

COIL HANDLING EQUIPMENT



P/A INDUSTRIES - A BRIEF HISTORY

FIFTY PLUS YEARS

Pneumatic Applications Company was formed in 1953 as a New England manufacturer of press clutches, brakes, controls and press feeding equipment. In 1974, the name was shortened to P/A Industries Inc. and an international trademark was registered for P/A®.

Family owned and operated, this employee driven company is known for its spirit, enthusiasm and exceptionally talented workforce. Our loyal customer base - over 12,000 strong - tells us that our people and their enthusiasm are unmatched. **PEACE OF MIND GUARANTEED - P.O.M.G.** - is more than a slogan, it *is* the P/A Standard on how we treat our customers.

INDUSTRY LEADERSHIP

P/A means Press Automation. Our focus is on designing and building the highest quality Press Feeding and Coil Handling Equipment. There is no manufacturer worldwide that has a greater breadth of products or range of equipment solutions within the metal stamping and fabricating industry. Fifty years of experience and continuous improvement has earned P/A's reputation as one of the finest, most dependable family run companies in America.

WORLDCLASS INNOVATION

P/A was the first company to recognize that electronic press feeds would replace mechanical roll feeders and pneumatic feeds. Working with Allen Bradley, P/A developed specialized control and drive technology for press feed automation. P/A created software that is operator friendly and capable of handling the most demanding production performance requirements in the Metal Stamping Industry.

Intellectual Property Patents and Trademarked Technologies include **Loopless®**, **Varatorq®**, **Sona-Torq®**, **Precision-Aire®**, **Soft-Aire®**, **The Advantage™**, **Edge™**, **Magnum™** and **Micro Feed™**.

P/A is the first American company to introduce DC proportional speed drives as standard equipment on all Horizontal, Traverse, Pallet, Pay-off Reels and Stock Straighteners, which

provides for a smooth, controlled delivery of coil materials and reduces downtime caused by damaged materials.

The worlds electronics industry uses P/A Automatic Winding Equipment with Varatorq tension control for paper interleaf of contacts, terminals, lead frames and other rewirable materials. P/A was the first to incorporate **Touch Screen PLC Control** for programming as a standard state-of-the art feature on all Automatic Winding Equipment.

INTERNATIONAL ALLIANCES

A long-range **strategic plan** was developed in the early 90s in order to better serve our customers and open up international markets by creating manufacturing and sales companies around the world.

Dimeco Alipresse is Europe's premier builder of power press automation equipment since 1963. In 1986, P/A and Dimeco established a strategic alliance and began sharing knowledge, equipment designs and products. Today, we continue this special relationship, which strengthens each company's new product development capability.

P/A Retain Ltd. was formed in 1994 in Taiwan to manufacture mechanical assemblies and provide sales and service capability in the Pacific Basin. Ten years later, this company has grown and is recognized as the press automation leader in the Pacific Region.

After the fall of the iron curtain, **P/A Bohemia SRO** was established in 1995 to open up Eastern European markets. A sales and service office is located in Prague, Czech Republic.

In 1996, P/A acquired **Mectool Sweden AB**, a manufacturer that developed the patented Transporter™.

This modern machining company has the latest CNC machine tools and assembles some of our products.

P/A GmbH in Germany was started in 2000 as our Western European Headquarters to handle introduction of all our exportable products. The staff has responsibility for Sales & Service work and maintains an inventory of products and parts for on-time delivery.

Sales and Management Team



Jerome E. Finn
President
Since 1975



Edward Morris
Executive Vice President
Since 1999



Andreas Hoefler
Chief Financial Officer
Since 2003



Chris Crider
Chief Engineer
Since 1983



David Gaffey
Service Manager
Since 1979



Ken Jansen
Application Sales Engineer
Since 1993



Bob Marshalkowski
Sales Manager
Since 1993



Dave Burnham
Customer Sales & Service
Since 1999



Bob Kozlowski
Application Sales Engineer
Since 2001



Don Frank
Regional Sales Manager
Since 1996



Peter Kahl
Regional Sales Manager
Since 1990



Tim Qualls
Regional Sales Manager
Since 2002

P/A INDUSTRIES INC.



Corporate Facilities



Plant No. 2



A VERY SPECIAL COMPANY . . . INDEED!

Manufacturing



Showroom

Assembly & Testing



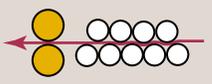
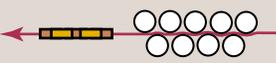
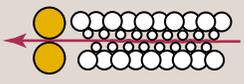
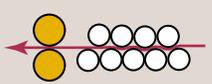
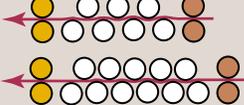
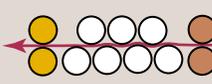
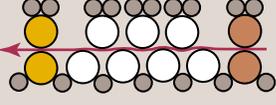
STOCK REEL SELECTION CHART

Reel	Page Number	Max. Stock Width	Max. Coil Weight	Max. Coil OD	Coil ID Range	
	FIXED SHAFT PAYOFF REELS	8	3"	100 Lbs.	42"	N/A
			75mm	45 Kg	1070mm	N/A
	PAPER INTERLEAF	9	10"	75 Lbs.	18"	N/A
			250mm	34 Kg	460mm	N/A
	LIGHT DUTY STOCK REELS	10	12"	1500 Lbs.	48"	1" – 22"
			300mm	680 Kg	1220mm	25mm – 560mm
	MEDIUM DUTY STOCK REELS	12	32"	6500 Lbs.	60"	14.5" – 20.5"
			820mm	3000 Kg	1525mm	370mm – 520mm
	HEAVY DUTY STOCK REELS	16	51"	20,000 Lbs.	60"	17" – 21"
			1300mm	9000 Kg	1525mm	430mm – 530mm
	TRAVERSE SPOOL REELS	18	N/A	3000 Lbs.	40"	N/A
			N/A	1360 Kg	1000mm	N/A
	TRAVERSE DRUM DECOILER	19	1.8"	2200 Lbs.	40"	N/A
			45.5mm	1000 Kg	1015mm	N/A
	PALLETIZER	20	6"	10,000 Lbs.	52"	N/A
			150mm	4500 Kg	1325mm	N/A
	PALLET REEL STRAIGHTENER	22	6"	10000 Lbs.	52"	N/A
			150mm	4500 Kg	1325mm	N/A
	HORIZONTAL REELS	23	5"	1200 Lbs.	56"	N/A
			125mm	540 Kg	1425mm	N/A

REEL-STRAIGHTENER-FEEDER

Equipment	Page Number	Type
 REEL- STRAIGHTENER- FEEDER	42	Complete floor system to load, straighten, feed and monitor coil processing
 COIL LINES AND SYSTEMS	46	Complete coil line system

STOCK STRAIGHTENER SELECTION CHART

Image	Straightener	Page Number	Max. Stock Width	Thickness Range	Roll Arrangement
	PRECISION REEL STRAIGHTENERS	24	6" 150mm	.005" – .040" 0.1mm – 1.0mm	
	FLIP TOP REEL STRAIGHTENERS	25	12" 300mm	.015" – .068" 0.4mm – 1.7mm	
	SPACE SAVER REEL STRAIGHTENERS	26	24" 600mm	.015" – .135" 0.4mm – 3.4mm	
	WIRE STRAIGHTENER	27	.5" 12.7mm	.003" – .5" 0.06mm – 12.7mm	
	LEVELER STRAIGHTENER	28	4" 100mm	.003" – .039" 0.1mm – 1.0mm	
	ULTRA PRECISION STRAIGHTENER	29	2.4" 60mm	.002" – .024" 0.05mm – 0.6mm	
	PRECISION STOCK STRAIGHTENERS	30	6" 150mm	.005" – .040" 0.1mm – 1.0mm	
	FLIP TOP STRAIGHTENERS	31	12" 300mm	.015" – .083" 0.4mm – 2.0mm	
	MEDIUM DUTY STOCK STRAIGHTENERS	32	40" 1000mm	.015" – .135" 0.4mm – 3.4mm	
	LAMINATION STRAIGHTENER	34	25.5" 650mm	.006" – .100" 0.15mm – 2.5mm	
	HEAVY DUTY STRAIGHTENER	35	50" 1300mm	.030" – .256" 0.8mm – 6.5mm	
	MAGNUM STRAIGHTENERS	38	50" 1300mm	.040" – .276" 1.0mm – 7.0mm	
	EXTRA HEAVY DUTY STRAIGHTENERS	39	60" 1525mm	.050" – .375" 1.2mm – 9.5mm	

AUTOMATIC REWIND SELECTION CHART

Reel	Page Number	Max. Stock Width	Max. Spool Weight	Max. Spool OD	Max. No. of Spools
 REWIND REELS	48	3"	75 Lbs.	30"	2
		75mm	34 Kg	760mm	2
 ECONOMY AUTOMATIC WINDERS WR36-2E	50	3.5"	100 Lbs.	36"	2
		89mm	45 Kg	915mm	2
 AUTOMATIC REWIND WR36-4	52	5"	–	36"	4
		180mm	–	915mm	4
 AUTOMATIC REWIND WR36-10	54	2.25"	75 Lbs.	36"	10
		57mm	34 Kg	915mm	10
 TURRET WINDERS	56	2.5"	75 Lbs.	24"	3
		65mm	34 Kg	600mm	3
 LAYER WINDERS	58	1.2"	55 Lbs.	15"	4
		30mm	25 Kg	380mm	4
 PALLET REWINDERS	61	4"	4000 Lbs.	50"	1
		100mm	1800 Kg	1270mm	1
 HORIZONTAL WINDER	62	1.75"	–	50"	24
		45mm	–	1270mm	24
 HORIZONTAL REWINDER	64	1"	120 Lbs.	30"	1
		25mm	55 Kg	760mm	1

ACCESSORY EQUIPMENT

Equipment	Page Number	Type
 SENSORS	47	Loop Control, Stock Detector, RF Systems, Ultrasonic
 OPTIONS	40	Material Guides, Exit Rolls, Displays, Inclined Head, Lubrication Systems, Threading Tables, Peeler, Hold-Down Arms, Adjustable Cascade Rolls

FIXED SHAFT PAYOFF REELS 50-100 Lbs.



SR75RLC



SR75RLC

Our Fixed Shaft Reel is designed for the electronics industry to pay off fragile prestamped, plated or polished materials. A motorized spindle with an adjustable slip clutch is used to rewind the paper interleaf.

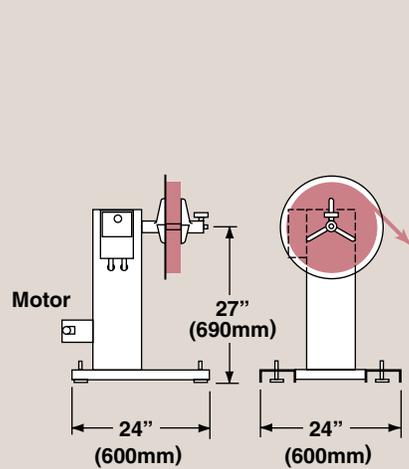
This vertical space saving design also allows the rewind of delicate materials. A non-motorized paper interleaf with tensioning device may also be added.

All motorized models are controlled by a touch probe loop control as standard equipment. Dancer arm, proportional loop control, or any no-touch sensor can be supplied as an option.

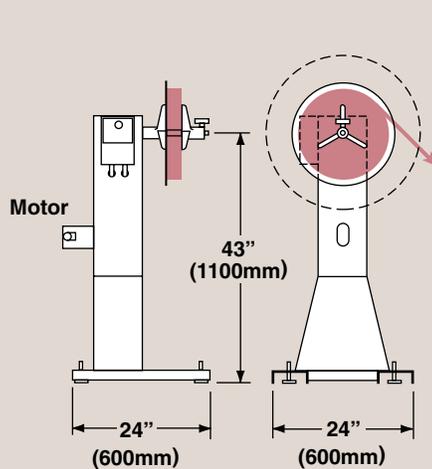
In corrosive environments, such as plating departments, stainless steel shafts are recommended.

DIMENSIONS

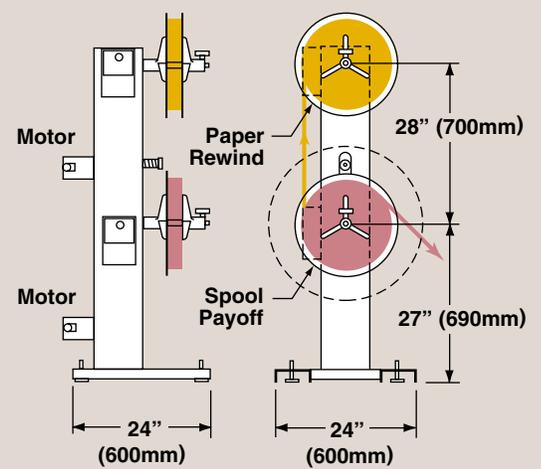
Model SR50



Model SR75 / 100



Model SR50R / 75R / 100R



SPECIFICATIONS – USA								
Model	Max. Spool Weight (Lbs.)	Max. Stock Width (In.)*	Shaft Dia. (In.)	Max. Spool OD (In.)	Paper Rewind	Speed Range (RPM)	DC Drive Motor (HP)	Input Power VAC/Phase/Hz
SR50LC	50	3	.75	30	No	0 – 50	1/8	120 / 1 / 60
SR50RLC	50		.75	30	Yes			
SR75LC	75		.75	42	No			
SR75RLC	75		.75	30	Yes			
SR100LC	100		1	42	No			
SR100RLC	100	1	30	Yes				

SPECIFICATIONS – METRIC								
Model	Max. Spool Weight (Kg)	Max. Stock Width (mm)*	Shaft Dia. (mm)	Max. Spool OD (mm)	Paper Rewind	Speed Range (RPM)	DC Drive Motor (kW)	Input Power VAC/Phase/Hz
SR50LC	23	75	19	760	No	0 – 50	0.1	Specify When Ordering
SR50RLC	23		19	760	Yes			
SR75LC	34		19	1070	No			
SR75RLC	34		19	760	Yes			
SR100LC	45		25.4	1070	No			
SR100RLC	45	25.4	760	Yes				

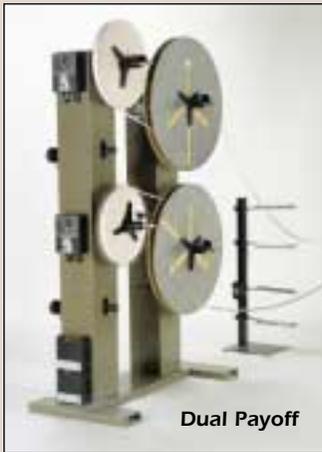
*Wider widths available.

