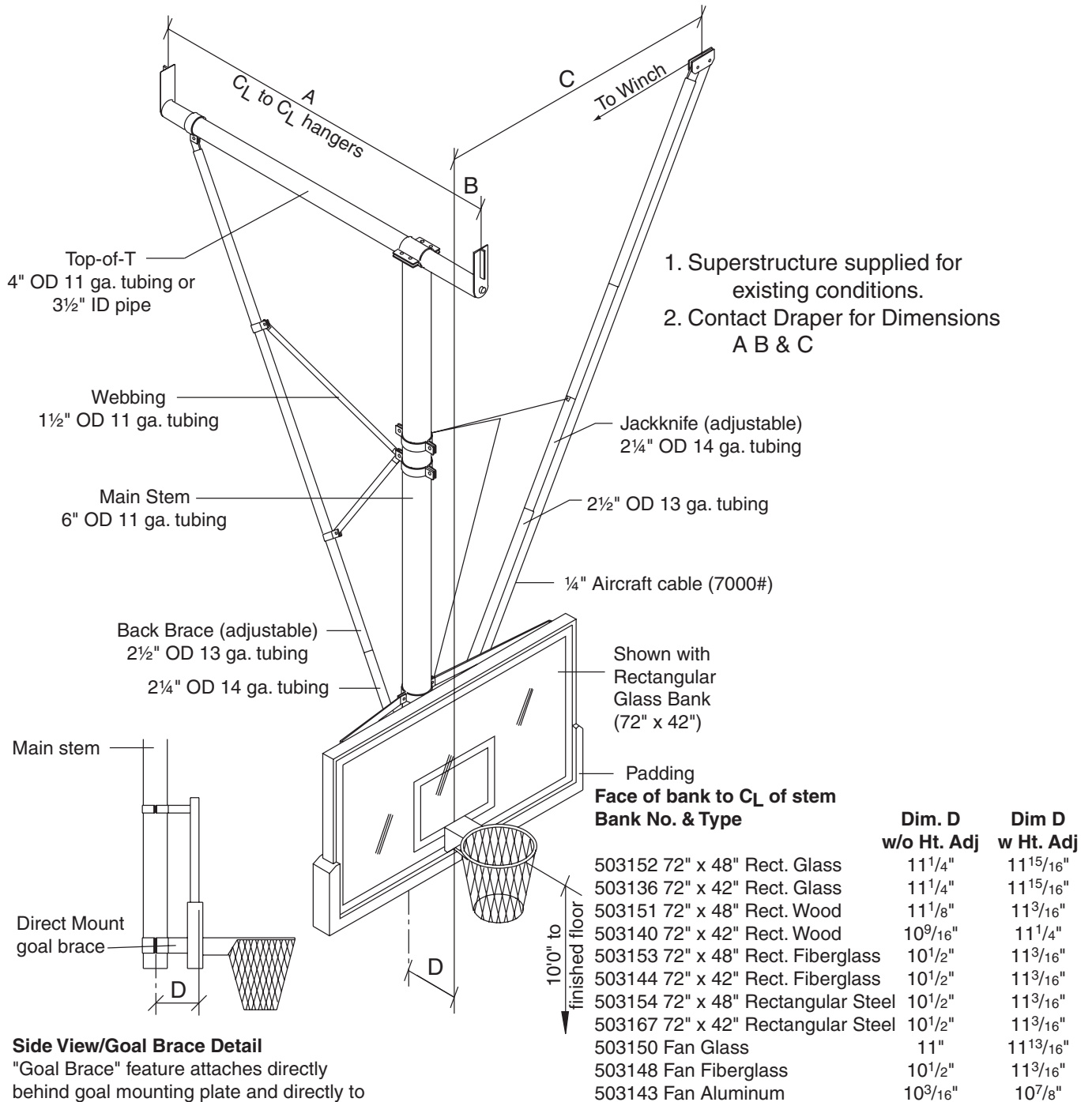


EZ Fold® TBS-26-B

**Basketball Backstop—
Ceiling-Suspended, Side-
Folding**

by **DRAPER**



Side View/Goal Brace Detail

"Goal Brace" feature attaches directly behind goal mounting plate and directly to main stem of backstop, which eliminates strain on backboards.

Draper offers a 25-year limited warranty on the EZ Fold basketball backstop structure. No other basketball backstop manufacturer offers you this protection. For a copy of the EZ Fold backstop warranty in its entirety, contact Draper, Inc.

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PROJECT: _____

ARCHITECT: _____

CONTRACTOR: _____

SUPPLIER: _____

DATE: _____ REVISED: _____

EZ Fold® TBS-26-B

Basketball Backstop—Ceiling-Suspended, Side-Folding

Specifications—EZ Fold TBS-26-B

Ceiling-Suspended, Side-Folding Backstop (For All Heights)

Product Description

Basketball backstop shall be the EZ FOLD Model TBS-26B, ceiling-suspended, side-folding by Draper, Inc. of Spiceland, IN.

Backstops shall be a bolt-together main frame constructed from steel mechanical tubing to form a rigid tetrahedral "T" design. The main stem (center strut) shall be 6" OD 11-gauge steel tubing, the top of the "T" shall be 4" OD 11-gauge steel tubing or 3/2" I.D. pipe (above 32'5"). The rear brace shall be constructed of 2 1/2" OD 13-gauge (outer) steel tubing and 2 1/4" OD 14-gauge (inner) steel tubing. Main frame shall include 2 or 4, 1 1/4" OD 11-gauge steel tubing members (webbing) X bracing the rear brace to main stem. The main stem shall be of sufficient length to allow plus or minus 6" height adjustment of either fan or rectangular banks. The folding side brace shall be jackknife type, fully adjustable, self-locking in the down position and constructed of 2 1/2" OD 13-gauge (outer) steel tubing and 2 1/4" OD 14-gauge (inner) steel tubing.

The backstop shall be supported from 4" OD 11-gauge steel mechanical tubing (as shown on plans) anchored to roof structure by means of heavy steel support hangers. Superstructure tubes shall be reinforced with bridging and/or bracing when truss centers exceed 8'0".

Pivot or hinge joint (pin height) for folding shall not exceed 15" from roof structure except when required by architect for coordination with other trades. The main backstop frame shall pivot on 1 1/4" minimum solid steel shaft secured in a milled bearing hole in 1/2" minimum steel plate hangers to insure accurate positioning of bank.

The bank shall be attached to the 6" OD main stem by heavy-duty bank hangers. Hangers shall be constructed of 2 1/4" OD 14-gauge steel tubing and 1/4" x 2" flat steel plate with slotted holes for lateral adjustment. All glass banks shall have one upper bank hanger and include a goal brace which attaches directly to the goal mounting plate and directly to the 6" main stem of the backstop to eliminate any strain on the bank and help prevent glass breakage. This direct mount feature shall conform to NCAA recommendation No. 5-F (dated Mar. 1982) which states that the design of the unit shall transfer the load on the goal directly to the backboard support so as to minimize stress to the glass backboard.

Backstop is raised or lowered by a 1/4" (6.35 mm) aircraft cable, certified minimum break strength of 7,000 pounds (3178 kg), operating over aluminum alloy sheaves with bronze oilite bearings that do not require lubrication.

Backstop shall have a black or white powder coat finish. Other colors optionally available: contact Draper for details.

Operation: Backstop shall be operated by 503085 motorized winch or 503086 manually operated winch (on units up to 28'). For complete specifications, see separate sheets.

Options

Backstop can be provided with any of several different styles of backboards, goals and padding. Specify types desired. See separate sheets.

Accessories

Smart Gym Control System. For group control of Basketball Backstops with Electric Winches, Electric Divider Curtains, Electric Height Adjusters and other Auxiliary Devices. For complete specifications, see separate sheet.

503060 EZ Power Wireless Remote Control. For remote control operation of electric winch. For complete specifications, see separate sheet.

503029 Posilok™—Safety belt to automatically lock basketball backstop in position due to a sudden surge of speed created by a possible malfunction of the hoisting apparatus. For complete specifications, see separate sheet.

503049— Portable Operator—To operate manual winch with heavy-duty electric drill. For complete specifications, see separate sheet.

Height Adjusters (see separate sheets):

503093— For motorized 8'-10' Height Adjustment of rectangular bank.

503097— For motorized 8'-10' Height Adjustment of fan bank.

503095— For motorized 8'-10' Height Adjustment of rectangular bank with wireless remote control.

503098— For motorized 8'-10' Height Adjustment of fan bank with wireless remote control.

503096— For motorized 8'-10' Height Adjustment of rectangular bank with EZ Stick Power Wand.

503099— For motorized 8'-10' Height Adjustment of fan bank with EZ Stick Power Wand.

503092— For manual 8'-10' height adjustment of rectangular backboards.

503094— For manual 8'-10' height adjustment of fan backboards.

503003—Portable Height Adjuster Operator—Speed controlled battery powered operator for manual height adjusters. For complete specifications, see separate sheet.

LEED® Submittal Information

Credit	Measure	
MRc4 – Recycled Content	Post Consumer Average 51.21%	Post Industrial 0%
MRc5 – Regional Materials	Raw materials are commodity items from multiple sources so extraction point cannot be determined. Final Manufacturing/Assembly in Spiceland, IN 47385.	

**Downloadable 3-part specifications
are available at www.draperinc.com.**

EZ Fold® 503136

Official 72" x 42" Rectangular
Glass Basketball Backboard

by DRAPER

Specifications—EZ Fold 503136

Official 72" x 42" Rectangular Glass
Basketball Backboard

Product Description

Backboard frame is a heavy, brushed aluminum extrusion for maximum durability. Extruded frame section of high tensile aluminum (6063-T5). Ends of the frame extrusions mitered and fitted with a flush, plated steel gusset type mounting bracket at upper corners and a plated L-style bracket at the lower corners. Upper corner mounting brackets incorporate keyhole slots for mounting the backboard to the support structure at standard mounting centers.

Goal mounting structure of a heavy, formed steel assembly, secured to the lower horizontal frame member to minimize stress on the glass section. Special steel sleeves at the goal mounting hole locations to secure rear structure to front mounting plate, forming a unitized assembly to minimize shock to the glass. Entire frame including goal mounting structure fitted with a shock absorbing neoprene material to cushion and protect the glass section.

Goal mount structure provided with two holes ($\frac{7}{16}$ " and two studs ($\frac{3}{8}$ "-16) to secure backboard and goal to an optional direct mount "goal brace" feature which relieves all stress and shock on the backboard conforming to the latest NCAA Rules (BR-73, D-5). Glass $\frac{1}{2}$ " thick, fully tempered (heat-treated) glass section with uniform load and impact strength. Official white border and target area is "fired in" permanently on front side of glass section so that it cannot wear away.

Goal mounting holes (4) to be standard 5" (horizontal) x 4" (vertical) mounting centers.

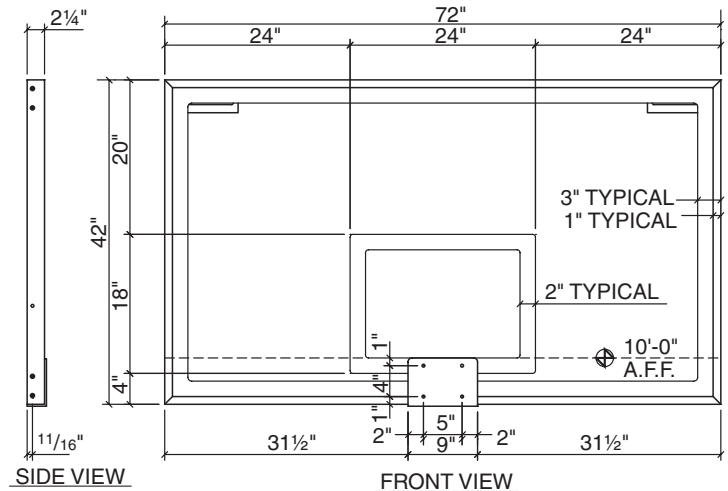
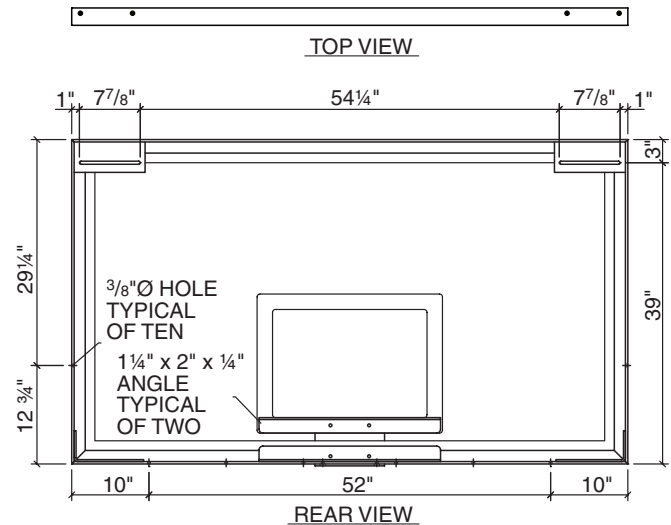
Lifetime Limited Warranty

Backboard shall be covered by a Lifetime Limited Warranty when installed on a Draper EZ Fold basketball backstop with Goal Brace or Direct Mount Height Adjuster. Contact Draper to request full warranty text.

Optional 503253 Backboard Safety Padding

Padding to protect bottom and 15" up each side of the backboard to meet all NCAA, NFHS and professional requirements. Padding of a durable neutral gray, open cell foam material providing full 2" thickness from the bottom and sides of backboard frame. Front and back surfaces of backboard frame shall be further protected by a 1" thick lip extending $\frac{3}{4}$ " up from bottom and sides of backboard.

Padding shall be permanently secured to the backboard frame by an easily applied high strength glue. Glue and brush provided. For use with all rectangular shaped glass backboards.



Optional 5032XX Backboard Safety Padding

Molding process produces a super tough "skin" on the outside of the foam padding for long life. Pre-molded square corners for improved player safety. Molded-in steel track and bolt-on attachment system eliminate frustrating regluing or taping. Fits all official rectangular glass backboards.

Meets or exceeds all NCAA and High School Federation specifications. Available in NCAA-approved gray color. Also available in Dark/Royal Blue, Red/Scarlet, Navy, Marine/Columbia Blue, Kelly Green, Yellow/Gold, Forest Green, Orange, Purple, Black, and Maroon.

5-year warranty when installed indoors.

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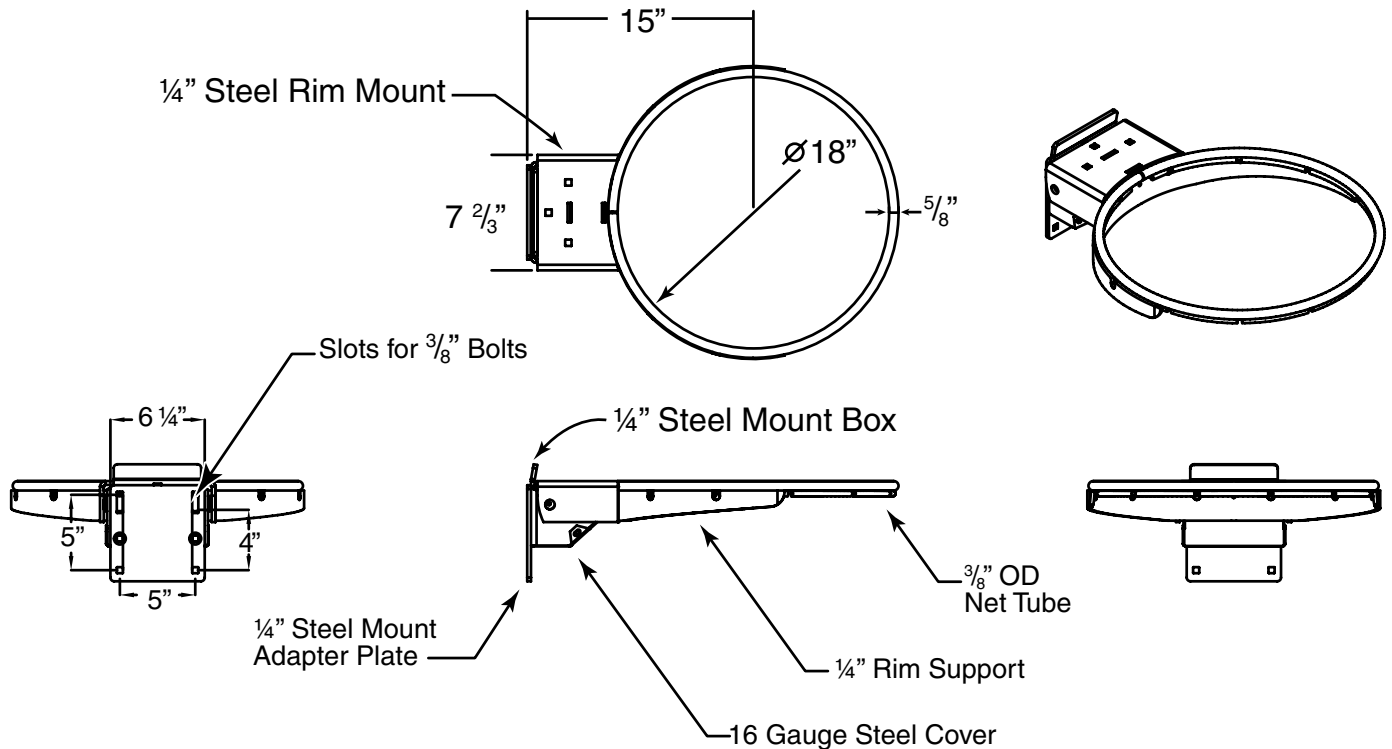
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DATE: _____ REVISED: _____

EZ Fold[®] 503040

180° Breakaway Basketball Goal
with Tube-Tie Net Attachment

by DRAPER



Specifications—EZ Fold 503040 180° Breakaway Basketball Goal with Tube-Tie Net Attachment

Product Description

Goal shall be designed and constructed so that when downward pressure exceeding the release pressure setting is applied at any location within 90° left or right of the point on the ring farthest from the backboard, the entire ring assembly will pivot downward. An automatic return shall be provided by means of three heavy-duty wire return spring, which shall also cushion the breakaway action when the pressure release setting has been exceeded. Goal is designed with a detent style positive lock mechanism so that the ring cannot be released until the setting pressure is exceeded.

Goal ring is constructed using 5/8" diameter steel rod with the official 18" inside diameter. Rim supported by 1/4" x 1 1/2" continuous steel brace that goes around 60% of the ring. Tubular segments made of 5/16" OD 18 gauge tube are spaced even and welded 360 degrees around the lower surface of the 5/8 ring to allow net to be securely attached. Net is held in place by means of a 1/8" steel cable that passes through the tubular members. All back plate components are constructed of 1/4" thick steel. The back plate shall be punched for mounting to any backboard with no below board protrusion.

Goal meets applicable NCAA, FIBA and NFHS rules including NCAA Men's Division I rule regarding elasticity testing. Release mechanism is isolated from player contact and pinch points are enclosed by a steel mechanism cover plate for safety. All components are finished with a durable orange powder coat. A white nylon anti-whip net and zinc-plated mounting hardware are included.

Rim covered by a 7-Year warranty.

