\_\_hrs \_\_\_\_\_min

Stamping? \_\_\_\_\_hrs \_\_\_\_\_min      Other tasks? \_\_\_\_\_hrs \_\_\_\_\_min

How many years have you used a computer? \_\_\_\_\_years

What is the heaviest object you are required to lift? \_\_\_\_\_lbs

Have you received training on lifting? \_\_\_\_\_(Y/ N)

Have you received any ergonomic training? \_\_\_\_\_(Y/ N)

If Yes, about when \_\_\_\_\_/\_\_\_\_ (month/year)

Do you wear corrective lenses? \_\_\_\_\_(Y/ N)

If yes, Bi or Trifocals? \_\_\_\_\_(Y/ N)

Special VDT Glasses? \_\_\_\_\_(Y/ N)

Date of last eye exam? \_\_\_\_\_/\_\_\_\_ (month/year)

Is the lighting in your workstation adequate? \_\_\_\_\_(Y/ N)

Do you like a chair with armrests? \_\_\_\_\_(Y/N)

Would you prefer a chair that rocks  
or adjusts into a fixed position? \_\_\_\_\_(Rocks/Fixed)

## Optional questions to be completed by employee:

Sex \_\_\_\_\_(M/F)      Weight \_\_\_\_\_lbs      Height \_\_\_\_\_Ft      \_\_\_\_\_In

Please complete reverse side

**To be completed by employee:**

If you are currently having discomfort related to work when using the computer for several hours or related to other work tasks, please indicate the area and severity:

Neck	
How Often?	How Much?
<input type="checkbox"/> Never	<input type="checkbox"/> None
<input type="checkbox"/> Occasional	<input type="checkbox"/> Discomfort
<input type="checkbox"/> Often	<input type="checkbox"/> Pain
<input type="checkbox"/> Always	<input type="checkbox"/> Severe Pain
First Occurrence ___ / ___ / ___	

Shoulders	
How Often?	How Much?
<input type="checkbox"/> Never	<input type="checkbox"/> None
<input type="checkbox"/> Occasional	<input type="checkbox"/> Discomfort
<input type="checkbox"/> Often	<input type="checkbox"/> Pain
<input type="checkbox"/> Always	<input type="checkbox"/> Severe Pain
First Occurrence ___ / ___ / ___	

Elbow	
How Often?	How Much?
<input type="checkbox"/> Never	<input type="checkbox"/> None
<input type="checkbox"/> Occasional	<input type="checkbox"/> Discomfort
<input type="checkbox"/> Often	<input type="checkbox"/> Pain
<input type="checkbox"/> Always	<input type="checkbox"/> Severe Pain
First Occurrence ___ / ___ / ___	

Upper Back	
How Often?	How Much?
<input type="checkbox"/> Never	<input type="checkbox"/> None
<input type="checkbox"/> Occasional	<input type="checkbox"/> Discomfort
<input type="checkbox"/> Often	<input type="checkbox"/> Pain
<input type="checkbox"/> Always	<input type="checkbox"/> Severe Pain
First Occurrence ___ / ___ / ___	

Forearm	
How Often?	How Much?
<input type="checkbox"/> Never	<input type="checkbox"/> None
<input type="checkbox"/> Occasional	<input type="checkbox"/> Discomfort
<input type="checkbox"/> Often	<input type="checkbox"/> Pain
<input type="checkbox"/> Always	<input type="checkbox"/> Severe Pain
First Occurrence ___ / ___ / ___	

Lower Back	
How Often?	How Much?
<input type="checkbox"/> Never	<input type="checkbox"/> None
<input type="checkbox"/> Occasional	<input type="checkbox"/> Discomfort
<input type="checkbox"/> Often	<input type="checkbox"/> Pain
<input type="checkbox"/> Always	<input type="checkbox"/> Severe Pain
First Occurrence ___ / ___ / ___	

Wrist/Hand	
How Often?	How Much?
<input type="checkbox"/> Never	<input type="checkbox"/> None
<input type="checkbox"/> Occasional	<input type="checkbox"/> Discomfort
<input type="checkbox"/> Often	<input type="checkbox"/> Pain
<input type="checkbox"/> Always	<input type="checkbox"/> Severe Pain
First Occurrence ___ / ___ / ___	

