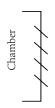## Swell Shutter Assembly

3000.00 Solid swell shutters are made from glued up 1-1/2" x 1-3/4" basswood stock. Frame is 1-1/2" thick basswood, 6" wide. Vertical and horizontal shutters are mounted on ball bearings, double felted for quiet operation and easy removal. Shutter blades over 8' long require center support. Shade dogs attach to 7/8" x 2" hardwood trace rod with screws. Flat black is standard finish. Special finishes are available. Designate Style No. 1 or No. 2 and trace location. Custom-built swell shutters of thicker material, with hardwood veneer, special edge design or special shade dogs to keep trace within shade arc are constructed to specifications and drawings.
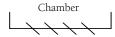
Chamber

Chamber

HORIZONTAL SHADES SIDE VIEW

STYLE NO. 1

STYLE NO. 2

Chamber

Chamber

VERTICAL SHADES TOP VIEW

Shade Dogs

3001.00 Shade Dogs (Goosenecks) mount on swell shade and connect with shade trace. Mounting hardware provided. Hole bushed for 3/16" Ø pin or No. 10 wood screw.

7/8" T x 2" W x 6-5/8" L O.A.

Swell Box

3200.00 Swell box is manufactured to drawings and specifications. Boxes are constructed of 3/4" plywood or 1" MDF.

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Swell Shutter Pins

	Used	Size	Type Shade	Use with Bearing
3300.01	Bottom	1/4" Ø (3/8" Ø) x 2-1/4"	Vertical	3310.01
3300.02	Top	1/4" Ø x 3-1/4"	Vertical	
3300.03	Ends	3/8" Ø x 3-1/4"	Horizontal	3310.02

Ball Bearings

	I.D.	O.D.	Thick	Use
3310.01	1/4"	7/8"	1/4"	Bottom Vertical Shade
3310.02	3/8"	15/16"	5/16"	Horizontal Shade

Swell Shutter Spring

.035" steel wire with loop ends.

	O.D.	Coil Length	O.A. Length	Opens To
7250.04	1/2"	4"	4-3/4"	15"
7250.05	1/2"	8"	8-3/4"	30"

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Unenclosed Swell Motor

Power stroke derived by energizing magnets and inflating bags (push). Speed is adjustable on first two stages. 3" Ø inlet.

		Without Stand				Shipping
Stages	L	x	D	x	H	Weight
3400.05 5	10-1/2"		11-3/4"		26-1/2"	34 lbs.
3400.08 8	15"		11-3/4"		26-1/2"	45 lbs.

Floor Stand

Unassembled floorstands are available for both 5 and 8 stage swell motors. The dimensions listed are for the swell motor with legs installed.

		With Stand			
Stages	L	x	D	x	H
3401.05 5	18-3/4"		11-3/4"		28-7/8"
3401.08 8	24"		11-3/4"		28-7/8"

3400.51 Replacement rubber cloth bags, complete with mounting block, ready for installation.

17" L x 11-3/4" W x 1" T

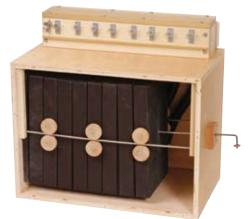## Enclosed Swell Motor

3408.00 8-stage, power stroke action is generated by de-energizing magnets and exhausting accordion bellows (pull). Stages are graduated. Speed is adjustable on first two stages via primary valve travel. No inlet provided. 6" stroke, will operate as low as 3" WP.

26-1/2" L x 25" H x 17-3/8" D
Shipping Weight: **75 lbs.**

3408.01 Secondary muffler (not illustrated) encloses magnets and primaries for quieter operation.
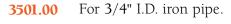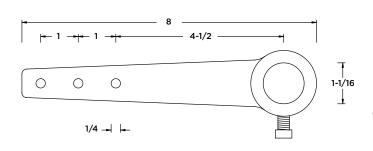
Servo Shoe Potentiometer and Linkage

3411.00 1k OHM Linear Potentiometer mounted on aluminum angle brackets for solid state swell expression or crescendo. 11 Gauge phosphor bronze connecting rod and shoe attachment plate included.

