FlexShade Systems

Solar Control Shading Systems
Product Catalog

Draper

Solar Control Shading Systems
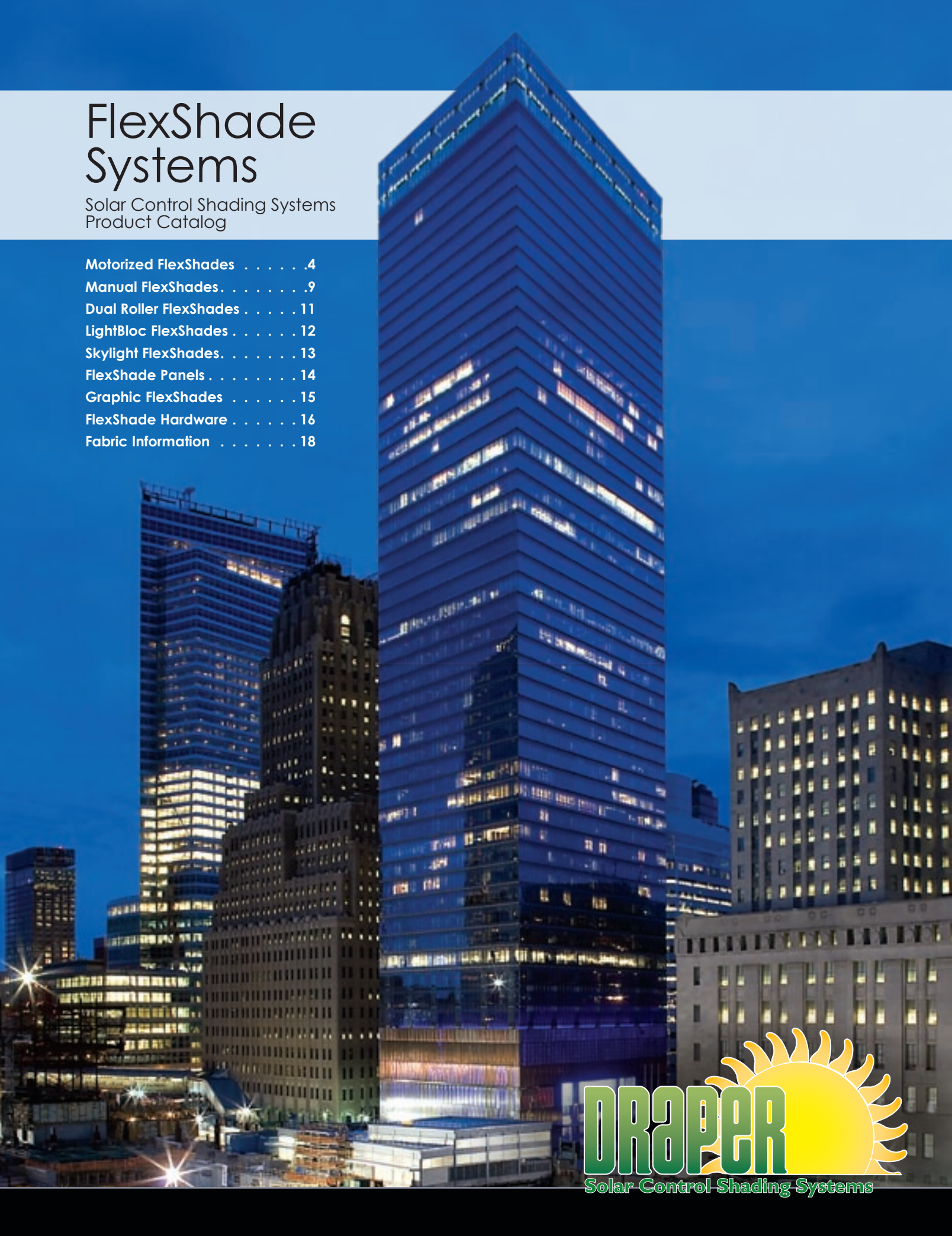
Solar Control Shading Solutions Since 1902

In the summer of 1902, Luther O. Draper went into business manufacturing window shades. Mr. Draper's business philosophy was simple—to make a quality product and sell it at a reasonable price. His early business was focused on window shades for schools in eastern Indiana and western Ohio. School window shades were Draper's primary product for the next 60 years.

In 1989, Draper, Inc. introduced FlexShade Systems, a line of window shades designed for the commercial market. These products employ the highest quality and value today.

For more than 100 years, Draper has continued to manufacture and sell window shades, now to a global market. Its 500 employees, still led by Luther Draper's family, operate with the same business philosophy. Draper embraces these values while looking forward to the needs of the future by establishing itself as a market leader in "Green" environmentally-friendly products and operations.

Window shades reflect light and heat from the sun, reducing the amount of energy required to cool the building. Motorized window shades can automatically adjust to compensate for the changing shade requirements throughout the day. Draper FlexShades can contribute to LEED points and credits.

In addition, shades can reduce or eliminate uncomfortable glare for workers, while still allowing ambient sunlighting and view-through to the outside.

The construction of window shades has become more friendly to the environment as well by including PVC-free fabrics and lean manufacturing processes.

Draper is a member of the U.S. Green Building Council (USGBC), the nation's foremost coalition of leaders from every sector of the building industry working to promote buildings that are environmentally responsible, profitable and healthy places to live and work. USGBC has more than 6,400 member organizations and a network of more than 80 regional

The Draper factory c. 1920.

The Draper factory in 2009.

chapters united to advance its mission of transforming the building industry to sustainability.

The U.S. Green Building Council's core purpose is to transform the way buildings and communities are designed, built and operated, enabling an environmentally and socially responsible, healthy, and prosperous approach that improves the quality of life.

Now in its second century, Draper window shades embody the foundation of Luther Draper's business philosophy and the experience of more than 100 years.

Custom Shading

Each FlexShade product is built to order. Fabric, hardware and operating mechanisms are specified to satisfy functional and aesthetic criteria—Draper builds each unit for an exacting fit.

Draper offers the broadest variety of operator styles in the industry. Options include bead chain clutch, crank, spring roller, and motorized roller-operated shades.

Our spectrum of fabric colors and styles is unmatched. Woven mesh fabrics offer protection from heat, glare and UV rays, while maintaining the view. Soft translucent textiles offer designer appeal. And our opaque fabrics eliminate all visible light. Combine them with a LightBloc System, and you will achieve total blackout. All fabrics are fire retardant.

Motorized FlexShades at Kentucky Show. Dealer: Best Blind & Shade. Photography © Kenneth Hayden. All located in Louisville, KY.

Manual FlexShades at Panera Bread, Fullerton, CA. Dealer: Contract Decor, Inc., Thousand Palms, CA. Photography © Douglas Hill, Anaheim, CA.

Manual FlexShades at Doudna Fine Arts Center, Eastern Illinois University, Charleston, IL. Dealer: Real Designs, Champaign, IL. Architect: Antoine Predock, Albuquerque, NM. Photographer: Barry Rustin, Evanston, IL.
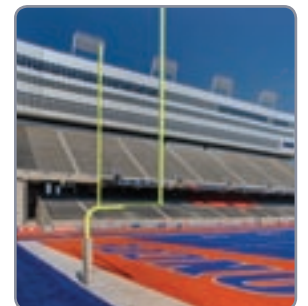

Manual FlexShades at Lake Anna YMCA, Barberton, OH. Dealer: EM Associates, Hudson, OH. Photography © Jason Meyer, Feinknopf Photography, Columbus, OH.
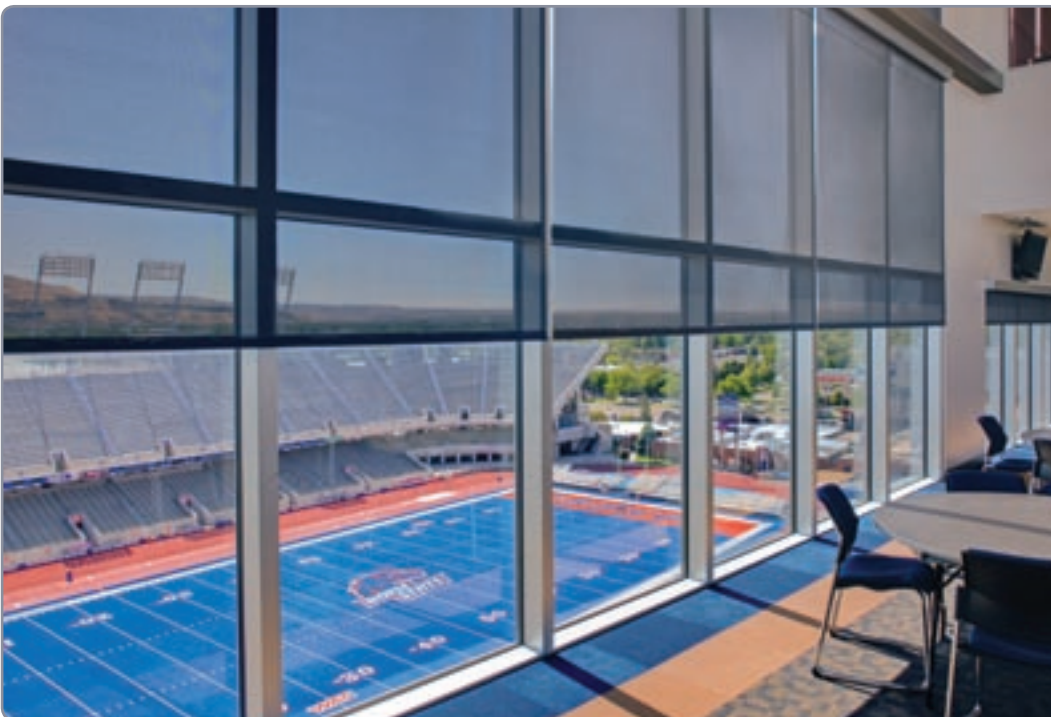
Motorized FlexShades at Boise State University Football Stadium. Architect: FFKR Architects, Salt Lake City, UT. Dealer: Carpet One, Boise, ID. Photography © Alan Blakely, Boise, ID.