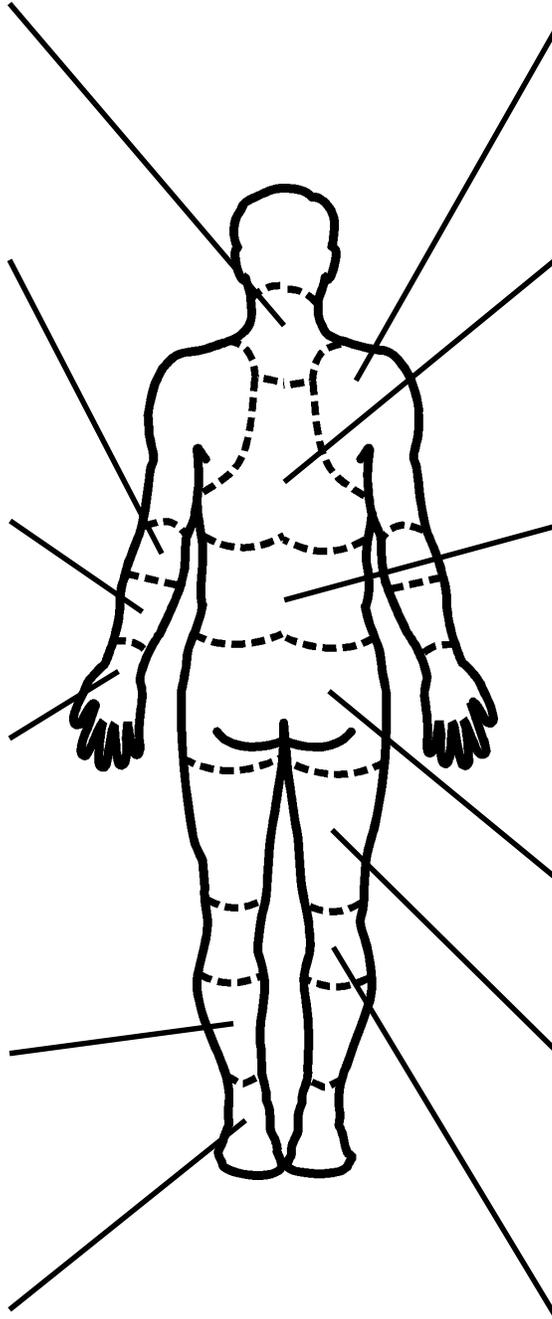
Hip	
How Often?	How Much?
<input type="checkbox"/> Never	<input type="checkbox"/> None
<input type="checkbox"/> Occasional	<input type="checkbox"/> Discomfort
<input type="checkbox"/> Often	<input type="checkbox"/> Pain
<input type="checkbox"/> Always	<input type="checkbox"/> Severe Pain
First Occurrence ___ / ___ / ___	

Lower Leg	
How Often?	How Much?
<input type="checkbox"/> Never	<input type="checkbox"/> None
<input type="checkbox"/> Occasional	<input type="checkbox"/> Discomfort
<input type="checkbox"/> Often	<input type="checkbox"/> Pain
<input type="checkbox"/> Always	<input type="checkbox"/> Severe Pain
First Occurrence ___ / ___ / ___	

Thigh	
How Often?	How Much?
<input type="checkbox"/> Never	<input type="checkbox"/> None
<input type="checkbox"/> Occasional	<input type="checkbox"/> Discomfort
<input type="checkbox"/> Often	<input type="checkbox"/> Pain
<input type="checkbox"/> Always	<input type="checkbox"/> Severe Pain
First Occurrence ___ / ___ / ___	

Ankle/Foot	
How Often?	How Much?
<input type="checkbox"/> Never	<input type="checkbox"/> None
<input type="checkbox"/> Occasional	<input type="checkbox"/> Discomfort
<input type="checkbox"/> Often	<input type="checkbox"/> Pain
<input type="checkbox"/> Always	<input type="checkbox"/> Severe Pain
First Occurrence ___ / ___ / ___	

Knee	
How Often?	How Much?
<input type="checkbox"/> Never	<input type="checkbox"/> None
<input type="checkbox"/> Occasional	<input type="checkbox"/> Discomfort
<input type="checkbox"/> Often	<input type="checkbox"/> Pain
<input type="checkbox"/> Always	<input type="checkbox"/> Severe Pain
First Occurrence ___ / ___ / ___	



**To be completed by evaluator:**

Evaluation requested by:  Supervisor     Employee     Claims Adjuster     Health & Safety  
Reason for evaluation:  Preventative     Medical     Industrial Accident     ADA

# Ergonomic Chair Demonstration & Setup

Date:

---

Chair Model:

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Lumbar distance from seatpan to middle of support: \_\_\_\_\_

Popliteal (back of knee) overhang from front of seatpan to calf: \_\_\_\_\_

Chair height measured with feet flat on floor: \_\_\_\_\_

Employee informed about proper ergonomic posture:

Elbows at or above working surface by varying keyboard height or chair height:

Upper legs and torso at 90°-105° by adjusting backrest angle of chair:

Upper and lower arms at 90°-120° by moving chair away from or closer to work surface:

Upper and lower leg at 90°-130°, with feet supported by floor or footrest:

Top of monitor at or below normal vision line:

Employee demonstrated adjustments for task intensive and non-intensive work postures:

“I acknowledge receiving the above chair. I understand the adjustments of the chair and initially feel comfortable sitting in the chair. I have been informed to notify my supervisor if I have future problems with the chair.”

Please Sign:

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Please Date:

---

“I am comfortable in the chair I am currently using, and do not want a new chair at this time. I have been informed to notify my supervisor if I have future problems with the chair.”