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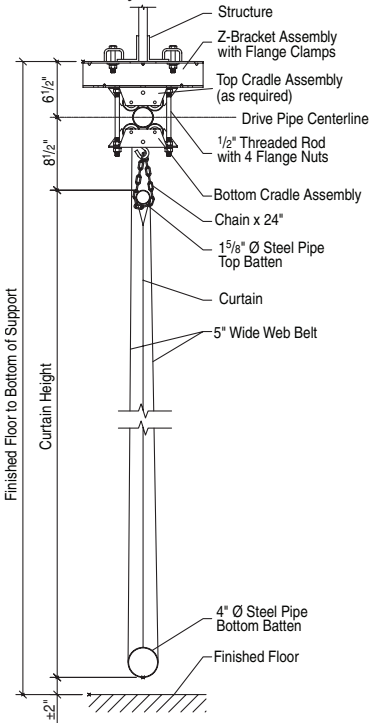
Roll-Up Divider

Electrically Operated
Gym Divider Curtain

by **DRAPER**

Section Drawing

Shown directly under continuous beam



EcoVision™
Part of the Draper
EcoVision™ range
of products

Please Mark Appropriate Selections Select Solid Vinyl Weight and Color

Specify Height of Vinyl: _____

- 18 oz. (circle one)
- | | | | | | |
|-------|-------------|--------------|--------|--------|------|
| White | Marine Blue | Forest Green | Yellow | Orange | |
| Black | Red | Dark Blue | Maroon | Beige | Grey |
- 22 oz. (circle one)
- | | | | | |
|-----|-----------|------|--|--|
| Red | Dark Blue | Grey | | |
|-----|-----------|------|--|--|

Select Mesh Color (circle one)

- | | | | |
|-------|------|--------------------|--------|
| White | Red | Blue & Black Weave | Yellow |
| Black | Grey | | |

Specify Width

Opening Width: _____

Divider Curtain Width: _____

Specify Height

Height (floor to attachment): Low Point: _____ High Point: _____

Obstructions (clarify on page two in NOTES): _____

Building Structure in Relation to Curtain

- Directly under continuous beam
- Between two beams. Distance between the beams: _____
Distance between curtain and beam: _____
- Right Angle to beams. Spacing between beams: _____

Building Structure for Curtain Support

Beam flange width: _____

Beam flange thickness: _____

Options For Roll-Up Divider

- Wireless Remote Control (see separate sheet)
- Smart Gym Wall Touch Pad Control (see separate sheet)
- EZ Pad Group Control System (see separate sheet)
- EZ-Pad Plus Control System (see separate sheet)

Specifications—Roll-Up Gym Divider

Gym Divider as shown on plans shall be Roll-Up as manufactured by Draper, Inc., Spiceland, IN. Bidder is responsible for verification of job conditions and dimensions.

Lower section of curtain shall be solid vinyl coated polyester (avg. 18 oz. or 22 oz. per square yard as required). Flammability rated as self extinguishing by the California State Fire Code and Class A Rated in accordance with requirements of NFPA-101. All seams to be electronically welded with 1" full contact weld. Outer edge hems shall be turned and welded with 1" full contact weld. Curtain shall be rolled on a 4" diameter round batten which is secured to the bottom edge of curtain with an aluminum stop strip.

Upper section of curtain shall be avg. 9 oz. per square yard vinyl coated polyester mesh. Flammability rated as self extinguishing by the California State Fire Code and Class A Rated in accordance with requirements of NFPA-101. Color shall be chosen from standard offering as specified by the owner. Use vinyl fabric, in triple thickness and double welded to the top edge of the mesh, to form a 6" wide pocket to accommodate a 1 5/8" diameter round batten for curtain support.

Draper 18 oz. Divider Curtain Vinyl and Divider Curtain Mesh has achieved GREENGUARD GOLD Certification. GREENGUARD Certified products are certified to GREENGUARD standards for low chemical emissions into indoor air during product usage. For more information, visit ul.com/gg.

Suspension from roof support member must be accomplished with clamp type malleable or heavy gauge stamped lug fitting furnished by the manufacturer. Rolling action shall be achieved by belts being wound onto a rotating drive pipe. Hoist belts shall be 5" wide polyester webbing offering a high tensile strength per belt. Each belt is to be straight and true to insure proper wrapping of the belt onto the drive pipe. Belts shall be located maximum of 15' on center. Lift belts are attached to the drive pipe, travel under the bottom batten and terminate at the top batten. Drive pipe shall rotate in drive pipe support assembly, located maximum of 10' on center.

Drive pipe power mechanism shall consist of a 3/4 H.P., 110-120 volt, 60 cycle, single phase reversible capacitor motor with built-in thermal overload protection. The motor and load holding worm gear reducer shall provide speed reduction in the winch. Remote control operation to include integral limit switch to control the upper and lower limit of the curtain travel. Key lock, three position, momentary contact wall switch with safety delay included. Switch unit shall include a general purpose switch box wall plate. **Key switch or controls to be in full view of both sides of curtain during operation.**

Smart Gym Control System. See separate sheet for details.

Optional Wireless Remote Control. See separate sheet for details.

LEED® Submittal Information

Credit	Measure	
MRc4 – Recycled Content	Post Consumer Average 23.48%	Post Industrial 0%
MRc5 – Regional Materials	Raw materials are commodity items with multiple sources so extraction point cannot be determined. Final manufacturing/assembly in Spiceland, IN 47385	

Considerations for Roll-Up Divider:

- Divider can be made any size up to 130' wide x 32' high, but cannot be cut out for bleachers. Allow more space for walking around ends of divider. Minimum 6" clearance is required between vertical edges and fixed objects.
- Stored dimension, from the bottom of beam to the bottom of the divider, shall be two feet or less with a direct attachment.

PROJECT: _____

ARCHITECT: _____

CONTRACTOR: _____

SUPPLIER: _____

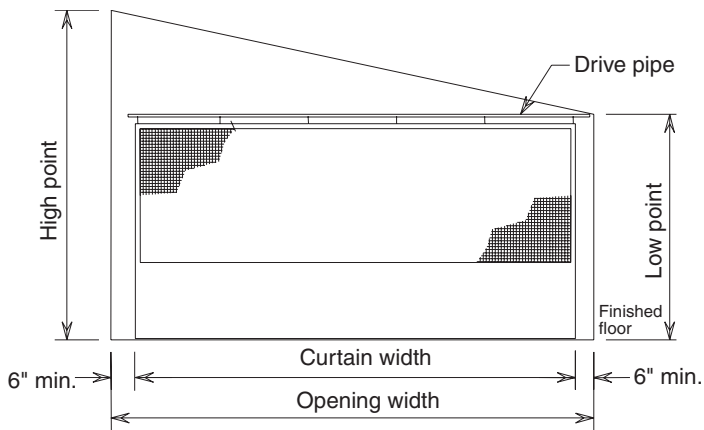
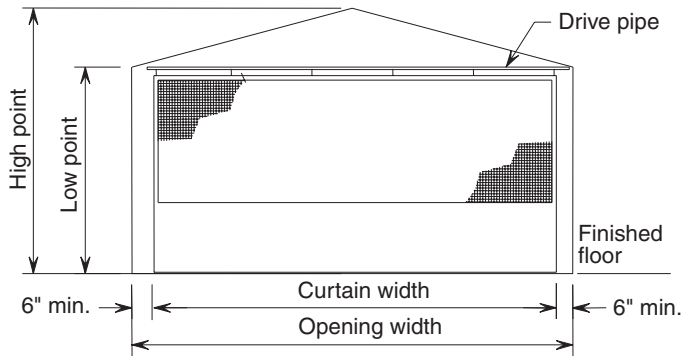
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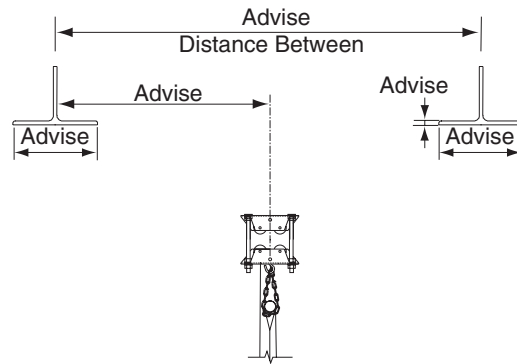
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Height and width

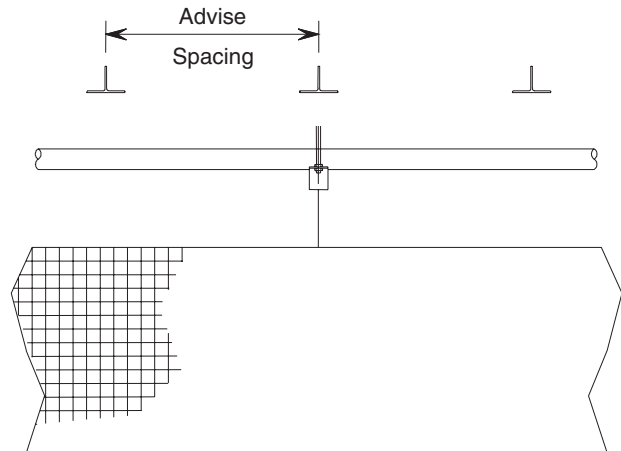


Structural relations

Between two beams

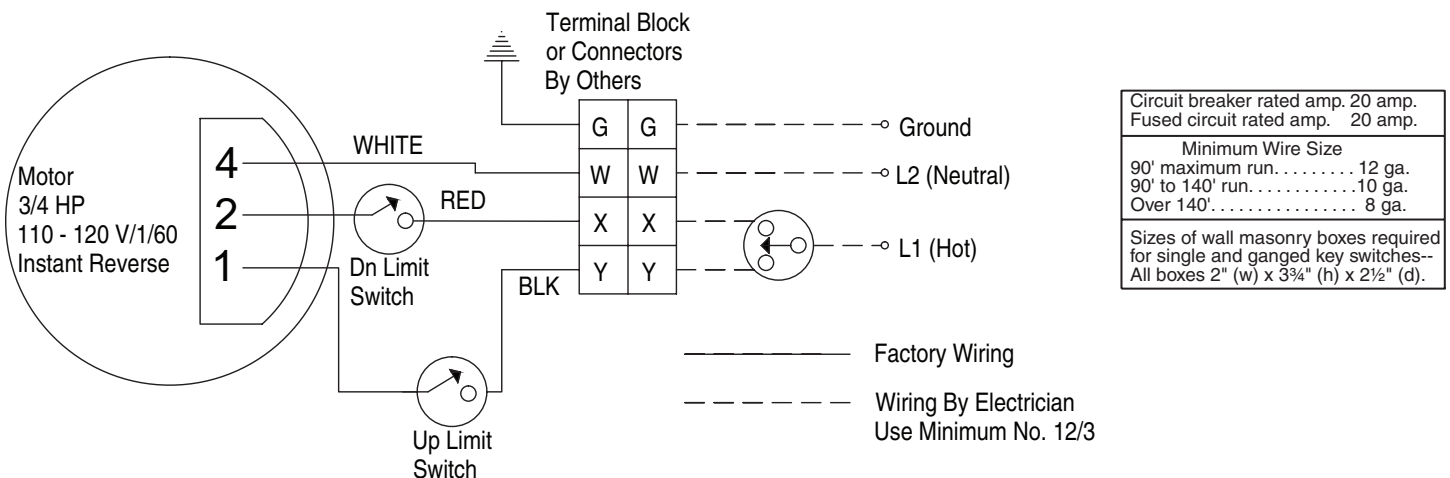


Right angle to beams



NOTES:

Wiring Diagram



Graphic Wall Pads

by DRAPER

Specifications—Graphic Wall Pads

General: Graphic Wall Pads as shown on plans shall be Graphic Wall Pads as manufactured by Draper, Inc., Spiceland, Indiana.

Construction: Shall consist of 2" thick foam cushioning material bonded to a 7/16" thick wafer board backer and covered with a 14 oz. vinyl covering. Vinyl to be rated as self-extinguishing in accordance with California State Fire Code F-230 and Class A Rated in accordance with requirements of NFPA-101. Vinyl is to be resistant to rot, mildew and fungus. Panel front and edges shall be vinyl wrapped and securely stapled to the wood backer so that the backer is not exposed on front or four sides.

Pads can be supplied with school's mascot, full color photo, sponsor's advertising or other art the owner may choose. Manufacturer to offer thousands of standard images or be able to accept owner-supplied graphics in EPS or TIF formats. Custom artwork is available at an additional charge. Graphics to be printed on Draper standard leather grain embossed wall pad fabric available in 15 colors. Graphics are to be printed by a digital 4-color process. Digital printing process utilizes ultraviolet curable inks safe for the environment and with the curable process the ink has great adhesion properties. Digital printing process insures artwork is sharp and clear from any distance. Graphic Pads that are silk-screened or made with adhesive vinyl shall not be considered equal.

Please Mark Appropriate Selections

Standard Graphic Wall Pads

Size/Quantity

- _____ Standard size: 2' x 6' (Part No. 504902)
- _____ 2' x 5' (Part No. 504901)
- _____ 2' x 7' (Part No. 504903)
- _____ 2' x 8' (Part No. 504904)
- _____ Custom Size — _____ x _____

Class A-Rated Flame Retardant Graphic Wall Pads

Size/Quantity

- _____ Standard size: 2' x 6' (Part No. 504912)
- _____ 2' x 5' (Part No. 504911)
- _____ 2' x 7' (Part No. 504913)
- _____ 2' x 8' (Part No. 504914)
- _____ Custom Size — _____ x _____

Select Mounting Option:

- 1" Fabric-wrapped mounting flanges at panel top and bottom
- Z-clip at top and 1" flange at bottom
- Z-clips at top and bottom (no flanges)
- Channel System



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ARCHITECT: _____
CONTRACTOR: _____
SUPPLIER: _____
DATE: _____ REVISED: _____

Overhead Volleyball Systems by DRAPER

Specifications—OVS-Overhead Volleyball Systems

Product Description

Overhead volleyball system shall be two independent, welded support frames constructed from steel mechanical tubing. Each main support frame shall have 4" OD 11-gauge front steel tubing and formed 1½" OD 11-gauge back brace with ¼" x 2" HR steel intermediate truss supports. Each support frame shall have stabilizing foot consisting of 3½" OD aluminum telescopic inner tube that is lowered and locked into position using internal threaded rod and gear assembly. Stabilizing foot shall be designed to provide superior rigidity and net tension. The bottom inner tube is provided with a special spherical shaped, non-marking nylon end pad to protect and minimize contact with floor should post be folded without feet being raised. The main support frame shall pivot on 1¼" minimum solid steel shaft secured in a milled bearing hole in ½" minimum steel plate hangers to insure accurate positioning.

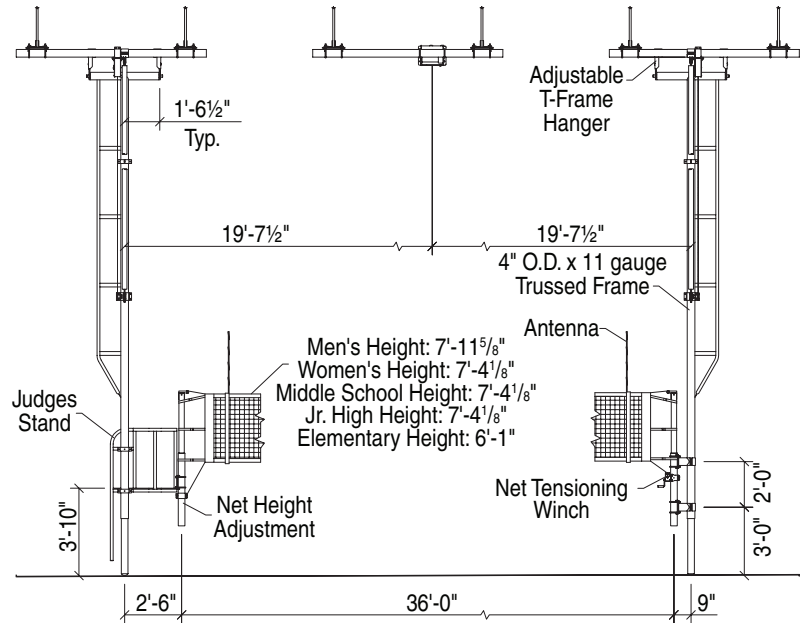
The folding side braces shall be jackknife type, fully adjustable, self-locking in the down position and constructed of 2½" OD 13-gauge (outer) steel tubing and 2¼" OD 14-gauge (inner) steel tubing. The volleyball system shall be supported from 4" OD 11-gauge steel mechanical tubing (as shown on plans) anchored to roof structure by means of heavy steel support hangers. Superstructure tubes shall be reinforced with bridging and/or bracing when truss centers exceed 12'0". Support frame, folding braces and overhead superstructure shall have a black or white powder coat finish. Optional colors are available.

Volleyball system is raised or lowered by a ¼" (6.35 mm) aircraft cable, certified minimum breaking strength of 7,000 pounds (3178 kg), operating over aluminum alloy sheaves with bronze bearings that do not require lubrication. Cable is retracted by a Draper #503285 ¾ HP, UL listed electric winch and includes Aut-O-Loc 2 Safety Straps. (See separate specification sheets for winch and safety strap details.)

Each support frame shall have a telescoping net attachment post to allow infinite height adjustment from 6' (1.854 m) to 8'4" (2.540 m) to meet all age group height settings from elementary school use to international competition for both men and women. Posts shall incorporate an internal threaded rod mechanism for easy, precise and infinite height adjustments. Telescopic net attachment post shall have a clear anodized finish and be constructed of a 3½" O.D. (8.890 cm) schedule 80 outer aluminum tube, with a wall thickness of .300" (.7620 cm). The inner telescoping adjustable tube shall be 2⅞" O.D. (7.303 cm) schedule 80 aluminum tube, with a wall thickness of .300" (.7620 cm).

One net attachment post shall incorporate a heavy-duty, self-locking worm gear mechanism (Net winch). Net winch shall be furnished with a heavy 2" (5 cm) wide high tensile nylon strap with heavy-duty snap hook to eliminate the possibility of hook breaking and guarantee safe connection to net top cable. The winch is furnished with a folding handle for player safety.

Systems shall come complete with Draper Model 500014 Competition Volleyball Net. Net shall be 32' (9.75 M) long x 39⅞" (1 M) high. Netting shall be high quality 4" square #36 black nylon cord with vinyl coated polyester hem double stitched around entire perimeter of net. Top hem of net shall be furnished with a 40'6" long x ⅛" diameter 2000 lb. minimum breaking strength galvanized aircraft cable with a nylon coating (⅜" OD) to protect against fraying. Each end of net cable has a loop with heavy swaged type fittings for easy installation. Hems in end of net shall be furnished with a pocket for use with a ½" diameter fiberglass dowel rod. Ends of net shall



have six (three per end) 1" wide polypropylene tension straps with buckles for providing additional tightening of net. Bottom of net shall be furnished with a ¼" diameter braided white nylon rope equipped with a spring loaded, pressure type rope tensioner. Rope Tensioner shall be Draper Model 500005. System also includes Draper Model 500016 Combination Antennas and Boundary Markers.

System shall be supplied complete with protection pads. Post sets shall include wrap around pads hinged at corners to fold neatly around material to be padded. Two pads shall be designed to wrap the main support frame to a height of 6' 0" above the playing surface. Upright pads to also wrap around the net attachment post sections including the tensioning winch. Draper's standard is for all pads to be wrapped with 14 oz., polyester reinforced, dark blue vinyl. Other color pads are available including White, Marine Blue, Brown, Red, Beige, Orange, Yellow, Grey, Maroon, Black, Purple, Forest Green, Kelly Green or Navy Blue.

System can be provided with optional integral Judges Stand that is attached directly to the main support frame. Judges Stand shall be constructed of 1½"x1½", 14-gauge square steel tubing and 1" OD steel tubing, welded together. Legs, steps, platform, and handrails shall all be one solid unit. Judges platform shall consist of ½" thick, polyurethane finished Birch plywood, permanently bolted to stand. Handrail/ladder section shall be spaced vertically 16" on center with ladder steps spaced horizontally of 16" centers. Judges stand shall be supplied complete with safety padding for player protection. Upper section of stand shall have a snapped into place 1½" polyethylene foam padding. Lower ladder tubes shall have removable, hook and loop attached pads of 1" neoprene foam. Standard pad color is dark blue, but same optional colors are available as listed above.

