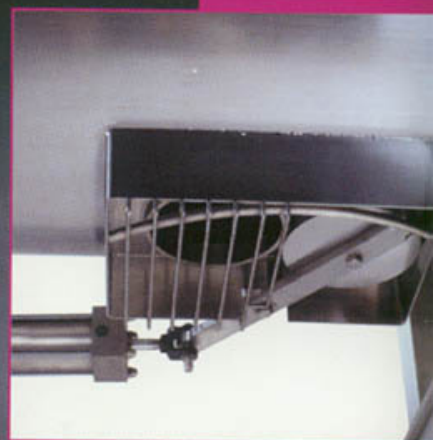
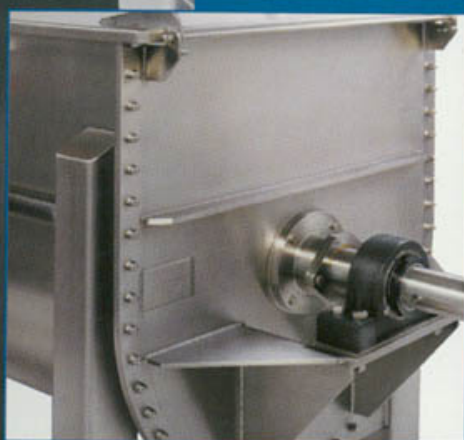
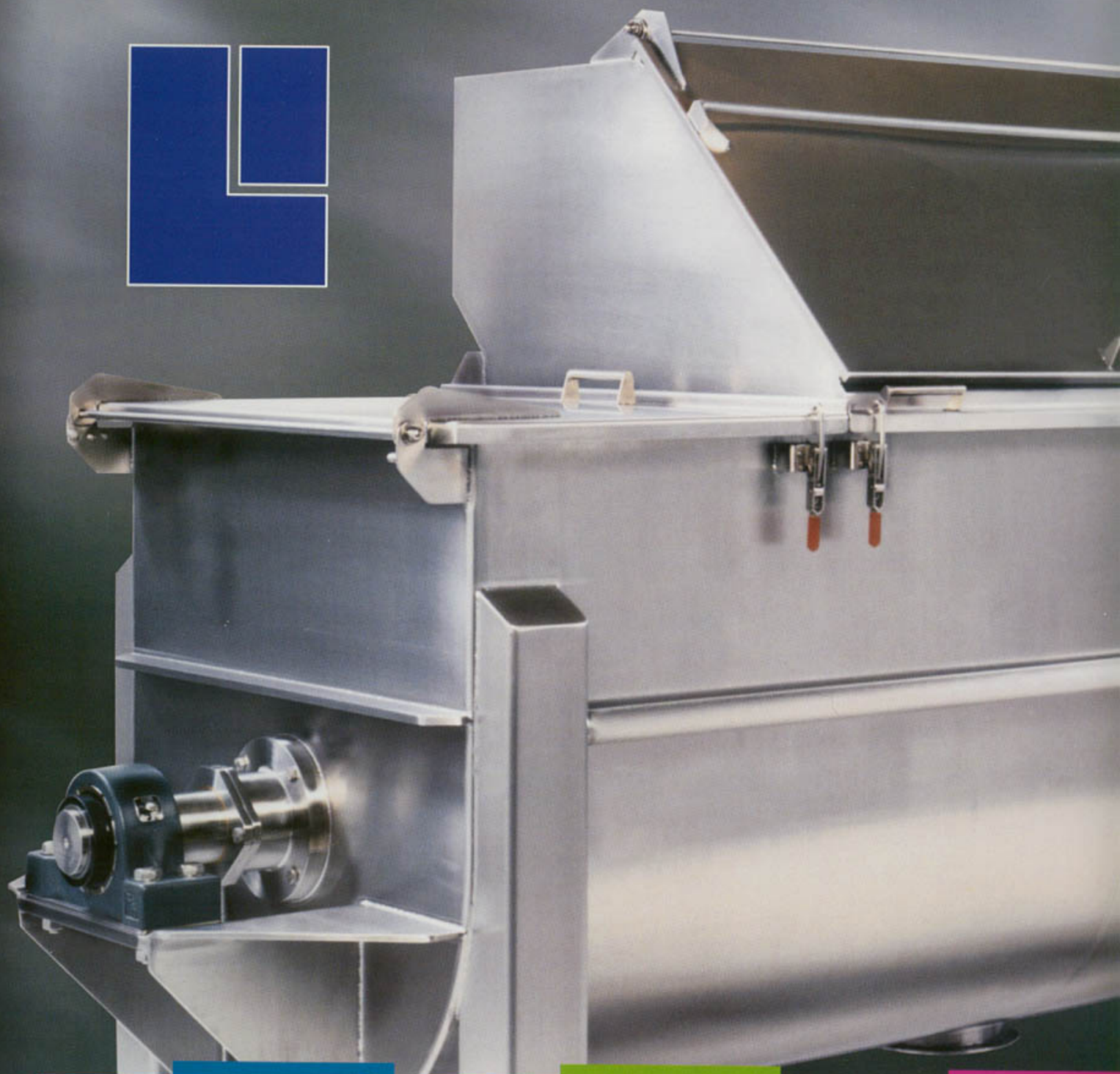