Please Print Name:

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Please Sign:

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Please Date:

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## Custom Fit

### Description

### Client's Data

### Part Number

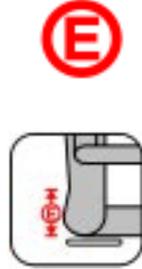
	<p>① In addition to lower back and mid back support, do you also want upper back support? <i>Circle 163 to include upper back or 161 for only mid back.</i></p>	Yes No	<b>163 161</b>
	<p>② Do you wear bifocals while using a computer or Do you wear special VDT Glasses or Do you wear special contact lenses for reading?</p>	Yes No	
	<p>③ Do you like armrests on your chair?</p>	Yes No	
	<p>④ Do you like a chair that rocks, locks in place, or the option for either? <i>If the user chooses rocks or both, circle SX.</i></p>	Locks Rocks Both	<b>SX</b>
	<p>Ⓐ Lower Leg Height <i>If it is shorter than 16", circle EC. If it is longer than 21¼", circle XC.</i></p>	_____ "	<b>EC XC</b>
	<p>Ⓑ Elbow Height <i>If it is shorter than 6", and the user wants armrests, circle LB.</i></p>	_____ "	<b>LB</b>
	<p>Ⓒ Eye Height</p>	_____ "	
	<p>Ⓓ Upper Leg Length <i>If it is longer than 21", circle SS.</i></p>	_____ "	<b>SS</b>
	<p>Ⓔ Lumbar Height <i>For computer use, circle XL. If it is taller than 12" contact customer service.</i></p>	_____ "	<b>XL</b>
	<p>Ⓕ Thigh Breadth <i>If it is greater than 17¼", circle ES. If it is greater than 21", change model number to 391</i></p>	_____ "	<b>ES</b>
	<p>Ⓖ Elbow-Elbow Distance <i>If the user wants armrests, circle +1A. If the distance is less than 14", circle +2D.</i></p>	_____ "	<b>+1A +2D</b>
	<p>R/L Dominant eye <i>Recommend copy in front of the monitor or the side of the dominant eye. Recommend nothing if user wears contact lenses for reading.</i></p>	Right Left	
	<p>Ⓗ Correct Keyboard Tray Height from Floor</p>	<b>Ⓐ + Ⓑ - 1¼" = _____ "</b>	
	<p>Ⓘ Correct Monitor Height from Worksurface <i>If the user wears bifocals at the computer, make no recommendation.</i></p>	<b>Ⓒ - Ⓑ + 1¼" = _____ "</b>	
	<p>! Your perfect Sitmatic chair <i>To the model number, add all the circled suffixes. (eg 163 SX XL +1A)</i></p>		



## Custom Fit Measuring



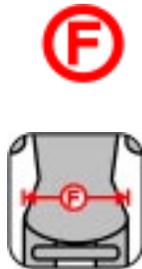
**Lower Leg Height**  
*Measure from the bottom of the heel (with shoes) to the back of the knee. If the person is wearing a shoe higher or lower than normal, make the appropriate adjustment to the measurement.*



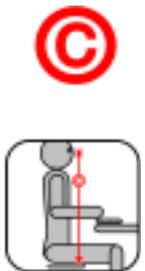
**Lumbar Height**  
*While seated, have the person put their thumbs into the small of their back. Measure from the seated position to their thumbs. (This is a very subjective measurement; you are looking for anything extremely high).*



**Elbow Height**  
*With their arms relaxed at their sides and forearms horizontal (as if typing), measure from the sitting surface to the tip of the elbow.*



**Thigh Breadth**  
*With the person in a seated position, measure widest distance across both thighs. Placing binders on either side of the person and measuring between the binders may be of help.*



**Eye Height**  
*With the person in a seated position, measure from the sitting surface to the eye.*



**Elbow-Elbow Distance**  
*With their arms relaxed at their sides and forearms horizontal (as if typing), measure from elbow tip to elbow tip.*



