

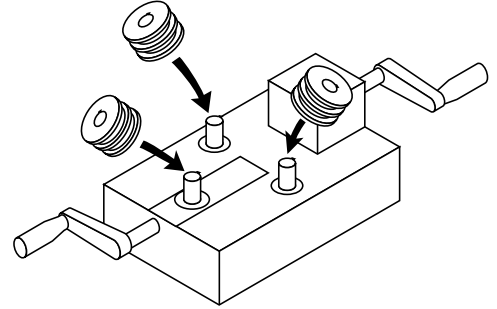
# VALU GUIDE RAIL BENDER INSTRUCTIONS

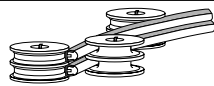
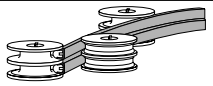
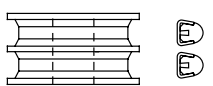
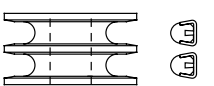
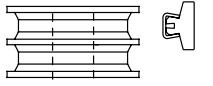

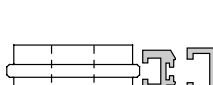
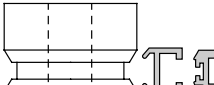
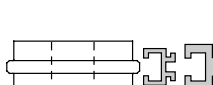
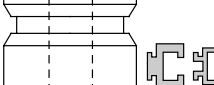
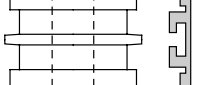
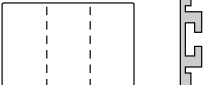
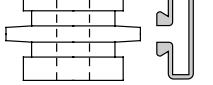
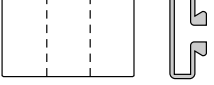
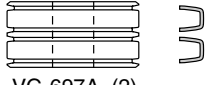
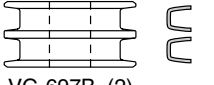
## How the Bender Works

Smooth guide rail turns are easy to produce on the Valu Guide rail bender. The side handles operate three shafts on top of the machine. The shafts can accommodate various styles of rollers. These rollers are designed to apply pressure to certain points on opposite sides of the rail. As the rail moves back and forth through the rollers, this pressure causes the rail to bend. The bend radius is based on the physical limitations of the rail material. Depending on the rail style, the minimum radius can be as low as 3 inches!

## STEP 1: Choosing the Correct Rollers

The bender must have the appropriate rollers to accommodate the rail being bent. To fabricate both inside and outside curves, two rollers designed for each side of the rail are required. The rollers are placed around the shafts on top of the bender. Each bender comes equipped with the following rollers used to bend most standard Valu Guide rail: two VG-691A rollers, two VG-691B rollers, and two VG-692 rollers. Additional rollers for other profiles shown in the roller selection chart (below) can be purchased separately.



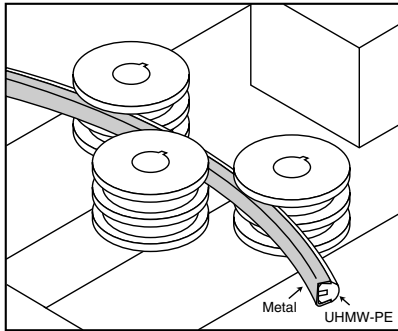
	Outside Curve 		Inside Curve 	
	Stationary Rollers	Adjustable Roller	Stationary Rollers	Adjustable Roller
<b>Valu Guide Profiles</b>	<b>Valu Guide round, flat, modified and neck guide profiles</b> Minimum radius: 3"  VG-691B (2) (Provided with Bender)      VG-691A (1)		 VG-691A (2) (Provided with Bender)      VG-691B (1)	
	<b>Valu Guide tee profiles</b> Minimum radius: 4"  VG-691B (2)      VG-692 (1)		 VG-692 (2) (Provided with Bender)      VG-691B (1)	
<b>Valu Guide Profiles</b>	<b>VG-A350 profile</b> <b>VG-A500 profile</b> Minimum radius: Inside curve: 6" Outside curve: 5" Rail can be bent with cover in place  VG-693B (2)      VG-693A (1)		 VG-693A (2)      VG-693B (1)	
	<b>VG-A600 profile</b> <b>VG-A225 profile</b> Minimum radius: Inside curve: 6" Outside curve: 5" Rail can be bent with cover in place  VG-693B (2)      VG-693A (1)		 VG-693A (2)      VG-693B (1)	
	<b>VG-A2520 profile</b> Minimum radius: Inside curve: 8" Outside curve: 7" Add UHMW cover (VG-P2520 BC) after bending  VG-695 (2)      VG-692 (1)		 VG-692 (2)      VG-695 (1)	
	<b>VG-A5020 profile</b> Minimum radius: Inside curve: 8" Outside curve: 7" Add UHMW cover (VG-P5020 BC) after bending  VG-696 (2)      VG-692 (1)		 VG-692 (2)      VG-696 (1)	
<b>PolyGlide</b>	<b>Valu Guide PolyGlide rail</b> Minimum radius: Inside curve: 4" Outside curve: 4"  VG-697A (2)      VG-697B (1)		 VG-697B (2)      VG-697A (1)	