PROJECT: _____

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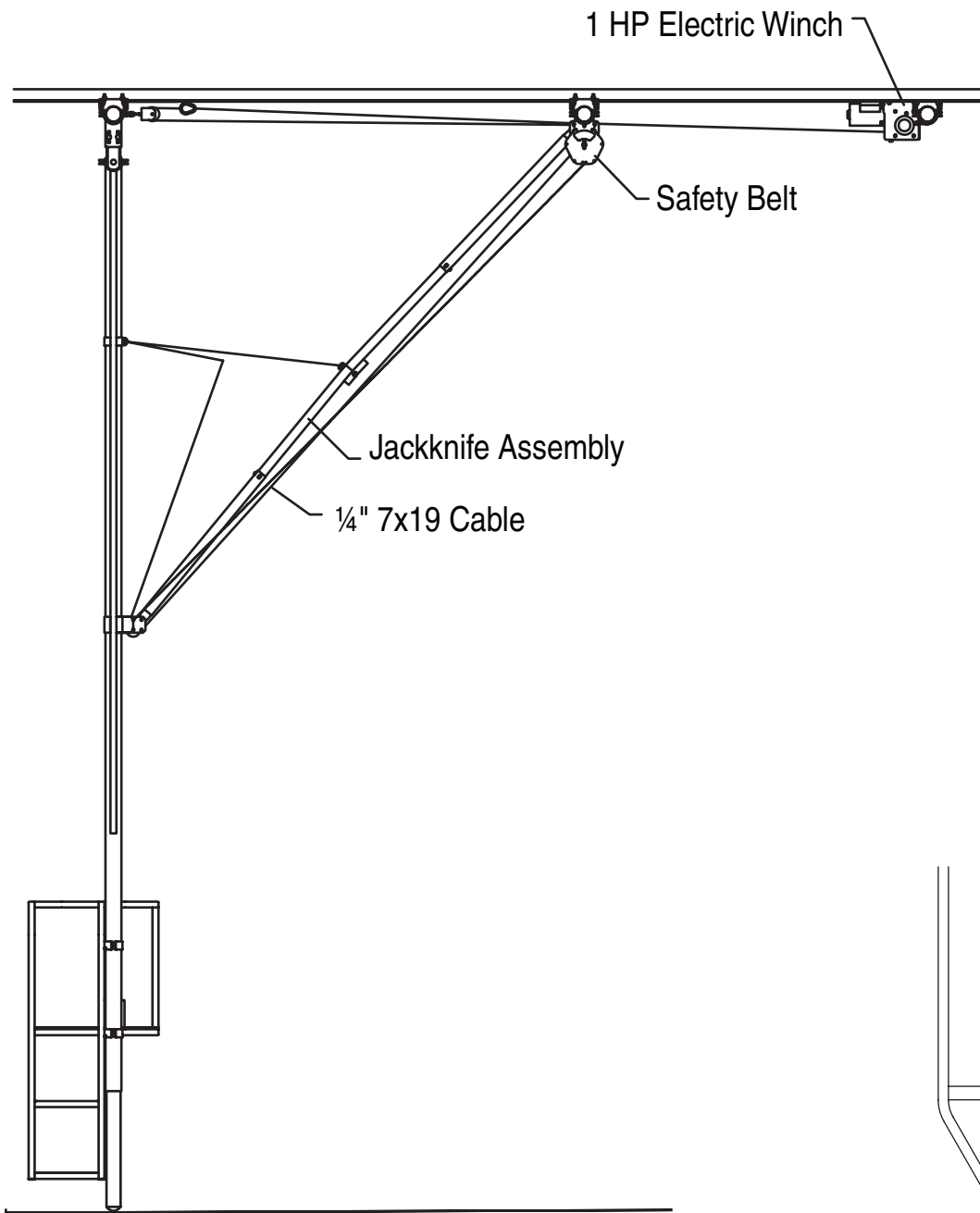
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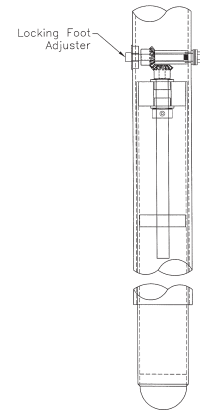
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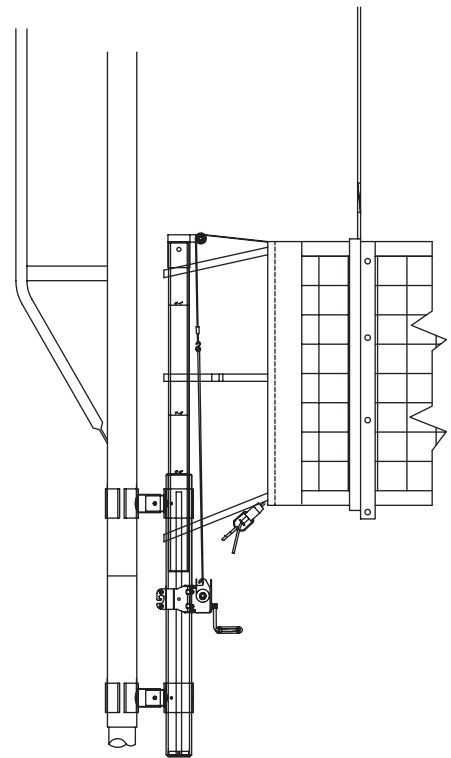
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Side View



Stabilizing Foot Assembly

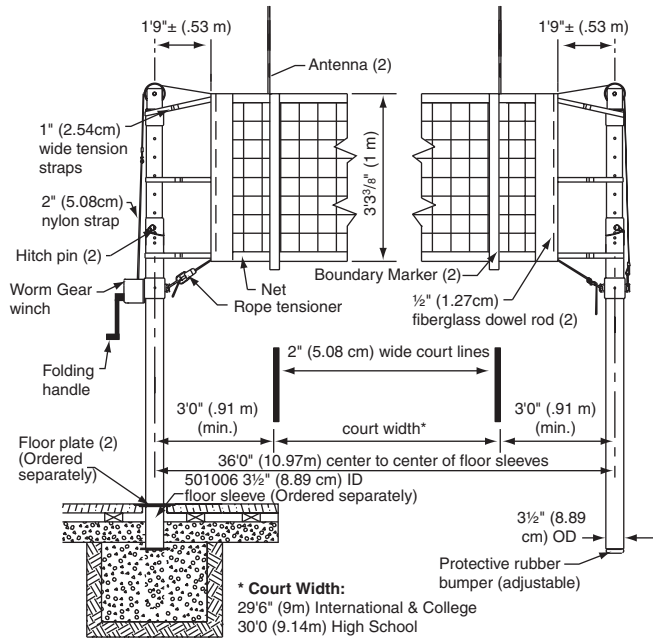


Net Post Assembly

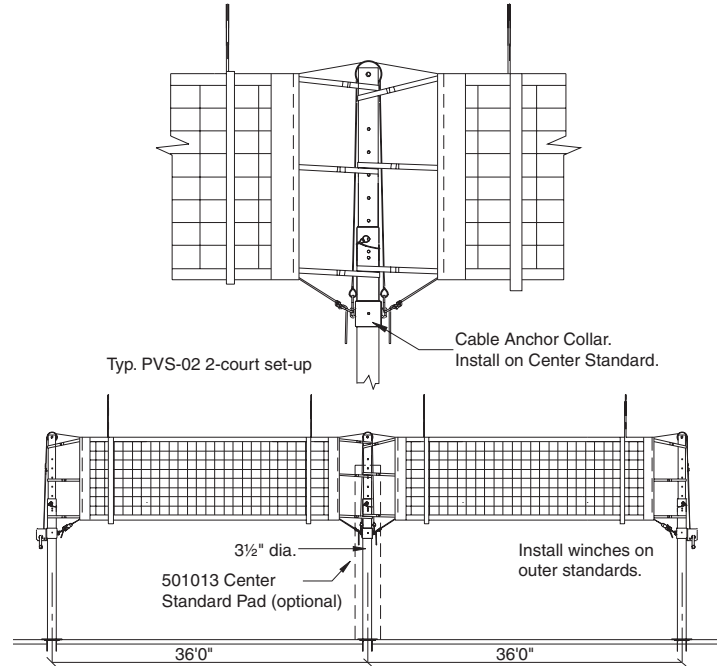
Power Volleyball Systems

by DRAPER

500001 PVS-01



500002 PVS-02



Please Mark Appropriate Selections

Select Power Volleyball System

- 500001 PVS-01 (Two-Pole System)
- 500002 PVS-02 (Three-Pole System)

Please Note: Specifications can be found on back page

Official Heights for USVBA, NCAA, and NFHS

Volleyball Heights	Girls	Boys
Grades 1-6 (Elem.)	6'1" (1.85m)	6'1" (1.85m)
Grades 7-9 (Middle School)	7'4 1/8" (2.24m)	7'4 1/8" (2.24m)
Grades 7-9 (Jr. High)	7'4 1/8" (2.24m)	7'11 5/8" (2.43m)
Grades 9-12 (Sr. High)	7'4 1/8" (2.24m)	7'11 5/8" (2.43m)
Collegiate & International	7'4 1/8" (2.24m)	7'11 5/8" (2.43m)

Note: Regulation net heights are set at center of net. Ends of net (at court lines) cannot exceed the regulation height by more than 3/4" (2 cm).

Net height is adjustable from 6'1" (1.85 m) to 8'4" (2.54 m) in 1" (2.54 cm) increments.

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PROJECT: _____

ARCHITECT: _____

CONTRACTOR: _____

SUPPLIER: _____

DATE: _____ REVISED: _____

Specifications—500001

PVS-01 Two-Pole Power Volleyball System

Product Description

Volleyball System shall be #PVS-01 Power Volleyball System, No. 500001 by Draper, Inc. of Spiceland, IN. Post shall be telescoping type to meet all FIVB, USA Volleyball, NCAA and NFHS requirements for competition. Post shall adjust from 6'1" (1.854 m) to 8'4" (2.540 m) in 1" (2.540 cm) increments to meet all age group height settings from elementary school use to international competition for both men and women.

The 6' (1.890 cm) bottom upright shall be 3½" OD (8.890 cm) schedule 80 aluminum tube, with a wall thickness of .300" (.7620 cm). The bottom upright is provided with a special rubber foot to protect finished floors and to provide precise net height adjustment.

The upper telescoping adjustable tube shall be 27/8" OD (7.303 cm) schedule 80 aluminum tube, with a wall thickness of .276" (.7010 cm) with a 4" (10.16 cm) diameter pulley and oilite bushing.

The tensioning winch shall incorporate a heavy-duty, self-locking worm gear mechanism. Winch shall be furnished with a heavy 2" (5 cm) wide high tensile nylon strap with heavy-duty snap hook to eliminate the possibility of hook breaking and guarantee safe connection to net top cable. The power winch is furnished complete with a folding handle for player safety.

The 500001 PVS-01 shall consist of one standard with power winch and one standard with adjustable cable anchor collar.

Power Volleyball Net shall be #500004 by Draper, Inc. of Spiceland, IN. Net shall be 32' (9.75 M) long x 39¾" (1 M) high. Netting shall be high quality 4" square #36 black nylon cord with vinyl coated polyester hem double stitched around entire perimeter of net. Top hem of net shall be furnished with a 42'6" long x 1/8" diameter 2000 lb. minimum breaking strength galvanized aircraft cable with a nylon coating (3/16" OD) to protect against fraying. Ends of cable to have loops with heavy swaged type fittings for easy installation. Hems in end of net shall be furnished with a pocket for use with a ½" diameter fiberglass dowel rod. Ends of net shall have six 1" wide polypropylene tension straps with buckles for providing additional tightening of net. Bottom of net shall be furnished with a ¼" diameter braided white nylon rope equipped with a spring loaded, pressure type rope tensioner.

Rope Tensioner shall be #500005 by Draper, Inc. of Spiceland, IN.

Combination Antenna and Boundary Marker shall be #500016 by Draper, Inc. of Spiceland, IN.

STANDARD DIMENSIONS

36'0" center to center of standards/sleeves.

Specifications—500002

PVS-02 Three-Pole Power Volleyball System

Product Description

Volleyball System shall be #PVS-02 Power Volleyball System, No. 500002 by Draper, Inc. of Spiceland, IN. Post shall be telescoping type to meet all FIVB, USA Volleyball, NCAA and NFHS requirements for competition. Post shall adjust from 6'1" (1.854 m) to 8'4" (2.540 m) in 1" (2.540 cm) increments to meet all age group height settings from elementary school use to international competition for both men and women.

The 6' (1.890 cm) bottom upright shall be 3½" OD (8.890 cm) schedule 80 aluminum tube, with a wall thickness of .300" (.7620 cm). The bottom upright is provided with a special rubber foot to protect finished floors and to provide precise net height adjustment.

The upper telescoping adjustable tube shall be 27/8" OD (7.303 cm) schedule 80 aluminum tube, with a wall thickness of .276" (.7010 cm) with a 4" (10.16 cm) diameter pulley and oilite bushing.

The tensioning winch shall incorporate a heavy-duty, self-locking worm gear mechanism. Winch shall be furnished with a heavy 2" (5 cm) wide high tensile nylon strap with 3/8" (.9526 cm) sling ring and heavy-duty snap hook to eliminate the possibility of hook breaking and guarantee safe connection to net top cable. Winch system cables which wrap and kink on the winch drum will not be accepted as equal. The power winch is furnished complete with a folding handle for player safety.

The 500002 PVS-02 shall consist of two standards with power winch and adjustable cable anchor collar, and 501013 center standard.

Power Volleyball Nets shall be #500004 by Draper, Inc. of Spiceland, IN. Net shall be 32' (9.75 M) long x 39¾" (1 M) high. Netting shall be high quality 4" square #36 black nylon cord with vinyl coated polyester hem double stitched around entire perimeter of net. Top hem of net shall be furnished with a 42'6" long x 1/8" diameter 2000 lb. minimum breaking strength galvanized aircraft cable with a nylon coating (3/16" OD) to protect against fraying. Ends of cable to have loops with heavy swaged type fittings for easy installation. Hems in end of net shall be furnished with a pocket for use with a ½" diameter fiberglass dowel rod. Ends of net shall have six 1" wide polypropylene tension straps with buckles for providing additional tightening of net. Bottom of net shall be furnished with a ¼" diameter braided white nylon rope equipped with a spring loaded, pressure type rope tensioner.

Rope Tensioner shall be #500005 by Draper, Inc. of Spiceland, IN.

Combination Antenna and Boundary Marker shall be #500016 by Draper, Inc. of Spiceland, IN.

STANDARD DIMENSIONS

36'0" center to center of standards/sleeves (each court).

LEED® Submittal Information

Credit	Measure	
MRc4 – Recycled Content	Post Consumer Average 42.8%	Post Industrial 0%
MRc5 – Regional Materials	Product Manufactured in Spiceland, IN 47385	

AALCO

HOME

PRODUCTS

COMPANY

CONTACT

BASKETBALL

Basketball Backstops

Series 100 Center Mast

Series 2000 Solo-Glide

Series 300 Clear View

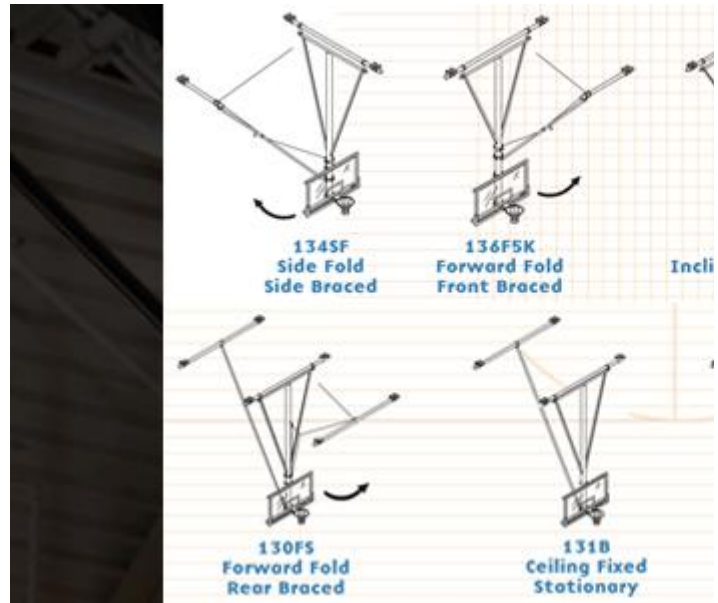
Series 200 Double Drop

Wall Swing-up 24WS

Roll Fold

Wall Side Fold 22SF

Wall Stationery 20SW

VOLLEYBALL**CURTAINS****BATTING CAGES****WRESTLING MAT HOISTS****CUSTOM WALLPADS****MATS & COVERS****OUTDOOR PRODUCTS****BLEACHERS****STORAGE / OTHER PRODUCTS****BASKETBALL BACKSTOPS****SERIES 100 CENTER MAST**

- Most widely used in the Industry
- Clean lines, aesthetically pleasing appearance
- Conceived by Aalco in the late 50's
- All welded rigid construction up to 30'
- Direct-mount goal feature is standard
- Application up to 60'
- 25-year structure warranty

The Center-Mast goal support structure conceived by Aalco immensely popular and useful goal support, now widely copied by other manufacturers as of yet can equal Aalco's extensive experience and application to "high" ceilings from 25' to 60'.

Custom Colors Available on All Backstops

Industry Leading Components



- 3/16 x 3 1/2 steel beam clamps
- Die-formed mig welded
- Full contact double compression
- 1/4 x 2 1/2 formed bottom pipe clamps
- Self-locking whiz nuts
- All-plated hardware

- Heavy steel hinge fitting
- Solid steel bearing surface
- Self-locking whiz nuts
- All Aalco backstops are custom engineered. No hinge at

- 1/4 x 2 1/2 steel pipe clamps provide the most rigid in th
- All zinc plated hardware
- All-welded

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Sign up for our Newsletter

Email Address

BASKETBALL

Series 100 Center Mast
 Roll Fold
 Series 2000 Solo-Glide
 Series 300 Clear View
 Series 200 Double Drop

VOLLEYBALL

Swingline Ceiling Suspended
 Spikeline System
 Power Post Gold System
 Aluminum Standards

CURTAINS

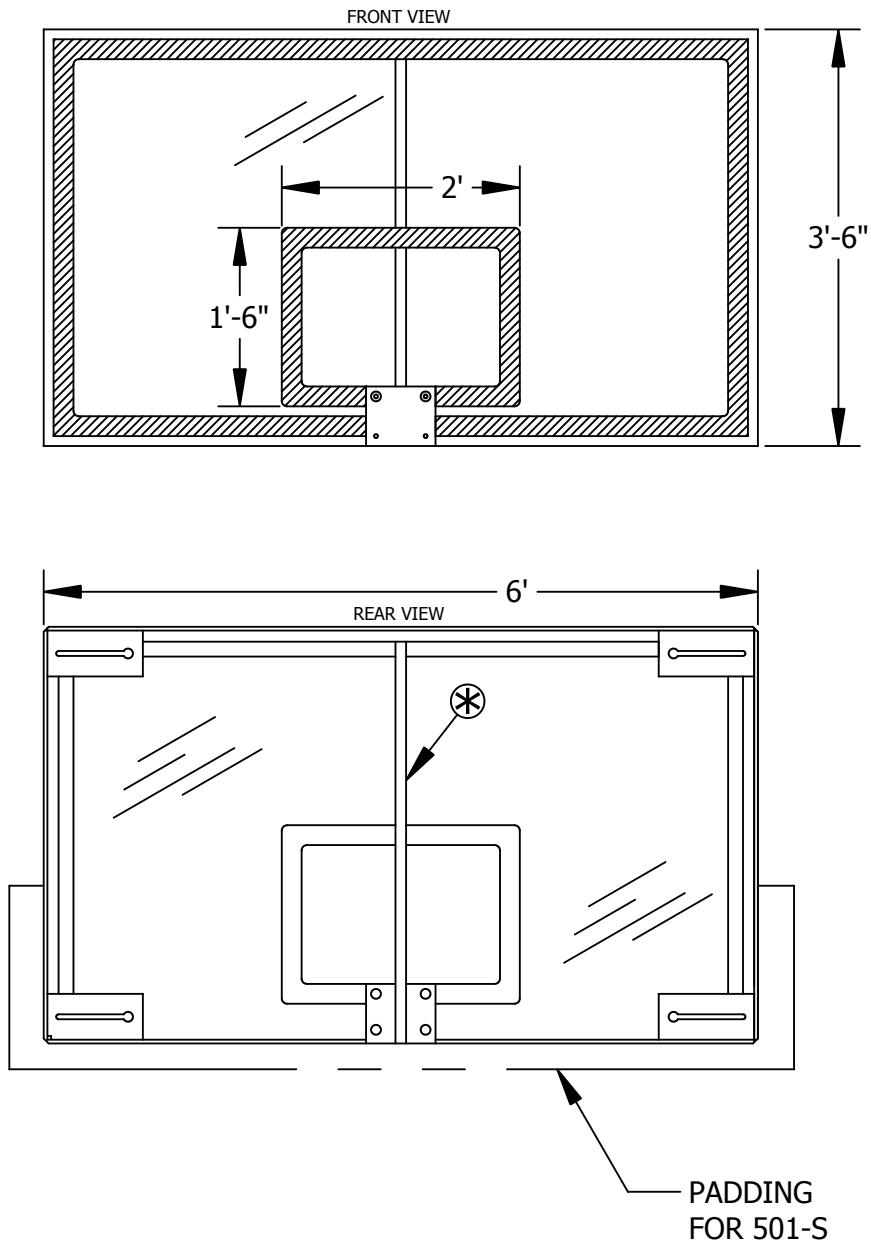
Top Roll Divider
 Fold-Up Divider
 Slope Fold Divider
 Radius Fold-Up Divider
 Walk Draw

WALLPADS

AALCO Logo Mat
 AALCO Logo Mat Di
 Contour Pads
 Standard Wall Pads
 Custom Column/Cor







#501S RECTANGULAR GLASS BACKBOARDS

1/2" TEMPERED PLATE GLASS WITH FIRED IN WHITE BORDER AND TARGET MARKINGS, FRAMED IN A HEAVY 6063-T6 EXTRUDED ALUMINUM FRAME, EQUIPPED WITH KEY SLOTTED STEEL CORNER BRACKETS. RUBBER GASKETING SEPARATES ALL GLASS AND METAL PARTS. EXCEEDS ALL STANDARDS OF THE NATIONAL BASKETBALL COMMITTEE AND THE NFSHSAA.