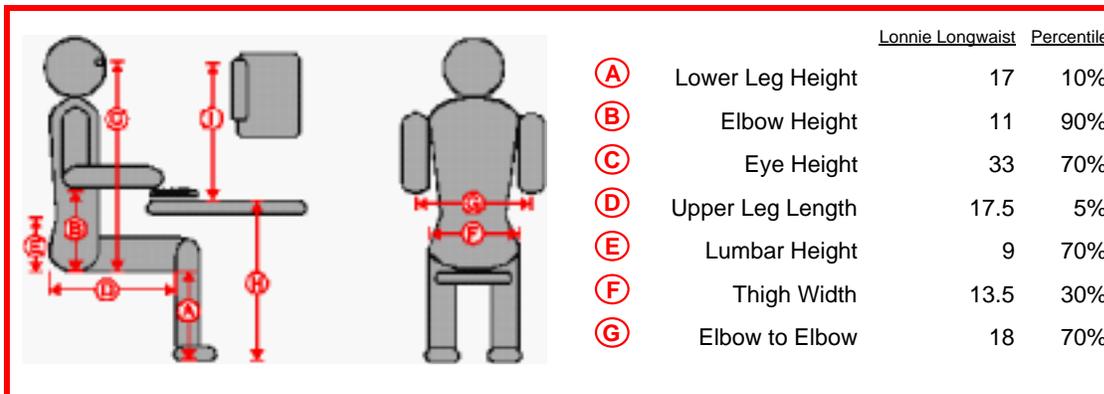
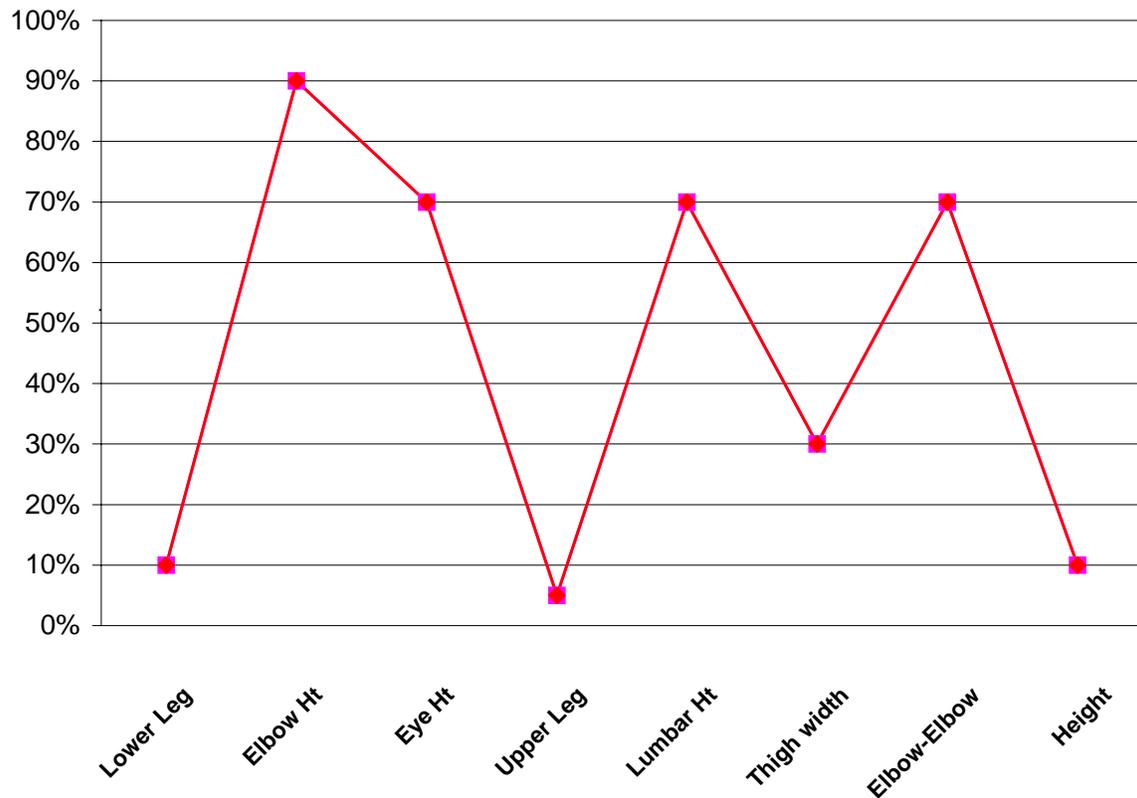
**Upper Leg Length**  
*With the person in a seated position, measure from the rearmost part of the buttock to behind the knee. Placing a catalog behind them may help.*



**Dominant Eye**  
*Have the individual, with both eyes open, focus on a spot on the wall. With the hands at arm's length, form a circle around the spot. Close one eye and then the other. Whichever eye keeps the spot in the circle is the dominant eye.*

# Lonnie Longwaist's

## Personal Anthropometric Evaluation



Your ideal seat height is:

17 inches above the floor

Your ideal keyboard tray height is:

27 inches above the floor

Ideally, the top of your monitor screen should be:

23 inches above your keyboard

(Monitor Height Caution because of glasses)

Your copy should be in front of or on the:

right side of your monitor

Your ideal Sitmatic chair is model:

**163SXXL+1A**

Alpha High Back w/ SynchroExec Extended Lumbar Support Adjustable Height & Width T-arm

1 (800) 288-1492



## Meeting Special Needs



Sitmatic offers several accessories that will assist you in meeting the needs of employees who fall outside the range of normal size, have special health considerations, have unusual jobs or work at unusually configured machinery. The most popular options are discussed here.

### **NECK & SHOULDER**

Neck and shoulder pain is generally the result of a keyboard that is too high for the individual, forcing them to type with their shoulders hunched around their ears. Proper armrest support (in addition to proper seat height) alleviate this problem by taking the weight of the upper arm and transferring it from the neck and shoulder area to the chair itself. Sitmatic has a range of 6 armrest styles from which to choose.

#### **+1 Hoop Armrests**

For non intensive data work, the fixed hoop armrest allows arm support, particularly if the individual can take "micro-breaks" during the course of the working day. Micro breaks are relaxed moments during phone calls , conversations, etc. when the individual can assume a slightly reclined posture and use the armrests as additional support.

#### **+1A Adjustable Height and Width Armrests**

This is the most popular armrest style for computer users. It adjusts in both height and width allowing the user to place the armrest pads at the precise location for optimal elbow support.

#### **+2A Adjustable Height, Width, Angle and Tilt Armrests**

For individuals with chronic forearm pain, the +2A not only adjusts in height and width, but the cap rotates to support the users' forearms. Additionally, it is free to tilt forward and back to follow the users' natural movements.



+ 1 Hoop Armrests



+1A & + 2A Adjustable Armrests



+2D Data Armrest



+CA Comma Armrest Cap



+XL Extended Lumbar Support



+AL Adjustable Lumbar Support

## WRIST PROTECTION

The best wrist protection comes from proper adjustment of seat height, allowing the forearms and wrists to remain parallel with the floor, thereby keeping the wrist in a neutral position. Sitmatic offers special armrest caps that aid in maintaining this important forearm wrist position.