Consult factory for higher speeds.

See page 47 for Sensor Options.

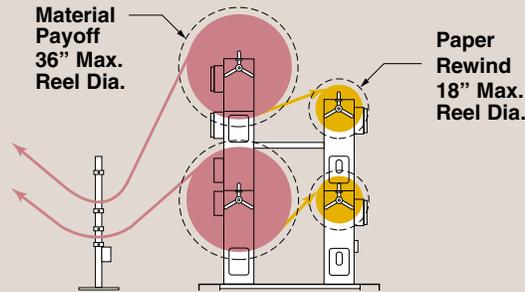
Dual and custom models available.

DUAL FIXED SHAFT PAYOFF REELS 75-100 Lbs.



Dual Payoff

P/A offers both standard and custom dual and quad payoff and rewind stands. Our engineering staff can design a system to provide more uptime for your stamping or plating operation.



Quad Payoff

SPECIFICATIONS – USA

Model	Max. Spool Weight (Lbs.)	Max. Stock Width (In.)*	Shaft Dia. (In.)	Max. Spool OD (In.)	Paper Rewind	Speed Range (RPM)	DC Drive Motor (HP)	Input Power VAC/Phase/Hz
DSR752LC	75	3	.75	42	No	0 – 50	1/8	120 / 1 / 60
DSR75R2LC	75		.75	30	Yes			
DSR1002LC	100		1	42	No			
DSR100R2LC	100		1	30	Yes			

SPECIFICATIONS – METRIC

Model	Max. Spool Weight (Kg)	Max. Stock Width (mm)	Shaft Dia. (mm)	Max. Spool OD (mm)	Paper Rewind	Speed Range (RPM)	DC Drive Motor (kW)	Input Power VAC / Phase
DSR752LC	34	75	19	1070	No	0 – 50	0.1	Specify When Ordering
DSR75R2LC	34		19	760	Yes			
DSR1002LC	45		25.4	1070	No			
DSR100R2LC	45		25.4	760	Yes			

*Wider widths available.

Consult factory for higher speeds.

Custom models available.

PAPER INTERLEAF



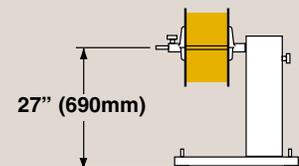
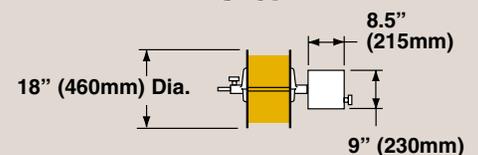
Large reels may be fitted with paper interleaf options. These self-contained units are designed to be mounted on our motorized reels and are available in two basic types.

The Unwind Assembly is used when material is to be rewound and needs paper, plastic, or cloth to be interleaved between each layer. Adjustable tension is set by a hand knob which controls a caliper disc brake.

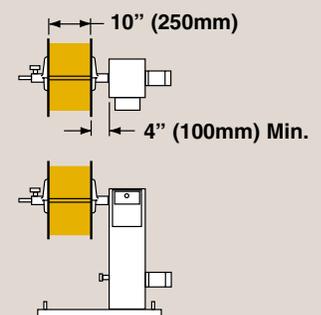
The Rewind Assembly eliminates the housekeeping problem of paper all over the floor by rewinding it onto a spool while material is being payed off. The fractional HP motor runs continuously and drives a 3/4 inch (19mm) diameter shaft through an adjustable slip clutch. The torque is set by a hand knob and allows the shaft to maintain tension on the interleaf material being rewound.

Both units are provided with an 18 inch (460mm) back plate and see-through plexiglass front disc.

Payoff Assembly with Drag Type Brake



Motorized Rewind Assembly



LIGHT DUTY STOCK REELS 200-1500 Lbs.



These cabinet reels are recommended for stampers using a variety of applications that require a free loop of material at all times. The efficient DC Drive package ensures that the reel will automatically compensate, without operator adjustments, for the inches of material per minute required for any of your jobs.

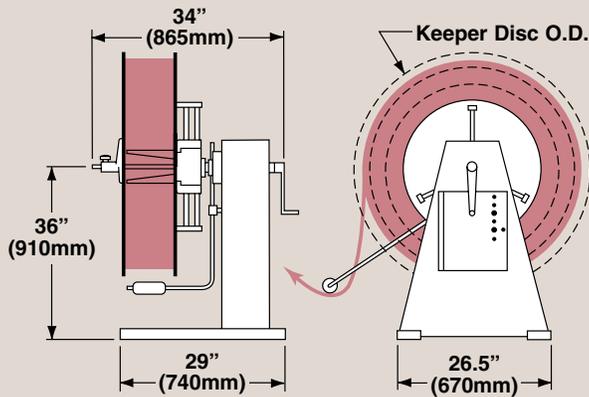
Two keeper discs prevent damage to the edges of the stock during rotation and eliminate side slippage tendencies of narrow coils.

Models SRA1200 and SRA1500 are available with two keeper rings, or one back plate and front keeper ring. Optional sensors are available.

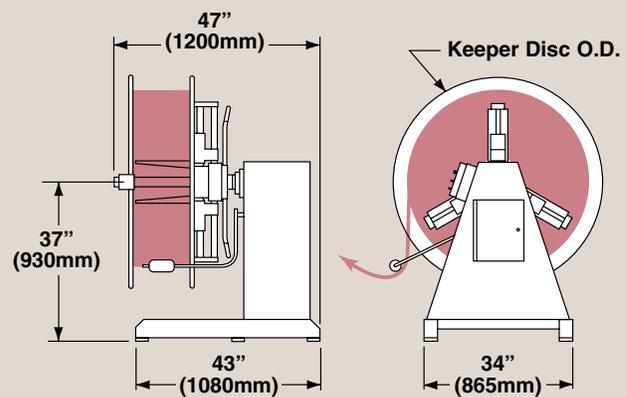
Non-motorized models are provided with caliper disc brakes.

DIMENSIONS

Models SRA200D, 400D & 600D



Models SRA1200D & 1500D



SPECIFICATIONS – USA							
Model	Max. Coil Weight (Lbs.)	Max. Stock Width (In.)	ID Range (In.)	Keeper Disc OD (In.)	Speed Range (RPM)	DC Drive Motor (HP)	Input Power VAC/Phase/Hz
Adjustable Shaft							
SRA200D	200	4	5 – 18	24, 30, 36, 42	0 – 28	1/8	120 / 1 / 60
SRA400D	400	8	6 – 17				
SRA600D	600	8	8 – 18				
SRA1200D	1200	12	10 – 22	48	0 – 23	3/4	
SRA1500D	1500	6					
Fixed Shaft							
SR200D	200		1	24, 30, 36, 42	0 – 28	1/8	
SR400D	400	10	1.44				
SR600D	600		1.94				

SPECIFICATIONS – METRIC							
Model	Max. Coil Weight (Kg)	Max. Stock Width (mm)	ID Range (mm)	Keeper Disc OD (mm)	Speed Range (RPM)	DC Drive Motor (kW)	Input Power VAC/Phase/Hz
Adjustable Shaft							
SRA200D	90	100	127 – 460	600, 760, 915, 1070	0 – 28	0.1	Specify When Ordering
SRA400D	180	200	150 – 430				
SRA600D	270	200	200 – 460				
SRA1200D	550	300	250 – 560	1220	0 – 23	0.6	
SRA1500D	680	150					
Fixed Shaft							
SR200D	90		25	600, 760, 915, 1070	0 – 28	0.1	
SR400D	180	250	37				
SR600D	270		49				

Consult factory for higher speeds and heavy duty drive applications.

LIGHT DUTY DUAL STOCK REELS 200-1500 Lbs.



Save production time by loading the next coil while the other side is paying off to the press. A dramatic increase in productivity is achieved by decreasing machine downtime.

The unique carousel design of the base reduces floor space by as much as 25% over other methods. Heavy duty bearings make 180° rotation quick and easy. Position accuracy is guaranteed by a spring loaded locking pin.

Release of the locking pin is easy. Simply depress the foot pedal which is located on the cabinet base.

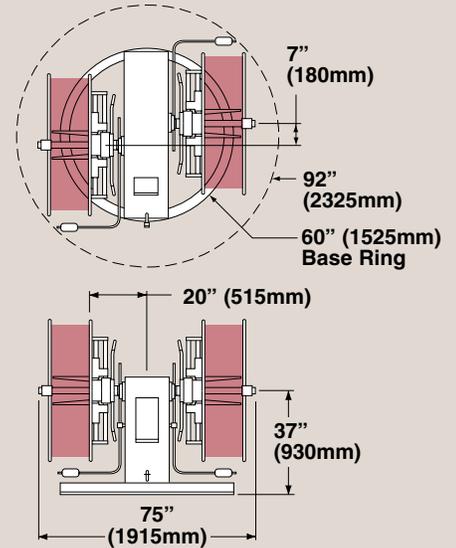
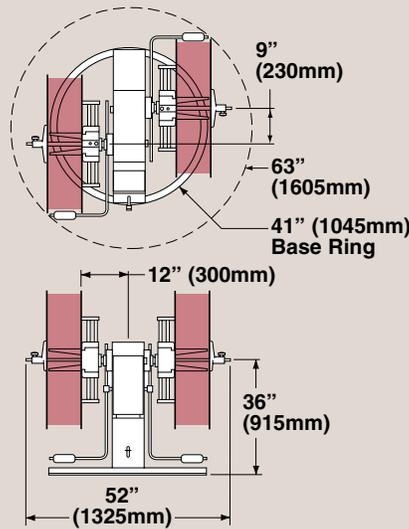
Twin DC Drive and solid state controls are enclosed inside the cabinet.

Models DSRA1200 and DSRA1500 are available with two keeper rings, or one back plate and front keeper ring. Optional sensors are available. Non-motorized models are provided with caliper disc brakes.

DIMENSIONS

Models DSRA200D, 400D & 600D

Models DSRA1200D & 1500D



SPECIFICATIONS – USA								
Model	Max. Coil Weight (Lbs.)	Max. Stock Width (In.)	ID Range (In.)	Keeper Disc OD (In.)	Speed Range (RPM)	DC Drive Motor (HP)	Input Power VAC/Phase/Hz	
Adjustable Shaft								
DSRA200D	200	4	5 – 18	24, 30, 36, 42	0 – 28	1/8	120 / 1 / 60	
DSRA400D	400	8	6 – 17					
DSRA600D	600	8	8 – 18					
DSRA1200D	1200	12	10 – 22	48	0 – 23	3/4		
DSRA1500D	1500	6						
Fixed Shaft								
DSR200D	200	10	1.00	24, 30, 36, 42	0 – 28	1/8		
DSR400D	400		1.44					
DSR600D	600		1.94					

SPECIFICATIONS – METRIC								
Model	Max. Coil Weight (Kg)	Max. Stock Width (mm)	ID Range (mm)	Keeper Disc OD (mm)	Speed Range (RPM)	DC Drive Motor (kW)	Input Power VAC/Phase/Hz	
Adjustable Shaft								
DSRA200D	90	100	127 – 460	600, 760, 915, 1070	0 – 28	0.1	Specify When Ordering	
DSRA400D	180	200	150 – 430					
DSRA600D	270	200	200 – 460					
DSRA1200D	550	300	250 – 560	1220	0 – 23	0.6		
DSRA1500D	680	150						
Fixed Shaft								
DSR200D	90	250	25	600, 760, 915, 1070	0 – 28	0.1		
DSR400D	180		37					
DSR600D	270		49					

Consult factory for higher speeds and heavy duty drive applications.

MEDIUM DUTY STOCK REELS 2500-6500 Lbs.

SRA6524



Side Hold Down Arm Shown.
Top Hold Down Available.

P/A Medium Duty Reels are designed to handle loads from 2500–6500 lbs. (1135–3000 Kg). The non-motorized reel is used with machines equipped with powered rolls that have sufficient power to unwind the necessary material. The standard friction brake is adjustable to prevent material overrun when peripheral equipment is slowed or stopped. An optional, fully adjustable pneumatic disc brake should be used in high speed press and roll forming applications.