Motorized FlexShade

The simplicity of shades with the versatility of motorized operation.

• Motorized FlexShades are available in any size from 2´ through 14´ wide. Larger sizes are available with FlexShade 2 or Colossal FlexShade.

• Furnished with mounting brackets. Optional fascia cover, headbox, and extruded aluminum pockets with bottom closure are available. *See pages 16 & 17 for hardware details.*

• Multiple Motorized FlexShades can be coupled together to reduce the number of motors required. *See page 16.*

• Available with a variety of motor options including: quiet, built-in radio frequency control, battery or low voltage operation. Motors are installed on the right-hand side as standard. They may be specified on the left. *See page 7 for details.*

• Wall switch included with each shade, or choose one of our versatile control options. *Details on pages 7 and 8.*

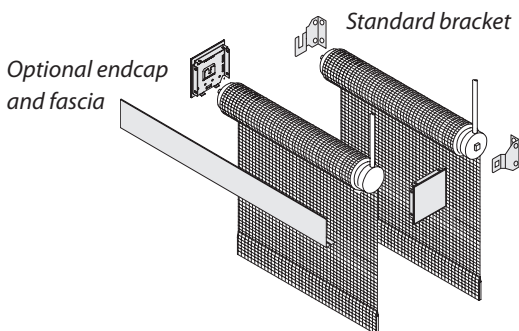• Depending on size of shade, battens may be used to assure a smooth flat surface.

More detailed information, including dimensions, drawings and specifications available at:
www.draperinc.com/go/MotorizedShade.htm

Motorized FlexShade Dimensions

Cloth width = Overall width - 1⅝"
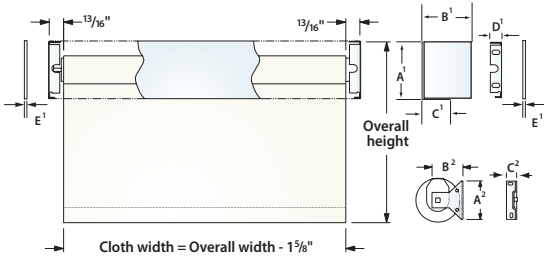
	Headbox with Endcaps		Fascia with Endcaps			Standard Brackets	
	Small	*Large*	*Small*	*Large*		*Small*	*Large*
A¹	3¹⁵/₁₆″	4¹¹/₁₆″	3⅞″	4⅝″	**A²**	2½″	3¼″
B¹	3⁷/₁₆″	4¹¹/₁₆″	3⅜″	4⅝″	**B²**	1⅝″	2¼″
C¹	1½″	1⅝″	1½″	1⅝″	**C²**	¾″	¾″
D¹	⅝″	⅝″	⅝″	⅝″			
E¹	¹/₁₆″	³/₃₂″	¹/₁₆″	³/₃₂″			

Consult Draper to determine which size is required for your installation

Optional endcap and fascia

Standard bracket

7 World Trade Center

Shown here and on the front cover, 7 World Trade Center was the first structure built on the site of ground zero following the terrorist attacks of September 11, 2001.

Certified LEED® Gold, 7 World Trade Center utilizes Draper Motorized and Manual FlexShades with Phifer SheerWeave® 2700 fabric to reduce glare, conserve energy, and add privacy in busy downtown New York City. Installed by International Blind Contractors, LTD. Architect: David M. Childs.

FlexShade 2

Intermediate-Sized Motorized Shades with Your Choice of Hardware Styles and Colors

FlexShade 2 is an intermediate sized shade in between Motorized FlexShade and Colossal FlexShade.

• Available in sizes 3´ to 16´ wide and up to 30´ tall, depending on fabric.

• Spring loaded idler end for easy installation.

• Battens are used to ensure the flattest surface possible.

• Interchangeable ceiling/wall mounting brackets are standard.

• Curved or squared fascia and headbox are available in five colors: clear anodized (standard), white, ivory, black and bronze.

• Wall switch included with each shade, or choose one of our versatile control options. *Details on pages 7 and 8.*

• Available with optional quiet motors, or motors with built-in radio frequency control. *See page 7 for details.*

More detailed information, including dimensions, drawings and specifications available at:
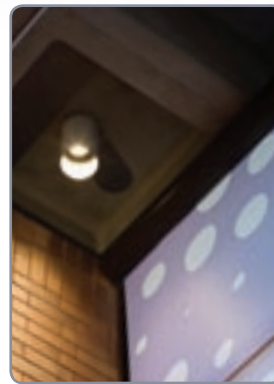*www.draperinc.com/go/FlexShade2.htm*

FlexShade 2 and Phifer SheerWeave® 2000 fabric with custom printed graphics at Cultural Center for the Arts, Canton, OH. Dealer: MAK Associates of Ohio, Akron, OH. Architect: Robert Maschke Architects, Cleveland, OH. Photography © Jason Meyer, Feinknopf Photography, Columbus, OH.
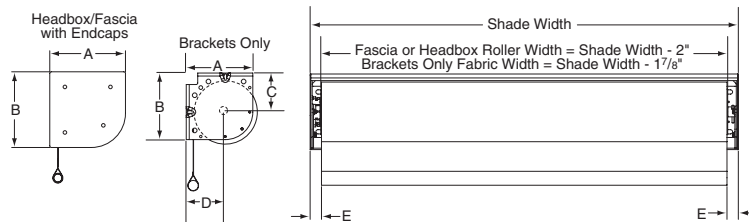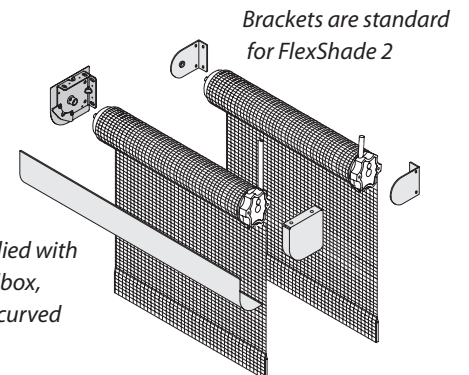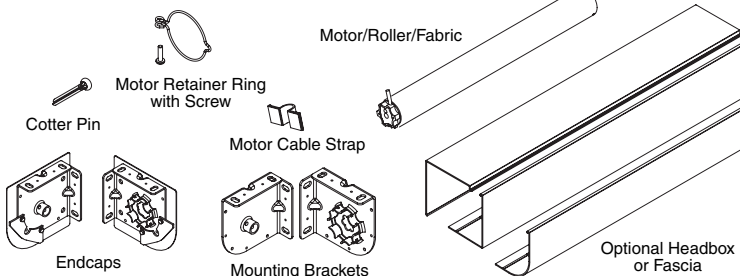
Squared fascia

Curved fascia

FlexShade 2 Dimensions

Headbox/Fascia with Endcaps

Brackets Only

Shade Width
Fascia or Headbox Roller Width = Shade Width - 2"
Brackets Only Fabric Width = Shade Width - 1⁷⁄₈"

	Headbox with Endcaps	Fascia with Endcaps	Brackets Only
A	6⁵⁄₈˝	6½˝	5⁷⁄₁₆˝
B	6⁵⁄₈˝	6½˝	5⁷⁄₁₆˝
C	N/A	N/A	3¼˝
D	N/A	N/A	3¼˝
E	1˝	1˝	1⁵⁄₁₆˝

FlexShade 2 Hardware/Parts

Cotter Pin

Motor Retainer Ring with Screw

Motor Cable Strap

Motor/Roller/Fabric

Endcaps

Mounting Brackets

Optional Headbox or Fascia

Brackets are standard for FlexShade 2

Endcaps supplied with optional headbox, or squared or curved fascia

Colossal FlexShade

Motorized Window Shade for Large Window Openings

Draper's Colossal FlexShade is one of the largest motorized window shades on the market today.

• Available in sizes 3´ through 28´9˝ wide and 30´ tall. Depending on fabric, larger sizes may be available.

• Battens are used to ensure the flattest surface possible.

• Eyebolts for hoisting the shade are provided at each end of the extruded aluminum case.

• Deflection Compensation System minimizes fabric fullness caused by case deflection.