### +2D Gel Data Armrests

For dedicated data entry positions, the user swivels these wide armrest caps inward to support their forearms as they key. This extra forearm support makes it easier to maintain the wrist in a neutral position.

### +UC Comma Armrest Caps

This armrest cap can be attached to any "T"-style armrest. A wrist rest is integrated into its shape. It is particularly useful for people who operate equipment that does not allow a space for a wrist rest on the work surface. Examples are microfiche readers, pipette hoods, and courtroom writing machines.

## LOWER BACK RELIEF

Good lower back support comes from maintaining the natural curve in the lower back. Standard to Sitmatic multi-task chairs are pronounced lumbar bolsters structurally molded into each backrest shell. This pronounced shape allows the individual to precisely place the bolster for best support. The backrest height adjustment is an unusually long 4" range so that heavier individuals, with more "natural padding", can adjust the bolster to the height necessary to reach their 4th and 5th vertebra region (the "lower back").

### +XL Extended Lumbar Support

For individuals with a large lordosis (lower back curve), the Extended Lumbar is a bolster that is larger than Sitmatic's standard lumbar support. It provides "aggressive" support for individuals with chronic backrest pain.

### +AL Adjustable Lumbar Support

For extremely sensitive lower backs, the Air Lumbar can be inflated or deflated to match the exact requirements of the individual. Additionally, should the chair be used by another employee, the Air Lumbar can be easily adjusted.



## SMALL INDIVIDUALS

Fitting a small individual to a work station is a careful balance between seat height and elbow height. The seat height must allow the individual to keep their elbows at the same height as the work surface, and consequently, their forearms parallel to the floor to protect their wrists. Optimally, the seat height should allow the individual to place their feet on the floor so not only are they comfortable at their keyboards, but also comfortable moving about their work stations. The best solution is a lowered seat height and a work surface or a keyboard tray that adjusts down to the individual. If this is not possible, the seat height should be raised for the proper elbow height, and then a footrest should be provided.



+EC Extra Low Seat Height



+FR Footring



+LB Lowering Blocks



+PS Petite Seat

### +EC Extra Low Seat Height

For individuals who can lower their worksurfaces, the +EC option allows the seat to be lowered to 14" from the floor to assist individuals with short lower legs. Without this low seat height, the individual would have dangling feet and consequently reduced circulation.

### +FR Footring

If a small individual does not have a height adjustable worksurface, they face a risk of carpal tunnel syndrome. If they adjust the seat height so their arms are parallel with the floor, their legs will dangle and the circulation in the back of their legs will be constricted. By adding the footring to any operational chair, the individual has a convenient foot perch with their chair at the proper height.

### +LB Lowering Blocks

Standard Sitmatic "T" arms will lower to 8" over the seat's SRP. (Seated Reference point where the ischial tuberosities contact the cushion). Occasionally a short waisted individual will need the arms to go even lower. By specifying the +LB Lowering Block option, the armrests will lower to 5 3/4" above the seatpan. The adjustment range of 3 1/4" will remain the same.

### +PS Petite Seat

Decreases width and depth from 18 1/2" w x 17 1/2" d to 16" x 16". Useful for short upper leg lengths and children. Often used with an extended height cylinder and footring. Shown on left on the top of a standard seatpan.



## LARGE INDIVIDUALS

Large individuals can be the most difficult challenge to a specifier of ergonomic chairs. But, large individuals are generally not large in all dimensions. Before specifying, a careful assessment of the individual's body size will determine which dimensions must be accommodated (typically thighs, upper legs, lower legs or posterior). Thigh breadth is generally not a problem for Sitmatic chairs because the "T" style armrests all adjust in width- up to 23" between uprights. Other options listed below assist you in specifying for the large individual.

### **+ES Extended Width Seatpan**

This seat is an extra 1½" wider than our normal seatpan and can accommodate up to the 99th percentile individuals.

### **+XC Extended Height Cylinder**

This option increases the seatpan height 3" for individuals with long lower legs, allowing them to maintain the ergonomically correct 90° or more relationship between upper and lower leg.

### **+SS Sliding Seat**

This option allows the seat depth to be adjusted 2<sup>5</sup>/<sub>8</sub>" in 6 different positions for individuals with long upper legs or with large posteriors that force them forward in the chair.

### **BigBoss Series**

Very large can be very hard on fully functional ergonomic seating. If your facility has such an individual, the BigBoss chair is an incredibly durable solution. It has a knee hollow pivot, tilting mechanism that allows the user to keep their feet flat on the floor as they tilt and prevents circulation reduction in the back of the legs. It is also tension adjustable to individual body weight. For people weighing over 250 lbs., the +XD Extreme Duty Control is recommended. Because the BigBoss™ is a passive ergonomic chair, the chair should be loaned to the "hard-to-fit" individual for a trial period before final selection is made.