#501S ** (42"H X 72"W)SHIPPING WT. 222 LBS.

⊗ REAR VERTICAL BRACE APPLIES TO SHORT BOARDS ONLY

PGPP PROTECTION PAD

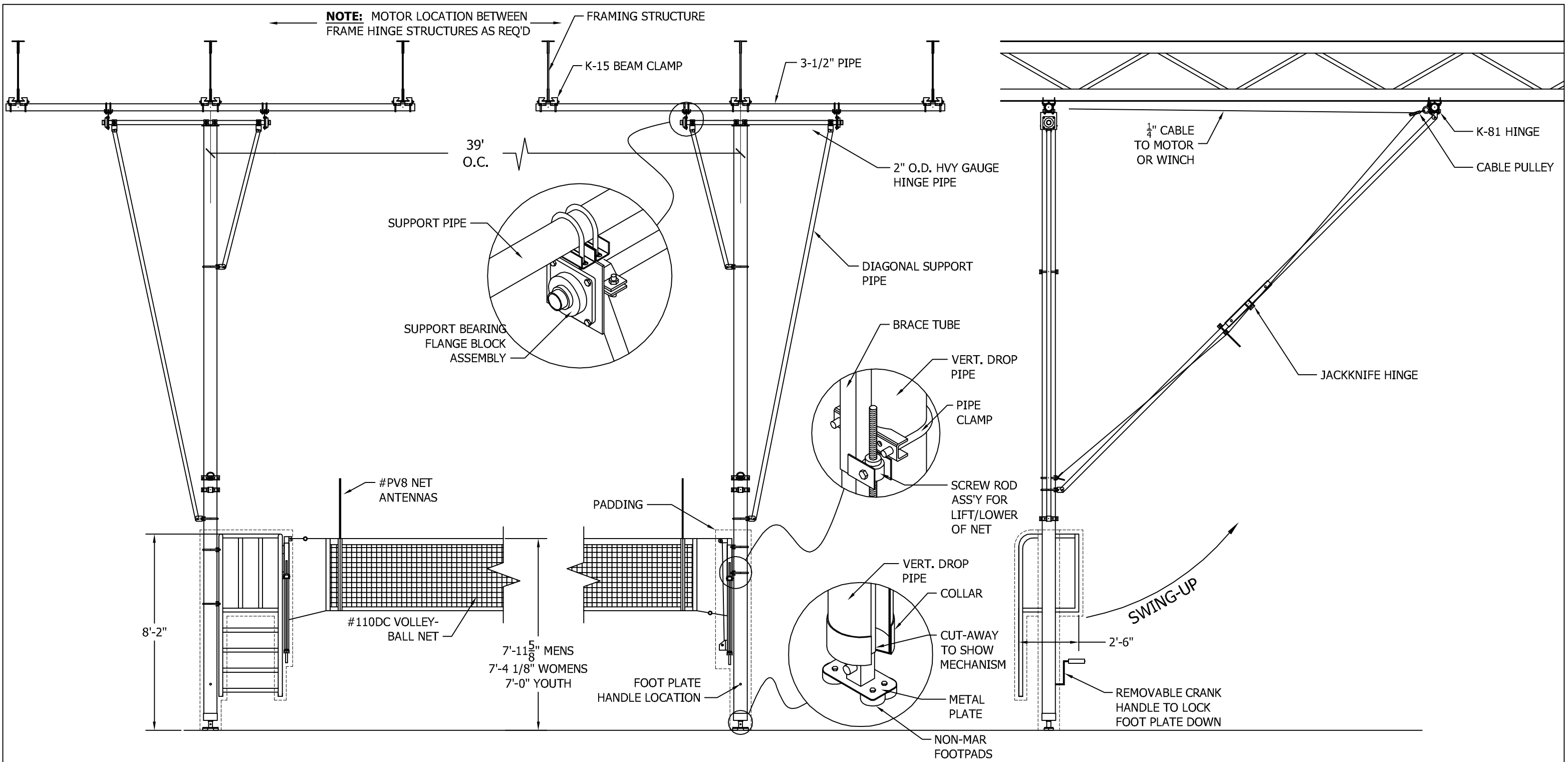
AALCO'S ALTERNATIVE TO ORDINARY PADDING.
(SEE SEPARATE SHEET FOR DETAILS)

#501-S (#) REQ'D

#PGPP (#) REQ'D

M1\

 AALCO MANUFACTURING COMPANY 1650 AVENUE "H" ST. LOUIS, MO 63125 1-314-544-4300 1-800-537-1259 FAX: 1-314-544-2386 www.aalcomfg.com		PROJECT	
		CITY/STATE	
		ARCHITECT	
		DEALER	
CONTRACTOR		JOB NO	
REVISIONS		DATE	
BY		SCALE	DRAWN BY
		NTS	P. POHRER
		SHEET	
SPEC SECTION 11480			



NOTE: MOTOR LOCATION BETWEEN FRAME HINGE STRUCTURES AS REQ'D

- A (#) EACH #110DC VOLLEYBALL NET
- B (#) PAIR #PV6 2" END POST PADS
- C (#) EACH #PV7 2" CENTER POST PADS
- D (#) PAIR #PV8 NET ANTENNAS
- E (#) PAIR #PV9 BOUNDARY MARKERS
- F (#) QUICK-TITE NET TENSIONERS

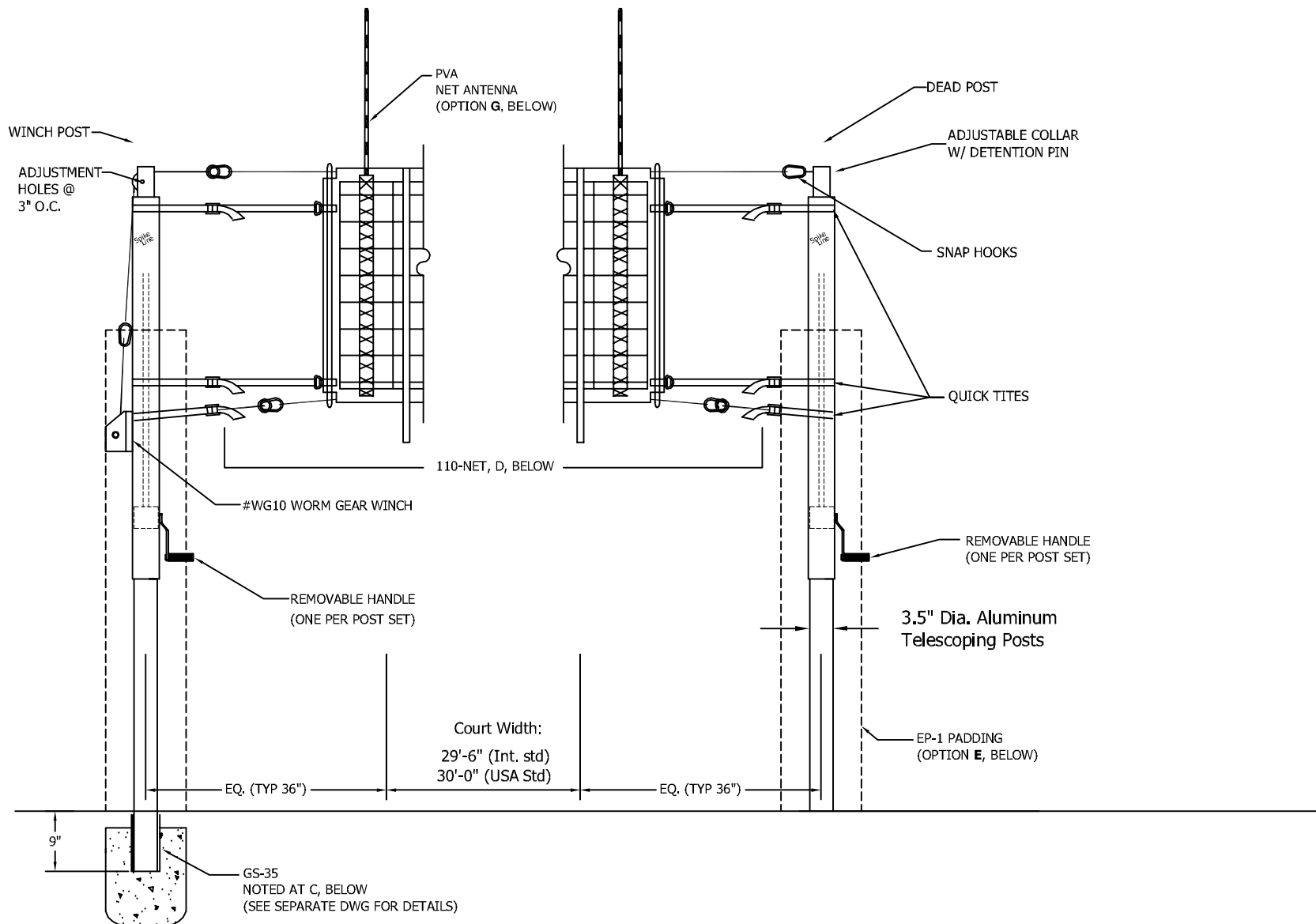
ALL VINYL IS FIRE-RESISTANT AND TREATED WITH MILDEW RETARDANTS AND FUNGICIDE PROTECTION

SWINGLINE VOLLEYBALL SYSTEM
W/ JUDGE'S STAND
 (#) SETS REQ'D
****DESIGN PURPOSES ONLY****

PROPER PADDING MUST BE IN PLACE DURING PLAY TO PREVENT INJURY. UNIT IS TO BE OPERATED BY AUTHORIZED USERS ONLY. ANY MINORS OPERATING EQUIPMENT MUST BE UNDER ADULT SUPERVISION.

SCALE: 1/4" = 1'

 AALCO MANUFACTURING COMPANY 1650 AVENUE "H" ST. LOUIS, MO 63125 1-314-544-4300 1-800-537-1259 FAX: 1-314-544-2386 www.aalcomfg.com		PROJECT	
		CITY/STATE	
ARCHITECT		DEALER	
CONTRACTOR		JOB NO	
REVISIONS		DATE	
BY		SCALE	
NTS		DRAWN BY	
		P. POHRER	
		SHEET	
SPEC SECTION 11480			




SLS-99 SPIKELINE Post System

- A. # Pair Model SLS-99 Aluminum Floor-Sleeve End Posts
- B. # Each Model SLS-99 Aluminum Floor-Sleeve Center Post
- C. # Each Model GS35 Floor Sleeves w/Cover Plates
- D. # Each Model #110 Volleyball Net (34' cable)
- E. # Each Model EP-1 Safety Post Pads

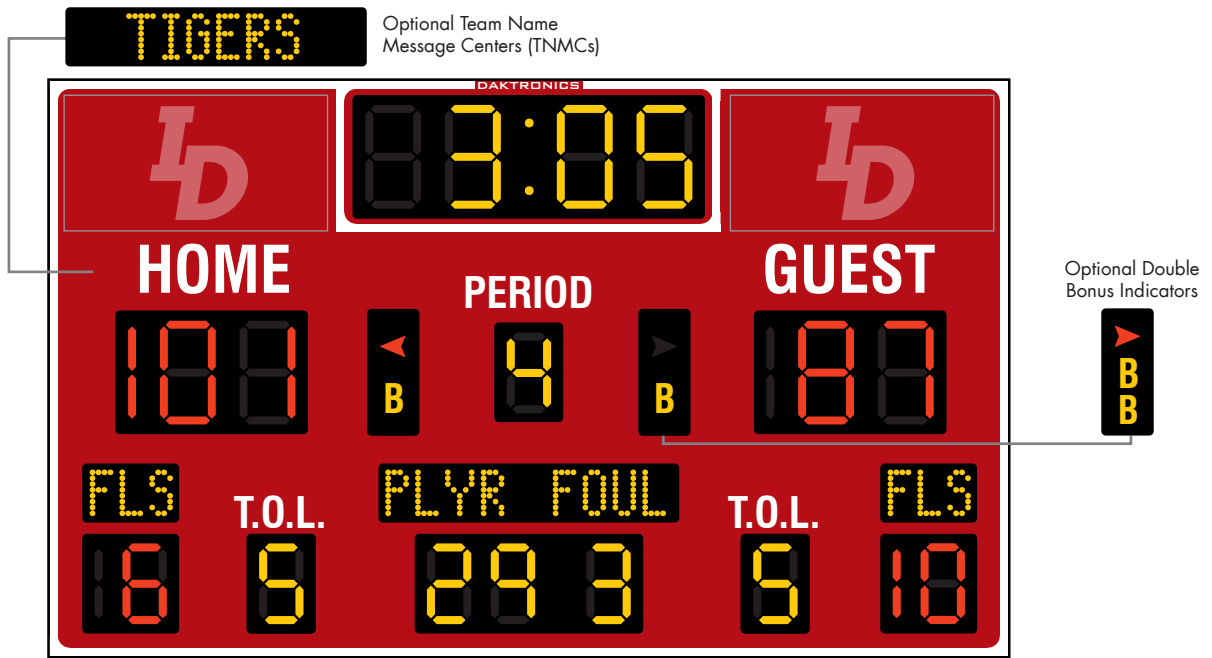
- G. # Pair Model PVA Net Antennas
- H. # Pair Model PVM Boundry Markers
- I. # Quik-Tite Net Tensioners

MARKER TAPE TO INDICATE HEIGHT
INCLUDED
(TO BE INSTALLED IN-FIELD)

M1/

 AALCO MANUFACTURING COMPANY 1650 AVENUE "H" ST. LOUIS, MO 63125 1-314-544-4300 1-800-537-1259 FAX: 1-314-544-2386 www.aalcomfg.com		PROJECT	
		CITY/STATE	
		ARCHITECT	
		DEALER	
		CONTRACTOR	
		JOB NO	DATE
REVISIONS	BY	SCALE	DRAWN BY
		NTS	P. POHRER
		SHEET	
SPEC SECTION 11480			

DAKTRONICS BB-2155 PRODUCT SPECIFICATIONS



This single-sided LED basketball scoreboard displays period time to 99:59, HOME and GUEST scores to 199, PERIOD to nine, PLYR (player) number to 99, player FOUL to nine, team FOULS to 19, T.O.L. (time outs left) to nine and indicates possession and bonus. Electronic captions automatically change when volleyball and wrestling modes are selected. When period time is less than one minute, the scoreboard displays time to 1/10 of a second. Scoreboard shown with optional striping and UniView® digits.

DIMENSIONS	UNCRATED WEIGHT	POWER (120 VAC)
6'-0" H x 10'-0" W x 6" D (1.83 m, 3.05 m, 152 mm)	275 lb (125 kg)	350 Watts, 2.9 Amps

Notes:

- 1) Models with 240 VAC power at half the indicated amperage are also offered (International Use Only).
- 2) Optional 8x48 TNMCs add 100 Watts to scoreboard power and 15 lb (7 kg) to scoreboard weight.

DIGITS & INDICATORS

- Clock and score digits are 13" (330 mm) high. All other digits are 10" (254 mm) high. Bonus indicators are 4" (102 mm) high and possession arrows are 3" (76 mm) high.
- Clock, PERIOD, PLYR/FOUL and T.O.L. digits are amber. Electronic captions, Bonus indicators and optional TNMCs are amber. All other digits and indicators are red.
- Select PanaView® or UniView® LED digit technology (see [SL-04729](#)).

CAPTIONS

- HOME and GUEST captions, electronic captions and optional TNMCs are 6" (152 mm) high. PERIOD and T.O.L. captions are 4" (102 mm) high.
- Standard captions are vinyl, applied directly to the display face.

DISPLAY COLOR

Choose from 150+ colors (from Martin Senour® paint book) at no additional cost.

CONSTRUCTION

Durable, lightweight aluminum Tuff Sport® cabinet withstands high-velocity impact from air-filled sports balls without the need for protective screens.

PRODUCT SAFETY APPROVAL

ETL listed to UL 48, tested to CSA standards, and CE labeled

OPERATING TEMPERATURES

- Display: -22° to 122° Fahrenheit (-30° to 50° Celsius)
- Console: 32° to 130° Fahrenheit (0° to 54° Celsius)

WWW.DAKTRONICS.COM E-MAIL: SALES@DAKTRONICS.COM

201 Daktronics Drive, PO Box 5128, Brookings, SD 57006
Phone: 1-800-325-8766 or 605-692-0200 Fax: 605-697-4746
DD2457495 041715 Page 1 of 4



DAKTRONICS BB-2155 PRODUCT SPECIFICATIONS

CONTROL CONSOLE

All Sport® 5000
(see [SL-03991](#))

CONTROL OPTIONS

Wired (standard): One-pair shielded cable of 22 AWG minimum is required. A cover plate with mounted connector and standard 2" x 4" x 2" (51 mm x 102 mm x 51 mm) outlet box is provided. Connector mates with signal cable from control console.

Wireless (optional): 2.4 GHz spread spectrum radio features 64 non-interfering channels and 8 broadcast groups (see [SL-04370](#)).

HORN

A vibrating horn, mounted behind the scoreboard face, sounds automatically when period clock counts down to zero or manually as controlled by the operator.

SEGMENT TIMER MODE

The segment timer mode is ideal for keeping practices on schedule. The horn at the end of a segment allows coaches and athletes to focus on the practice and to listen for the horn when it is time to change drills (see [SL-04004](#)).

GENERAL INFORMATION

Scoreboard provides scoring capabilities for two teams. 100% solid state electronics are housed in an all aluminum cabinet. Scoreboard arrives at the site fully assembled. Mounting hardware not included. Specifications and pricing are subject to change without notice.