• Optional motors and controls are available. *See pages 7-8.*

Optional Accessories:

• Internal junction box

• Wall mount bracket kit

• Ceiling tile flange

More detailed information, including dimensions, drawings and specifications available at:
www.draperinc.com/go/Colossal.htm
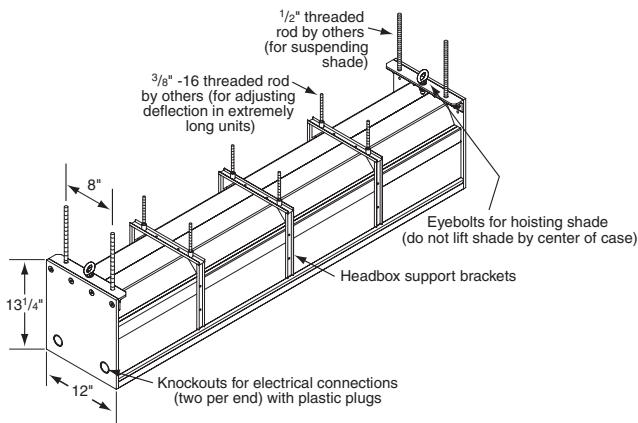
Bottom of extruded aluminum case is fully enclosed except for slot allowing fabric passage. Bottom closure panel may be removed manually for access to roller and drive unit. Patent pending.

Colossal FlexShades, 20´ wide x 40´ high and 20´ wide x 20´ high, with Mermet E-Screen fabric (1% and 5% open), operated by sun sensor. Business Institute of Finance at the University of Illinois. Design Architect: Pelli Clarke Pelli Architects, New Haven, CT. Installation and photography: Real Designs, Champaign, IL.

Colossal FlexShades at Mississippi State University in the Griffis Boardroom of the Palmeiro Center. Installation by Blinds Plus of Clinton, MS. Photography © Russ Houston, Mississippi State University.

Colossal FlexShades at Wasilla (AK) Multi-Use Sports Complex. Architect: Kumin Associates, Anchorage, AK. Installation: Carberry & Associates. Photography: © 2005 Robert Baker, North Star Multimedia, Wasilla, AK.

Motor Options for FlexShades

No one offers more motor options than Draper. We have a solution for any application. Whether you are looking for quiet motors, motors with built-in radio receiver, battery or low voltage operation, Draper has a solution. You will find details on our complete motor offering below.

- **Standard Motor—**115V AC tubular motor with 4-wire pigtail. Draper will provide this motor unless you specify one of the motors below. Compatible with Intelliflex controls shown on page 8.

- **Quiet Standard Motor—**Motor operates at 44 dB. Motor noise is approximately 30% less than standard tubular motors. Compatible with Intelliflex Controls shown on page 8.

Andersen Plugs provided with all Standard and Quiet Standard Motors.

- **Radio Technology Motor—**Motor with built-in radio receiver. Compatible with wireless Radio Technology Controls shown below. 3-wire pigtail allows for attachment of optional three prong plug for plug-and-play operation.

- **Quiet Radio Technology Motor—**Quiet motor with built-in radio receiver. Operates at 44 Db. Motor noise is approximately 30% less than standard tubular motor. Compatible with wireless Radio Technology Controls shown below.

- **Battery Motor with 12V Battery Pack—**Battery powered motor with built-in radio receiver. Includes 12V battery pack. No wiring required. Compatible with wireless Radio Technology Controls shown below.

- **24V DC Quiet Motor—**24V DC Quiet motor with built-in radio receiver. Operates at 44Db. Requires 24V transformer. Low voltage wiring does not require an electrician. Compatible with wireless Radio Technology Controls shown below.

- **Intelligent Technology Motor—**Motor with built-in low voltage controller with 3-wire pigtail and data cable. No external motor controls required. Great motor for integration into automation systems. Compatible with Intelligent motor controls shown below. Available with optional three prong plug for plug-and-play operation.

- **Quiet Intelligent Technology Motor—**In addition to the features listed for the previous motor, it operates at 44Db.

Heartland Payment Sytems, Jeffersonville, IN.
Dealer: Best Blind & Shade, Louisville, KY.
*Photography © Kenneth Hayden, Louisville, KY.*

United Mail Sorting, Inc. Dealer: Best Blind & Shade.
Photography © Kenneth Hayden. All of Louisville, KY.

Control Options for Radio and Intelligent Technology Motors

Draper offers a variety of controls for use with Radio and Intelligent Technology motors. You will find details on wall switches, wireless handheld transmitters, and interfaces below.

Wall Switches

❶ Decora Single Channel Wireless Wall Switch

❷ Decora 4 Channel Wireless Wall Switch

❸ Single Station Low Voltage Wall Switch—for use with Intelligent Motor only (not pictured)
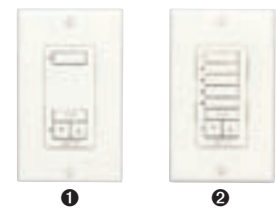
Wireless Remote Controls

❹ Single Channel Handheld Transmitter

❺ Four Channel Handheld Transmitter

❻ Twenty Channel Handheld Transmitter

Interfaces

❼ Sixteen Channel Multi-Link RS-232 to Radio Frequency Interface (not pictured)

Automated Controls

❽ Sun Sensor— Automatically control shades in response to the sun.

❶   ❷

❹   ❺   ❻

❽

IntelliFlex®

Intelligent shading control system.

Using an IntelliFlex® System, it is possible to control shades individually or in groups of almost any size, and to program the operation based on time or sunlight. Switches, panels, remote controls and RS232 operation are all possible. Contact Draper if you would like assistance with specifying a system to meet your needs.

- 5-year warranty against defects
- Compatible with standard Draper motors
- Up to four intermediate stops
- Automatic calibration
- Group panel installation or individually in junction boxes
- Programmable wall switch; more than 50 options
- Easy to incorporate with building automation systems

Dimensions, drawings and specifications available at:
www.draperinc.com/go/IntelliFlexControl.htm
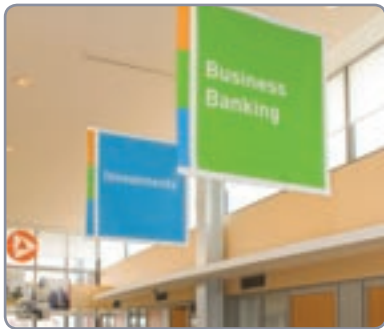
PNC Bank Branch, Old Brownsboro, KY. Dealer: Best Blind & Shade, Louisville, KY. Photography © Kenneth Hayden, Louisville, KY.

Draper window shades are utilized in numerous PNC "Green Branches," many of which are LEED® Silver Certified—and more are being certified each month.

Mercantile Gallery Loft Condominiums. Dealer: Best Blind & Shade. Photography © Kenneth Hayden. All of Louisville, KY.

Group Control

ISO-Relay

- Up to 12 motors can be wired and controlled by one 15 amp switch.
- One relay per shade.

ISO-Relay

GC4

- Four isolating relays in a panelized version.

GC4

SGC4

- Panelized version with remote control.
- Supports bi-directional communication.

SGC4

Individual and Group Control

SC1

- Six stops: fully up, four mid-window, and down.
- *NEW!* Easy preset stop programming.
- *NEW!* Supports bi-directional communication.
- *NEW!* 110V-230V operation.

SC1

SPGC4

- Four SC1s in a panelized version with ports for RF or IR wireless remote control.

SPGC4

Controls/Input Devices

IntelliFlex Wall Switch

- Labeled switches, job overlays.
- One button: one action.
- Compatible with both group and individual controls, programmable bus, dry contact or RF.

Intelliflex Wall Switch

Sun Sensor

- Automatically control shades in response to the sun.

Sun Sensor

R2D7 Professional Integration Interface

- Communicate with AV or BMS systems.

Handheld Transmitter

- Control or program shades with a remote.

R2D7

24-channel Transmitter *12-channel Transmitter*

Draper Automation Systems

Draper Digital Network (DDN)—The DDN is a system of Intelligent motors linked to an IP interface box and potentially other input devices such as wall switches and sun sensors.

• Timed functions from an IP interface automate a building for any needs, i.e. light pollution control at night if seeking a LEED credit.

• Flexible programming and priorities mean that local wall switches can be set at a priority level that works with the automation system.

• Virtual wall switches can be programmed into the IP interface allowing operation of shades from any computer with access.

• Remove the glare from your computer screen without leaving your desk. Control an entire building from a remote location. The possibilities are endless.

For more information, please visit: www.draperinc.com/go/DDN.htm

SolarFlex—SolarFlex is a network of IntelliFlex controls operating motors from a central computer terminal.

• The SolarFlex computer is programmed with the building's blueprint and the location of shades within it.

• Attached to an external sun sensor on the roof, SolarFlex adjusts the shades according to the sun's location.

• Sun angle, azimuth tracking software ensures that you get the correct amount of light and with an internet connection off-site troubleshooting is possible.

• Easy to use, well labeled, single push wall switches and other IntelliFlex input devices can be easily added to the network where needed.

For more details, please visit: www.draperinc.com/go/SolarFlex.htm

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Spring Roller Shade

Simplicity of design, durable materials and careful workmanship make Draper Spring Roller Shades America's first choice for institutional-quality light control and room darkening shades.

• Designed specifically for institutional use.

• Manufactured to endure the toughest conditions.

• Spring Roller Shades are offered in a wide range of room darkening and woven mesh fabrics.

Exclusive Features

• **Spring Roller—**Traditional window shade operation. Metal rollers and heavy-duty springs operate any shade through 12´ wide x 12´ high.

• **Large Diameter Institutional Metal Rollers—**All shades are mounted on rigid steel rollers that house heavy-duty springs. Our ball-bearing style locking mechanism operates more smoothly than other devices on the market. Spring mechanism can be replaced easily in the field.

• **Fabric Attachment—**Fabric is attached to roller with an industrial adhesive, designed to withstand high temperatures and moisture. This adhesive attachment eliminates drilling or unsightly fasteners and gives a strong, permanent bond that leaves a smooth, attractive surface. Virtually eliminates laddering.