+ES Extended Seat Width



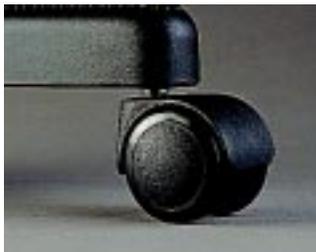
+XC Extended Seat Height



+SS Adjustable Seat Depth



BigBoss™ Seating



+BC Locking Caster



+SX SynchroExec Rocking Control

## SAFETY

### +BC Braking Casters

If an individual stands up quickly, the back of their legs can strike the chair, causing the chair to roll backwards. When they go to sit down again, they land on the floor instead of the chair. This happens most often on tile floors, or in buildings whose floors are not level. Braking casters have a clutch that engages when the users stands up. This clutch keeps the wheels from rolling until the user sits down again.

### +ML Manual Lock Casters

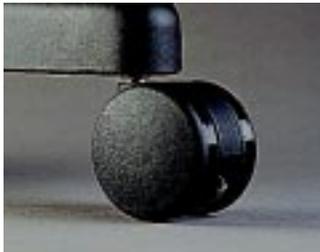
People who have lost muscular control can be productive employees if they can safely sit in a chair while they work. Manual Lock casters have step locks that can be engaged to prevent the chair from rolling. This is a popular option for individuals challenged with MS.

## ANTI-FATIGUE

A chair should not make a task more difficult, and should allow a person to relax at their workstations. These options listed here are designed to ease the burden of a specific task or allow for moments of relaxation during the working day.

### +SX SynchroExec Rocking Mechanism.

Ergonomists have stressed the importance of a chair that allows the independent adjustment between the seat and backrest angle. The individual can set the angle that is most appropriate for their size and work habits. Once set, this leaves the chair in a static position with an ergonomically correct seat to back angle. However, in a "multi-task environment", (one in which the individual goes from computer, to a phone, to a conversation with a guest), the static position of the chair prevents the worker from taking a relaxing "micro-break" unless they readjust the chair. Not only does the SynchroExec mechanism allow for independent adjustment between the seat and backrest angle, but it can be left in a free-float mode so that the individual can naturally rock back to a reclined position should work permit. Once the worker returns to an upright position, the tension adjustable mechanism comfortably holds them in an upright position.



+6C & +7C Large Casters



+LC Locking Caster

#### **+6C and +7C Large Casters**

If an individual has a large work space and must move from area to area, the individual quickly becomes tired as they scoot from place to place. The prime example of this is a security guard who must move along a long bank of monitors during the course of the working shift. Larger than standard casters allow the chair to travel much more easily.

#### **+LC Locking Casters**

When an individual is working on a stool at a piece of equipment that requires both hands to preform tasks, the individual has a tendency to roll away from their work. Examples are microscopes, microfiche readers, film readers, and electronic repair tables. The end result is a person that works for a few moments, and then is forced to pull themselves back to the work surface. After working for a bit, the stool creeps away and the worker repeats the "pull-up" motion. In poorly designed work areas this can happen a hundred times during the course of a working day. Locking caster have brakes that engage when the worker sits in the stool, preventing the chair from rolling while occupied.

#### **MEDICAL ISSUES**

On a daily basis, Sitmatic is confronted with our customers' special requirements. We have custom designed chairs for amputees, degenerative tail bones, and incredibly large individuals. Because we cannot foresee what your specific requirements may be, please have our dealer evaluate the situation on site and they will contact us with the pertinent information. To date, every requirement we have faced has been successfully addressed.