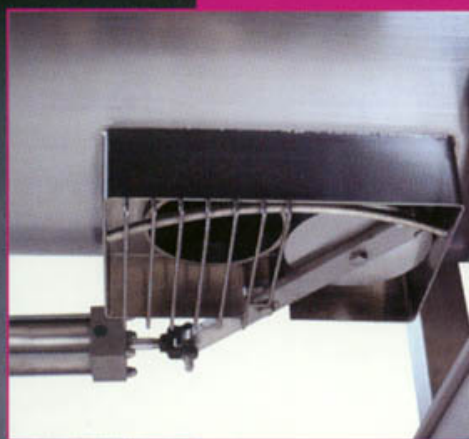


**Stainless Steel Mixing Machinery
for the Processing Industry**





**Lowe blenders
lead the
industry with
efficient mixing
performance,
sanitary
appearance,
precision
fabrication
and minimal
long-term
maintenance.**



Challenger™ Troughs and end plates are fabricated of 304 or 316 stainless steel. The plates are straight-line polished and then rolled to match the radius of the agitator. All structural components are continuously welded inside and outside the mixer to eliminate voids where contaminants may be trapped. The end plate, which is adjacent to the mixer drive, is secured with a bolted flange for future maintenance of the agitator. Bearing plates, gussets and structural tubing legs are straight-line polished and continuously welded. During final assembly, all welds are chemically passivated and the mixer is brushed to a high-luster finish.

Bearings Heavy-duty, pillow block bearings are used with each Challenger™ blender. Bearings are typically mounted on polished stainless steel support plates. Mounting holes in the bearing housings are capped with machined plates to avoid pockets where contaminants may be trapped.

Split Seals are fabricated from 304 or 316 stainless steel. The seal mounting plates and housings are machined as match sets. The follower plates are machined to a tolerance of .025" greater than the diameter of the mixer shaft. The split housing design simplifies cleaning for applications requiring high levels of sanitation. Either UHMW or food grade TFE V-rings are available with lantern rings for air-purge capabilities.

Challenger™ Paddle Discharge Valves are custom fabricated for each blender. The paddle valve features a minimal pocket between the trough of the mixer and the valve. The valve has a mechanical seal that works well for throttling products and closing against material flow. The paddle valve is not intended for liquid or dusty applications. The valve disc and lever actuator are removeable for cleaning and maintenance. The following types of valves are also available: butterfly, ball, slide gate, hinged contour and drop-bottom.

Challenger™ Agitators are hand crafted and precision machined to maintain a clean, efficient mixing action with minimal wear on seals and bearing components. Challenger™ agitators are constructed with solid shafting that extends the full length of the mixer. The spokes are fabricated from steel plate and then polished with a grained finish. The spokes are welded 360° around the shaft with large radius fillet welds for ease of clean-out. The agitator assembly is then machined in a lathe to remove any heat distortion in the seal and journal area of the shaft. Shaft run-out of every Challenger™ agitator is held to within .004" throughout the seal area. This extra step minimizes wear of seal components and prolongs bearing life.

Challenger™ Triple Action Ribbon Agitators offer efficient, uniform mixing of free-flowing ingredients. Challenger's ribbon agitator design provides thorough end-to-end mixing of the product with minimal cycle time. The agitator impacts the product in at least three stages as the outer ribbon moves the material toward the center of the blender. Clearances of 1/8" - 3/16" between the outer ribbon and the trough provide efficient blending of minor ingredients and thorough clean-out between batches. Reversing inner ribbons move the product away from the center of the blender.

Challenger™ Cross Action Paddle Agitators lift and scoop materials in a figure 8 motion within the blender. Friable materials are thoroughly blended with minimal degradation. Scoop style blades are fabricated to match the contour of the trough. The blades are permanently welded to the spokes of the agitator with large fillet areas for ease of cleaning. Clearances between the paddles and trough are held to within .020" to ensure efficient clean-out of materials between batches. Paddle style agitators can be used with batch sizes down to 20% of maximum capacity without loss of mixing efficiency.