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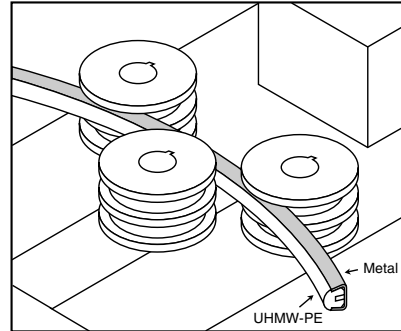
## STEP 2: Determining inside and outside curves

The positioning of the bender rollers will depend upon whether the rail is to be an inside curve or an outside curve.



### Inside Curve

UHMW-PE on the outside of bend, and metal on the inside of bend.



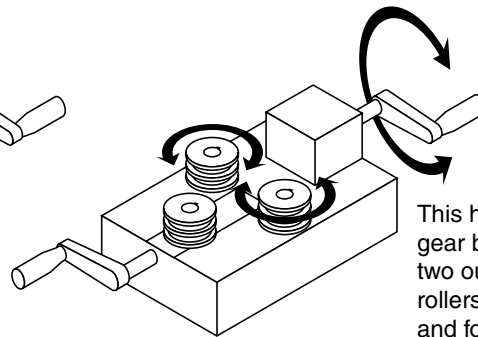
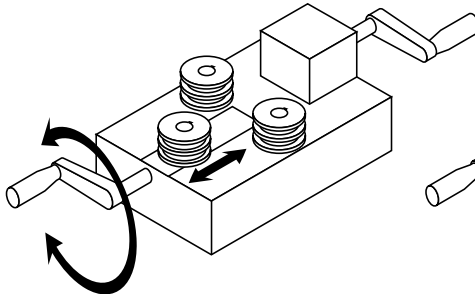
### Outside Curve

UHMW-PE on the inside of bend, and metal on the outside of bend.

Be certain the two rollers operated by the gear box are the same. Some rollers are designed to allow two pieces of rail to be formed identically and simultaneously.

## STEP 3: Checking the roller operation

This handle is used to gradually push the adjustable free-spinning center roller against the rail.



This handle operates the gear box which rotates the two outside rollers. These rollers drive the rail back and forth.

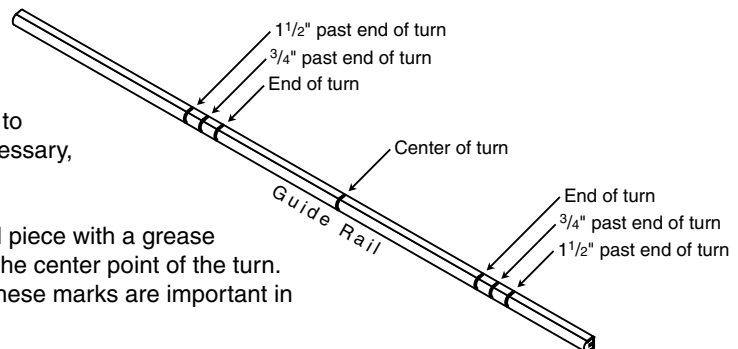
The pressure of the center roller against the rail coupled with the back and forth movement of the outside rollers produces the smooth, custom bend.

## STEP 4: Measuring the rail

Before bending any rail, measure the shape of the turn at the actual conveyor site. A flexible rubber belt or hose can be used for this purpose. For the best results, the rail turn should be fabricated at the location where it is to be installed. This method allows comparing of the newly bent rail to the actual conveyor until the desired shape is achieved. If necessary, rail length can also be calculated from drawings.

After determining the turn length, transfer the length to the rail piece with a grease pencil or similar marker. On the rail, mark the end points and the center point of the turn. Place additional marks  $\frac{3}{4}$ " and  $1\frac{1}{2}$ " past each end point. These marks are important in providing a smooth transition during the bending process.