Aluminum Swell Arm

3501.00 For 3/4" I.D. iron pipe.

Swell Roller Assembly

3502.00 Adjustable, ball bearing mounted, with two 3501.00 arms and threaded brass connecting rods.

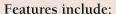**10-5/8" H x 10" W x 4" D** without arms.
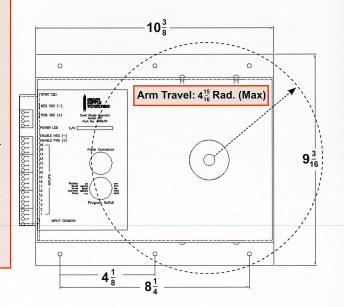
Model 251 Universal Swell Shade Operator

3450.00

OSI offers the most intelligent, cost competitive and easy to install swell shade operator on the market. The SSO 251 is a flexible stand-alone, D.C. powered unit designed for both new and existing installations, allowing for easy replacement of pneumatic swell motors in many cases.

Features include:

- Operates on 12-18 VDC, 2.5 Amps. (no 120 VAC required)
- Single unit, no "control unit" or data cables (for standard applications)
- Two easily selected speed programs
- Two easily selected opening algorithms
- Intelligent, self-adapting speed and braking control (tracks swell shoe movement and speed to ensure smooth, prompt & quiet operation).
- Clockwise or counter-clockwise rotation
- 170 degrees rotation w/1.5 to 9 inch adjustable travel (included)
- 2 to 16 stages with standard D.C. or contact closure input (no programming)
- Positive or negative keying, no converter required
- Does not require weights or springs, can push or pull the largest of shade fronts
- Light weight, only 8.0 lbs.
- May be mounted in any orientation
- Shade load carried by case mounted support bearing, not motor bearings.
- 32 or 64 stages with optional swell potentiometer encoder (see next page)
- Shades Open on Power Down with optional SOPD Module (see next page)
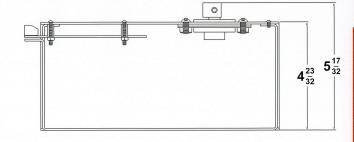- Installation hardware kit included for most applications (see below)

Arm Travel: $4\frac{15}{16}$ Rad. (Max)

$10\frac{3}{8}$

$9\frac{3}{16}$

$4\frac{1}{8}$

$8\frac{1}{4}$

$4\frac{23}{32}$

$5\frac{17}{32}$

Installation Kit Includes:

3450.00	[1]	Model 215 Swell Shade Operator
3450.71	[1]	Wrench, 5/32" Allen
3450.68	[1]	Spacer, Aluminum 3/4" Ø x 5/8"
7991.00	[2]	Ball Joint with 1/4" – 28 female thread
3450.70	[1]	Threaded Rod, 1/4" – 28" x 1 Ft.
3450.69	[2]	Hex Nut, 1/4" – 28"
3450.65	[1]	Retaining Plate
3450.75	[2]	Screw, Button Head 1/4 - 20 x 1/2"
3450.73	[2]	Washer, Flat 1/4"

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Shades Open On Power Down Module

3450.12   Companion Module for 3450.00 Model 251 Swell Shade Operator which controls 12 VDC in sequence to open shades when organ is turned off. SOPD Module accepts #18 AWG Gauge wire from Organ Rectifier 13-18 VDC. Unit provided with 3 ft. 4 Wire #18 Gauge Output for Swell Shade Operator. One Unit per Swell Shade Operator required.
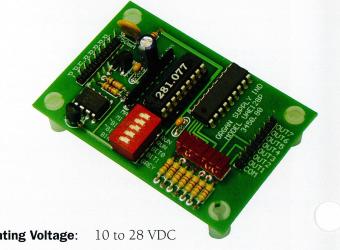
Operating Voltage: 13 to 18 VDC

UAE128P Swell and Crescendo Encoder

3450.15   Universal Encoder used with 500 to 20K Ohm potentiometers. Unit provides 16, 32, 64, or 128 stage output in either Binary or Gray format. Configured by five-position DIP switch. Seven Red LED's provide visual representation of output. Direct interface with 3450.00 SSO Model 251. 3450.00 requires Gray Code output only. Unit must be located within 3 ft. of potentiometer. Reverse polarity protected. Internal self reset 0.75 A fuse. Provided with (1) 3 ft. input wiring harness and (1) 9 ft. output harness for connection to organ control system.

Operating Voltage: 10 to 28 VDC

Output: 10 to 28 VDC

Output Current: 0.1 A per Output

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