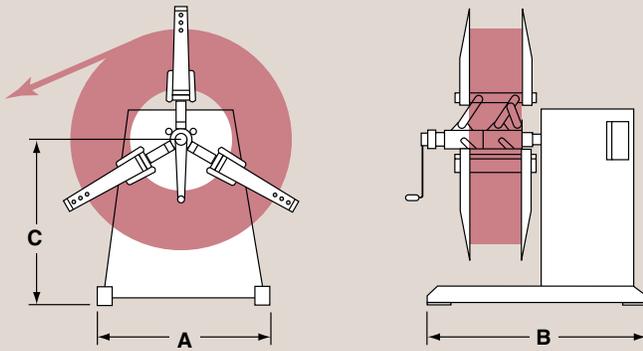
Motorized versions smoothly deliver material to

automatic feeding equipment utilizing proportional speed control. Automatic centering of coil I.D. is manually adjusted with a hand crank that provides mandrel expansion. The reinforced steel coil keepers are individually adjustable with quick release, ratchet locking mechanisms. The spindle is heat-treated alloy steel, precision ground and mounted in oversized tapered roller bearings.

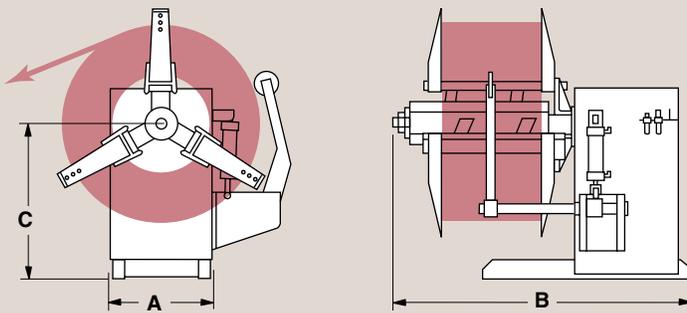
These high quality reels set the standard for performance and durability in the medium duty market.

DIMENSIONS

Models SRA2520 & 3512



Model SRA6524



SRA3512



DIMENSIONS – inches

Model	A	B	C
SRA2520	38	48	36
SRA3512	38	48	36
SRA6512	27.5	68.5	39.4
SRA6524	27.5	82	39.4
SRA6532	27.5	88	39.4

DIMENSIONS – mm

Model	A	B	C
SRA2520	965	1219	914
SRA3512	965	1219	914
SRA6512	698	1740	1000
SRA6524	698	2080	1000
SRA6532	698	22359	1000

SPECIFICATIONS – USA

Model	Max. Coil Weight (Lbs.)	Max. Stock Width (In.)	ID Range (In.)	Max. OD Range (In.)	Speed Range (RPM)	Max. Drive Motor (HP)	Input Power VAC/Phase/Hz
SRA2520	2500	20	14.5 – 20.5	47 – 51	0 – 21	¾ DC	120 / 1 / 60
SRA3512	3500	12	14.5 – 20.5	47 – 51	0 – 21	¾ DC	120 / 1 / 60
SRA6512	6500	12	15.5 – 20.5	56 – 60	0 – 15	2 AC	230 / 3 / 60
SRA6524	6500	24	15.5 – 20.5	56 – 60	0 – 15	2 AC	230 / 3 / 60
SRA6532	6500	32	15.5 – 20.5	56 – 60	0 – 15	2 AC	230 / 3 / 60

SPECIFICATIONS – METRIC

Model	Max. Coil Weight (Kg)	Max. Stock Width (mm)	ID Range (mm)	Max. OD Range (mm)	Speed Range (RPM)	Drive Motor (kW)	Input Power VAC/Phase/Hz
SRA2520	1135	505	370 – 520	1200 – 1300	0 – 21	0.56 DC	Specify When Ordering
SRA3512	1590	305	370 – 520	1200 – 1300	0 – 21	0.56 DC	
SRA6512	3000	325	390 – 520	1425 – 1525	0 – 15	1.50 AC	
SRA6524	3000	665	390 – 520	1425 – 1525	0 – 15	1.50 AC	
SRA6532	3000	820	390 – 520	1425 – 1525	0 – 15	1.50 AC	

Consult factory for higher speeds.
 18"–21" (460mm–535mm) ID expansion range available.
 Additional 4" (100mm) range of expansion obtainable with optional wedges.

All models available non-motorized with adjustable drag brake.
 Longer keeper arms available for
 60" to 72" (1525mm to 1825mm) OD.

MEDIUM DUTY DUAL STOCK REELS 2500-6500 Lbs.



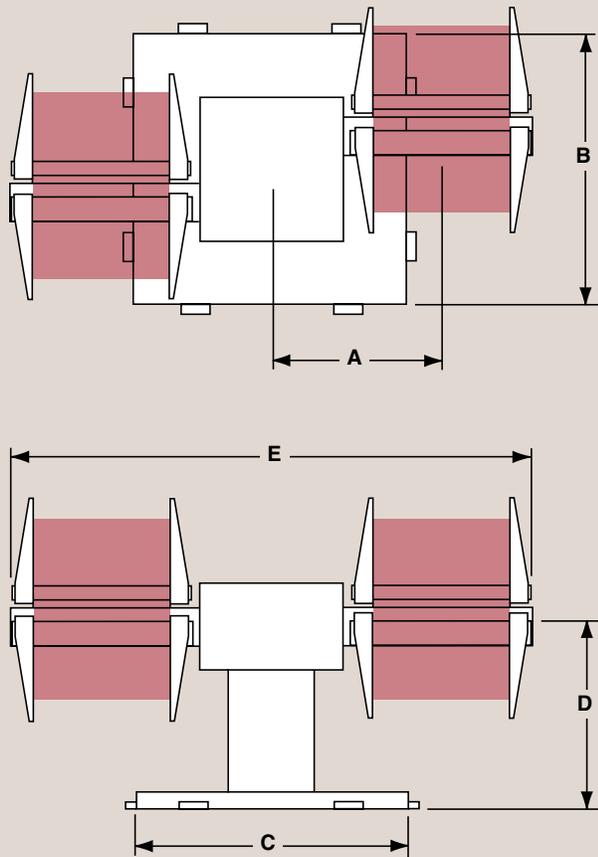
These Dual Reels use the same rugged construction as that of the Single Reels. The motorized versions have two proportional speed DC or AC motors, one for each spindle. Each drive motor uses a gear reducer with torque limiter for additional gearbox protection.

The oversized hand crank expands the mandrel which automatically centers the coil. Coil keepers are easily adjustable and locked by quick release hand levers.

Optional pneumatic hold down arms help control coil clockspring during band-cutting.



DIMENSIONS



DIMENSIONS – inches

Model	A	B	C	D	E
DSRA2520	22	43	42	34	78
DSRA3512	18	41	42	34	62
DSRA6512	24	51	51	46	78
DSRA6524	30	51	51	46	105
DSRA6532	33	51	51	46	126

DIMENSIONS – mm

Model	A	B	C	D	E
DSRA2520	560	1092	1067	864	1981
DSRA3512	460	1041	1067	864	1575
DSRA6512	600	1300	1300	1171	1980
DSRA6524	771	1300	1300	1171	2660
DSRA6532	848	1300	1300	1171	3200

SPECIFICATIONS – USA

Model	Max. Coil Weight (Lbs.)	Max. Coil Width (In.)	ID Range (In.)	Max. OD Range (In.)	Speed Range (RPM)	Max. Drive Motor (HP)	Input Power VAC/Phase/Hz
DSRA2520	2500	20	14.5 – 20.5	47 – 51	0 – 21	¾ DC	120 / 1 / 60
DSRA3512	3500	12	14.5 – 20.5	47 – 51	0 – 21	¾ DC	120 / 1 / 60
DSRA6512	6500	12	15.5 – 20.5	56 – 60	0 – 15	2 AC	230 / 3 / 60
DSRA6524	6500	24	15.5 – 20.5	56 – 60	0 – 15	2 AC	230 / 3 / 60
DSRA6532	6500	32	15.5 – 20.5	56 – 60	0 – 15	2 AC	230 / 3 / 60

SPECIFICATIONS – METRIC

Model	Max. Coil Weight (Kg)	Max. Coil Width (mm)	ID Range (mm)	Max. OD Range (mm)	Speed Range (RPM)	Max. Drive Motor (kW)	Input Power VAC/Phase/Hz
DSRA2520	1135	505	370 – 520	1200 – 1300	0 – 21	0.56 DC	Specify When Ordering
DSRA3512	1590	305	370 – 520	1200 – 1300	0 – 21	0.56 DC	
DSRA6512	3000	325	390 – 520	1425 – 1525	0 – 15	1.50 AC	
DSRA6524	3000	665	390 – 520	1425 – 1525	0 – 15	1.50 AC	
DSRA6532	3000	820	390 – 520	1425 – 1525	0 – 15	1.50 AC	

Consult factory for higher speeds.
 18"–21" (460mm–535mm) ID expansion range available.
 Additional 4" (100mm) range of expansion obtainable with optional wedges.

All models available non-motorized with adjustable drag brake.
 Longer keeper arms available for
 60" to 72" (1525mm to 1825mm) OD.

HEAVY DUTY STOCK REELS 10,000-20,000 Lbs.



SRA12000-51

These 10,000 to 20,000 lbs. Heavy Duty Reels are built to withstand the abuses of any pressroom environment. **These reels are designed for zero mandrel deflection at maximum coil weight.**

The mandrel assembly is made up of three cast, precision-machined jaws joined to the main shaft. The steel shaft is supported by oversized, tapered roller bearings mounted in a rugged housing. The housing is anchored to a heavy, welded steel base cabinet.

Coils are automatically centered by hydraulic expansion of the jaws. This, combined with the optional hydraulic jogging of the material, makes set-up quick and safe for pressroom personnel. Hydraulic capabilities also give the operator the ability to rewind partial coils.

Motorized Reels use a variable speed drive.

Non-motorized models are equipped with an adjustable pneumatic disc brake.

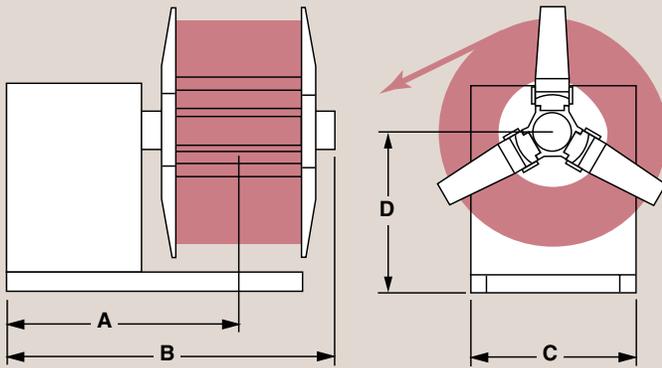
Pneumatic pressure arm, to prevent material clockspring during band-cutting, is available as an option.



SRA10000-24
with optional
Coil Car



DIMENSIONS



SPECIFICATIONS – USA

Model	Max. Coil Weight (Lbs.)	Max. Stock Width (In.)	ID Range* (In.)	Max. Coil OD (In.)	Dimensions (Inches)			
					A	B	C	D
SRA10000-26	10,000	26	17 – 21	60	59	76	35	43
SRA10000-38		38			65	87	35	43
SRA10000-46		46			69	95	35	43
SRA10000-52		52			74	103	35	43
SRA12000-32	12,000	32	18.1 – 21	60	68	84	41	39.4
SRA12000-40		40			72	92	41	39.4
SRA12000-51		51			83	108.5	41	39.4
SRA20000-35	20,000	35	18.1 – 21	60	75	93	35	39.4
SRA20000-42	20,000	42			79	101	35	39.4
SRA18000-51	18,000	51			84	105	35	39.4

SPECIFICATIONS – METRIC

Model	Max. Coil Weight (Kg)	Max. Stock Width (mm)	ID Range* (mm)	Max. Coil OD (mm)	Dimensions (mm)			
					A	B	C	D
SRA10000-26	4535	680	430 – 530	1525	1500	1930	890	1092
SRA10000-38		980			1650	2210	890	1092
SRA10000-46		1180			1750	2413	890	1092
SRA10000-52		1320			1880	2616	890	1092
SRA12000-32	5445	800	460 – 530	1525	1727	2130	1040	1000
SRA12000-40		1000			1830	2335	1040	1000
SRA12000-51		1300			2100	2750	1040	1000
SRA20000-35	9000	890	460 – 530	1525	1917	2367	890	1000
SRA20000-42	9000	1080			2017	2567	890	1000
SRA18000-51	8000	1295			2127	2677	890	1000

*22" to 25" (560mm to 650mm) available with additional wedges.

Optional 72" (1825mm) OD available.

TRAVERSE SPOOL REELS 3000 Lbs.



TSR-D



TSR-D with Loading Ramp

The P/A Traverse Spool Reel was designed to handle payoff of oscillated wound materials delivered on spools.