OPTIONS & ACCESSORIES

- Scoreboard border striping
- Multiple caption and striping colors (see [DD2101644](#))
- Team name caption in place of HOME *
- Team names on changeable panels *
- Programmable Team Name Message Centers (see [SL-04342](#))
- Double bonus indicators
- Two 17" (432 mm) tall x 33" (838 mm) wide logo/sponsor panels in one or both upper corners
- Standalone Time of Day – scoreboard acts as a clock when control console is unplugged/off
- Different sounding 12 VDC horn in place of buzzer
- Advantage time option for wrestling mode – PLYR and FOUL digits reversed (see [SL-03679](#))
- Visual horn indicator (see [SL-02093](#) or [SL-05489](#))
- Protective screen (see [SL-02551](#))
- Suspension installation kit
- Corner mounting kit
- Advertising/identification panels
- Decorative accents
- Electronic message centers and video displays in multiple sizes

* Only for scoreboard without Team Name Message Centers

ADVERTISING/IDENTIFICATION PANELS

Backlit & Non-Backlit:

1'-6" H x 10'-0" W (457 mm, 3.05 m)

2'-0" H x 10'-0" W (610 mm, 3.05 m)

2'-6" H x 10'-0" W (762 mm, 3.05 m)

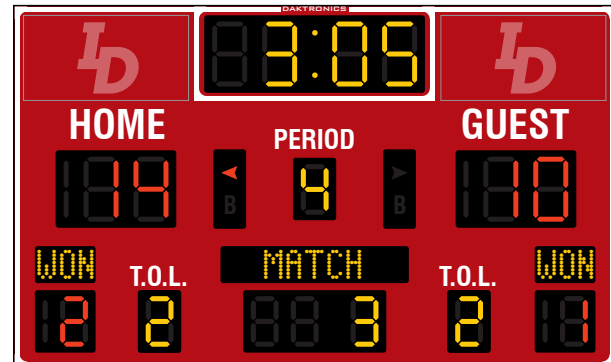
For additional backlit panel sizes, see [SL-03664](#).

For additional non-backlit panel sizes, see [SL-03719](#).

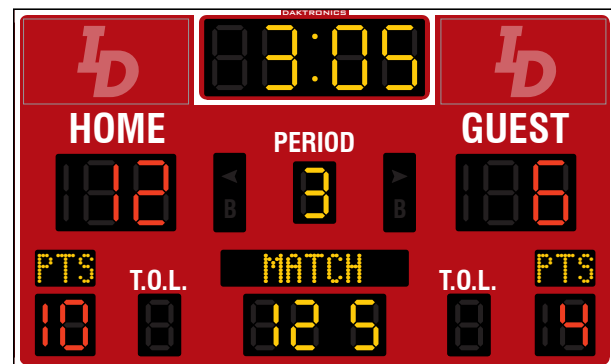
FOR ADDITIONAL INFORMATION

- Mechanical Specifications: DWG-1132788 (attached)
- Component Locations: DWG-1132800 (attached)
- Architectural Specifications: See [DD2457502](#)
- Installation Manual: See [DD2481645](#)
- Service Manual: See [DD2481648](#)

ALTERNATE SCORING MODES



Volleyball Mode



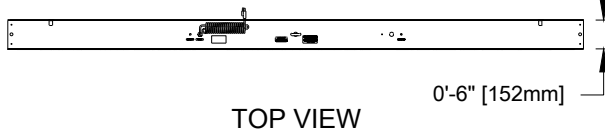
Wrestling Mode

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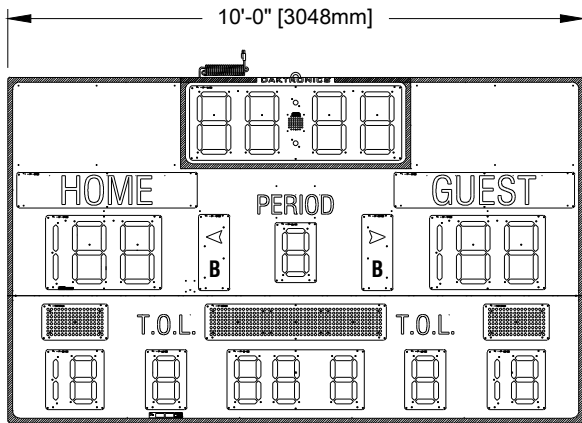
All Sport®, PanaView®, Tuff Sport® and UniView® are trademarks of Daktronics, Inc. Martin Senour® is a registered trademark of its owner. DD2457495 041715 Page 2 of 4 Copyright © 2013-2015 Daktronics, Inc.



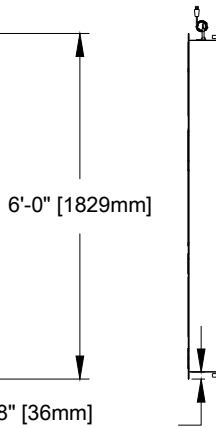
BB-2155



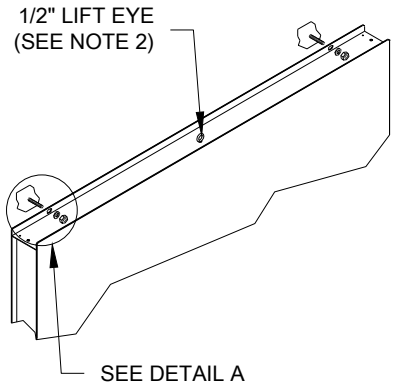
TOP VIEW



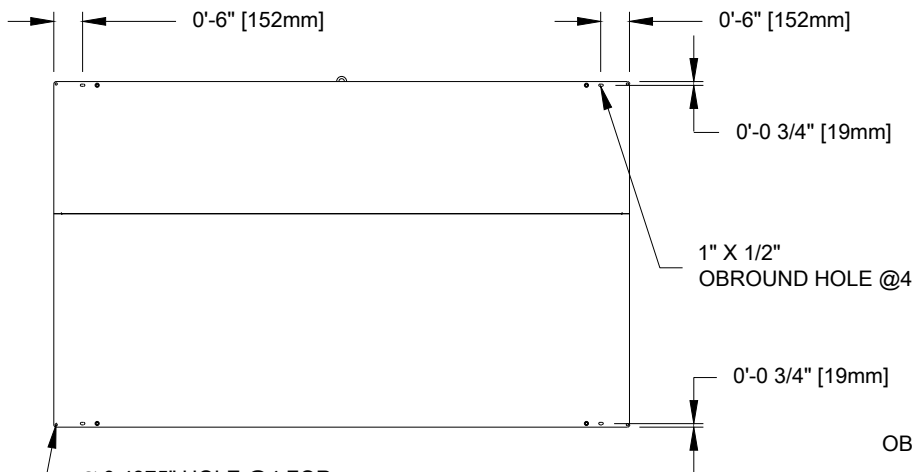
FRONT VIEW



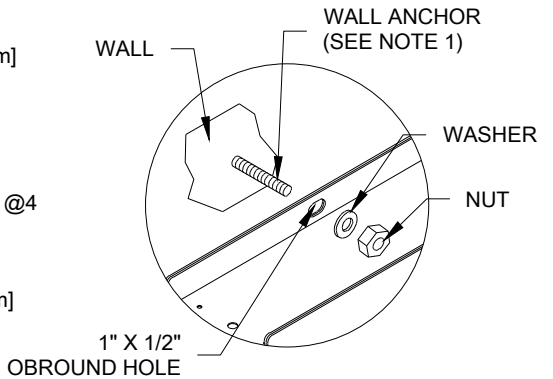
SIDE VIEW



WALL MOUNTING DETAIL



REAR VIEW



DETAIL: A
(SCALE 1=10)

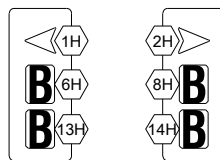
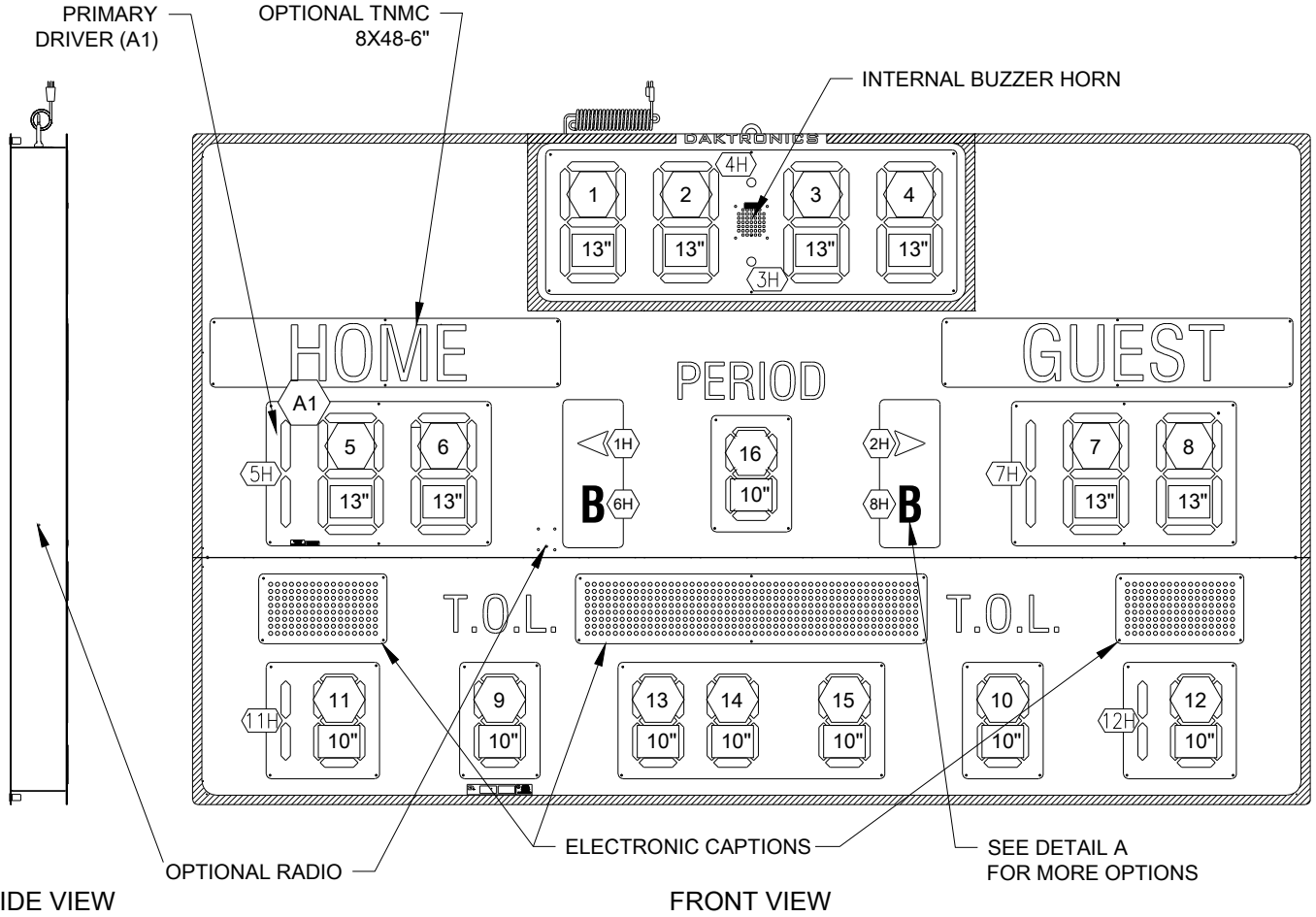
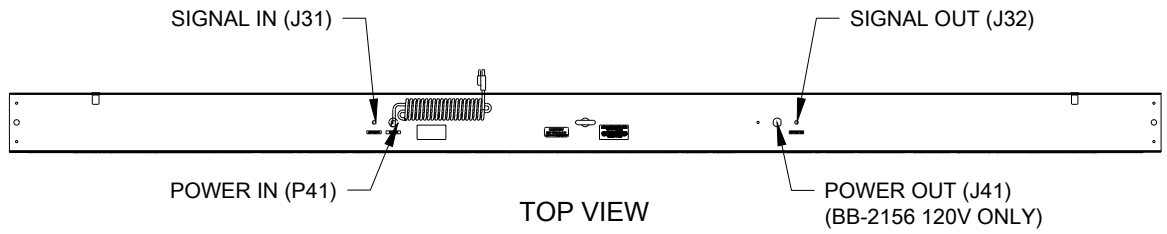
NOTES:

1. USE APPROPRIATE WALL ANCHORS FOR TYPE OF WALL. (NOT PROVIDED BY DAKTRONICS)
2. LIFT EYE IS FOR TEMPORARY USE WHILE LIFTING SCOREBOARD DURING INSTALLATION. DO NOT USE LIFT EYE FOR PERMANENT SUSPENSION. (REFER TO DWG-1130959)

WEIGHTS	
SHIPPING WEIGHT	MOUNTING WEIGHT
410 LBS (186 KG)	275 LBS (124 KG)

	DAKTRONICS, INC. BROOKINGS, SD 57006 <small>DO NOT SCALE DRAWING</small>		<small>THE CONCEPTS EXPRESSED AND DETAILS SHOWN ON THIS DRAWING ARE CONFIDENTIAL AND PROPRIETARY. DO NOT REPRODUCE BY ANY MEANS WITHOUT THE EXPRESSED WRITTEN CONSENT OF DAKTRONICS, INC. COPYRIGHT 2013 DAKTRONICS, INC.</small>	
	PROJ: INDOOR SCOREBOARDS TITLE: MECHANICAL SPEC; BB-2155			
DESIGN: KSCHNABEL		DRAWN: KSCHNABEL		DATE: 10 APR 13
SCALE: 1 = 40				
SHEET	REV	JOB NO:	FUNC - TYPE - SIZE	1132788
00	P1749	E - 10 - A		

BB-2155/2156 FACE

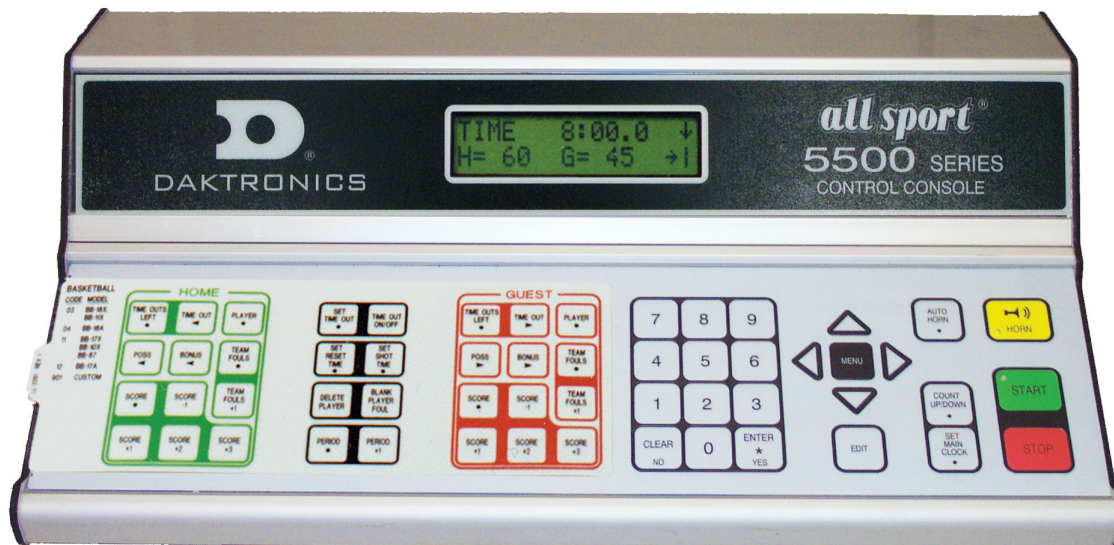


NOTES:

- 7 = DIGIT DESIGNATION = IN RELATION TO DRIVER
- 24" = DIGIT SIZE
- 1H = SEGMENT DESIGNATION
- A1 = DRIVER NUMBER

		DAKTRONICS, INC. BROOKINGS, SD 57006 DO NOT SCALE DRAWING		THE CONCEPTS EXPRESSED AND DETAILS SHOWN ON THIS DRAWING ARE CONFIDENTIAL AND PROPRIETARY. DO NOT REPRODUCE BY ANY MEANS WITHOUT THE EXPRESSED WRITTEN CONSENT OF DAKTRONICS, INC. COPYRIGHT 2013 DAKTRONICS, INC.	
PROJ: INDOOR SCOREBOARDS					
TITLE: COMPONENT LOCATION; BB-2155/2156					
DESIGN: KSCHNABEL			DRAWN: KSCHNABEL		DATE: 10 APR 13
SCALE: 1 = 20					
REV 01	DATE: 03 MAR 15	PER EC-17119. REMOVED DRIVER DETAIL, ADDED PRIMARY AND 120V SPECIFICATIONS	BY: KDB	SHEET 00	JOB NO: P 1749
				FUNC-TYPE-SIZE E - 10 - A	1132800

DAKTRONICS ALL SPORT 5500 PRODUCT SPECIFICATIONS



DIMENSIONS	WEIGHT	POWER (120 VAC)
4.25" H x 16.25" W x 9" D (108 mm, 413 mm, 229 mm)	7 lb (3.2 kg)	6 W

DISPLAY

A 32-character liquid crystal display (LCD) prompts the operator and provides vital feedback. Two lines of 16 characters provide easy viewing of game in progress information. The LCD is backlit with LEDs to allow for readability in dark areas as well as bright sunlight.

- Viewing area: 3.89" W x 0.94" H (99 mm, 24 mm)
- Characters: 0.189" W x 0.378" H (4.8 mm, 9.6 mm)

CONSTRUCTION

Heavy-duty aluminum case is the toughest line of defense against drops, static electricity, and high/low temperatures. The console's "snap-action" keyboard is sealed, making it resistant to moisture and spills. An internal beeper helps to indicate a completed keystroke.

SPORT MODES

Interchangeable sport inserts allow a single console to work for a wide variety of indoor sports. Sport inserts reduce the confusion of having multiple functions on individual keys. On most inserts, HOME keys are color-coded green and GUEST keys are red for quick identification.

NON-VOLATILE MEMORY

The most current information is automatically stored on a memory chip without the need for a battery, should there be a loss of power. The memory cannot be erased and is only overwritten once new information is entered.

PRODUCT SAFETY APPROVAL

ETL listed, tested to CSA standards and CE labeled; FCC approved

OPERATING TEMPERATURES

32° to 130° Fahrenheit (0° to 54° Celsius)

GENERAL INFORMATION

Console can control multiple scoreboards and stat panels, display tenth-of-a-second times, and features Time of Day and Segment Timer modes. Console is static electricity resistant to 20,000 volts. Specifications and pricing are subject to change without notice.