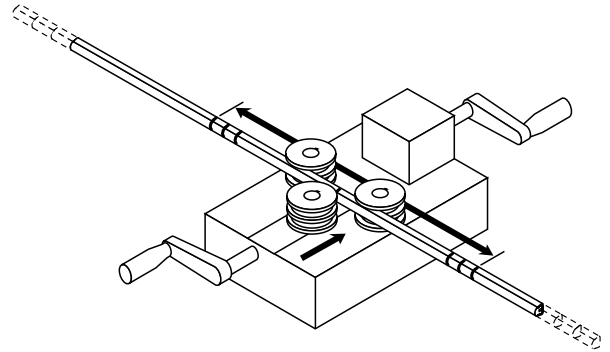
Allow a tangent of at least 5" at each end of the turn. This tangent provides both a gripping area to stabilize the rail while bending, and a straight portion of rail for splicing or trimming purposes once the bend is complete.



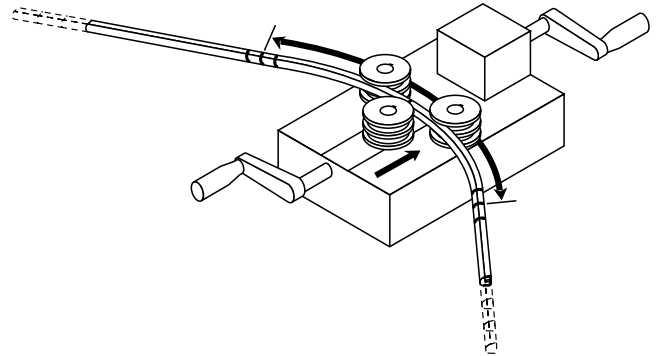
**VALU**  
**GUIDE**<sup>®</sup>

## STEP 5: Fabricating the Bend

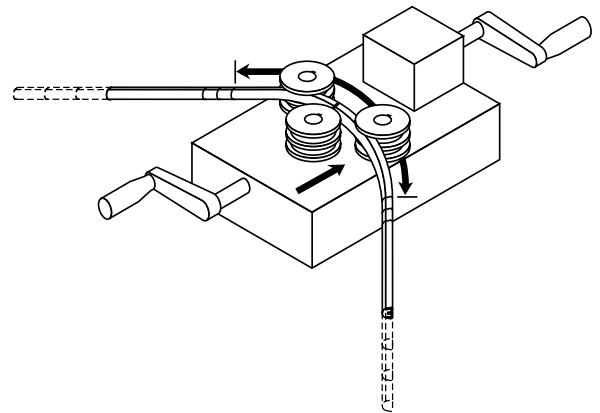
- A. Insert the rail into the rollers, making certain it is facing in the proper direction for the desired bend.
- B. Be sure that the center mark of the rail piece is closest to the center roller. Using the center roller crank handle, move the center roller until the rail piece just begins to fit tightly into the contour of the rollers. Then rotate the center roller handle one more full turn inward.
- C. Rotate the handle controlling the gear box and outside rollers, and move the rail in one direction until the contact point of the center roller is 1 1/2" past the turn end mark at one end of the rail.
- D. Repeat step C, moving the rail in the opposite direction until the contact point of the center roller is 1 1/2" past the turn end mark at the opposite end of the rail.



- E. Rotate the handle controlling the gear box and outside rollers, and center the rail turn in the bender again. Make one more full turn inward with the center roller handle. It is not recommended to make more than 1 1/2 turns inward per bending cycle, in order to avoid over bending the rail.
- F. Repeat steps C and D, this time moving the rail until the contact point of the center roller is 3/4" past the turn end mark of the rail.



- G. Center the rail turn in the bender once again and snug the center roller against the center line of the rail. Turn the center roller handle, this time 1 1/2 turns inward. Rotate the handle controlling the outside rollers in one direction until the contact point of the center roller is in line with the turn end mark. Repeat, moving the rail in the opposite direction until the center roller contact point is in line with the opposite turn end mark. Be careful not to over bend the rail, as most turns will be complete during this stage.
- H. Repeat step G, if necessary, until the correct radius is achieved.



## Correcting Mistakes

In the event the bend is unsatisfactory, our bender can also be used to straighten rail pieces. Simply switch the rollers on the shafts to bend in the opposite direction and repeat the fabricating instructions until the rail is fairly straight, then try your original bend again. Valu Guide rail is very durable and can usually be bent several times without permanent distortion or damage.

## Attaching the Turn to Straight Rail

After the rail has been bent to the proper radius, the ends of the rail turn may need to be trimmed so that the UHMW-PE and metal sheath are flush. Valu Guide splice sleeves can be used to connect turns to adjoining straight rails when adjustability is not needed.

## Adjustable Turn Transitions

It is recommended that transitions be used on turns that will be adjusted. Transitions are additional curves or bends that cause overlapping of the straight and corner pieces of rail. Since the corner piece is not connected to the straight rails, it is free to move, yet the overlapping rails still provide a continuous guiding surface. Valu Guide VG-202 or VG-203 series swivel brackets and VG-020J, VG-212J and VG-232J jointed adjusting rods are recommended for easy adjustment of corner turns.