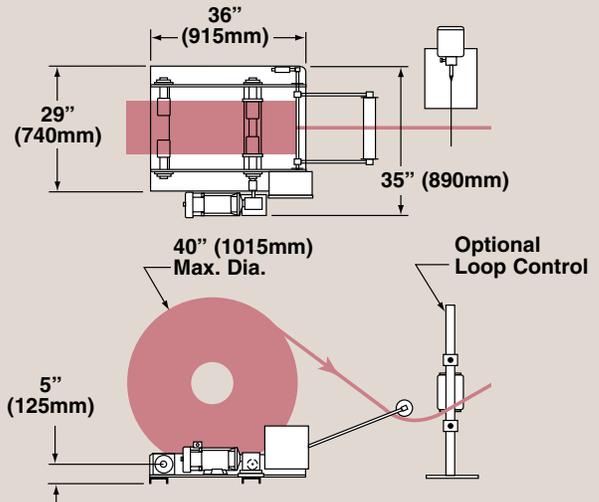
Several designs are available to suit your payoff requirement. All models are adjustable for a variety of spool sizes and use an efficient DC Drive to vary the spool rim speed to match press feed requirements.

The TSR-D has a lightweight dancer arm to automatically adjust the spool rim speed depending upon the loop position. Controls include ON/OFF and FORWARD/REVERSE rotation selector switches along with an adjustable counterbalance for the loop-sensing arm.

The TSR-LC uses a loop control to start and stop the drive motor. This system utilizes probe contact of conductive materials without scratching or marring the surface finish. The LC-2 uses a manually adjustable, speed control knob to allow the operator to set the speed for stock payoff. The optional LC-3 is a proportional sensor that automatically changes the rim speed.

The low profile design makes them easy to load and move around by forklift. A steel plate ramp, to facilitate roll up loading from the areas where fork lifts and cranes are unavailable, is provided with both models.

DIMENSIONS



SPECIFICATIONS – USA

Model	Max. Spool Weight (Lbs.)	Spool Width Range (In.)	Spool Rim OD Range (In.)	Max. Rim Speed Range (IPM)	Max. Drive Roll (RPM)	DC Drive Motor (HP)	Input Power VAC/Phase/Hz
TSR-D TSR-LC TSR-LC3	3000	6 – 17	12 – 40	0 – 2700	345	1	120 / 1 / 60

SPECIFICATIONS – METRIC

Model	Max. Spool Weight (Kg)	Spool Width Range (mm)	Spool Rim OD Range (mm)	Max. Rim Speed Range (M/Min.)	Max. Drive Roll (RPM)	DC Drive Motor (kW)	Input Power VAC/Phase/Hz
TSR-D TSR-LC TSR-LC3	1360	150 – 430	300 – 1000	0 – 69	345	0.75	Specify When Ordering

24" (665mm) or 36" (915mm) width models with larger diameter spools are available. Consult factory for special applications and low profile model.

TRAVERSE DRUM DECOILER 2200 Lbs.



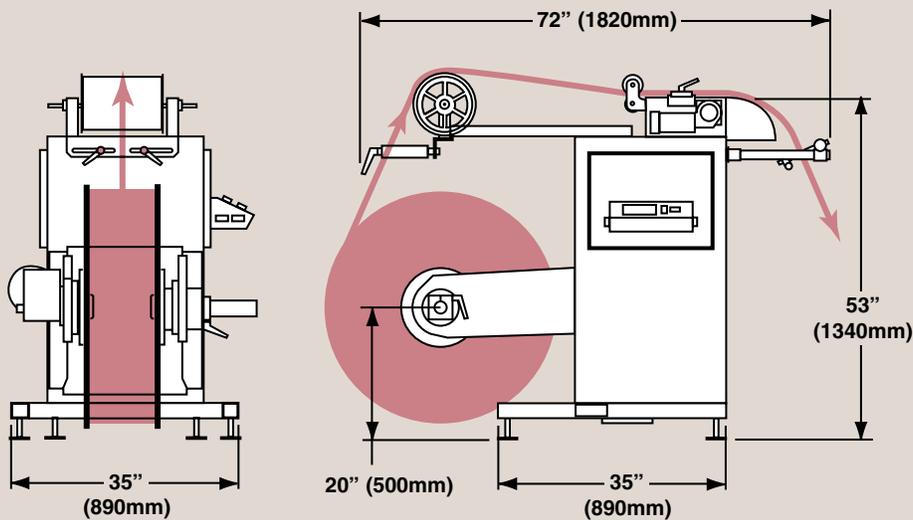
The TDD-40 is a versatile Drum Decoiling machine which dispenses layer wound raw material strips from coils weighing up to 2200 lbs. (1000 Kg).

The loading operation utilizes hydraulic and pneumatic cylinders to manipulate, load and pick up coils directly from the floor or special carts.

Further flexibility enhancements are possible with an optional powered material straightener or a powered pinch roll puller which provides a tension free material loop.

An optional color recognition sensor disables Production Line when a strip splice is detected.

DIMENSIONS



SPECIFICATIONS – USA								
Model	Max. Coil Weight (Lbs.)	Max. Coil Width (In.)	Max. Coil Dia. (In.)	Max. Stock Width. (In.)	Max. Stock Thickness (In.)	Speed Range (IPM)	DC Drive Motor (HP)	Input Power VAC/Phase/Hz
TDD-40	2200	16	40	1.8	.060	0 – 1020	1	220 / 1 / 60

SPECIFICATIONS – METRIC								
Model	Max. Coil Weight (Kg)	Max. Coil Width (mm)	Max. Coil Dia. (mm)	Max. Stock Width. (mm)	Max. Stock Thickness (mm)	Speed Range (M/Min.)	DC Drive Motor (kW)	Input Power VAC/Phase/Hz
TDD-40	1000	400	1015	45.5	1.5	0 – 26	0.75	Specify When Ordering

Variable Speed/Tension Guide Roller



The Palletizer was designed to pay off pre-stacked coils of material one coil at a time. This simple, yet innovative, design effectively reduces the risk of injury to operators and damage to material by eliminating the handling of individual coils.

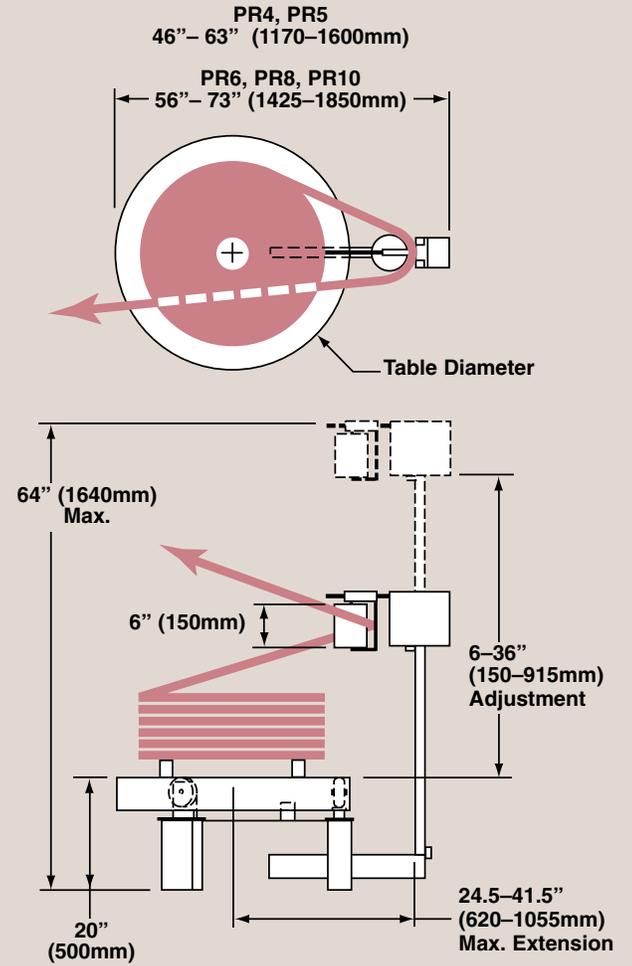
Set-up is straightforward. Simply load the pallet of coils onto the turntable with a forklift and set the guide for coil height. Choose clockwise or counterclockwise rotation and feed the material into the press. No further adjustment is necessary. A variety of materials can be processed using our special guide roller-tensioning system.

The DC Drive and proportional speed control combine to provide smooth and accurate material payout. The unique rotary drive system (no belts, clutches, or gears) allows the turntable to start instantly and to slow proportionately, thereby avoiding buckling and excess unwind. An emergency switch is included to shut off the press in case of a coil feeding problem.





DIMENSIONS



SPECIFICATIONS – USA

Model	Max. Pallet Weight (Lbs.)	Max. Stock Width (In.)	Stock Thickness Range (In.)	Max. Table Stacking Height (In.)	Table Speed Range (RPM)	Table Dia. (In.)	DC Drive Motor (HP)	Input Power VAC/Phase/Hz
PR4	4000	6*	.004 – .065	36	0 – 12	42	1/2	220 / 1 / 60
PR4HS	4000				0 – 24	42	1/2	
PR5	5500				0 – 12	42	1	
PR5HS	5500				0 – 24	42	1	
PR6	6000				0 – 12	52	1**	
PR6HS	6000				0 – 24	52	1.5**	
PR8	8000				0 – 12	52	1.5**	
PR8HS	8000				0 – 24	52	2**	
PR10	10,000				0 – 12	52	2**	
PR10HS	10,000				0 – 24	52	2**	

SPECIFICATIONS – METRIC

Model	Max. Pallet Weight (Kg)	Max. Stock Width (mm)	Stock Thickness Range (mm)	Max. Table Stacking Height (mm)	Table Speed Range (RPM)	Table Dia. (mm)	DC Drive Motor (kW)	Input Power VAC/Phase/Hz
PR4	1800	150*	0.1 – 1.8	915	0 – 12	1070	0.40	Specify When Ordering
PR4HS	1800				0 – 24	1070	0.40	
PR5	2500				0 – 12	1070	0.75	
PR5HS	2500				0 – 24	1070	0.75	
PR6	2700				0 – 12	1325	0.75**	
PR6HS	2700				0 – 24	1325	1.12**	
PR8	3600				0 – 12	1325	1.12**	
PR8HS	3600				0 – 24	1325	1.50**	
PR10	4500				0 – 12	1325	1.50**	
PR10HS	4500				0 – 24	1325	1.50**	

*Tension Guide Rollers up to 22" (560mm) are available.

** Regenerative Drive

PALLET REEL STRAIGHTENER



The Pallet Reel Straightener incorporates all the feature of the Palletizer models with the efficiency of the Straightening Head.



SPECIFICATIONS – USA

Model	Max. Pallet Weight (Lbs.)	Max. Stock Width (In.)	Stock Thickness Range (In.)	Max. Table Stacking Height (In.)	Table Speed Range (RPM)	Table Dia. (In.)	DC Drive Motor (HP)	Input Power VAC/Phase/Hz
PR4/SS49LC3	4000	4	.015 – .065	36	0 – 12 or 0 – 24	42	1/2	220 / 1 / 60
PR4/SS89LC3		6	.018 – .065			42	1/2	
PR4/SSP29LC3		2	.005 – .040			42	1	
PR4/SSP49LC3		4	.005 – .040			42	1	
PR4/SSP69LC3		6	.005 – .030			52	1*	
PR6/SS49LC3	6000	4	.015 – .065			52	1.5*	
PR6/SS89LC3		8	.018 – .065			52	1.5*	
PR6/SSP29LC3		4	.005 – .040			52	2*	
PR6/SSP49LC3		2	.005 – .040			52	2*	
PR6/SSP69LC3		6	.003 – .030			52	2*	

SPECIFICATIONS – METRIC

Model	Max. Pallet Weight (Kg)	Max. Stock Width (mm)	Stock Thickness Range (mm)	Max. Table Stacking Height (mm)	Table Speed Range (RPM)	Table Dia. (mm)	DC Drive Motor (kW)	Input Power VAC/Phase/Hz
PR4/SS49LC3	1800	100	0.4 – 1.6	915	0 – 12 or 0 – 24	1070	0.40	Specify When Ordering
PR4/SS89LC3		150	0.5 – 1.6			1070	0.40	
PR4/SSP29LC3		50	0.1 – 1.0			1070	0.75	
PR4/SSP49LC3		100	0.1 – 1.0			1070	0.75	
PR4/SSP69LC3		150	0.1 – 1.8			1325	0.75*	
PR6/SS49LC3	2700	100	0.4 – 1.6			1325	1.12*	
PR6/SS89LC3		200	0.5 – 1.6			1325	1.12*	
PR6/SSP29LC3		100	0.1 – 1.0			1325	1.50*	
PR6/SSP49LC3		50	0.1 – 1.0			1325	1.50*	
PR6/SSP69LC3		150	0.1 – 1.8			1325	1.50*	

Tension Guide Rollers up to 22" (560mm) are available.
Coil weights up to 10,000 lbs. (4500Kg) are available.

Wire Guides available.
*Regenerative Drive

HORIZONTAL REELS 800-1200 Lbs.



HR36

These reels offer an efficient and safe way to handle horizontal pay-off problems. Off center loading, which is characteristic of pan reels, is not a problem for P/A. This reel is designed with a combination of a Timken tapered roller bearing and radial ball bearing housed in a rugged, cast iron hub. This dual bearing design permits easy and safe coil loading by eliminating the “tip-over” threat. Centering the coil on the platen is no longer necessary.

These inexpensive reels use the natural tendency of the material to unwind, causing the pan to rotate automatically. The circular stock guide and the rim of the pan retard this motion preventing slippage and over-travel.

The center hold-down assembly has stiff arms to retain the coil and is adjusted by a hand knob.

Material can be fed from either direction and taken from the inside or outside of the coil.