• **Heat Seamed—**Hems are heat seamed for added strength, which prevent hems from unraveling and tearing.

• **Kiln-Dried Hard Maple Slats—**Indiana hard rock maple, ⅞˝, 1¼˝ or 1½˝, at our discretion. Ten times stronger than pine slats. No "finger joints."

• **White Cord—**Hard braided large diameter cotton cord, attached to slat with screweye and cord clasp. Screweye doesn't weaken slat like punched eyelet holes on shades of lesser quality.

Spring Roller Shades with SB9000 at the Hoosier Gym, home court location for the movie "Hoosiers", Knightstown, IN. Installation: Fred Mann, New Castle, IN. Photography: Wayne Williams, Indianapolis, IN.

• **Each Shade Individually Tested—**Every Draper shade is individually tested before shipment for perfect operation.

• **Heavy-Duty Cadmium-Plated Hardware—**Heavy plated steel hardware.

Optional Fascia

Available with an attractive aluminum fascia to conceal hardware and roller. See page 16.

More detailed information, including dimensions, drawings and specifications available at: www.draperinc.com/go/SpringRoller.htm

Manual FlexShade

Shading with independent control

Manual FlexShades are a sensible choice for standard window treatments. Choose from a wide range of attractive, light-filtering and light-blocking fabrics to enhance a building's energy efficiency. Installation choices range from simple mounting brackets, to endcaps and fascia, to extruded pockets with bottom closure panels and side channels. *Refer to hardware on page 16.*

Operating Systems

Bead Chain Clutch Operating System—10lb, 20lb, and 24lb clutches available, depending on the size of shade and the fabric selected. Can be mounted either on right (standard) or left. Shades stop when chain is released.
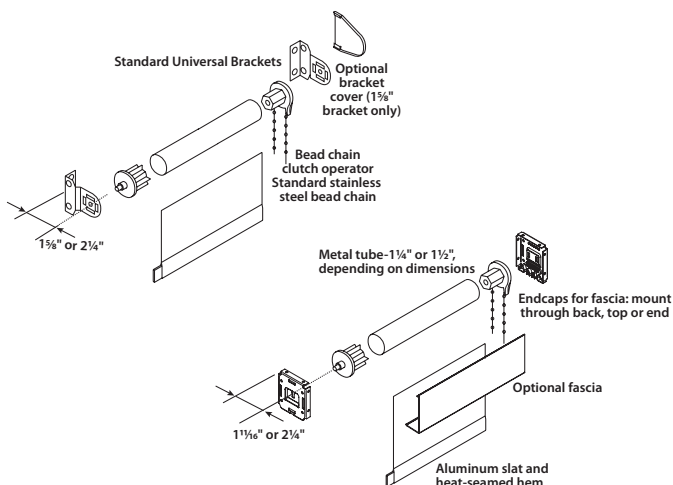
• Stainless steel (standard) or nylon bead chain hangs at the side, leaving the view unobstructed.

• Up and down stops prevent shades from being raised or lowered too far.

• Our spring-loaded idler and universal brackets offer installation ease and flexibility.

• Optional Spring Assist (large units require fixed-pin idler).

Crank Operator—Easily operate tall shades, wide shades, even groups of shades from a single controller. All shades are raised or lowered to exactly the same height.

• Compact bi-directional gear assembly can be mounted on the right side (standard) or left.

• Attractive crank handle hinges to form a thin, straight rod at edge of window when not in use.

• Crank operator can be permanently mounted (standard) or detachable; up to 6´ in length. In public areas, a detachable operator prevents unauthorized persons from operating the shades.

• Optional heavy-duty crank is available in lengths to 10´. Two-piece handle is available in greater lengths.

• Crank-operated shades are furnished with endcaps.

More detailed information, including dimensions, drawings and specifications available at:
www.draperinc.com/go/ManualShade.htm

Standard Universal Brackets
Optional bracket cover (1⅝" bracket only)
Bead chain clutch operator Standard stainless steel bead chain
1⅝" or 2¼"

Metal tube-1¼" or 1½", depending on dimensions
Endcaps for fascia: mount through back, top or end
Optional fascia
1¹¹⁄₁₆" or 2¼"
Aluminum slat and heat-seamed hem

Shown above and below: Manual FlexShades with Phifer SheerWeave® SW2000 fabric at California State University, Fullerton, CA. Architect: HOK, Culver City, CA. Photography © Benny Chan of Fotoworks, Los Angeles, CA.

Manual FlexShade Dimensions

Cloth width with brackets = Overall width - 1⅜"
Cloth width with endcaps = Overall width - 1⅝"
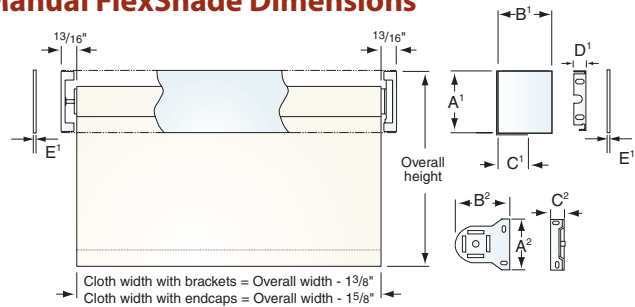
	Headbox with Endcaps		Fascia with Endcaps			Brackets	
	Small	*Large*	*Small*	*Large*		*Small*	*Large*
A¹	3¹⁵⁄₁₆″	4¹¹⁄₁₆″	3⅞″	4⅝″	**A²**	2³⁄₁₆″	2³⁄₁₆″
B¹	3⁷⁄₁₆″	4¹¹⁄₁₆″	3⅜″	4⅝″	**B²**	2⅜″	3″
C¹	1½″	1⅝″	1½″	1⅝″	**C²**	¹¹⁄₁₆″	¹¹⁄₁₆″
D¹	⅝″	⅝″	⅝″	⅝″			
E¹	¹⁄₁₆″	³⁄₃₂″	¹⁄₁₆″	³⁄₃₂″			

Consult Draper to determine which endcap or bracket size is required for your installation.

Dual Roller FlexShade

Enjoy the benefits of both mesh and room darkening fabrics in one window shade.

Dual Roller FlexShade Brackets

Dual brackets allow one to install two shades into an opening without a headbox or fascia. Contact Draper for all options.

• Can be ceiling or wall mount.

• Use with manual or motorized FlexShades.

• Recessed installation with a wall clip and closure gives a faux pocket look.

Dual Roller FlexShade with Fascia

Enjoy the benefits of two fabrics in one window shade without the need for a recessed headbox. Conceal the endcaps and rollers with a stylish extruded aluminum fascia.

• Matching endcaps available for mounting outside window opening.

• Extruded aluminum fascia is available in five colors: black, white, ivory, bronze, or clear anodized, plus custom powder coat.

• Accommodates Motorized FlexShades, Manual FlexShades, Battery operated FlexShades, and 24V FlexShades.

Dimensions, drawings and specifications available at:
www.draperinc.com/go/DualRollerFascia.htm

Access Dual Roller FlexShade

Two shades are vertically stacked in Draper's Access headbox, allowing you to install the headbox during the construction phase, and install your shade rollers later.

• Bead chain clutch or motor-in-roller operation.

• Combine a glare control fabric with room darkening or LightBloc FlexShade (side and sill channel) for complete blackout.

• Optional ¼˝ wide ceiling tile flange.

U.S. Patent Nos. 6,532,109, 6,421,175 and 6,816,308. Other patents pending.

Dimensions, drawings and specifications available at:
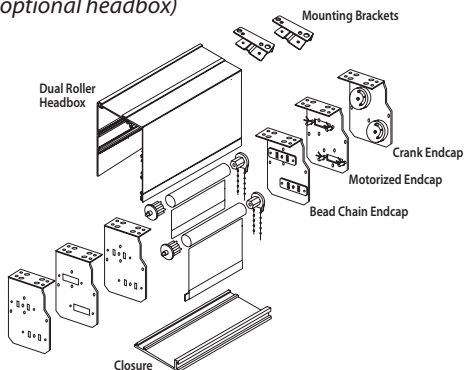*www.draperinc.com/go/AccessDualRoller.htm*
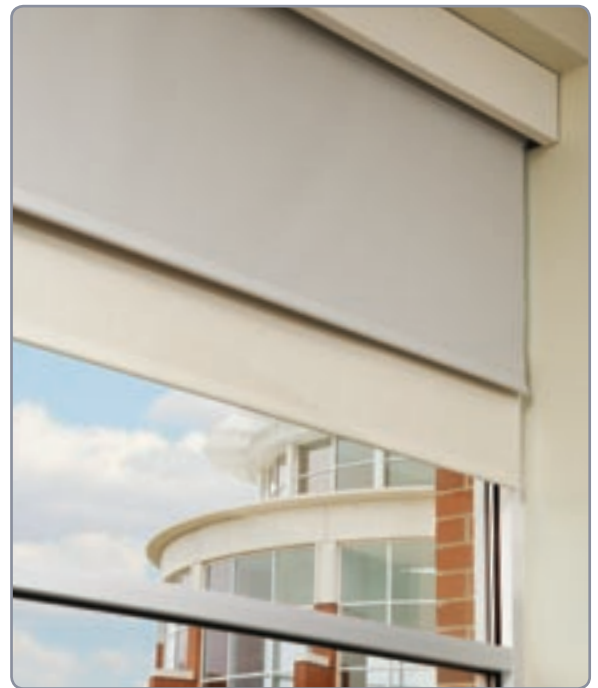
Dual Roller FlexShades with Fascia at DePauw University's Green Center for the Performing Arts, Greencastle, IN. SunBloc SB9000 fabric used for room darkening, and Phifer SheerWeave® SW2450 fabric in both 3% and 5% openness used for glare reduction. Photographer: Wayne Williams, Indianapolis, IN.
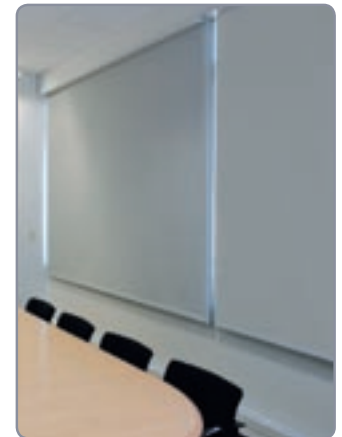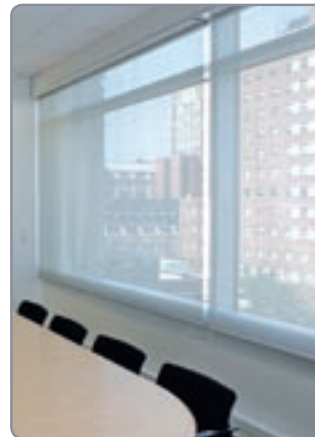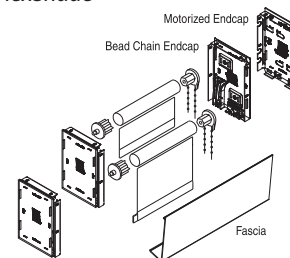