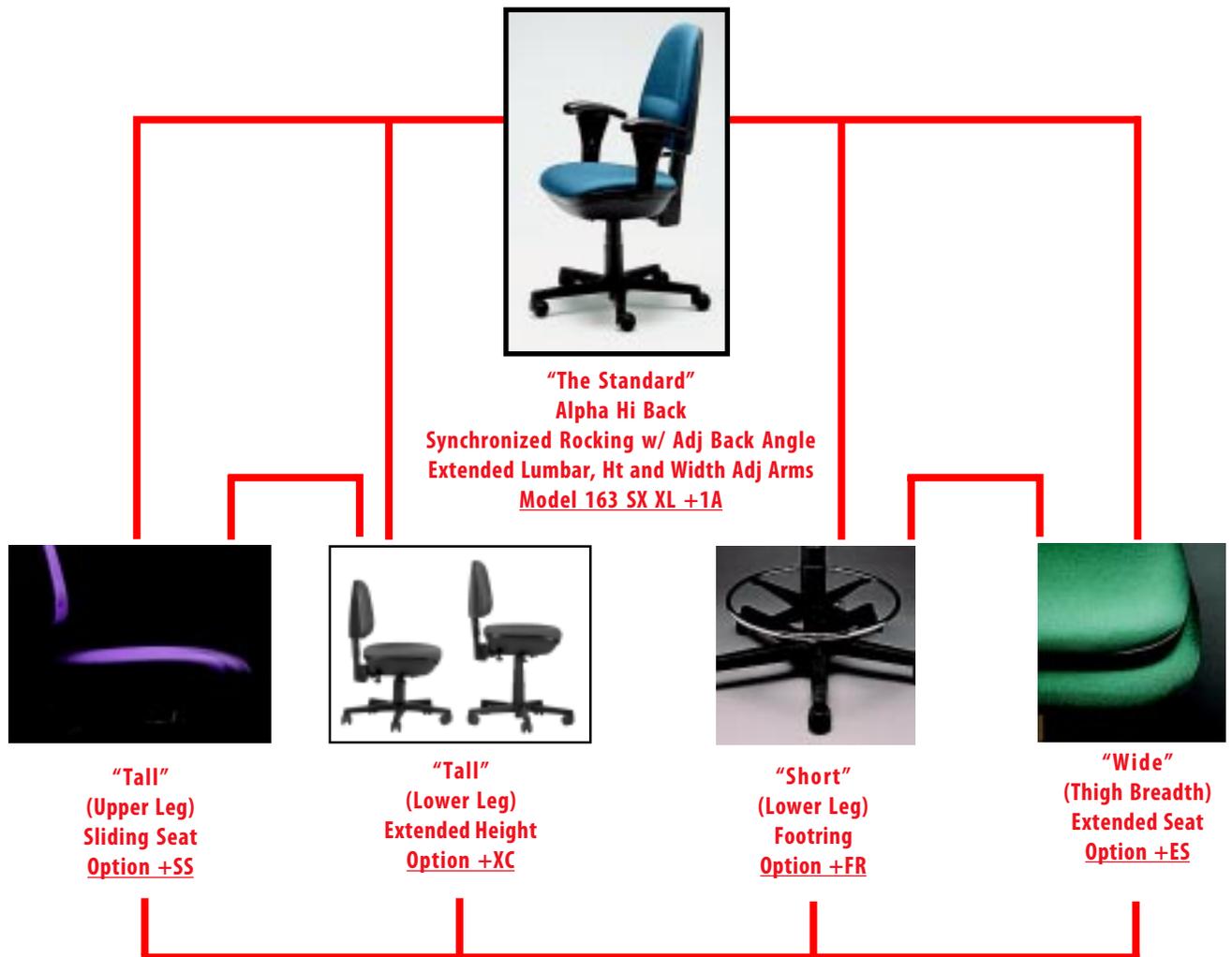
Medical Issues



Special Needs



## Typical Alpha Option Matrix



Other options of note:

Narrow Elbow to Elbow Distance

Low Elbow Height

Restricted Lower Leg Circulation

Tiny Lower Legs

Many others available

+2D Data Cap

+LB Lowering Blocks

+VS Viscose Seat

+EC Extremely Low Cylinder



## Seat Heights

	<u>Cylinder</u>	<u>Range</u>	<u>Seat Height</u>	<u>Optimal Work Surface</u>
	<i>Nano</i>	3"	13" to 16"	25" to 26"
	<i>Extra Low</i>	3¾"	14½" to 18¼"	26½" to 28¼"
	<i>Standard</i>	5¼"	16" to 21¼"	28" to 31¼"
	<i>Extended</i>	7¾"	16¼" to 24"	28" to 34"
	<i>Medium</i>	8"	19" to 27"	31" to 37"
	<i>Tall</i>	10½"	22" to 32½"	34" to 42½"

***A solution; no matter who the employee, no matter what the job!***



## Seat Height Options for Alpha and Beta



+NC Nano Cylinder  
Seat height: 13" to 16"  
Optimal work surface height: 25" to 26"  
Comments: This cylinder makes the chair extremely low. Specify this option is appropriate for the very special application like small children (IMPORTANT: The worksurface height must be extremely low otherwise the user will be at ergonomic risk.)

Range of Adjustment: 3"

Standard on models: Not standard on any model.

Possible work surface height: 23" to 38"



+EC Extremely Low Cylinder  
Seat height: 14½" to 18¼"  
Optimal work surface height: 26½" to 28¼"  
Comments: This cylinder makes the chair very low. Specify this option for a person whose feet cannot normally touch the ground with our standard desk cylinder. (IMPORTANT: The worksurface height must be lower than the normal 30". Otherwise, the person will be working with their shoulders around their ears!)

Range of Adjustment: 3¾"

Standard on models: Not standard on any model.

Possible work surface height: 24½" to 30¼"



+DC Desk Cylinder  
Seat height: 16" to 21¼"  
Optimal work surface height: 28" to 31¼"  
Comments: This is the standard desk height cylinder for general task and computer use. The seat height range meets and exceeds the requirements of ANSI/HFS 100-1988 ergonomic standard for VDT usage.

Range of Adjustment: 5¼"

Standard on models: 060, 061, 063, 160, 161, 163, 269DC

Possible work surface height: 26" to 33¼"



+XC Extended Cylinder  
Seat height: 16¼" to 24"  
Optimal work surface height: 28¼" to 34"  
Comments: This is an incredibly versatile cylinder. It functions as a normal desk cylinder but also goes 2¾" higher. A few uses include long legged people, assembly areas and receptionist stations. A word of caution: if the XC cylinder will be used frequently at its highest height, please add the +FR (footring option) to give the user somewhere to rest their otherwise dangling feet.

Range of Adjustment: 7¾"

Standard on models: Not standard on any model.

Possible work surface height: 26¼" to 36"



+MC Medium Cylinder  
Seat height: 19" to 27"  
Optimal work surface height: 31" to 37"  
Comments: Production benches at 36" need stools with this height range. Additionally, European drafting tables (other than the traditional 4-post type) are commonly used at 36" inches. A footring is almost always used with a this medium cylinder. This cylinder is not intended for standard 30" desk. Although some people with long legs think it is comfortable, most people do not. Instead, use the standard desk cylinder.