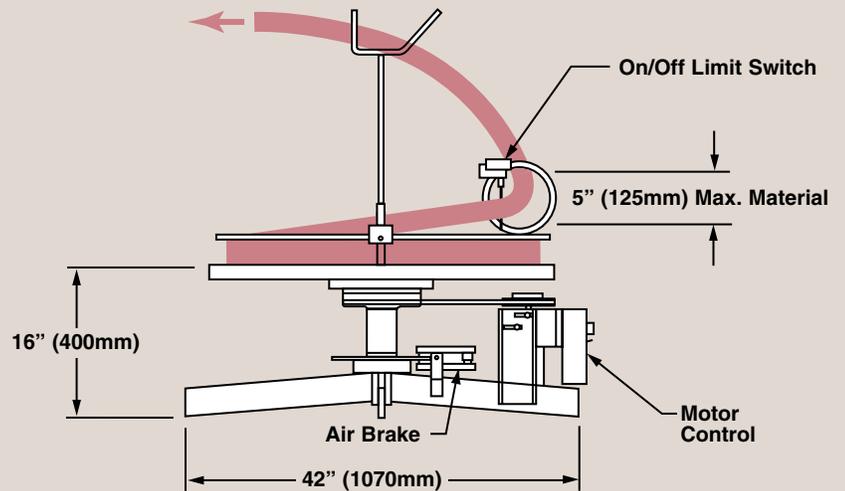
The new DC Drive package equipped with dial-in speed adjustment, is controlled by a limit switch which is mounted on the material guide ring. A toggle switch, to choose clockwise or counterclockwise rotation, eliminates the need to turn coils over when the slit edge is on the wrong side. A caliper air disc brake is activated when the motor is off to control the material overtravel caused by rotational inertia.

Touch Probe Loop Controls are available.



MHR36B

DIMENSIONS



SPECIFICATIONS – USA						
Model	Max. Coil Weight (Lbs.)	Max. Stock Width (In.)	Max. Coil Dia. (In.)	Speed Range (RPM)	DC Drive Motor (HP)	Input Power VAC/Phase/Hz
HR36	800	5	36	—	—	—
HR42	1000		42			
HR56	1200		56			
MHR36B	800	5	36	0 – 26	1/4	120 / 1 / 60
MHR42B	1000		42			
MHR56B	1200		56			

SPECIFICATIONS – METRIC						
Model	Max. Coil Weight (Kg)	Max. Stock Width (mm)	Max. Coil Dia. (mm)	Speed Range (RPM)	DC Drive Motor (kW)	Input Power VAC/Phase/Hz
HR36	360	125	915	—	—	—
HR42	450		1070			
HR56	540		1425			
MHR36B	360	125	915	0 – 26	0.2	Specify When Ordering
MHR42B	450		1070			
MHR56B	540		1425			

Optional 1/4" (6.4mm) ribbed steel plate increases weight capacity to 1600 pounds (725 Kg).

PRECISION REEL STRAIGHTENERS 200-600 Lbs.



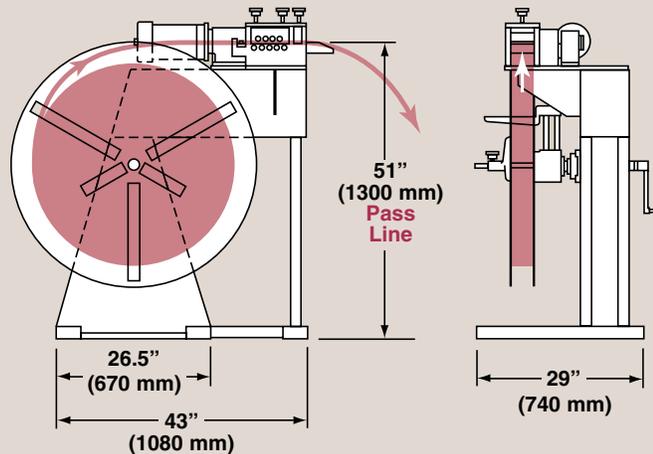
RS49P-6

At last, a precision reel straightener that not only saves floor space, but is also easy to load. Nine different models are available with material widths up to 6 inch (150mm) and coil weights up to 600 lbs. (272 Kg). This unit should be of special interest to the electronic stamping industry for processing hard to straighten materials, such as beryllium copper, phosphorous bronze and brass.

The cabinet reel comes equipped with fully adjustable cast iron jaws with a generous expansion range. An adjustable caliper disc brake provides the necessary tension to prevent material overrun. Two keeper discs are provided for proper material guiding.

The nine roll straightener utilizes exit pinch rolls for a total of eleven rolls. The user friendly bank type adjustment is equipped with scales and indicators for quick and accurate set-up. All lower rolls are driven with a responsive DC drive and proportional loop control. This type of drive will provide the necessary free loop for accurate progressive die feeding, and prevents the material marking caused by on/off loop control. Feed direction must be specified before ordering.

DIMENSIONS

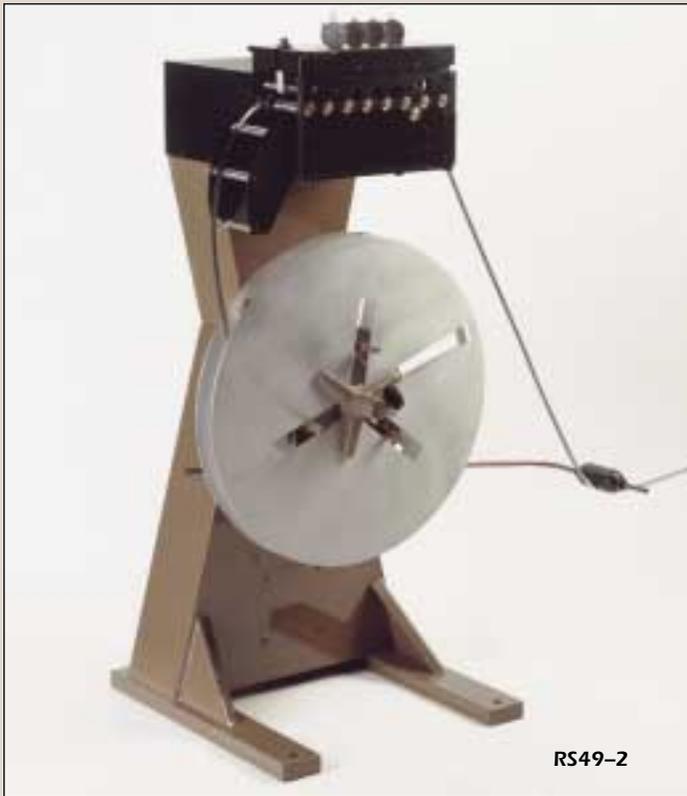


SPECIFICATIONS – USA								
Model	Max. Stock Width (In.)	Max. Stock Thickness (In.)	Max. Coil Weight (Lb.)	Coil ID Range (In.)	Max. Coil OD (In.)	Speed Range (IPM)	DC Drive Motor (HP)	Input Power VAC/Phase/Hz
RS29P-2 RS29P-4 RS29P-6	2	.040	200 400 600	5 – 18 6 – 17 8 – 18	24 / 30 / 36	0 – 1200	3/4	120 / 1 / 60
RS49P-2 RS49P-4 RS49P-6	4	.040	200 400 600	5 – 18 6 – 17 8 – 18				
RS69P-2 RS69P-4 RS69P-6	6	.030	200 400 600	5 – 18 6 – 17 8 – 18				

SPECIFICATIONS – METRIC								
Model	Max. Stock Width (mm)	Max. Stock Thickness (mm)	Max. Coil Weight (Kg)	Coil ID Range (mm)	Max. Coil OD (mm)	Speed Range (M/Min.)	DC Drive Motor (kW)	Input Power VAC/Phase/Hz
RS29P-2 RS29P-4 RS29P-6	50	1.0	90 180 270	125 – 460 150 – 430 200 – 460	600 / 760 / 915	0 – 30	.6	Specify When Ordering
RS49P-2 RS49P-4 RS49P-6	100	1.0	90 180 270	125 – 460 150 – 430 200 – 460				
RS69P-2 RS69P-4 RS69P-6	150	0.8	90 180 270	125 – 460 150 – 430 200 – 460				

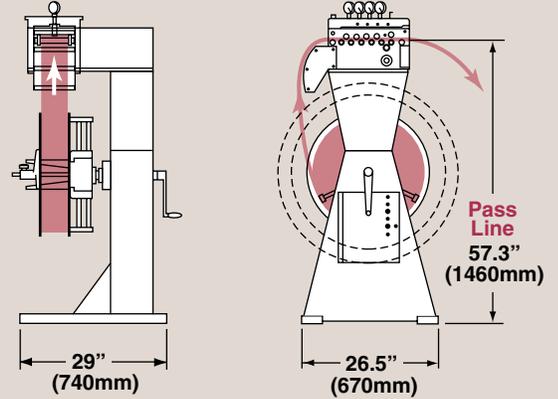
Note: Other voltages available.

FLIP TOP REEL STRAIGHTENERS 200-3500 Lbs.

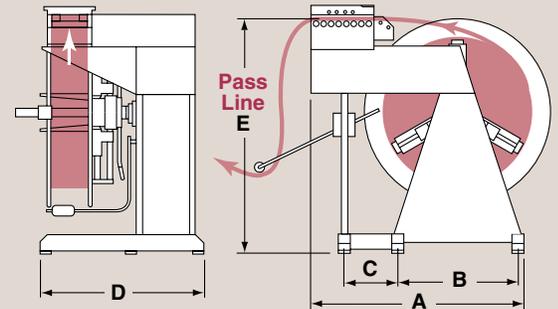


DIMENSIONS

Models
RS49-2
RS49-4
RS49-6
RS89-6



Models
RS89-12
RS89-35



The P/A Flip Top Reel Straightener is a combination of the Flip Top Stock Straightener head and payoff reel for easy material loading and maintenance. Available in two configurations, these models will minimize the use of precious floor space.

These units utilize nine straightening rolls with two exit pinch rolls for optimum performance on a variety of applications. The DC drive provides sufficient torque for material payoff from the non-motorized reel. New and highly recommended is an optional Gas Operated Lift Spring for Flip Top Heads.

DIMENSIONS – inches

Model	A	B	C	D	E
RS89-12	62	31	19	43	59
RS89-35	66	34	19	48	60
RS129-12	62	31	19	43	59
RS129-35	66	34	19	48	60

DIMENSIONS – mm

Model	A	B	C	D	E
RS89-12	1575	787	483	1092	1499
RS89-35	1676	864	483	1219	1524
RS129-12	1575	787	483	1092	1499
RS129-35	1676	864	483	1219	1524

SPECIFICATIONS – USA

Model	Max. Coil Weight (Lbs.)	Max. Stock Width (In.)	Max. Stock Thickness (In.)	ID Range (In.)	Coil OD (In.)	Speed Range (IPM)	DC Drive Motor (HP)	Input Power VAC / Phase
RS49-2 RS49-4 RS49-6	200 400 600	4	.065	5 – 18 6 – 17 8 – 18	24, 30, 36	0 – 800	1	120 / 1 / 60
RS89-6 RS89-12 RS89-35	600 1200 3500	8	.068	8 – 18 10 – 22 14.5 – 20.5	24, 30, 36 48 51 – 55	0 – 900		
RS129-12 RS129-35	1200 3500	12	.060	10 – 22 14.5 – 20.5	48 51 – 55	0 – 900		

SPECIFICATIONS – METRIC

Model	Max. Coil Weight (Kg)	Max. Stock Width (mm)	Max. Stock Thickness (mm)	ID Range (mm)	Coil OD (mm)	Speed Range (M/Min.)	DC Drive Motor (kW)	Input Power VAC / Phase
RS49-2 RS49-4 RS49-6	100 200 275	100	1.6	125 – 460 150 – 430 200 – 460	600, 760, 915	0 – 20	0.75	Specify When Ordering
RS89-6 RS89-12 RS89-35	275 550 1400	200	1.7	200 – 460 250 – 560 370 – 520	600, 760, 915 1220 1300 – 1400	0 – 23		
RS129-12 RS129-35	550 1400	300	1.5	250 – 560 370 – 520	1220 1300 – 1400	0 – 23		

Consult factory for higher speeds.

SPACE SAVER REEL STRAIGHTENER 1200-6500 Lbs.

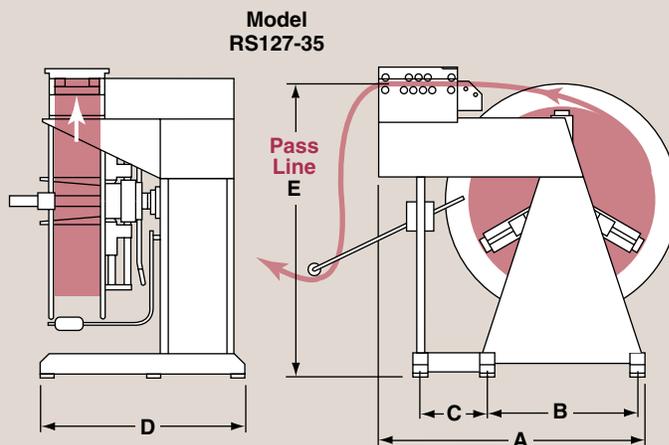
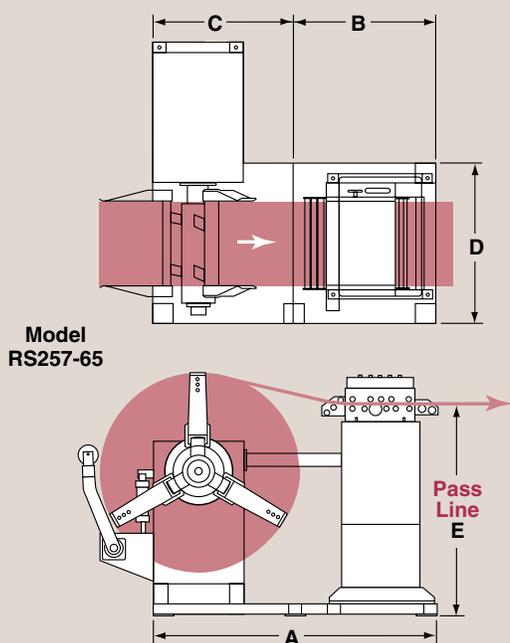


When floor space is at a premium, consider this Space Saver design by the innovative P/A engineering team. The Stock Reel is equipped with an adjustable caliper disc brake to provide the right amount of back tension. The DC drive Stock Straightener is offset for easy loading. The loop-sensing arm automatically adjusts material payout speed to press requirements. These units are equipped with entrance cascade and exit pinch rolls. Specify left-to-right or right-to-left stock travel.