OPTIONS & ACCESSORIES

- Durable carrying case (see [SL-04551](#))
- 2.4 GHz spread spectrum radio control (see [SL-04370](#))
- Handheld shot clock controllers
- External battery kit (see [SL-04457](#))

FOR ADDITIONAL INFORMATION

- Manual: See [ED-16809](#)

WWW.DAKTRONICS.COM E-MAIL: SALES@DAKTRONICS.COM

201 Daktronics Drive, PO Box 5128, Brookings, SD 57006
Phone: 1-800-325-8766 or 605-692-0200 Fax: 605-697-4746
DD1189048 040215 Page 1 of 2

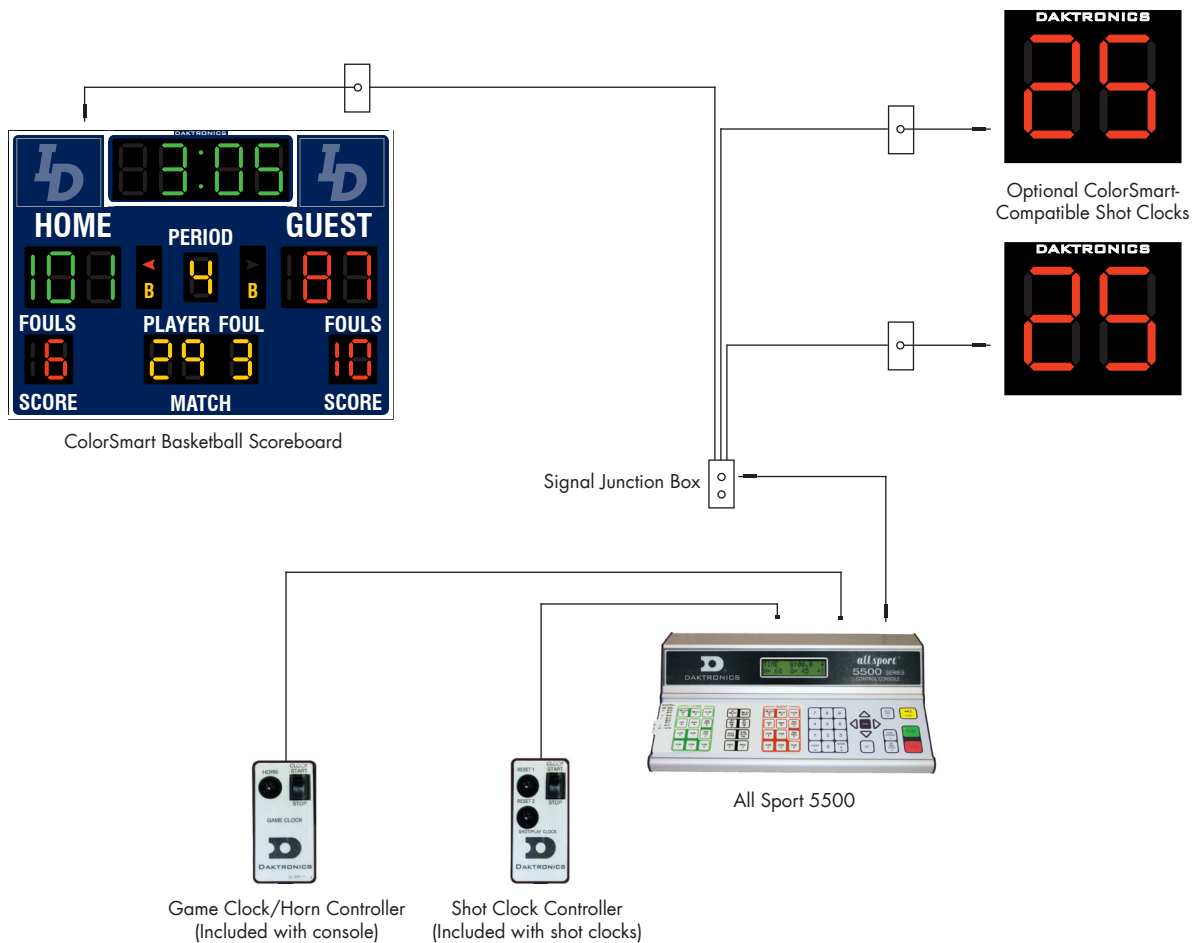


DAKTRONICS ALL SPORT 5500 PRODUCT SPECIFICATIONS

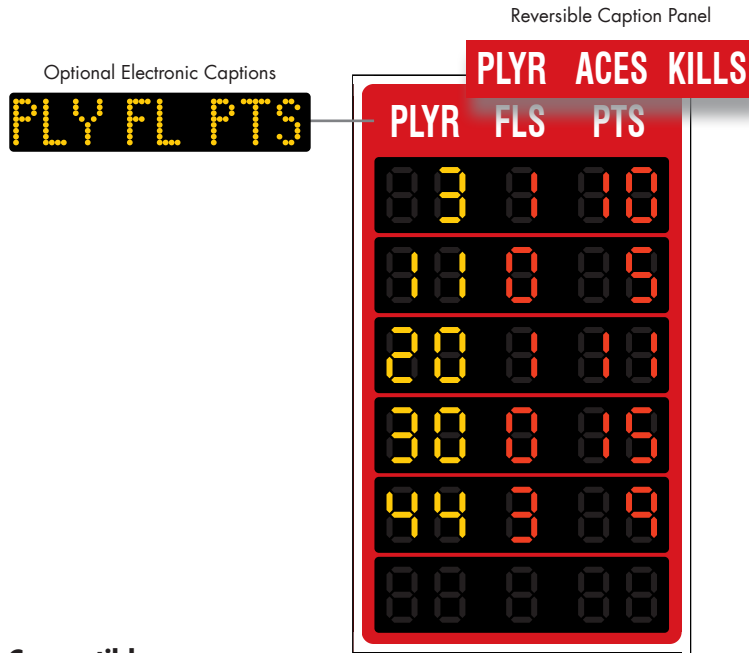
FEATURE	BENEFIT
ColorSmart® Control	Incorporates Daktronics newest scoring protocol allowing for control of ColorSmart scoreboards, which change colors based on certain timing and scoring circumstances.
Cumulative memory	Saves points and fouls for up to 15 players per team in basketball mode and several user-defined player stats for volleyball for use on stat displays
Main & auxiliary scoreboard control	Control basketball shot clocks & stat displays in addition to the main scoreboard from the same output signal
Real-Time Data (RTD) output	Displays game-in-progress information on electronic message displays
Multiple sport modes	Easily move the same console from venue to venue

TYPICAL CONTROL DIAGRAM

Refer to the diagram below for a typical layout of an All Sport 5500 controller, basketball scoreboard and optional shot clocks.



DAKTRONICS SD-3102 PRODUCT SPECIFICATIONS



ColorSmart® Compatible

This LED statistics display shows player (PLYR) number to 99, player fouls (FLS) to 9 and player points (PTS) to 99 for five players. Display can also show ACES and KILLS for six players in volleyball mode with included reversible caption panel. Displays sold in pairs for tracking statistics of both teams. Display shown with optional striping.

DIMENSIONS	UNCRATED WEIGHT	POWER (120 VAC)
6'-0" H x 3'-6" W x 6" D (1.83 m, 1.07 m, 152 mm)	90 lb (41 kg)	400 Watts, 3.3 Amps

Notes:

- 1) Optional 8x48 electronic captions add 50 Watts to display power and 7 lb (3 kg) to display weight.
- 2) All dimensions, power and weights shown are for one display only.

DIGITS

- All digits are 7" (178 mm) high.
- PLYR digits are amber. All other digits are red. Optional electronic captions are amber.
- UniView® LED digit technology (see [SL-04729](#))

CAPTIONS

- All captions are 4" (102 mm) high. Optional electronic captions are 6" (152 mm) high.
- Standard captions are vinyl, applied to a reversible caption panel.

DISPLAY COLOR

Choose from 150+ colors (from Martin Senour® paint book) at no additional cost.

CONSTRUCTION

Durable, lightweight aluminum Tuff Sport® cabinet withstands high-velocity impact from air-filled sports balls without the need for protective screens.

PRODUCT SAFETY APPROVAL

ETL listed to UL 48 and tested to CSA standards

OPERATING TEMPERATURES

- Display: -22° to 122° Fahrenheit (-30° to 50° Celsius)
- Console: 32° to 130° Fahrenheit (0° to 54° Celsius)

DAKTRONICS SD-3102 PRODUCT SPECIFICATIONS

CONTROL CONSOLE

All Sport® 5500*
(see [DD1189048](#))

CONTROL OPTIONS

Wired (standard): One-pair shielded cable of 22 AWG minimum is required. A cover plate with mounted connector and standard 2" x 4" x 2" (51 mm x 102 mm x 51 mm) outlet box is provided. Connector mates with signal cable from control console.

Wireless (optional): 2.4 GHz spread spectrum radio features 64 non-interfering channels and 8 broadcast groups (see [SL-04370](#)).

* Controller not included with standard purchase; displays are typically controlled by the same console controlling the basketball scoreboard(s).

GENERAL INFORMATION

100% solid state electronics are housed in an all-aluminum cabinet. Displays arrive at the site fully assembled. Mounting hardware not included. Specifications and pricing are subject to change without notice.

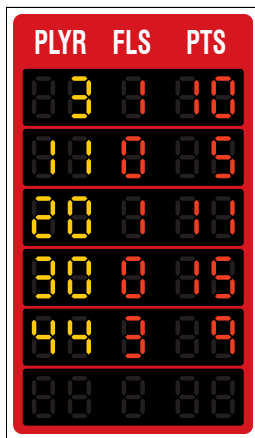
OPTIONS & ACCESSORIES

- Scoreboard border striping
- Multiple caption and striping colors (see [DD2101644](#))
- Hockey and wrestling captions on changeable panels
- Electronic captions
- Protective screen (see [SL-02551](#))
- Suspension installation kit
- Electronic message centers and video displays in multiple sizes

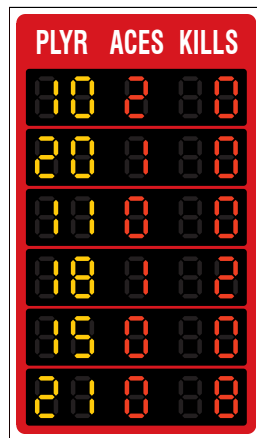
FOR ADDITIONAL INFORMATION

- Mechanical Specifications: DWG-1132266 (attached)
- Component Locations: DWG-1132267 (attached)
- Architectural Specifications: See [SL-09445](#)
- Installation Manual: See [DD2481645](#)
- Service Manual: See [DD2507404](#)

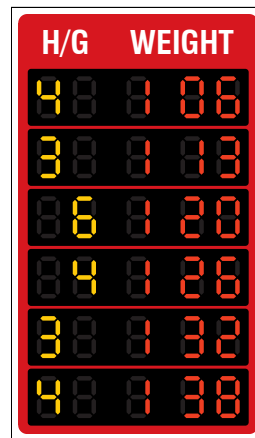
SCORING MODES



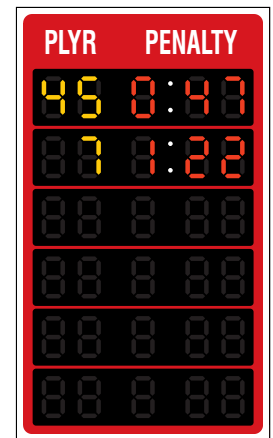
Basketball Mode
(Standard)



Volleyball Mode
(Standard)



Wrestling Mode –
Optional captions shown



Hockey Mode –
Optional captions shown

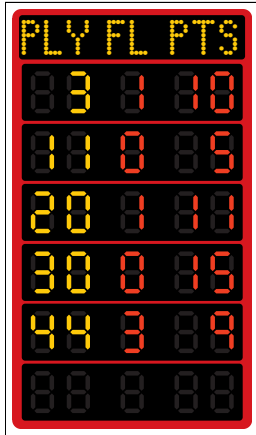
Optional captions include:

PLYR ACES DIGS
PLYR BLKS DIGS
PLYR BLKS KILLS

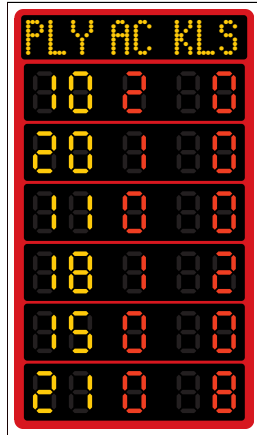
DAKTRONICS SD-3102 PRODUCT SPECIFICATIONS

OPTIONAL ELECTRONIC CAPTIONS

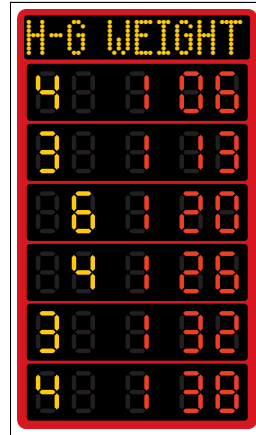
Quickly switch between all of the following sport modes with electronic captions.



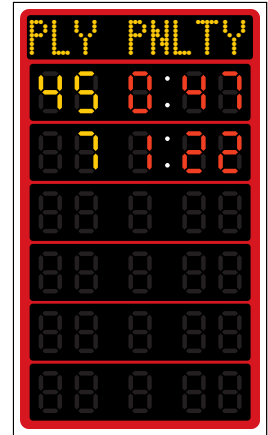
Basketball Mode



Volleyball Mode



Wrestling Mode



Hockey Mode

Other captions include:

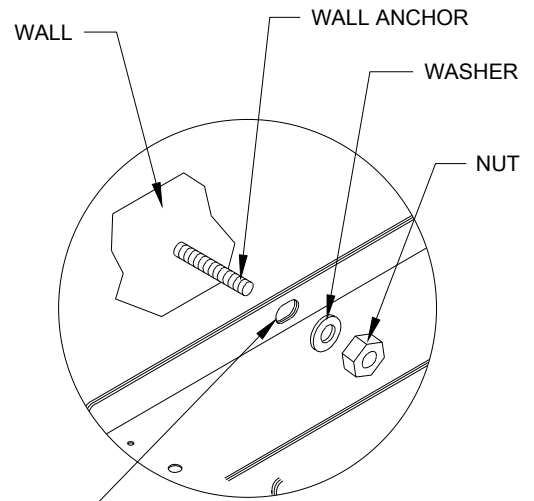
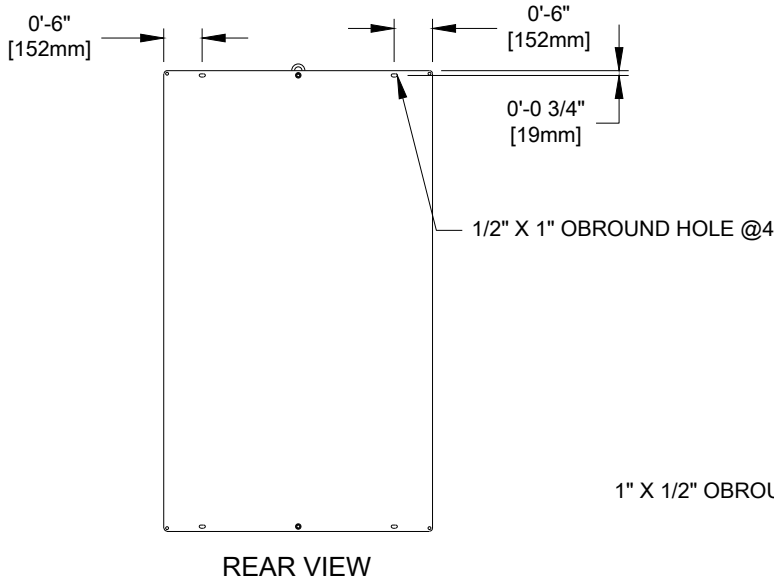
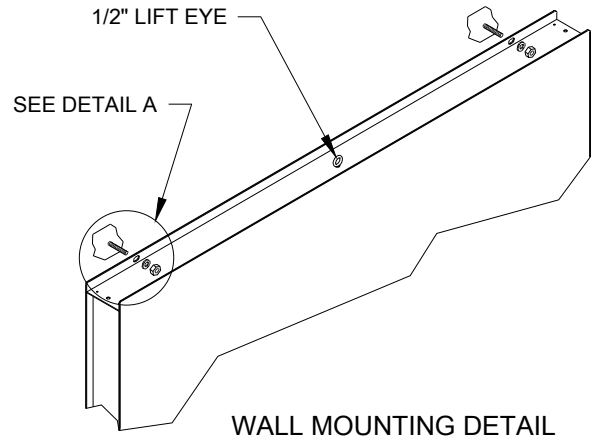
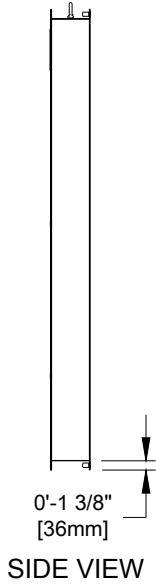
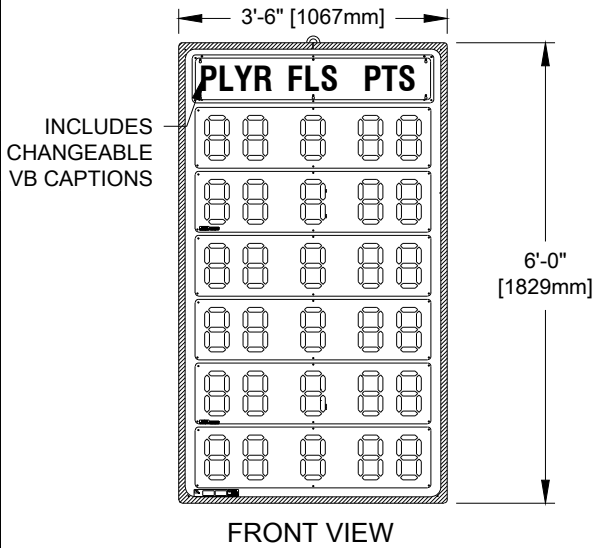
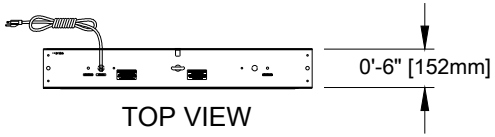
PLY AC DIG

PLY BL DIG

PLY BL KLS

PLY KL DIG

SD-2102/3102



DETAIL: A
(SCALE 1=10)

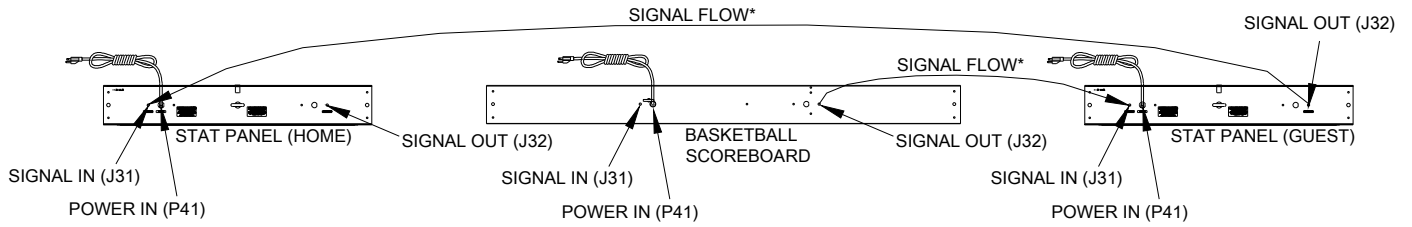
NOTES:

1. USE APPROPRIATE WALL ANCHORS FOR TYPE OF WALL. (NOT PROVIDED BY DAKTRONICS)
2. LIFT EYE IS FOR TEMPORARY USE WHILE LIFTING SCOREBOARD DURING INSTALLATION. DO NOT USE LIFT EYE FOR PERMANENT SUSPENSION. (REFER TO DWG-1130959)

WEIGHTS	
SHIPPING WEIGHT	MOUNTING WEIGHT
155 LBS (70 KG)	90 LBS (41 KG)

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	PROJ: INDOOR SCOREBOARDS TITLE: MECHANICAL SPEC; SD-2102/SD-3102			
DESIGN: KDRAGT		DRAWN: KDRAGT		DATE: 04 APR 13
SCALE: 1=30				
SHEET	REV	JOB NO:	FUNC-TYPE-SIZE	1132266
	00	P1749	E-10-A	

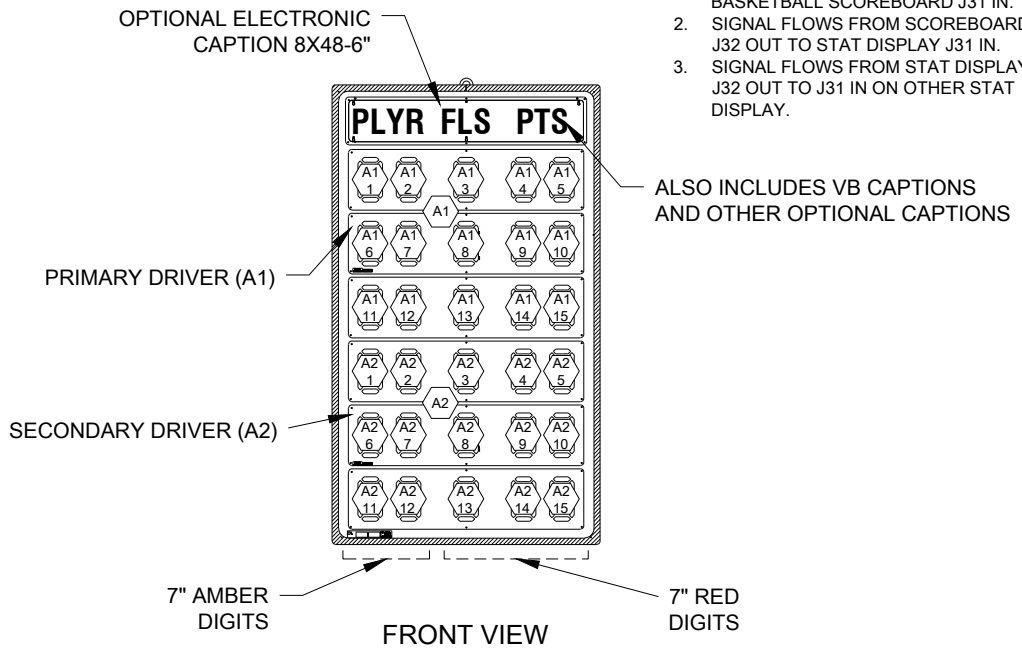
SD-2102/3102



TOP VIEW & SIGNAL FLOW

*SIGNAL INSTRUCTIONS:

1. CONTROL SIGNAL LANDS AT MAIN BASKETBALL SCOREBOARD J31 IN.
2. SIGNAL FLOWS FROM SCOREBOARD J32 OUT TO STAT DISPLAY J31 IN.
3. SIGNAL FLOWS FROM STAT DISPLAY J32 OUT TO J31 IN ON OTHER STAT DISPLAY.