Access Dual Roller FlexShades with mesh fabric for glare control (left) and room darkening fabric (right) at University of Illinois at Chicago (UIC) College of Medicine. Dealer: Building Outfitters, Inc., Lake Zurich, IL. Photography © Rich Sistos, Glen Ellyn, IL.

Dual Roller FlexShade Brackets (shown here with optional headbox)

Mounting Brackets
Dual Roller Headbox
Crank Endcap
Motorized Endcap
Bead Chain Endcap
Closure

Dual Roller FlexShade with Fascia

Motorized Endcap
Bead Chain Endcap
Fascia

LightBloc FlexShade

Provides complete blackout

• Ideal for audiovisual applications.

• Choose from our room-darkening fabrics. When SB9000/9100 is specified, our exclusive, patented Fabric Retention System prevents disengagement of fabric from the channels.

• Aluminum headbox, side and sill channels finished in clear anodized (standard), black, white, ivory or charcoal bronze.

• Internal light seals and opacity plates eliminate all light leaks, with no light gap at headbox/side channel connection. Light proof hem bar recesses into light proof side channel.

• Headboxes are available to recess or surface mount (standard).

• *U.S. Patent No. 5,323,831.*

Operating Systems

Motorized Operation—Motor is located within the right (standard) or left end of the roller for smooth, reliable operation. A wide variety of control options are available. *See pages 7-8.*

Crank Operator—The compact, bi-directional gear assembly can be mounted either on the right end (standard) or the left. Crank handle hinges to form a thin, straight rod at edge of window when not in use. The crank is permanently mounted (standard), or specify detachable and use a single crank for more than one shade.

Bead Chain Clutch—The Draper bi-directional clutch can be mounted either on the right (standard) or left. Shades stop when chain is released. Stainless steel (standard) or nylon beaded chain hangs at the side, leaving the view unobstructed. Up and down stops prevent shades from being raised or lowered too far. Our Light Seal Kit prevents light from coming through where the chain exits the headbox.

Spring Roller—Roller is under constant tension, with a latching chain from slat bar to the sill channel *(see detail below).*

*More detailed information, including dimensions, drawings and specifications available at:*
www.draperinc.com/go/LightBloc.htm

LightBloc Dimensions

Available in sizes through 8´ wide x 12´ high. Cannot be coupled. **Note:** For proper operation, LightBloc units must be installed square and plumb. Inside mounting of LightBloc requires mounting angle, not shown.
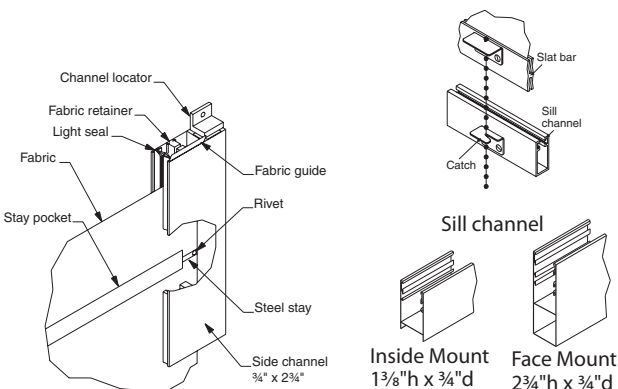
LightBloc FlexShades in the Roschel Performing Arts Center at Franklin & Marshall College, Lancaster, PA. Architect: R.M. Kliment & Frances Halsband Architects, New York, NY. Photography © Lori Stahl Photography, Lecia, PA.
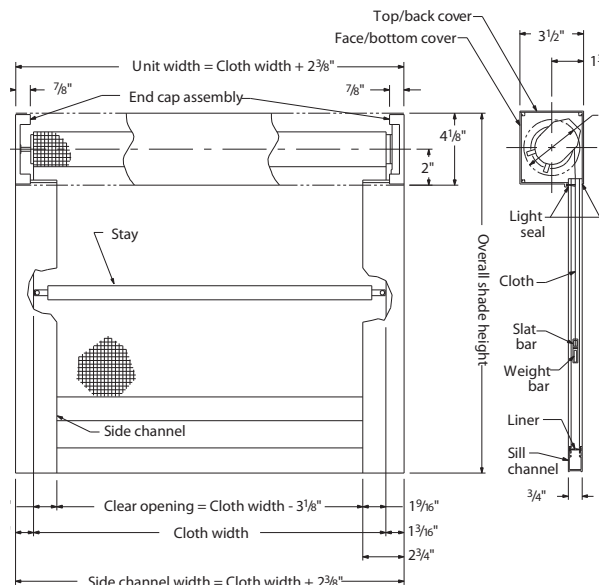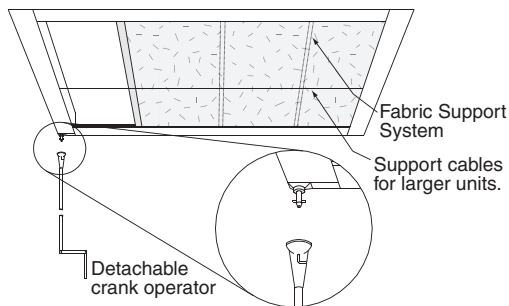
Skylight FlexShade

An unprotected skylight can generate intense heat and glare. Skylight FlexShades are the ideal remedy. Inconspicuously recessed into the skylight opening, a Skylight FlexShade provides solar and UV control to protect people and furnishings.

• Contact Draper for size requirements.

• Battens are used to ensure the flattest surface possible.

• Install at any angle as long as rollers are level.

• Select a mesh fabric for light filtration or SunBloc for complete opacity.

• Five choices of hardware finishes: silver (standard), black, white, ivory or bronze enamel.

• Draper recommends lighter color fabrics and hardware to absorb less heat.

• Venting space between shade and glass recommended.

• Motorized or crank operation available with many motor and control options. *See pages 7-8.*

More detailed information, including dimensions, drawings and specifications available at:
www.draperinc.com/go/Skylight.htm

Fabric Support System
Support cables for larger units.
Detachable crank operator

Due to the force of gravity, Skylight FlexShades are available to a maximum unsupported width of 36˝. Larger units require one or more support cables, up to a maximum of 6´ wide x 10´ long. Cables are ³⁄₁₆˝ dia. vinyl clad aircraft cable.

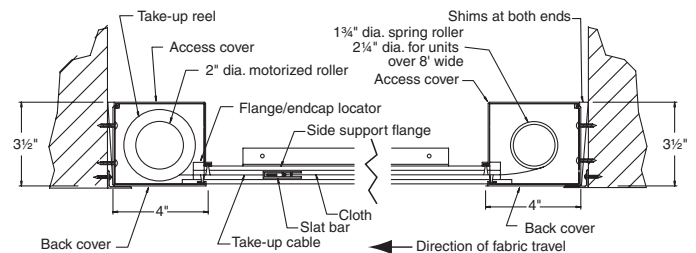*Contact Draper for custom requirements.*

Dimensions & Installation

Recess all components into the skylight opening (below right). With outside mount installation (at left), separate header bars must be attached at both ends to house the support cable system. With outside installation, fabric stay pockets are visible from inside the room on all sizes of Skylight FlexShades.
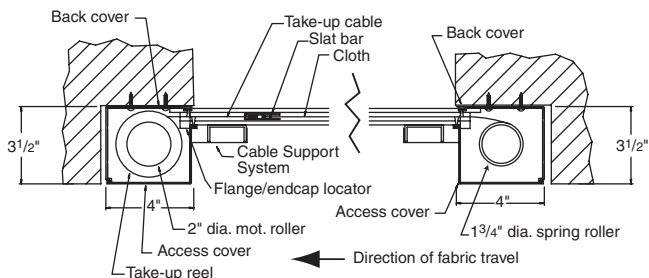
Skylight FlexShade with "E" Screen 5% at Lawrence North High School. Installation: SPD Textile & Drapery, Inc. Photography: © Brian Bookwalter. All of Indianapolis, IN. Shown closed above, partially open below.