Range of Adjustment: 8"

Standard on models: 065, 265, 269, 269FA

Possible work surface height: 31" to 39"



+TC Tall Cylinder  
Seat height: 22" to 32½"  
Optimal work surface height: 34" to 42½"  
Comments: This is the tallest cylinder commercially available. It is commonly used at drafting tables and transaction counters. Transaction height is generally 42". A bank teller's window is a good example. A footring or footbar is always used in conjunction with this cylinder.

Range of Adjustment: 10½"

Standard on Models: 064, 066, 264, 266, 269TC

Possible work surface height: 32" to 44½"



## Special Seats



### **Extended Width Seat - Option ES**

Increases seat width from the standard 18½” to 20”. Can also be added to Flat Seat FS, Viscose Seat VS, Long Seat LS and Molded Seat MS. Shown on the left below a standard width seatpan. This option increases the chair’s cost slightly. Contact customer service for pricing.



### **Petite Seat - Option PS**

Decreases width and depth from 18½”w x 17½”d to 16”x16”. Useful for short upper leg lengths and children. Often used with an extended height cylinder and footring. Shown on left on the top of a standard seatpan. Contact customer service for pricing.



### **Work Seat - Option WS**

For sit/stand applications i.e. “perching”. Small scale with upholstered dimensions of 18½”w x 14½”d and mounted on the mechanism with a very pronounced forward tilt. This is a no charge option. It is often specified in conjunction with the BL Backless Chair option.



### **Heavily Contoured Seat - Option HS**

Similar applications as the WS Work Seat, but with full scale 18½” x 17½” allowing the user to sit for extended periods. Aommel is built into the leading edge of the seat to provide stability to the user since the HS is also mounted on the mechanism with a very pronounced forward tilt. There is a charge for this option.



### **Flat Seat - Option FS**

Helpful for larger individuals who would otherwise be sitting on the side contours of a normally shaped seat. The seatboard is flat with a waterfall front. Upholstered dimensions of 18½” w x 18” d. Can be ordered in conjunction with ES Extended Width seat. This is a no charge option. (This FS ES VS combination is standard on the Softwear™ Chair.)



## Special Seats



### **Viscose Seat - Option VS**

Useful for individuals who are pressure-point intolerant, who have reduced leg circulation, or who just want a very soft chair. The surface of the regular foam is topped with three inches of “memory” foam that “self molds” to cradle an individual’s thighs and buttocks. This option increases the chair’s cost slightly. Standard on Softwear™ chairs.



### **Long Seat - Option LS**

A long, flat seat for users with extremely long upper leg lengths. This provides a 21” deep x 18½” wide surface (18½” deep from seated reference point per ANSI/HFES 100-1988). Can be specified in conjunction with ES option for a 20” width and with the Sliding Seat option SS for an additional 2 5/8” depth adjustment. There is a charge for this option.



### **Molded Seat - Option MS**

For the most durable seating, molded cushions are used. This is standard on Alpha Series chairs, the MS Molded Seat can be ordered as an option on the Beta Series. Can also be ordered in conjunction with option ES Extended Width Seat. This option increases the chair’s cost slightly.



## Special Seat Angles



### Initial Starting Angles

<b>PB</b>	<b>Posture Back Control</b>	<b>-1.7°</b>
<b>SX</b>	<b>Synchro Exec Control</b>	<b>0.0°</b>
<b>ST</b>	<b>Single Touch Control</b>	<b>+5.6°</b>

Mechanisms are measured relative to each other (and not per ANSI-HFES 100). Positive measurements refer to forward seat tilt, and negative refer to rearward or reclined seat positions. These initial angles can be changed using spacers. The changes are as follows:



<b>Spacers</b>	<b>Change</b>
<b>8 MM</b>	<b>2.3°</b>
<b>12 MM</b>	<b>3.4°</b>
<b>16 MM</b>	<b>4.6°</b>
<b>20 MM</b>	<b>5.7°</b>
<b>24 MM</b>	<b>6.9°</b>

To specify, use +FT or +RT as a suffix to the model number, forward tilt and rearward tilt respectively. After that suffix, list the size of the spacer needed, using 08 for 8mm. For example:

163 SX FT 16 Alpha High Back, Synchro Exec, Special Forward Tilt

This will change the initial starting angle forward to +4.6°.

163 SX RT 08 Alpha High Back, Synchro Exec, Special Rearward Tilt

This will change the initial starting angle to the rear -2.3°.

Negative is achieved by placing the spacers on top of the control at the *front* and underneath the underseat shell. Conversely, positive angle is achieved by placing the spacers underneath the seatpan on top at the *rear* of the control. Please note that the range of the seat tilt will not change. In the case of the of the SX and ST the seat tilt range will still be approximately 10° and the PB has a fixed seat angle. So if you add to forward seat tilt you will be taking away rearward seat tilt and vice versa. Also this will not affect the backrest in relationship to the floor, so consequently the seat to backrest angle will be more open or closed when the chair has special spacers. There is no charge for special angles.