Challenger™ Combination Agitators provide the efficient clean-out of a paddle agitator with the thorough end-to-end mixing of a ribbon. Scoop style paddles are positioned on the outer end of the spokes to move materials toward the discharge. Reversing inner ribbons move the product laterally away from the discharge. This style agitator provides a more evenly loaded product level during the mix cycle, thus increasing mixing capacity.

Challenger™ High-Speed Choppers are ideal for incorporating minors, reducing agglomerates or dispersing flavorings. Choppers, running at 3600 rpm, are used to add controlled amounts of shear to the product. Challenger's™ split-shaft extension design allows for maintenance of the cutter head without removing the chopper motor.

Challenger™ mixers are equipped with either safety grates, bolted covers or hinged doors. Operator access locations are equipped with electric interlock devices. Blender covers are available in a variety of styles to meet specific application requirements and to afford a sanitary atmosphere in your processing area. Integral bag dump hoods are available with dust collection capabilities.

Challenger™ Blenders are commonly used in industries such as food, spice, dairy, pharmaceutical, pigment and plastic where sanitation is of primary concern. Challenger™ blenders are fabricated with a highly polished, straight-grained finish inside and out. Our product designs lead the industry with efficient mixing technology, thorough clean-out between batches and minimal long-term maintenance.

Lowe Industries, Inc. offers a wide range of blender sizes. Our blenders are engineered to meet capacity and power requirements for a variety of materials. Challenger™ blenders offer the following quality features:

- Straight-line polished surfaces inside and out
- 100% stainless steel construction available
- Triple-action, double-ribbon agitator with reversible ribbons
- Cross-action paddle agitator with scoop style blades
- Combination agitator with paddles and ribbons
- Removable end plate with bolted flange and internal seal weld
- Solid main shaft with less than .004" run-out
- Solid plate spokes 360° welded and polished
- Tube support legs with contour fit to trough
- Support leg extensions to customize the height of the mixer
- Custom fabricated covers with laser-cut hinges
- Safety grates with interlocking safety devices
- Machined split seals for ease of maintenance
- Sanitary paddle valve with minimal clearance to trough
- Shaft-mounted gear reducer with taper lock bushing
- Heavy-duty outboard bearings with threaded alignment stops

NOTE: Units can be furnished with gearmotor reducer or sprockets and roller chain. Carbon steel construction also available.

Lowe Industries, Inc. has proto-type blenders available with ribbon and paddle agitators. These mixers are available for 21 day free trials to prospective Lowe customers. These blenders can be used to gather performance and process data during the initial stages of a project. Information gathered from test mixers can be used when designing a production-sized blender. Proto-type blenders are shipped complete with electrical controls and electrical measurement equipment.

DIMENSIONS & SPECIFICATIONS FOR HORIZONTAL RIBBON AND PADDLE MIXERS

MODEL	CAPACITY*	AGIT RPM	HP	A	B	C	D	E	F
C 2	1.5	55	1.0	12.5"	18"	17"	46"	58"	21"
C 5	5	55	1.5	17"	38"	20"	66"	61"	25"
C 11	11	55	3	21"	48"	26"	76"	67"	29"
C 18	18	50	5	24"	60"	28"	91"	69"	32"
C 24	24	42	7.5	26"	66"	30"	100"	71"	34"
C 30	30	40	15	28"	72"	32"	103"	73"	36"
C 36	36	40	15	30"	78"	34"	112"	75"	38"
C 40	40	38	20	32"	82"	36"	117"	78"	42"
C 55	55	38	20	34"	90"	39"	126"	80"	44"
C 66	66	36	20	37"	96"	41"	136"	82"	47"
C 80	80	25	25	40"	96"	48"	136"	89"	50"
C 100	100	25	30	45"	96"	54"	136"	95"	57"
C 120	120	25	40	44"	120"	52"	166"	93"	56"
C 155	155	25	40	50"	120"	59"	166"	101"	69"
C 180	180	25	50	54"	120"	61"	166"	103"	71"
C 215	215	25	50	54"	144"	61"	193"	103"	71"
C 270	270	20	60	60"	144"	66"	193"	108"	80"
C 325	325	20	60	66"	144"	73"	193"	115"	86"
C 385	385	20	75	72"	144"	80"	193"	122"	90"
C 515	515	20	75	72"	192"	80"	243"	122"	90"
†C 600	600	20	100	72"	240"	80"	291"	122"	90"

*cubic feet

†As seen on front cover

NOTE: Dimensions and specifications subject to change