Note: *To facilitate proper operation, Skylight FlexShades must be installed square and with rollers level. Installers must be qualified craftsmen.*

Back cover
Take-up cable
Slat bar
Cloth
Back cover
3¹/₂"
Cable Support System
Flange/endcap locator
2" dia. mot. roller
Access cover
Access cover
1³/₄" dia. spring roller
3¹/₂"
Take-up reel
Direction of fabric travel

Take-up reel
Access cover
2" dia. motorized roller
Flange/endcap locator
Side support flange
Shims at both ends
1¾" dia. spring roller
2¼" dia. for units over 8' wide
Access cover
3½"
3½"
Back cover
4"
Cloth
Slat bar
Take-up cable
Back cover
4"
Direction of fabric travel

FlexShade Panels

FlexShade fixed frame panels provide solar filtration at a lower cost than operable solutions. Relieve the discomfort from solar heat and glare often associated with unprotected glazing. They are particularly well suited for skylights and sloped glazing in solariums or odd-shaped openings. (Not suitable for curved framing).

- Help prevent ultraviolet damage to textiles and furniture located in direct sunlight.

- Heavy-duty fixed panels utilize an extruded aluminum frame. Frames are available in dark bronze, white or mill finish aluminum (standard).

- Panels mount easily on surface or within window framing with clips.

- Clips allow removal of FlexShade Panels for routine maintenance and cleaning.

- Available in sizes up to 72″ x 126″. Panels exceeding 40″ in length require center support member.

- Furnished in virtually any of our woven mesh fabrics.

More detailed information, including dimensions, drawings and specifications available at:
www.draperinc.com/go/FlexShadePanels.htm

Typical frame cross-section
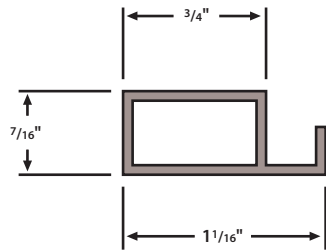
Dimensions and details may vary. Frame components at manufacturer's discretion.

FlexShade Panels with Phifer SheerWeave® PW4100 at Riverdale Branch, New York Public Library. Architect: Prendergast Laurel Architects. Installation: JDR Windows. Photography © Bruce Katz. All located in New York, NY.

Installation of Interior Panels

Inside Mounting

FlexShade Panel frame

Face Mounting

FlexShade Panel frame
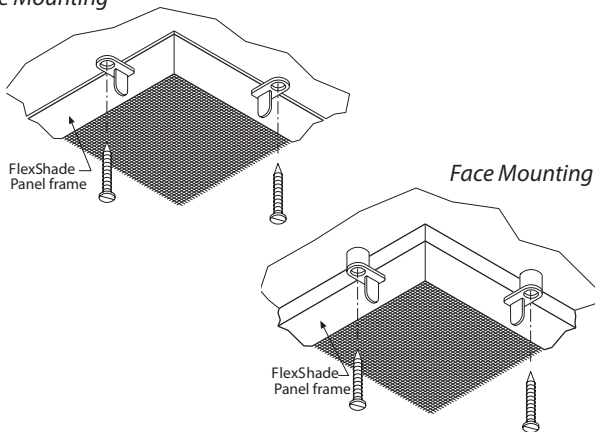
Installation of Exterior Panels

FlexShade Panels for exterior use are easy to install. Install mounting channels first. Then, slide fixed panel in from lower end. Install keeper track to secure panel in frame. At maintenance time, simply remove the bottom keeper, and slide out the fixed panel.

Keeper track

Side mounting channels

Side mounting channels

Fixed panel

Keeper track
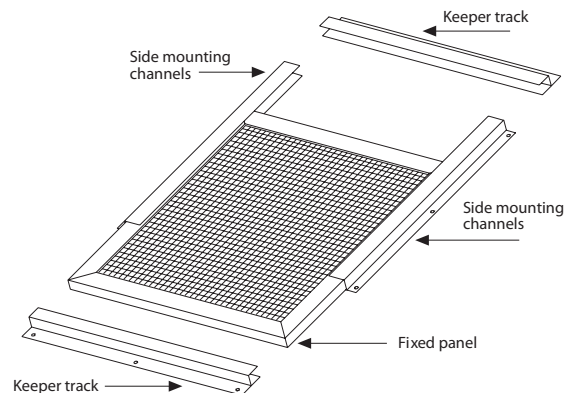
Graphic FlexShade

Virtually any logo or image

You provide the artwork, and Draper will print your logo or graphic. We use a high quality, digital four-color process to assure a crisp and clear image.

• Ideal when restrictions are imposed on signage.

• Put your logo or ad on the side of the shade facing out, and display it to the world.

• Graphic can be printed on either side of shade.

• See your Draper representative for restrictions and available fabrics.

• Available in virtually any model of FlexShade.

For more information:
www.draperinc.com/go/ShadeGraphics.htm

Graphic FlexShades with SheerWeave® SW2500 fabric at the Martin Luther King, Jr. exhibit at Boston University's Mugar Library. Photography © Greg Premru Photography. Both of Boston, MA.

Graphic FlexShades with SheerWeave® SW2600 fabric at Heads Up Hair Salon. Installed by Specialty Window Coverings. Both of Nashville, TN.

Graphic FlexShade 2 and Phifer SheerWeave® 2000 fabric at Cultural Center for the Arts, Canton, OH. Dealer: MAK Associates of Ohio, Akron, OH. Architect: Robert Maschke Architects, Cleveland, OH. Photography © Jason Meyer, Feinknopf Photography, Columbus, OH.
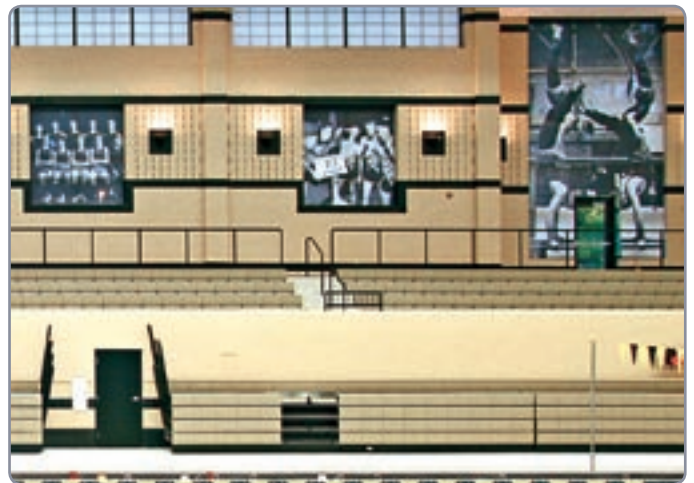
Graphic FlexShades with Soltis® 99 fabric at University of Missouri, Columbia. Architect: Hastings & Chivetta Architects, Inc., St. Louis, MO. Installation: Jack F. Dale & Associates. Photography: © Emily Bach, Columbia, MO.

Hardware for FlexShades

Mounting Brackets—The standard mounting hardware supplied for wall, ceiling or jamb installation of Draper Motorized and Manual FlexShades. As an option for a pair of 1⅝″ brackets, white bracket covers are available. If optional fascia or headbox are specified, then endcaps (not brackets) are supplied.

Fascia—Optional extruded fascia in square or radius styles hides hardware and roller. Available in clear anodized (standard), black, white, ivory, or charcoal bronze. 3⅞″ or 4⅝″ high as required. Color samples are available.

Surface-Mounted Headbox—Complete extruded headbox is available to hide hardware and roller as an option for Motorized and Manual FlexShades. Two-piece assembly is suitable for surface mount to head, jamb or wall, in sizes 3⅞″ high or 4⅝″ high as required.

Pocket-Style Headbox—Complete extruded headbox with endcaps is available for ceiling recessed installation. In sizes 3⅞″ high or 4⅝″ high as required.

Type D Pocket—An extruded aluminum pocket for clean, ceiling flush installation. With bottom closure panel in place, only a narrow slot is visible. Aluminum pockets offer a convenient architectural solution for mounting either Motorized or Manual FlexShades at the curtain wall.

Installation of Type D Pocket in coordination with ceiling finishing allows for later installation of shades. Pockets are finished in white. FlexShades are installed using standard ceiling brackets.

Draper's Type D Pocket cross-section dimensions are 4½″ deep x 4⅝″ high. Comes in 12′ lengths. A tile-support flange along lower edge supports lay-in ceiling. Pre-welded corners and pocket ends are available. Endcaps optional. Add ¼″ to overall case width if using endcaps.

Wall Clip with Closure—Pocket already exists? Specify FlexShade Wall Clip with a long or short closure. Wall Clip mounts to the wall and bottom closure panel drops neatly into place without fasteners, leaving a minimal slot through which the shade descends. For sleek appearance, use continuous wall clip. Closure sizes 1¾″ or 3″.

Side Channel or "L" Angle—Side Channels or "L" Angles prevent direct light gaps at sides of shade fabrics. Side Channels are 1″ deep x 2½″ wide, and mount to the jamb or face of window opening. "L" Angles measure 1″ x ¾″ or 1″ x 2¾″ and mount inside the jamb.