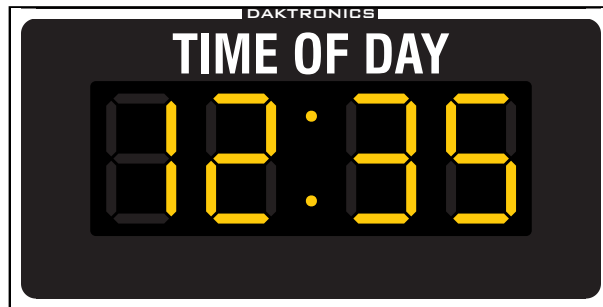
NOTES:

- DIGIT DESIGNATION = IN RELATION TO DRIVER
- = DRIVER NUMBER

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	DO NOT SCALE DRAWING			
PROJ: INDOOR SCOREBOARDS TITLE: COMPONENT LOCATION; SD-2102/SD-3102				
DESIGN: KDRAGT		DRAWN: KDRAGT		DATE: 04 APR 13
SCALE: 1=30				
SHEET	REV	JOB NO:	FUNC-TYPE-SIZE	
01	01	P 1749	E - 10 - A	
				1132267

REV	DATE:	PER EC-17119, REMOVED DRIVER DETAILS ADDED PRIMARY SPECIFICATION	BY:	
01	02 MAR 15		KDB	

DAKTRONICS TI-2102 PRODUCT SPECIFICATIONS



This LED timer displays time of day (TOD). Timer shown with optional amber UniView® digits and striping.

DIMENSIONS	UNCRATED WEIGHT	POWER (120 VAC)
2'-6" H x 5'-0" W x 6" D (762 mm, 1.52 m, 152 mm)	55 lb (25 kg)	200 Watts, 1.7 Amps

Note: Models with 240 VAC power at half the indicated amperage are also offered (International Use Only).

DIGITS

- All digits are 13" (330 mm) high.
- Select red or amber clock digits.
- Select PanaView® or UniView® LED digit technology (see [SL-04729](#)).

CAPTIONS

- TIME OF DAY caption is 4" (101 mm) high.
- Standard captions are vinyl, applied directly to the display face.

DISPLAY COLOR

Choose from 150+ colors (from Martin Senour® paint book) at no additional cost.

CONSTRUCTION

Durable, lightweight aluminum Tuff Sport® cabinet withstands high-velocity impact from air-filled sports balls without the need for protective screens.

PRODUCT SAFETY APPROVAL

ETL listed to UL 48, tested to CSA standards, and CE labeled

OPERATING TEMPERATURES

- Display: -22° to 122° Fahrenheit (-30° to 50° Celsius)
- Console: 32° to 130° Fahrenheit (0° to 54° Celsius)

WWW.DAKTRONICS.COM E-MAIL: SALES@DAKTRONICS.COM

201 Daktronics Drive, PO Box 5128, Brookings, SD 57006
Phone: 1-800-325-8766 or 605-692-0200 Fax: 605-697-4746
DD2594853 041715 Page 1 of 4



DAKTRONICS TI-2102 PRODUCT SPECIFICATIONS

CONTROL CONSOLES	CONTROL OPTIONS
All Sport® 1600* (see SL-04352) *May be upgraded to All Sport 5000 (see SL-03991)	Wired (standard): One-pair shielded cable of 22 AWG minimum is required. A cover plate with mounted connector and standard 2" x 4" x 2" (51 mm x 102 mm x 51 mm) outlet box is provided. Connector mates with signal cable from control console. ----- Wireless (optional): 2.4 GHz spread spectrum radio features 64 non-interfering channels and 8 broadcast groups (see SL-04370).
RC-100 (see SL-07397)	Optional wireless handheld controller features 900 MHz spread spectrum radio with 15 non-interfering channels and up to 10 hours of operation via internal rechargeable battery.

HORN

A vibrating horn sounds automatically when clock counts down to zero or manually as controlled by the operator.

GENERAL INFORMATION

Timer provides clock timing capabilities. 100% solid state electronics are housed in an all aluminum cabinet. Timer arrives at the site fully assembled. Mounting hardware not included. Specifications and pricing are subject to change without notice.

OPTIONS & ACCESSORIES

- Display border striping
- Multiple caption and striping colors (see [DD2101644](#))
- Protective screen (see [SL-02551](#))
- Advertising/identification panels

ADVERTISING/IDENTIFICATION PANELS

Backlit & Non-Backlit:

1'-6" H x 5'-0" W (457 mm, 1.52 m)

2'-0" H x 5'-0" W (610 mm, 1.52 m)

2'-6" H x 5'-0" W (762 mm, 1.52 m)

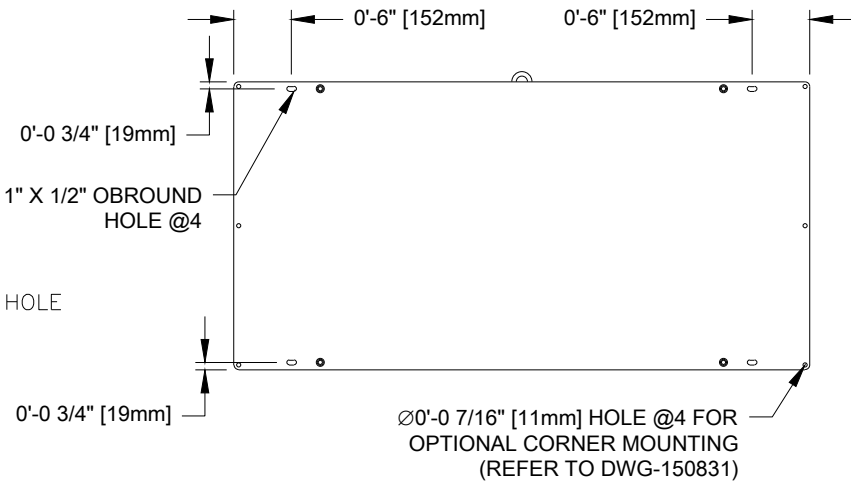
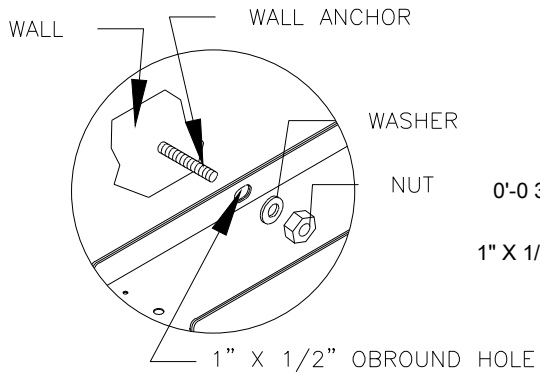
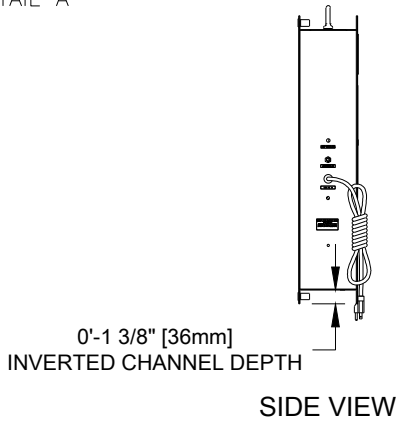
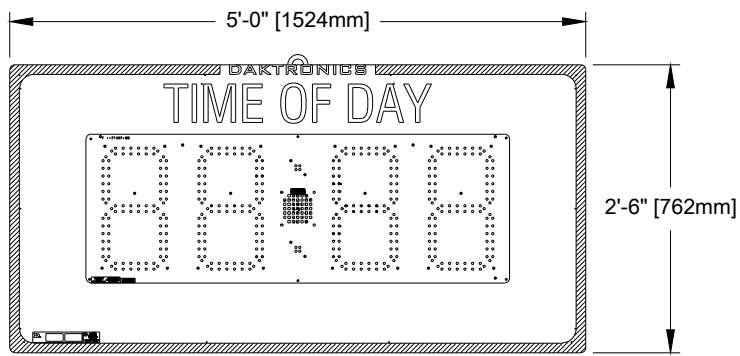
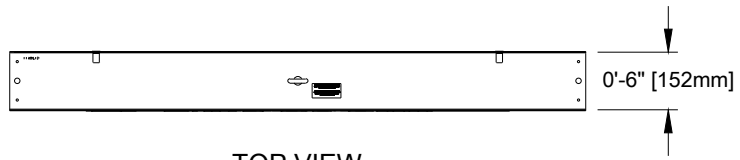
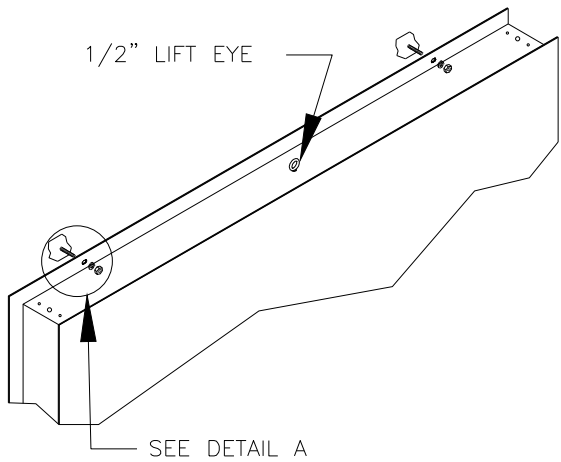
For additional backlit panel sizes, see [SL-03664](#).

For additional non-backlit panel sizes, see [SL-03917](#).

FOR ADDITIONAL INFORMATION

- Mechanical Specifications: DWG-1192275 (attached)
- Electrical & Signal Specifications: DWG-1192276 (attached)
- Architectural Specifications: See [SL-06824](#)
- Installation Manual: See [DD2481645](#)
- Service Manual: See [DD2481648](#)

TI-2102



NOTES:

1. USE APPROPRIATE WALL ANCHORS FOR TYPE OF WALL. (NOT PROVIDED BY DAKTRONICS)
2. LIFT EYE IS FOR TEMPORARY USE WHILE LIFTING SCOREBOARD DURING INSTALLATION. DO NOT USE LIFT EYE FOR PERMANENT SUSPENSION. REFER TO DWG-1130959

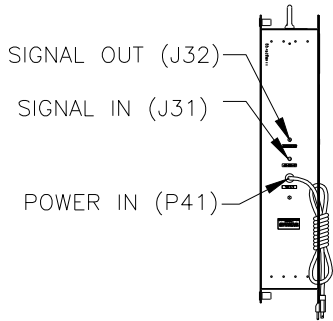
WEIGHTS	
SHIPPING WEIGHT	MOUNTING WEIGHT
75 LBS (34 KG)	55 LBS (25 KG)

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	PROJ: INDOOR SCOREBOARDS TITLE: MECHANICAL SPEC; TI-2102 DESIGN: DOPPELT DRAWN: KDRAGT DATE: 26 SEP 14		
SCALE: 1=20			
SHEET	REV	JOB NO:	FUNC-TYPE-SIZE
	00	P 1749	E - 10 - A
			1192275

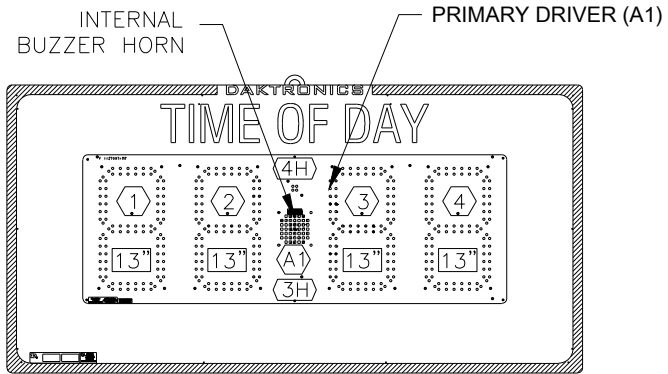
TI-2102



TOP VIEW



SIDE VIEW



FRONT VIEW

NOTES:

- = DIGIT DESIGNATION IN RELATION TO DRIVER
- = DIGIT SIZE
- = SEGMENT DESIGNATION
- = DRIVER NUMBER

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		DO NOT SCALE DRAWING	
PROJ: INDOOR SCOREBOARDS			
TITLE: COMPONENT LOCATION, TI-2102			
DESIGN: DOPPELT		DRAWN: KDRAGT	DATE: 26 SEP 14
SCALE: 1=20			
SHEET	REV	JOB NO:	FUNC -TYPE-SIZE
01	01	P 1749	E - 10 - A
			1192276

REV	DATE:	PER EC-17119, REMOVED DRIVER DETAIL, CHANGED MASTER TO PRIMARY	BY:
01	03 MAR 15		KDB

SECTION 12760

GYMNASIUM BLEACHERS

1. Part I General

1.1 Work:

- A. Telescoping gymnasium bleachers.

1.2 Related Work:

- A. Electrical
- B. Gymnasium flooring

1.3 References:

Applicable building codes _____ Edition Year _____

1.4 Description of the System

- A. The bleacher system shall be comprised of multiple tiered, closed deck seating rows operating in a telescopic manner, incorporating the most economical quantity of sections while still complying with all loading requirements.
- B. The first moving row shall be secured with friction or mechanical locks. Other rows shall be mechanically locked, operable only upon unlocking and cycling the first row, quantity to be determined by Interkal engineering.
- C. Each bleacher row shall be comprised of risers, seat and deck components, and a complete set of supportive columns and braces.
- D. The telescopic bleacher shall incorporate a locking system permitting the use of one, several, or all rows, each locked in the extended position.

1.5 Quality Assurance

A. Qualifications

1. Manufacturing: Manufacturer shall be regularly engaged in the design and manufacturing of telescopic seating for not less than twenty years.

2. Engineering: It will be mandatory that each bidder submit with their bid an affidavit signed by a Registered Professional Engineer stating that the product to be supplied has been tested by an independent testing facility and meets all applicable code requirements.

B. Deviations: It will be the responsibility of the bidder to furnish with their bid, a list clarifying any deviations from the specifications, written or implied. Those bidders not submitting a list of deviations will be presumed to have bid as specified.

C. Guarantees:

1. One-Year Guarantee: The manufacturer shall guarantee all work performed under these specifications to be free from defects for a period of one year.

D. Product Improvements: Seating provided shall incorporate manufacturer's design improvements and materials current at time of shipment.

1.6 Submittals:

A. Submit manufacturer's installation instructions and descriptive literature in accordance with Section 01300.

B. Manufacturer's operating and maintenance manuals in accordance with Section 01700.

1.7 Design Criteria

A. Telescopic bleacher design and fabrication shall conform to (specify applicable code by year and ADA requirements)

B. Telescopic gymnasium seating will be designed to support a vertical live load of 100 PSF, but not less than 120 PLF on both seat boards and footboards. Seating shall also be designed to carry a horizontal sway force of 24 PLF parallel to the seating and 10 PLF perpendicular to the seating.

C. Steel components shall be cold-formed from appropriate width strip stock conforming to ASTM A570 - Grade C 30KSI, ASTM A653-Grade 33 and 50, ASTM A500 - Grade B 46 KSI as applicable.

- D. Lumber components are kiln dried, finger jointed, edge glued southern pine of grade "B & B Finish" manufactured to the current SPIB glued-laminated standards for southern pine.
- E. Plywood deck boards shall be fabricated from Douglas Fir Premium Underlayment with exterior glue, 5 ply minimum, solid crossband directly under face ply, species Group 1 and manufactured in accordance with PS-1-95.

2. PART 2 PRODUCTS

2.1 Manufacturer

- A. Telescopic seating as manufactured by Interkal, Kalamazoo, Michigan, is the standard of quality required and specified herein.

2.2 Materials

- A. **Model:** Interkal, closed deck telescopic bleachers
- B. **Type:** (Select one)
 - Wall attached
 - Recessed
 - Mobile
 - Free Standing
 - Reverse Fold
- C. **Quantity:**
 - 1. Provide _____ banks of _____ attached _____ rows high.
- D. **ADA (Available options)**
 - 1. **Notchouts:** Provide a 36" wide wheel chair space as shown on the plans and as required to meet local code jurisdiction compliance with ADA. (Specify one row or two row deep).
 - 2. **Truncations:** Provide a full section truncation with all necessary front rails, closure panels, and portable step assemblies at aisles as required to meet local jurisdiction compliance with ADA. (Specify one row or two row deep).
- E. **Dimensions:**
 - 1. Rise per row (Select one)- 10 -1/4", 11-1/2", 16"

2. Row to row spacing (Select one) - 22", 24", 26", 30", 32", 33"

F. Propulsion (Select One)

1. **Manual Operation-** Furnish one pair of operating handles to attach under the first row kick board for manual operation.
2. **Friction Power-** Furnish Interkal friction power, integral automatic electro-mechanical propulsion system to open and close telescopic seating system. Operation shall assure full visual control of the seating bank. The Wide Track System incorporates two friction drive roller assemblies as an integral part of both first row vertical column assemblies. Each section of bleacher shall have a power system that shall consist of two vertical column roller assemblies which shall include two 6" diameter by 2 1/2" wide cast drive wheels for a minimum of four friction roller contact points per section of bleacher. Each roller shall have a specially formulated 45-durometer rubber covering to grip the floor as the units roll in and out. The two friction drive roller assemblies shall be installed a minimum of 7-feet apart per section. The two friction roller assemblies are linked together by a continuous drive shaft driven by a 1/2 H.P. 208V, 3-phase motor that shall enable the rollers to work simultaneously, resulting in a more efficient operation with allowance for minor variations in the floor surface. All floor friction power systems shall be controlled by a dual directional, removable walk along pendant which plugs into the front of the first row to give the operator proper position for visual control. The pendant control voltage shall be 24 VAC @ less than 50 MA for the safety of all operating personnel. **The entire power system shall be U.L. Recognized.** A 208/220 volt 3-phase power source, including conduit, wiring, and safety disconnect must be provided by others. The electrical contractor shall perform the connections to the seating equipment at the safety disconnect. Motors, housing, and wiring shall be installed by certified personnel.
3. **Nonfriction:** Gymnasium seating will be power operated. Limit switches will regulate the extended and closed positions. Movement will be reversible from any position. The power system will lock the units in any desired position. The power supply shall be (1.5HP for 8" drums or 2HP for 16" drums) 208-220 or 440 volts, 3 phase 60 cycle. A junction box must be provided for each bank of power to be located as per the manufacturer's instructions. The electrical contractor shall furnish and install conduit, wiring and junction box. Motor starter, limit switches and key control switch to be provided by

manufacturer. Rigid pusher linkages will maintain alignment of the bank during operation. The linkages will be attached to drive reels placed at pre-determined locations at the rear of the bank. Power systems employing friction on the floor will not be acceptable.