DIMENSIONS

DIMENSIONS – inches					
Model	A	B	C	D	E
RS87-15	62	31	19	43	60
RS87-35	66	34	19	48	60
RS127-12	62	31	19	43	60
RS127-35	66	34	19	48	60
RS257-65	84	54	32	50	63

DIMENSIONS – mm					
Model	A	B	C	D	E
RS87-15	1575	787	483	1092	1525
RS87-35	1676	864	483	1219	1525
RS127-12	1575	787	483	1092	1525
RS127-35	1676	864	483	1219	1525
RS257-65	2134	1372	813	1270	1600



SPECIFICATIONS – USA								
Model	Max. Coil Weight (Lbs.)	Max. Stock Width (In.)	Max. Stock Thickness (In.)	Coil ID Range (In.)	Max. Coil OD (In.)	Speed Range (IPM)	AC Drive Motor (HP)	Input Power VAC/Phase/Hz
RS87-15	1500	8	.135	10 – 22	48	0 – 1200	3	230 / 3 / 60
RS87-35	3500			14.5 – 20.5	51 – 55			
RS127-12	1200	12	.135	10 – 22	51 – 55			
RS127-35	3500			14.5 – 20.5	51 – 55			
RS257-65	6500	24	.135	15.5 – 20.5	60			

SPECIFICATIONS – METRIC								
Model	Max. Coil Weight (Kg)	Max. Stock Width (mm)	Max. Stock Thickness (mm)	Coil ID Range (mm)	Max. Coil OD (mm)	Speed Range (M/Min.)	AC Drive Motor (kW)	Input Power VAC/Phase/Hz
RS87-15	700	200	3.4	250 – 560	1220	0 – 30	2.25	Specify When Ordering
RS87-35	1600			370 – 520	1300 – 1400			
RS127-12	550	300	3.4	250 – 560	1300 – 1400			
RS127-35	1600			370 – 520	1300 – 1400			
RS257-65	3000	600	3.4	390 – 520	1525			

WIRE STRAIGHTENER



Optional Base Plate shown



Optional Base Plate shown

The Dual Plane P/A Wire Straightener was originally designed for the rugged conditions of wire mills. The shielded, anti-friction ball bearings have "V" grooves ground into the hardened outer races. All rolls are prelubricated. A spring loaded feature compensates for wire irregularities. Rolls are adjusted by a thumb screw and locknut.

A new cam release feature insures quick set-up and changeover from one coil to the next. Once set, no further roll adjustment is necessary for another coil of the same wire size.

As the wire is drawn through the P/A Wire Straightener, each plane of "V" groove rolls removes the natural curve of the coil, neutralizing the tendency to kink, twist, whip, or distort. The first plane of rolls must do more work, which allows a lesser number of rolls on the second plane. This reduces the amount of pulling power required.

Models are available in either left-to-right, or right-to-left direction. Special shaped rolls are optional.

SPECIFICATIONS – USA								
Model	Wire Capacity (In.)	No. Rolls Horiz.	No. Rolls Vert.	Roll Diameter (In.)	Width (In.)	Length (In.)	Height (In.)	Feed Line (In.)*
WS 3/8 x 24	.003 – .015	14	10	0.375	3	11.25	5.00	1.50
WS 1/2 x 24	.015 – .032	14	10	0.500	3	12.62	5.12	1.50
WS 1/2 x 16	.015 – .032	8	8	0.500	3	10.12	5.12	1.50
WS 3/4 x 14	.030 – .062	9	5	0.750	4	10.75	5.88	1.53
WS 1 1/4 x 14	.062 – .125	9	5	1.250	8	21.25	10.38	2.56
WS 1 7/8 x 12	.125 – .250	7	5	1.850	8	23.00	9.75	3.19
WS 2 1/2 x 12	.250 – .375	7	5	2.500	10	28.00	8.25	3.62
WS 3 1/4 x 10	.375 – .500	5	5	3.250	10.5	31.00	12.00	4.25

SPECIFICATIONS – METRIC								
Model	Wire Capacity (mm)	No. Rolls Horiz.	No. Rolls Vert.	Roll Diameter (mm)	Width (mm)	Length (mm)	Height (mm)	Feed Line (mm)*
WS 3/8 x 24	0.08 – 0.38	14	10	9.5	75	286	127	38
WS 1/2 x 24	0.38 – 0.81	14	10	12.7	75	321	130	38
WS 1/2 x 16	0.38 – 0.81	8	8	12.7	75	257	130	38
WS 3/4 x 14	0.76 – 1.57	9	5	19.0	100	273	149	39
WS 1 1/4 x 14	1.57 – 3.18	9	5	32	200	540	264	65
WS 1 7/8 x 12	3.18 – 6.35	7	5	47	200	584	248	81
WS 2 1/2 x 12	6.35 – 9.52	7	5	62	250	711	223	92
WS 3 1/4 x 10	9.52 – 12.70	5	5	82.5	265	793	304	109

* Feed Line Height is from Bottom of Base Plate to Center of Horizontal Roll.

LEVELER STRAIGHTENER



The LS-422 is designed to straighten the most delicate, highly polished and fine materials. Less than flat material can cause damage to tools or make less than perfect parts. Use the LS-422 Leveler Straightener in lines that make parts such as lead frames, terminals, cell phones, computers, CD's and other electronic parts.

A stepless variable speed control is used for normal and high speed operation, driven by modern AC inverter, to accommodate different line speeds. Dial in, proportional-loop control automatically adjusts speed using ultra lightweight loop sensing arm with emergency press stop, tight-loop reset feature and includes a 15 foot wiring cable into press control.

All twenty-one hardened and ground, chrome polished rolls are gear driven and triple backed up to prevent roll deflection and relieve material stress.

Four-quadrant bank adjustment with top mounted dial indicator gauges controlled by individual, hand-setting wheels and lock nuts. Provides for easy, repeatable adjustment front to back and side to side. Once material setting is fine tuned, record information for future use to reduce set-up time. Independently adjusted finishing roll with thumb wheel setting equipped with Vernier dial gauge for recording final dial setting to control material flatness.

Automatic recirculating oil lube system piped to all gears and bearings. Oil sling grooves are machined on both ends of straightening rolls to prevent material contamination.

Material strip alignment is easy with entrance roll bearing edge guides and a material roll dampening and stock support bridge.

Hand lever opens upper head assembly for inspection and cleaning of rolls with provision to manually turn upper rolls for ease of wiping rolls. Entire lower straightener roll assembly can be removed for cleaning and easy maintenance.

Solid state controls housed in a NEMA 12, oil-tight, dust-free enclosure with filtered vent for long-term operation and durability.

Casters for portability and four separate leveling pads with lock nuts for positioning are standard.

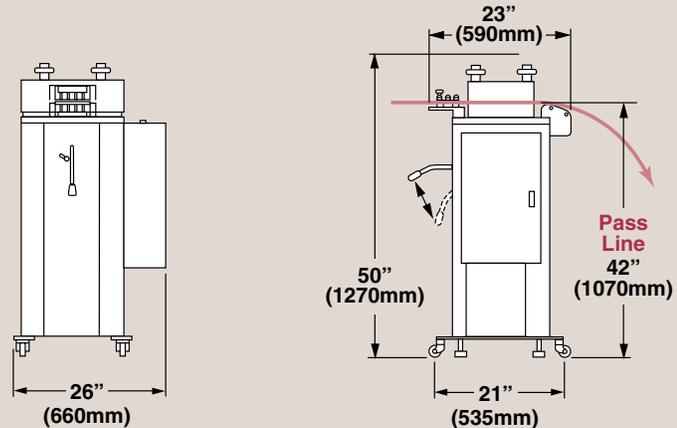


Rolls Open for Strip Insertion



Rolls Closed with Strip In Position

DIMENSIONS



SPECIFICATIONS – USA

Model	Max. Coil Width (In.)	Stock Thickness Range (In.)	Straightening Rolls Qty	Straightening Rolls Dia. (In.)	Speed Range (IPM)	AC Drive Motor (HP)	Input Power VAC/Phase/Hz
LS-422	4	.003 – .039	22	0.47	0 – 780	1	220 / 3 / 60

SPECIFICATIONS – METRIC

Model	Max. Coil Width (mm)	Stock Thickness Range (mm)	Straightening Straightening Rolls Qty	Straightening Straightening Rolls Dia. (mm)	Speed Range (M/Min.)	AC Drive Motor (kW)	Input Power VAC/Phase/Hz
LS-422	100	0.1 – 1.0	22	12	0 – 20	0.75	Specify

ULTRA PRECISION STRAIGHTENER

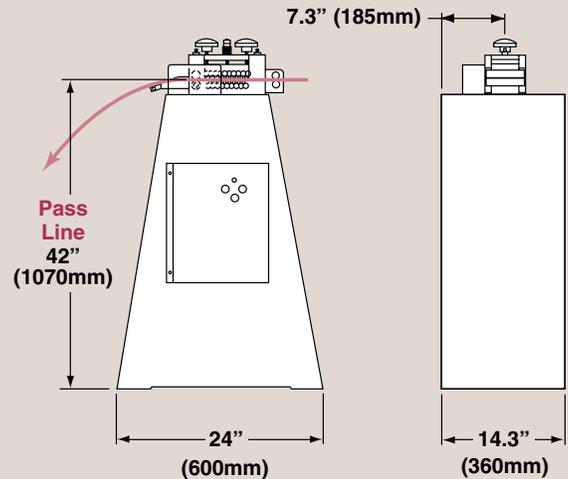


The P/A Ultra Precision Stock Straightener was designed with the electronics stamper in mind, especially those using exotic coppers or clad materials in their operations. A very unique design employs seventeen straightening rolls which are backed up by roller bearings in a precision machined steel body.

The Straightener uses a two point bank adjustment system with dial indicators for ease of upper roll positioning. The adjustable lower stops enable the bank roll adjustment to be quickly reset after strip rethreading.

Adjustable roller entry material guides and exit catenary ensure the smooth travel of the material in and out of the straightener. All lower rolls are driven by the infinitely adjustable DC Motor system. The proportional speed LC-3 Loop Control is standard. The UltraSonic (no-touch) speed control is optional.

DIMENSIONS



SPECIFICATIONS – USA									
Model	Max. Stock Width (In.)	Stock Thickness Range (In.)	Straightening Rolls Qty	Straightening Rolls Dia. (In.)	Pinch Rolls Qty	Pinch Rolls Dia. (In.)	Speed Range (IPM)	DC Drive Motor (HP)	Input Power VAC/Phase/Hz
SS217	2.4	.002 – .024	17	.39	2	1.18	0 – 1200	3/4	120 / 1 / 60

SPECIFICATIONS – METRIC									
Model	Max. Stock Width (mm)	Stock Thickness Range (mm)	Straightening Rolls Qty	Straightening Rolls Dia. (mm)	Pinch Rolls Qty	Pinch Rolls Dia. (mm)	Speed Range (M/Min.)	DC Drive Motor (kW)	Input Power VAC/Phase/Hz
SS217	60	.05 – 0.6	17	10	2	30	0 – 30	0.6	Specify

Consult factory for higher speeds.

PRECISION STOCK STRAIGHTENERS



SSP49D

This eleven roll straightener (nine straightening rolls) is very well suited for phosphorous bronze and stainless steel, or other types of difficult to straighten material. It's recommended for applications in which the strip must be absolutely flat before stamping, such as with electrical switch elements and contacts.

Proper straightening of thin, resilient materials require multiple hardened and ground, small diameter rolls on close centers. This allows the stock to bend past its elastic limit. Special anti-friction, sealed bearings prevent foreign particle contamination. Upper rolls are rigidly housed in a tiltable cradle.

The indicator and scale provide a "user friendly" reference for the two point bank adjustment. Adjustable roller width guides and stock entry rollers guarantee a smooth entry into the straightener head.