Custom Powder coating—Custom powder coat paint colors available for most Draper hardware. Contact Draper for details. Powder coat provides an extremely durable, attractive finish.
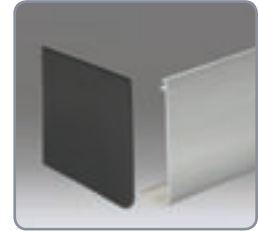
Clutch Brackets
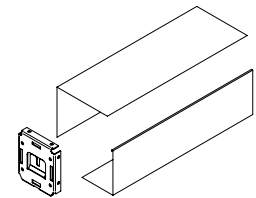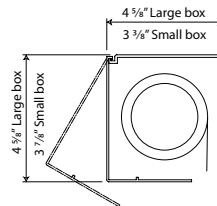
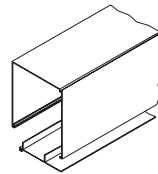*Optional Covers for 1⅝″ brackets*

Endcaps for Fascia and Headbox

Fascia Finishes

Printed colors may vary from actual aluminum.

Surface-mounted Headbox is two piece plus endcaps.

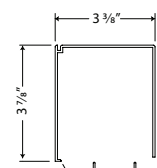4 ⅝″ Large box
3 ⅜″ Small box
4 ⅝″ Large box
3 ⅞″ Small box

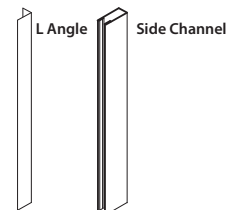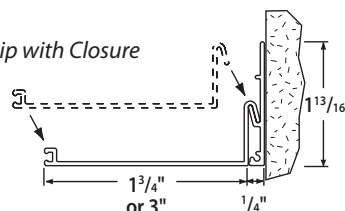*Pocket-Style Headbox*

Large Pocket Headbox

Small Pocket Headbox

4 ⅝″

4 ⅝″

3 ⅞″

3 ⅜″

Type D Pocket

41/2"

45/8"

1"   31/4"   7/8"

Anchor 2'0" O.C.

Pocket type D with tile support by Draper

Curtain wall

Removable closure panel D1 by Draper

FlexShade with ceiling brackets by Draper
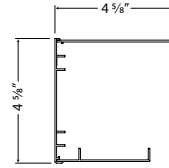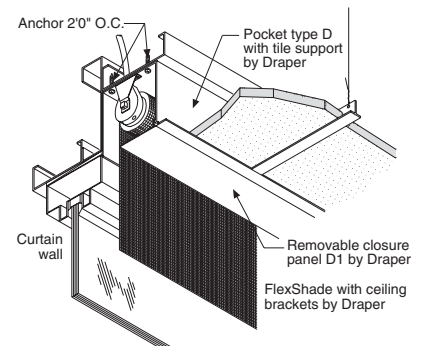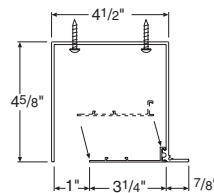
Side Channel or "L" Angle

Wall Clip with Closure

1¹³/₁₆"

1³/₄"
or 3"

¹/₄"

L Angle   Side Channel

Coupler—Draper's **NEW** FlexShade Coupling System makes it easier than ever to group multiple shades with a single operator.

• Drive multiple window shades with a single motor or crank.

• Fabric height can be easily and independently adjusted.

• Brackets are installer-friendly, and can overcome walls that are not perfectly flat.

• Coupled shades must be same height.

• Brackets extend 2½˝ from mounting surface to center line of roller, and may be wall or ceiling mounted.

• Ideally, install FlexShade Coupling System in Draper Type D Pocket or existing pocket. Coupled units may also be installed in 4⅝˝ Draper ceiling pockets. Fascia is available.

• Not suitable with LightBloc FlexShade.

Dimensions, drawings and specifications available at: www.draperinc.com/go/FlexShadeCoupler.htm

Access FlexShade

The Access FlexShade is a single motorized or bead chain clutch operated shade in a white extruded aluminum ceiling-recessed pocket.

• A flange along the front of the headbox supports acoustical ceiling tile, or trims the opening of any type of ceiling.

• A bottom panel forms a slot for passage of the shade, and is easily removed without tools for unobstructed access into the case for installation of the window shade.

• The shade (motor-in-roller or clutch with attached shade fabric) can be installed at a later date in seconds with patented, twist-in roller brackets. Brackets slide in a track, so they may be located wherever appropriate after the pocket is installed. Minimizes shade damage on the job site.

• Engineered for specific installations. Depending on fabric, maximum recommended height is 10´. Larger sizes may be available: contact Draper for details.

U.S. Patents 6,421,175, 6,532,109 and 6,816,308. Other patents pending.

Dimensions, drawings and specifications available at: www.draperinc.com/go/AccessFlexShade.htm
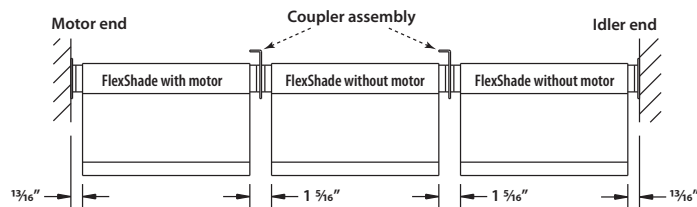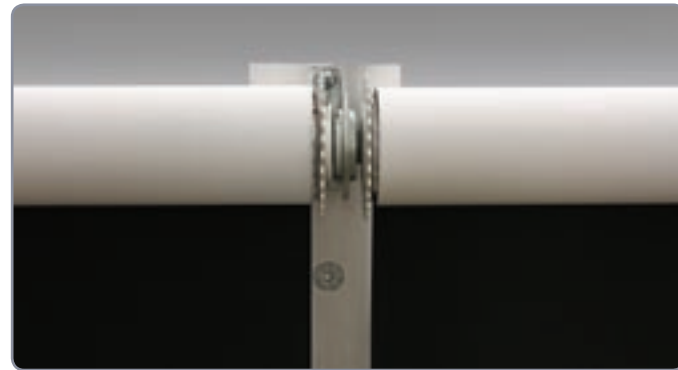
Ultimate Access FlexShade

All the benefits of the Access FlexShade, and an automatic ceiling closure that opens into the case. The Ultimate Access FlexShade is only available from Draper.

• When closed, the motorized shade is hidden from view inside its case.

• The solid bottom panel gives the ceiling a clean appearance and protects the shade fabric from dust and dirt.

• At the touch of a switch or wireless transmitter, a separate motor opens door into case and then motorized shade descends in front of the window.
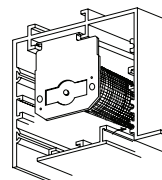
U.S. Patents 5,341,241, 6,421,175 and 6,816,308. Other patents pending.

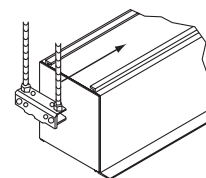*Dimensions, drawings and specifications available at: www.draperinc.com/go/UltimateAccess.htm*

Coupler

Motor end — Coupler assembly — Idler end

FlexShade with motor | FlexShade without motor | FlexShade without motor

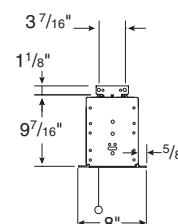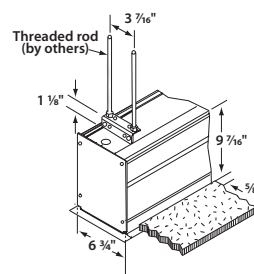$13/16˝$ — $1 5/16˝$ — $1 5/16˝$ — $13/16˝$

Access FlexShade

Internal roller brackets adjust to align shade.

Mounting brackets rotate into slots, and can slide along case.

Ultimate Access FlexShade

Threaded rod (by others)

3 7/16"

1 ⅛"

9 7/16"

5/8"

6 ¾"

3 7/16"

1¹/8"

9⁷/16"

5/8"

8"

FlexShade Fabric Selection

FlexShades are available in a wide variety of mesh, opaque and room darkening fabrics from national and international manufacturers. Selection of fabric for your FlexShade solution can contribute to effective energy conservation, worker comfort (leading to increased productivity), and decreased expense in cooling.

Draper offers more fabric types and colors than other window shade manufacturers.

For complete fabric lines and details, see our website at: *www.draperinc.com/go/ShadeFabric.htm*

Fenestration Data

Draper offers test data for the specifier's use in controlling light and heat, view and privacy, and glare level.

- **Solar transmittance (T_s), reflectance (R_s), and absorptance (A_s)** add up to 100%, indicating that all the sun's energy striking the shade is reflected, absorbed, or passed through.

- **Visible transmittance (T_v)** indicates the amount of glare likely to be perceived.

- **Openness factor (OF)** concerns the density of the weave.

- **Shading coefficients (SC)** indicate shading efficiency.

Contact Draper to receive fenestration data for any of our fabrics.

Fabric Openness Factor

The following key identifies four properties of shade fabrics and openness factors. Normally, dark colors provide better glare control because they absorb light. Light colors offer better heat control because they reflect heat. Duplex fabrics offer both glare control and heat control. All Draper fabrics are fire retardant. Complete fabric lines and fire retardant ratings available at: *www.draperinc.com/go/ShadeFabric.htm*

Natural light can be beneficial to health in the working environment. Ensuring protection against glare and reflection is essential when choosing window shade fabric openness. Openness selection should be based on building position, geographical location or exposure area, office activity, and view: clear or obstructed.