2.3 Accessories (Select applicable items)

A. Foot Level Aisles: Provide footrest level aisles at locations and sizes as shown on plans and approved shop drawings.

1. Center Aisle: Provide a permanently attached self-storing aisle rail, which is designed to eliminate all labor associated with set up and storage of the aisle rails.
2. Intermediate Steps: Provide manufacturers standard intermediate step as necessary per applicable code.

B. Last Row Closure

1. Rear Closure Board: Provide and install a properly supported, flush mounted board between the last row of the bleacher and the wall.

C. Wheelchair Seating: (Available options)

1. Notchouts: Provide manufacturers standard permanent handicap notchout (36" wide) located as shown on architectural plans. Notchouts must be located at section joints only to avoid interference with understructure. Fascia panels shall have manufacturers standard polydeck finish to match deck board surface. Available in one row or two row deep, (select one).
2. Recoverable Notchouts: Provide manufacturers standard recoverable handicap notchout (36" wide) located as shown on architectural drawings. Notchouts to be one row or two row deep, (select one).
3. Recoverable Truncations: Provide full section recoverable handicap seating as shown on architectural drawings. Include portable step assemblies at affected aisle locations. Recoverable truncations to be one row or two row deep, (select one).

D. Front Railing (if required): Provide rigid 36" high, fixed tubular steel rail with vertical intermediate members to fill design criteria. Rail to be mounted full width at all two row deep ADA wheelchair accommodations. Finish shall be a polyester powder coat. Front rails are to be designed to comply with all applicable codes and remain consistent with all other rails not allow clearance of a 4" sphere.

E. End Railing: (Select One)

1. **Self-Storing End Rails:** Provide steel self-storing 42" high self-storing end guard rails with tubular supports and vertical intermediate members to comply with all code requirements. Rails shall be fitted to each exposed bank end from third row and above with all steel to steel connections. Finish shall be a polyester powder coat.
2. **Removable End Rails:** Provide steel removable 42" high end guard rails with tubular supports and vertical intermediate members to comply with all code requirements. Rails shall be fitted to each exposed bank end from third row and shall fully enclose all openings down to the deck level. Finish shall be a polyester powder coat.

F. Operation

1. **Pendant Control:** Provide pendant control style operation for the bleachers. Extension and retraction shall be accomplished by use of the pendant control plugged into a single receptacle. The receptacle shall be mounted at the first row.

G. Numbering: Provide seat numbers and row letters for sculpture seat modules. Sequence to be determined by architect or owner.

H. Back Panels: (For reverse fold and mobile units) Provide the manufacturers standard polydeck finish to match deck board surface. Back panels will be provided a maximum of 8' high.

I. Back Rails: (For reverse fold and mobile units) Provide the manufacturers standard back rails with vertical intermediate members to eliminate ladder effect and comply to all applicable building codes. Back rails are to be designed to not allow clearance of a 4" sphere.

J. Vinyl-End Curtains: Provide manufacturers standard vinyl end curtains to close off under the bleacher units in the extended position. Curtain color is to be selected from manufacturers standard offering.

K. End Panels: Provide manufacturers standard end panels to close off the opening between end rails and the wall when the bleachers are stacked. (Not available with vinyl end curtains)

2.4 FABRICATION

A. Continuous Wheel Channel: Wheel channels shall consist of a one piece formed steel channel welded to the base of a vertical column. Wheel channels accommodate 8 to 12 wheels per row for maximum weight distribution and operating ease. The number of wheels increase as the number of rows increase.

- B. Wheels:** 3-1/2" diameter with 1-1/8" non-marring soft rubber face with rounded edges designed to protect wood or synthetic floor. Provide 1/2" diameter axle for all wheels
- C. Columns:** Electrically welded closed rectangular steel tube, 2" x 3" minimum size, 14 gauge steel fitted with a rear welded gusset at the wheel channel.
- D. Row Interlocks:** Join each row structure front to rear by means of two (2) interacting steel connections, plus automatic gravity row locks where Engineering determines they are required.
1. Lower: Lower track guides shall be an external superslide rod to guarantee positive engagement of vertical supports without binding and assures smooth operation over uneven floor conditions.
 2. Upper: Upper track guides shall completely interlock adjacent understructure support. A welded stop to ensure correct extension of bleacher unit on deck support. Use of bolt and nut stops are not acceptable, due to risk of loosening.
- E. Diagonal Braces:** Structural formed steel truss fitted to rows 4 and beyond. Bracing shall be attached to the rear riser at optimum locations to insure structural integrity. Bracing will be designed and shaped to support a minimum load of 1000(lbs) of both compression and tension forces created when the bleacher is loaded.
- F. Deck Supports:** Shall be of structural steel, 11 gauge spaced not greater than 60" on center for maximum deck stiffness.
1. **Rollers:** Every deck support not attached to a vertical post will have an integral nylon roller to avoid steel to steel friction points for more efficient operation.
- G. Decking:** All deck boards shall consist of 19/32" nominal Douglas Fir CC grade plywood with exterior glue and solid crossbands. An extruded aluminum "H" connector shall be placed between plywood panels. Exposed wear surfaces shall be finished with a layer of high Density polyethylene plastic .025 - .030 thick, Light Gray in color, complimentary to the seat option. Deck finishes, such as clear coat, requiring more than simple touch up to restore it to a new appearance after wear occurs are unacceptable.
- H. Welds:** All welds shall be made at the factory by welders that are AWS certified on the equipment and process used.
- I. Nose Beam:** Shall be one-piece 13-gauge galvanized steel.

13-gauge steel is utilized for the necessary structural integrity to accommodate section lengths up to 26'

- J. Rear Riser:** Shall be one piece formed 14-gauge, grade 50, galvanized steel, with a continuous access joint to fully encapsulate footrest panel for ease of cleaning and additional structural support. 14-gauge roll formed steel is utilized for the necessary structural integrity to accommodate section lengths up to 26'.
- K. Splice Plates:** (For Friction or Non-Friction power only) Each section joint shall be tied together with two structural steel members per row, employing a minimum of four steel to steel through bolt connections at the nose beam and a minimum of eight steel to steel through bolt connections at the lower steel rear riser. Gauge of splice plates to match the gauge of the nose beam and rear riser. Splice plates employing steel to plywood deck board attachments will not be acceptable. Gauge of splice plates to match the gauge of the nose beam and rear riser. In order to minimize deflections and keep rows in alignment during operation, splice connections shall transfer both axial loads (tension/compression) and bending.
- L. Fasteners:** All structural connections shall be made with S.A.E. grade 5 or better stress rated bolts. The use of self-tapping bolts is not acceptable.
- M. Finish:**
 - 1. Steel Understructure abraded, cleaned and finished with russet brown water base acrylic paint. Steel risers and nose beams finished with corrosion resistant silver gray matte finish with galvanized alloy plating.
 - 2. Zinc plated (optional for high humidity areas).

2.5 Seat Options (Select One)

A. SculptureSeat Modules:

- 1. 18-inch wide one-piece individual seating modules shall be constructed of high-density polyethylene. Provide in 10" or 12" deep, (select one).
- 2. Each module shall have two longitudinal and five transverse internal ribs to provide additional structural integrity and resistance to impact.
- 3. Each module shall have a full 1/2" interlock to the adjacent module both around the perimeter and along the internal ribs to eliminate pinching hazards and assures proper alignment.

4. A steel-to-steel attachment of each module to a minimum 14 gauge galvanized steel nosebeam shall be provided for maximum rigidity. All such mounting hardware shall be concealed.
5. End caps shall be provided at the ends of each bank (section, if manual) of seating as well as at each aisle.
6. Each module shall have a recessed area for optional seat numbering.
7. Select from manufacturers 15 standard solid colors.

B. Wood:

Seats and front risers shall be 1" nominal thickness x 10" nominal depth, kiln dried, finger-jointed and edge glued, Southern Yellow Pine Grade "B and Better" in conformance with S.P.I.B. Glued Lumber Standards. Solid wood boards which are more subject to cracking, checking, warping, cupping, and bowing than are laminated boards or mixed lumber species are unacceptable. All boards to be smooth sanded and sealed with a moisture resistant urethane followed by a second coat of high gloss urethane.

3. Part 3 Execution

3.1 Inspection:

- A. Verify that areas to receive telescopic bleachers are free from impediments interfering with installation.
- B. Do not begin work until building conditions are satisfactory.

3.2 Installation:

- A. Install telescopic bleachers in accordance with manufacturer's instructions and approved submittal drawings.
- B. Adjust bleachers for smooth and proper operation.
- C. Clean bleachers and remove all debris from gymnasium resulting from installation.

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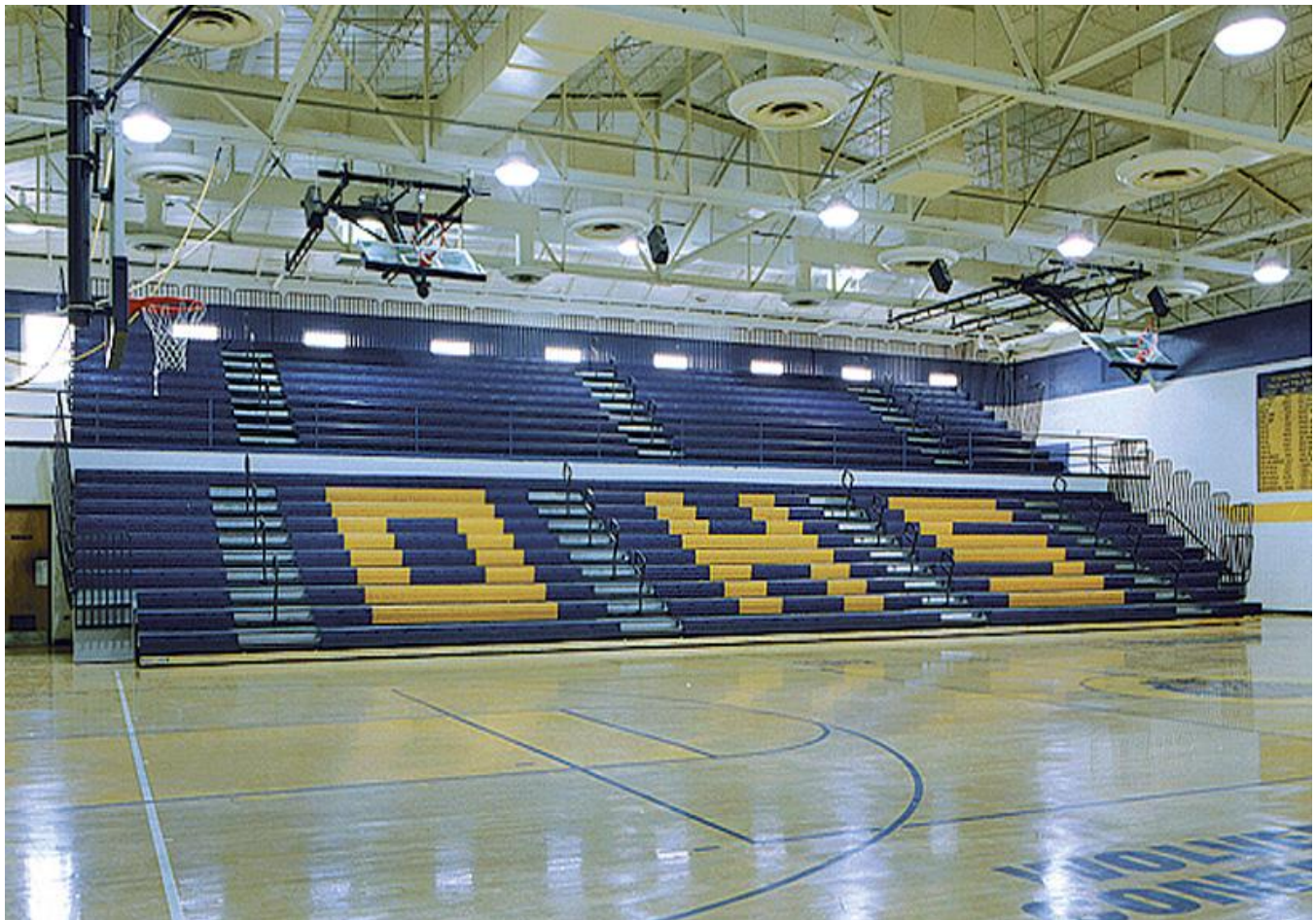


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GO
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Forward-Fold Wall-Attached Systems

(Shown here on lower level) This is the most typical application of telescopic seating in which the bleachers open in the forward direction. They are available up to 24 rows (over 24 rows, consult factory) and utilize either wall attachment or free-standing floor attachment.

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Reverse-Fold Systems

(Shown here on upper level) Reverse-Fold systems are designed for applications where space behind the bleacher stack is desired for other activities when the bleacher is not in use. This is common in areas such as mezzanines or balconies. Up to 18 rows can be specified with this system (Over 18 rows, consult factory).



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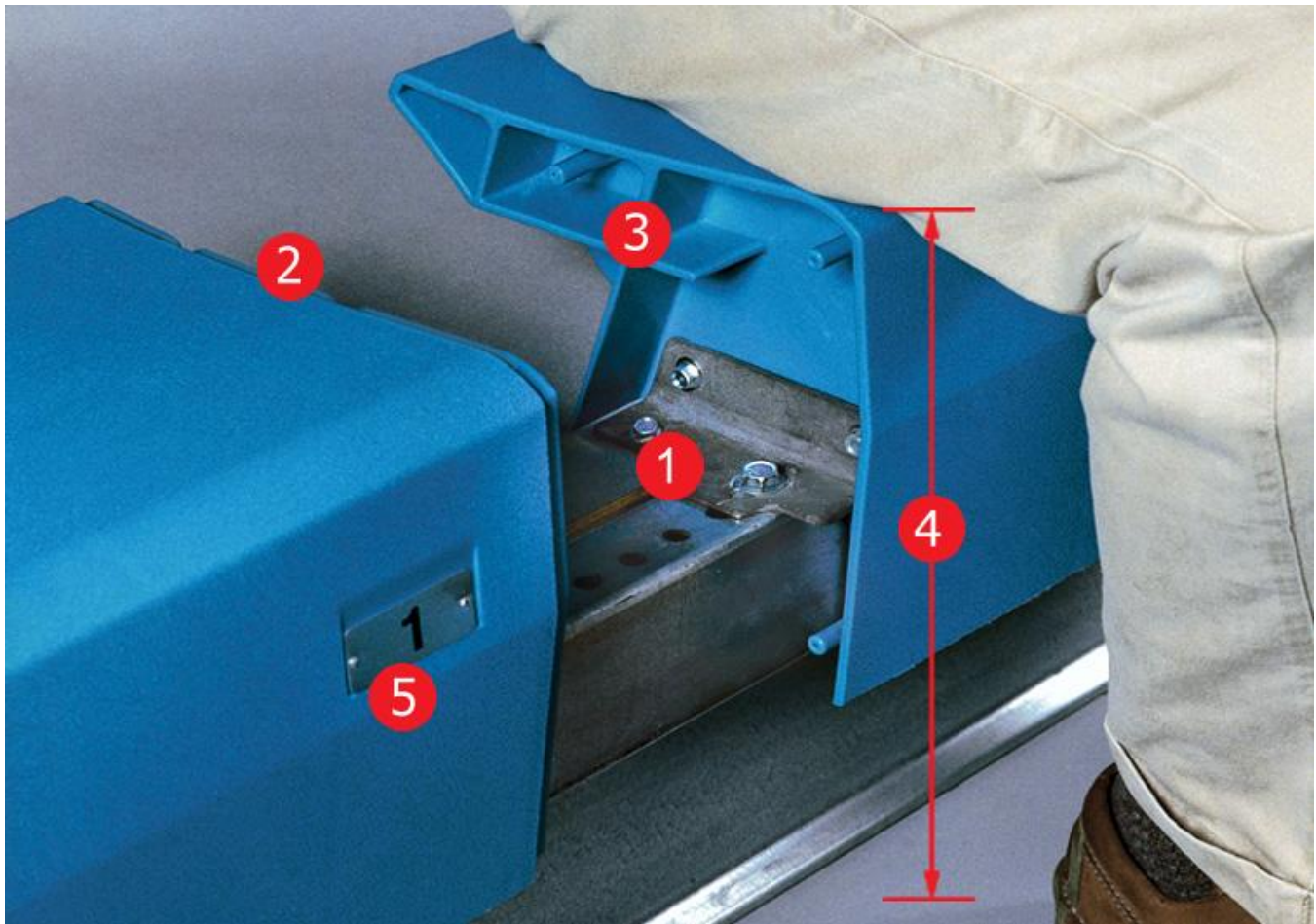


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Durability – Modules are constructed of one-piece injection molded high strength polyethylene which resists stains and will not splinter or warp. The molded-in solid color will not fade or wear out. 340

Comfort – 18"-wide seat modules are anatomically-contoured and provide a minimum adult seat height of 16-1/2" to achieve greater spectator comfort. The contoured module front produces more leg room.

Appearance – Strong horizontal lines of a sculptured face and wide range of 15 standard colors* dramatically increases aesthetic appeal and provides for interior design or school color options.

The modular design clearly delineates each seat space and allows for ease of replacement should it ever become necessary. Modules are available in 10" and 12" depths depending upon front to back row spacing and code requirements.

Easy Maintenance – Easy to clean, easy to sweep with no obstructions. No debris traps or exposed hardware.

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SculptureSeat Modules (SSM)

+ 1 - MAXIMUM RIGIDITY

+ 2 - FULL 360-DEGREE INTERLOCK

+ 3 - VERTICAL/ LATERAL RIBS

+ 4 - FULL ADULT SEAT HEIGHT

+ 5 - OPTIONAL NUMBERING



Choose from this wide range of **15 standard colors** for all Interkal Seating Types and Vinyl Side Curtains (if applicable). All seating color options are complemented by light grey polydeck. Color depictions will vary slightly from actual color. Please contact your local Interkal representative to verify your color selection.

- Custom colors are available upon request.

- For multi-color seat installations it is critical to specify where each color applies.
-

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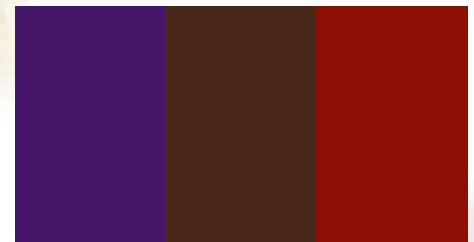
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Vinyl Side Curtains

Improve the aesthetic appearance and limit unauthorized access to the underside of bleachers

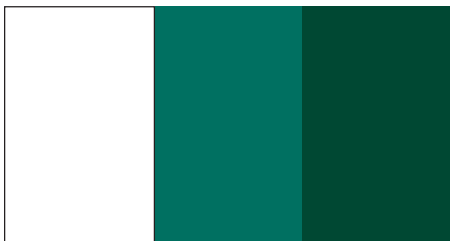


Red (06) Orange (20) Gold (02)



Purple (09) Brown (40) Burgundy (05)

- Fire resistant
- Tear resistant
- Impermeable
- Mildew/rot resistant
- Abrasion resistant
- Ultraviolet resistant
- Easy to clean
- Chain-weight bottom hem
- Grommets at every hanger location
- 15 Colors to choose from



White (22) Green (04) Hunter Green (26)



Tan (01) Black (08) Gray (10)



Light Blue (03) Royal Blue (44) Mich. Blue (25)

Heavy-duty, laminated fabrics provide durability and longevity.



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 Color depictions will vary slight from actual colors.