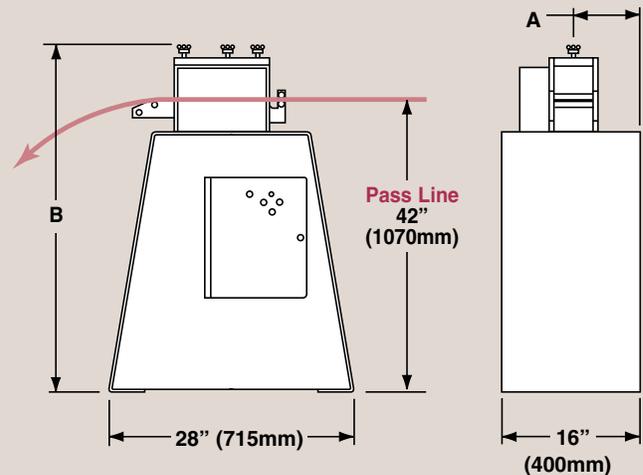
Exit pinch rolls, and all lower rolls, are power driven through a precision gear train. Continuous free loop feeding is activated by the loop-sensing arm which controls the high torque, quick response DC Drive motor system. This eliminates the marking of material caused by On/Off and Start/Stop operations by automatically varying stock speed.

This specialized straightener is mounted on a heavy duty cabinet with all electrical components placed inside for protection.



SSP49 Straightening Head

DIMENSIONS



SPECIFICATIONS – USA											
Model	Max. Stock Width (In.)	Stock Thickness Range (In.)	Straightening Rolls		Pinch Rolls		Speed Range (IPM)	DC Drive Motor (HP)	Input Power VAC/Phase/Hz	Dimensions (Inches)	
			Qty	Dia. (In.)	Qty	Dia. (In.)				A	B
SSP29	2	.005 – .040	9	1.00	2	1.6	0 – 1200	3/4	120 / 1 / 60	7.5	40
SSP49	4	.005 – .040	9	1.00	2	1.6	0 – 1200	3/4	120 / 1 / 60	8.5	40
SSP69	6	.005 – .030	9	1.00	2	1.6	0 – 1200	3/4	120 / 1 / 60	9.5	41

SPECIFICATIONS – METRIC											
Model	Max. Stock Width (mm)	Stock Thickness Range (mm)	Straightening Rolls		Pinch Rolls		Speed Range (M/Min.)	DC Drive Motor (kW)	Input Power VAC/Phase/Hz	Dimensions (mm)	
			Qty	Dia. (mm)	Qty	Dia. (mm)				A	B
SSP29	50	0.1 – 1.0	9	25	2	40	0 – 30	0.6	Specify When Ordering	190	1015
SSP49	100	0.1 – 1.0	9	25	2	40	0 – 30	0.6	Specify When Ordering	215	1015
SSP69	150	0.1 – 0.8	9	25	2	40	0 – 30	0.6	Specify When Ordering	240	1040

Consult factory for higher speeds.

FLIP TOP STRAIGHTENERS



The advantages of these straighteners are immediately obvious. The Flip Top makes strip loading easy. Simply swing open the head, feed in the strip, close and tighten. Single-point adjustment for each roll ensures a precise setting and eliminates the cambering often caused by nonparallel rolls.

Reloading is even easier because these straighteners maintain their roller adjustment – exactly. Expensive production time isn't wasted while trying to reinsert the strip straight through and then readjust all of the rolls.

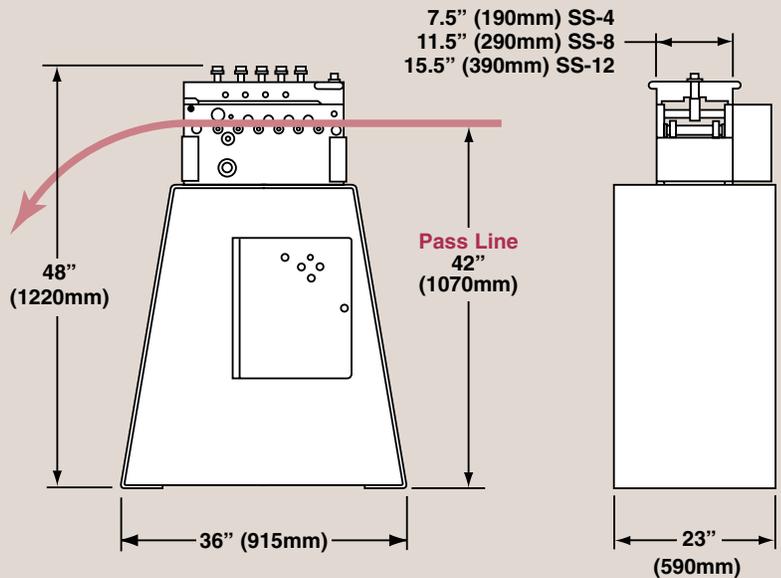
This head also allows easy cleaning of the rolls to prevent scratching of coated or polished strip.

All three models are equipped with eleven hardened and ground rolls (nine straightening, two exit pinch rolls). All lower rolls and exit pinch rolls are driven by precision spur gears that are hardened for long life. The feed rate of the material is automatically adjusted to suit production requirements by the sensing arm. The DC Drive system has full torque capability, even at a low speed, allowing the use of non-motorized payoff reels.

New and highly recommended is an optional gas operated lift spring for Flip Top Heads.



DIMENSIONS



SPECIFICATIONS – USA

Model	Max. Stock Width (In.)	Stock Thickness Range (In.)	Straightening Rolls		Pinch Rolls		Speed Range (IPM)	DC Drive Motor (HP)	Input Power VAC/Phase/Hz
			Qty	Dia. (In.)	Qty	Dia. (In.)			
SS49	4	.015 – .080	9	1.50	2	1.25	0 – 900	1	120 / 1 / 60
SS89	8	.018 – .083				1.40			
SS129	12	.020 – .075				1.50			

SPECIFICATIONS – METRIC

Model	Max. Stock Width (mm)	Stock Thickness Range (mm)	Straightening Rolls		Pinch Rolls		Speed Range (M/Min.)	DC Drive Motor (kW)	Input Power VAC/Phase/Hz
			Qty	Dia. (mm)	Qty	Dia. (mm)			
SS49	100	0.4 – 2	9	38	2	32	0 – 23	0.75	Specify When Ordering
SS89	200	0.5 – 2				35			
SS129	300	0.5 – 2				38			

Consult factory for higher speeds.

MEDIUM DUTY STRAIGHTENERS



SS127

Used for medium stock thickness ranges, these models incorporate generous design standards to handle the most demanding production requirements.

A precise gear arrangement drives lower entrance/exit pinch rolls, as well as all lower straightening rolls. The top rolls have individual depth adjustments with reference indicators on the side of the frame. Each straightening roll may be adjusted from either side. A roller chain connects the two roll adjustment screws to ensure absolute roll parallelism. Pneumatic Pinch Rolls allow easy strip loading.

All rolls are alloy steel, case hardened to Rockwell C-60, and ground to a fine finish. Anti-friction needle bearings are fitted in a rugged cast iron frame.

Entrance support rolls and adjustable width guide rolls with twist lock hand levers are standard features.

Exit rollers support straightened stock and prevent deformation.

Models with eleven straightening rolls are available for thinner or harder material, such as stainless steel.

A pneumatic inlet pinch roll release assists in material threading and adjustable cascade exit rolls allow for just the right stock curve support. Various sensor options are available.

15 Degree Incline Head is available to reduce floor space.



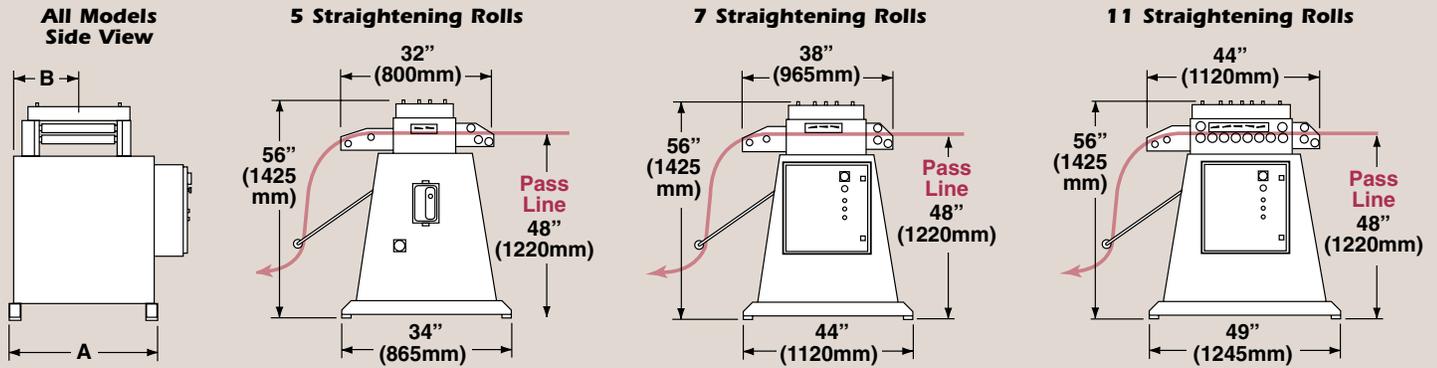
SS87
Straightening
Head



SS207 Shown with 15° Incline Head and optional pneumatic inlet pinch rolls



DIMENSIONS



DIMENSIONS (in.)	A	B
SS55	31	7.2
SS85	31	8.5
SS125	31	10.5
SS165	31	12.5
SS205	31	14.4

DIMENSIONS (mm)	A	B
SS55	787	183
SS85	787	216
SS125	787	267
SS165	787	318
SS205	787	366

DIMENSIONS (in.)	A	B
SS87	28	10.5
SS127	28	12.5
SS167	28	14.5
SS207	38	16.5
SS257	38	19.5
SS327	44	22.5
SS407	48	24.5

DIMENSIONS (mm)	A	B
SS87	711	267
SS127	711	318
SS167	711	368
SS207	965	419
SS257	965	495
SS327	1118	572
SS407	1219	622

DIMENSIONS (in.)	A	B
SS1211	28	12.5
SS2011	38	16.5
SS2511	38	19.5
SS3211	44	22.5
SS4011	48	24.5

DIMENSIONS (mm)	A	B
SS1211	711	318
SS2011	965	419
SS2511	965	495
SS3211	1118	572
SS4011	1219	622

SPECIFICATIONS – USA

Model	Max. Stock Width (In.)	Stock Thickness Range (In.)	Straightening Rolls		Pinch Rolls		Speed Range (IPM)	Drive Motor* (HP)	Input Power** VAC/Phase/Hz
			Qty	Dia. (In.)	Qty	Dia. (In.)			
SS55	5	.015 – .078	5	1.6	4	1.6	0 – 900	1 DC	110 / 1 / 60
SS85	8	.015 – .072							
SS125	12	.015 – .055							
SS165	15.8	.015 – .040							
SS205	19.7	.015 – .032							
SS87	8	.020 – .135	7	2.4	4	2.4	0 – 900	3 AC	230 / 3 / 6
SS127	12	.020 – .125							
SS167	15.8	.020 – .105							
SS207	19.7	.020 – .095							
SS257	25.6	.020 – .070							
SS327	31.6	.020 – .040							
SS407	39.4	.020 – .032							
SS1211	12	.016 – .118	11	60	4	60	0 – 23	2.25 AC	Specify When Ordering
SS2011	19.7	.016 – .087							
SS2511	25.6	.016 – .075							
SS3211	31.6	.016 – .059							
SS4011	39.4	.016 – .043							

SPECIFICATIONS – METRIC

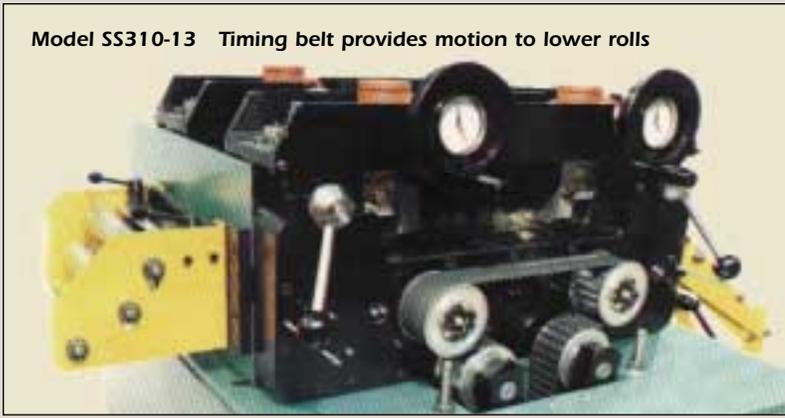
Model	Max. Stock Width (mm)	Stock Thickness Range (mm)	Straightening Rolls		Pinch Rolls		Speed Range (M/Min.)	Drive Motor* (kW)	Input Power** VAC/Phase/Hz
			Qty	Dia. (mm)	Qty	Dia. (mm)			
SS55	125	.04 – 2.0	5	40	4	40	0 – 23	.75 DC	Specify When Ordering
SS85	200	.04 – 1.8							
SS125	300	.04 – 1.4							
SS165	400	.04 – 1.0							
SS205	500	.04 – 0.8							
SS87	200	0.5 – 3.4	7	60	4	60	0 – 23	2.25 AC	Specify When Ordering
SS127	300	0.5 – 3.2							
SS167	400	0.5 – 2.7							
SS207	500	0.5 – 2.4							
SS257	650	0.5 – 1.8							
SS327	800	0.5 – 1.0							
SS407	1000	0.5 – 0.8							
SS1211	300	0.4 – 3.0	11	60	4	60	0 – 23	2.25 AC	Specify When Ordering
SS2011	500	0.4 – 2.2							
SS2511	650	0.4 – 1.9							
SS3211	800	0.4 – 1.5							
SS4011	1000	0.4 – 1.1							

*Optional 5 HP Drive (3.75 kW) for increased capacity and/or speed.