Use the charts to the right to make recommendations for window shade openness factor to control glare and work station reflections, for UV protection and for better view-through capabilities.

Shade Fabric Selection Based on Building Position and Location
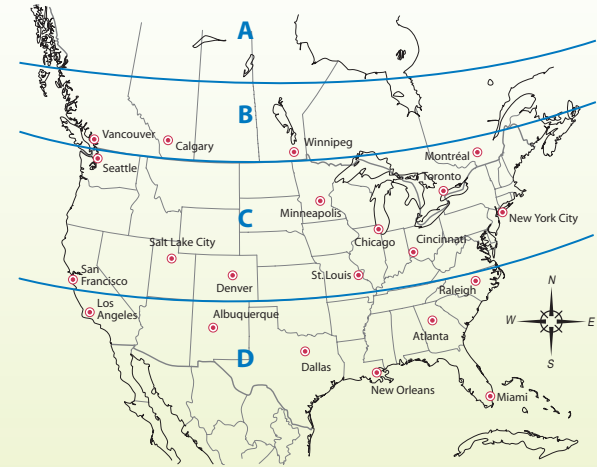
Openness Factor By Region

Regions	Clear View			Obstructed View		
A		10%			10%	
	3%		3%	10%		10%
		3%			5%	
B		10%			10%	
	3%		3%	10%		10%
		3%			5%	
C		5%			10%	
	3%		3%	5%		5%
		3%			5%	
D		5%			10%	
	3%		3%	5%		5%
		3%			10%	

Map and chart above indicate recommended openness factor for your window shade fabrics depending on your building's location and orientation.
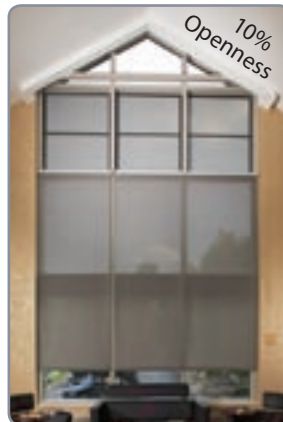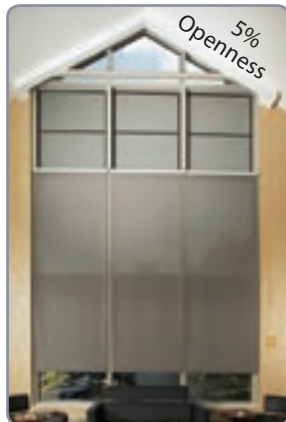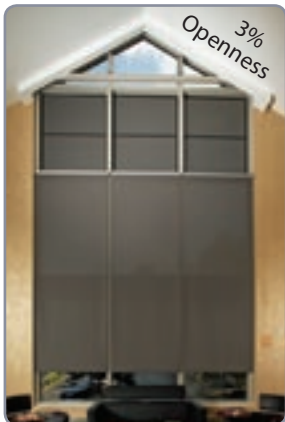
These photos demonstrate shades in 3%, 5% and 10% openness.

Openness factor is the percentage of openness of the solar woven fabrics. The openness factor determines how much light, heat and glare the fabric will allow to enter. The openness factor also determines how much of an outward (and inward) view fabric will allow.

Shade fabric color selected, building orientation, and artificial and natural lighting will affect see-through capability.

Dedicated to Green

Draper, Inc. is proud to be a member of or have our products listed by several highly respected building industry leaders and standards organizations dedicated to promoting buildings and products that are environmentally responsible, profitable, and create healthy places to live and work. Some of these include:

- **The U.S. Green Building Council (USGBC)**— *www.usgbc.org*
- **The Greenguard Environmental Institute™ (GEI)**— *www.greenguard.org*
- **GreenSpec**—*www.buildinggreen.com*
- **Daylighting Collaborative**—*www.daylighting.org*
- **Texyloop**—*www.texyloop.com/internet/gb/*
- **Confidence in Textiles**—*www.oekotex.com*

Manual FlexShades with Phifer SheerWeave® SW2400 fabric (3% open) at Children's Hospital of Pittsburgh. Architect: Louis D. Astorino, Pittsburgh, PA. Dealer: Plymouth Interiors, McKees Rocks, PA. Photography © Fred Kenderson, Pittsburgh, PA..

Energy Conservation

The chart at the right illustrates energy conservation for identical buildings located in each of the major U.S. Cities listed for one full year, when compared to no window shades. As you can see, utilizing appropriate solar shading can save from approximately 15% to 75% on cooling costs depending on the location and climate, and on what fabric is chosen.

This simulation was performed with several constants:

- Fabric: 5% Basket Weave fabric is a charcoal color. 5% Duplex fabric is a charcoal/white color.
- Solar shading: The horizon is presumed to be at a vertical level of 5°. No other obstacles or buildings are taken into account.
- Glazed surface in facade(s): 50% of the facade total surface. U-value of glazing: 2.9 W/m²K (i.e. 0.15˝ or 4 mm glass).

Energy Conservation Savings for Major U.S. Cities

Legend: Air Conditioning with 5% Duplex Fabric; Air Conditioning with 5% Basket Weave

Cities (top to bottom): Albuquerque, Atlanta, Chicago, Cincinnati, Dallas, Denver, Los Angeles, Miami, Minneapolis, New Orleans, New York, Raleigh, Salt Lake City, San Francisco, Seattle, St. Louis

X-axis: 0% 10% 20% 30% 40% 50% 60% 70% 80%

Savings by Utilizing Window Shades

GREENGUARD® Certification

is valuable for architects, designers, product specifiers, and purchasers who want to locate, specify, and purchase low emitting products for indoor environments. GREENGUARD® Children & Schools™ certified materials meet or exceed the strictest standards for indoor air quality where children spend many hours a day. Draper's GreenGuard® certified fabrics include SheerWeave® Series SW1000/2000/2100/2400/2500/2600/2700/2900/3000/7000, Series PW3500/4100/4400/4500/4600/4550/4650/4800, and Infinity by Phifer; and E-Screen, M-Screen, T-Screen, Obion, Vela, and R1 by Mermet.

Microban® Protection

Microban antimicrobial protection works continually to inhibit the growth of stain-causing bacteria, mold and mildew for the life of the shade. SheerWeave® Series SW2000/2100/2400/2500/2600/2700/2900 by Phifer now includes Microban®. Microban is a registered trademark of Microban Products Company.

The PVC-Free logo refers to SheerWeave® Series SW7000/7500/8000, and Infinity by Phifer; and Roc-Rol, Flocké, and Obion by Mermet.

The GreenSpec logos refers to SheerWeave® Series SW7000 by Phifer; and Roc-Rol, Flocké, and Obion by Mermet.
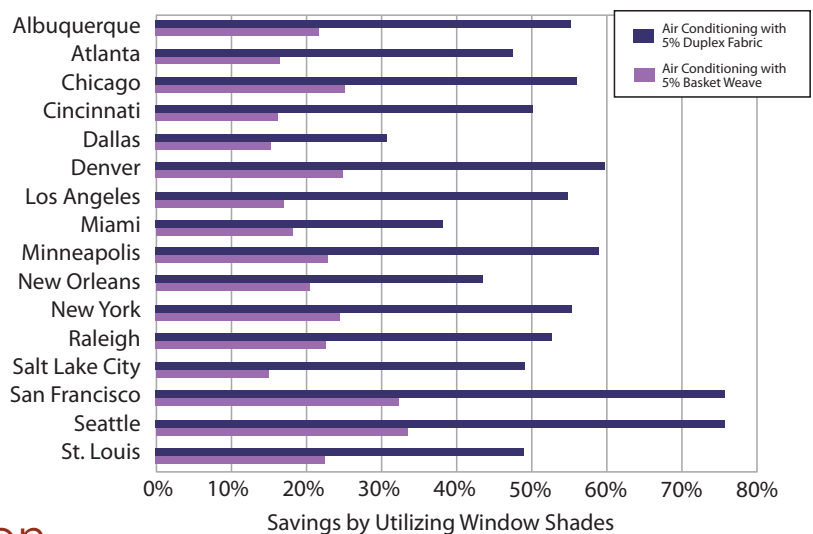
The TexyLoop logo refers to Soltis®99 by Ferrari Fabric.

The Confidence in Textiles logo refers to E-Screen, M-Screen, T-Screen, Obion, Vela, SilverScreen, and R1 by Mermet; and Soltis®99 by Ferrari Fabric.

A Word About Draper

Established in 1902 as a manufacturer of window shades for schools, Draper now offers three major product lines in addition to our FlexShade Systems: projection screens and related audio-visual equipment (CSI section 11 52 13); lifts for video projectors and plasma displays (CSI section 11 52 00); and gymnasium equipment, featuring the EZ Fold basketball backstop (CSI section 11 66 00).

Please visit us 24 hours a day on the Web at *www.draperinc.com* to download specifications, CAD details, submittals and installation instructions. To receive additional printed or electronic literature, contact Draper by calling, faxing or e-mailing.

Pictured above: Motorized FlexShades at Memorial Stadium, University of Illinois, Champaign, IL. Dealer: Real Designs, Champaign, IL. Architect: Holabird & Root, Chicago, IL. Photographer: Barry Rustin, Evanston, IL. All photographs in this catalog © Draper, Inc. unless otherwise noted.

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