**Optional 460/3/60 Supply (415/3/50 European).

LAMINATION STRAIGHTENERS 13 Roll and 17 Roll

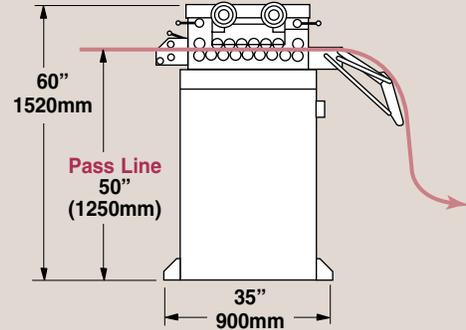
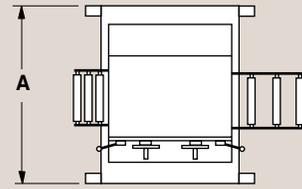
Model SS310-13 Timing belt provides motion to lower rolls



Model SS410-17



DIMENSIONS



DIMENSIONS – in.	
Model	A
SS310-13	44
SS410-13	48
SS650-13	58
SS210-17	27
SS310-17	27
SS650-17	31

DIMENSIONS – mm	
Model	A
SS310-13	1120
SS410-13	1220
SS650-13	1470
SS210-17	690
SS310-17	690
SS650-17	790

These powered straighteners are designed specifically for thin and high tensile strength materials such as silicon steel for motor laminations and stainless steel or titanium for medical instruments. Solid cast frames ensure precise roll parallelism for optimum straightening results.

The upper straightening rolls are mounted in a cradle. Roll settings are accomplished with two graduated handwheels.

Opening of the Drive Rolls is done quickly with an eccentric system that is hand-lever operated.

SPECIFICATIONS – USA

Model	Max. Stock Width (In.)	Stock Thickness Range* (In.)	Straightening Rolls		Pinch Rolls		Speed Range (IPM)	DC Drive Motor (HP)	Input Power VAC/Phase/Hz
			Qty	Dia. (In.)	Qty	Dia. (In.)			
SS310-13	12	.015 – .100	13	2.2	4	2.2	0 – 1575	5	230 / 3 / 60
SS410-13	16	.015 – .090							
SS650-13	25.5	.015 – .080							
SS210-17	8	.006 – .065	17	1.6	2	2.4	0 – 1800	3	
SS310-17	12	.006 – .050							
SS410-17	16	.006 – .040							

SPECIFICATIONS – METRIC

Model	Max. Stock Width (mm)	Stock Thickness Range* (mm)	Straightening Rolls		Pinch Rolls		Speed Range (MPM)	DC Drive Motor (kW)	Input Power VAC/Phase/Hz
			Qty	Dia. (mm)	Qty	Dia. (mm)			
SS310-13	310	0.4 – 2.5	13	55	4	55	0 – 40	3.8	Specify When Ordering
SS410-13	410	0.4 – 2.2							
SS650-13	650	0.4 – 2.0							
SS210-17	210	0.15 – 1.5	17	40	2	60	0 – 45	2.2	
SS310-17	310	0.15 – 1.2							
SS410-17	410	0.15 – 1.0							

*Thickness for maximum width in mild steel.

HEAVY DUTY STRAIGHTENERS

SS407HD



Robust best describes the construction and power of this series. Removal of coil set and curvature for thicker, wider materials requires larger diameter rolls and increase spacing.

These units are equipped with a heavy duty, parallel shaft, helical gear reducer and variable speed motor. An outboard bearing support for the drive sprocket minimizes deflection.

Solid cast iron side frames are jig-bored to insure bearing journal and roll parallelism. Oversized rolls are made from alloy steel, case hardened to Rockwell C-60, and then ground.

The upper rolls are individually adjustable with built-in position indicators. The roll bearings are designed for maximum support and minimum deflection. Entrance and exit pinch rolls are power driven to facilitate introduction of stock and reduce the work load on the straightening rolls. Entrance Pneumatic Pinch Rolls assist strip loading. The extra wide, precision spur gears are hardened to reduce wear and increase strength.

Entrance and exit support rolls are standard. Fully adjustable exit cascade rolls are available as an option. Vertical entrance guide rollers are provided with tee slots for ease of adjustment.

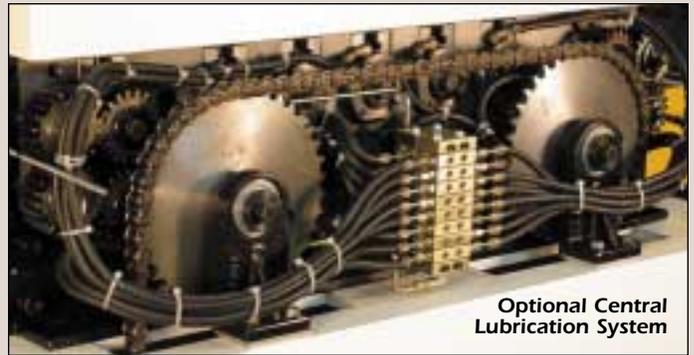
An Ultrasonic Loop Control system regulates the material loop and speed. 15 Degree Incline Head is available to reduce floor space.

SS207HD

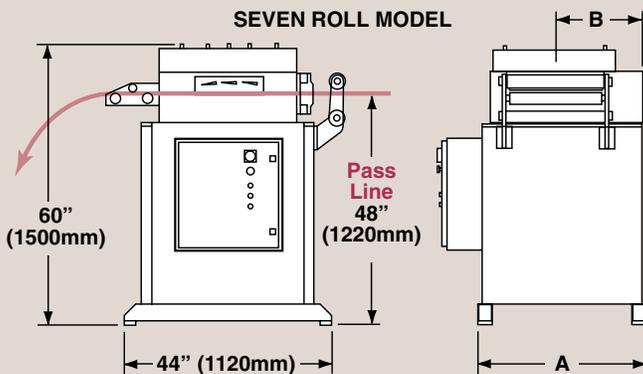
SRA4520
with Hold Down
Arm



HEAVY DUTY STRAIGHTENERS



DIMENSIONS



DIMENSIONS – inches

Model	A	B
SS87HD	35	11
SS127HD	35	13
SS167HD	35	15
SS207HD	35	17
SS257HD	41	20
SS327HD	45	23
SS407HD	65	32
SS507HD	77	35

DIMENSIONS – mm

Model	A	B
SS87HD	940	320
SS127HD	940	370
SS167HD	940	420
SS207HD	940	470
SS257HD	1041	545
SS337HD	1143	620
SS407HD	1346	720
SS507HD	1651	869

SPECIFICATIONS – USA

Model	Max. Stock Width (In.)	Stock Thickness Range (In.)	Straightening Rolls Qty Dia. (In.)		Pinch Rolls Qty Dia. (In.)		Speed Range (IPM)	AC Drive Motor (HP)	Input Power VAC/Phase/Hz
SS87HD	8	.030 – .200	7	3.15	4	3.15	0 – 900	5	230 / 3 / 60
SS127HD	12	.030 – .189							
SS167HD	16	.030 – .178							
SS207HD	20	.030 – .165							
SS257HD	25	.030 – .140							
SS327HD	32	.030 – .091							
SS407HD	40	.030 – .083							
SS507HD	50	.030 – .068							

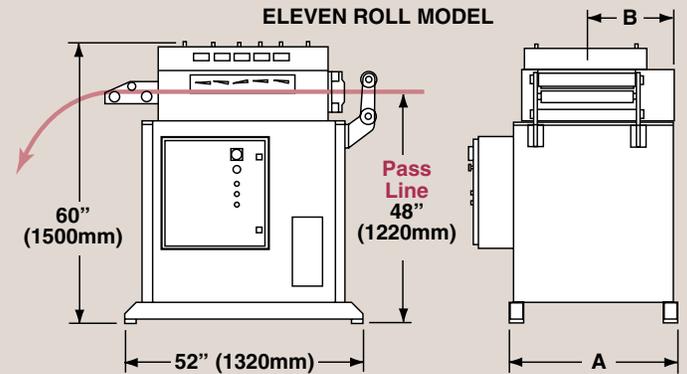
SPECIFICATIONS – METRIC

Model	Max. Stock Width (mm)	Stock Thickness Range (mm)	Straightening Rolls Qty Dia. (mm)		Pinch Rolls Qty Dia. (mm)		Speed Range (M/Min.)	AC Drive Motor (kW)	Input Power VAC/Phase/Hz
SS87HD	200	0.8 – 5.1	7	80	4	80	0 – 23	3.8	Specify When Ordering
SS127HD	300	0.8 – 4.8							
SS167HD	400	0.8 – 4.5							
SS207HD	500	0.8 – 4.2							
SS257HD	650	0.8 – 3.6							
SS327HD	800	0.8 – 2.3							
SS407HD	1015	0.8 – 2.1							
SS507HD	1270	0.8 – 1.7							

HEAVY DUTY STRAIGHTENERS with Larger Drive System



DIMENSIONS



DIMENSIONS – inches		
Model	A	B
SS87HDX	35	11
SS127HDX	35	13
SS167HDX	35	15
SS207HDX	35	17
SS257HDX	41	20
SS327HDX	45	23
SS407HDX	65	32
SS507HDX	77	35
SS1211HDX	35	15
SS2011HDX	35	17
SS2511HDX	41	20
SS3211HDX	45	23
SS4011HDX	65	32
SS5011HDX	77	35

DIMENSIONS – mm		
Model	A	B
SS87HDX	940	320
SS127HDX	940	370
SS167HDX	940	420
SS207HDX	940	470
SS257HDX	1041	545
SS327HDX	1143	620
SS407HDX	1346	720
SS507HDX	1651	869
SS1211HDX	940	420
SS2011HDX	940	470
SS2511HDX	1041	545
SS3211HDX	1143	620
SS4011HDX	1346	720
SS5011HDX	1651	869

SPECIFICATIONS – USA

Model	Max. Stock Width (In.)	Stock Thickness Range (In.)	Straightening Rolls		Pinch Rolls		Speed Range (IPM)	AC Drive Motor (HP)	Input Power VAC/Phase/Hz
			Qty	Dia. (In.)	Qty	Dia. (In.)			
SS87HDX	8	.030 – .256	7	3.15	4	3.15	0 – 900	7.5	230 / 3 / 60
SS127HDX	12	.030 – .236							
SS167HDX	16	.030 – .215							
SS207HDX	20	.030 – .205							
SS257HDX	25	.030 – .175							
SS327HDX	32	.030 – .125							
SS407HDX	40	.030 – .115							
SS507HDX	50	.030 – .090							
SS1211HDX	12	.023 – .189	11	80	4	80	0 – 23	5.6	Specify When Ordering
SS2011HDX	20	.023 – .165							
SS2511HDX	25	.023 – .140							
SS3211HDX	32	.023 – .090							
SS4011HDX	40	.023 – .083							
SS5011HDX	50	.023 – .068							

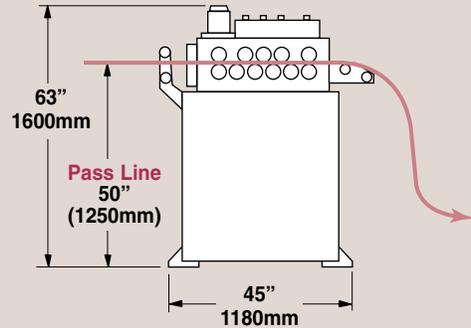
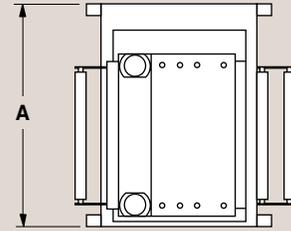
SPECIFICATIONS – METRIC

Model	Max. Stock Width (mm)	Stock Thickness Range (mm)	Straightening Rolls		Pinch Rolls		Speed Range (M/Min.)	AC Drive Motor (kW)	Input Power VAC/Phase/Hz
			Qty	Dia. (mm)	Qty	Dia. (mm)			
SS87HDX	200	0.8 – 6.5	7	80	4	80	0 – 23	5.6	Specify When Ordering
SS127HDX	300	0.8 – 6.0							
SS167HDX	400	0.8 – 5.5							
SS207HDX	500	0.8 – 5.2							
SS257HDX	650	0.8 – 4.4							
SS327HDX	800	0.8 – 3.2							
SS407HDX	1000	0.8 – 2.9							
SS507HDX	1300	0.8 – 2.3							
SS1211HDX	300	0.6 – 4.8	11	80	4	80	0 – 23	5.6	Specify When Ordering
SS2011HDX	500	0.6 – 4.2							
SS2511HDX	650	0.6 – 3.5							
SS3211HDX	800	0.6 – 2.3							
SS4011HDX	1000	0.6 – 2.1							
SS5011HDX	1300	0.6 – 1.7							

MAGNUM STRAIGHTENERS



DIMENSIONS



The Magnum Heavy Duty Straighteners are built to meet requirements for removing coil set from thicker, wider material. They have been designed to compliment the P/A Magnum Servo Roll Feeds.

Solid cast frame construction insures precise roll parallelism. There are seven oversized straightening rolls. The three upper rolls have independent height settings, with built-in dial display. Entrance and exit pinch rolls are standard with all the lower straightening and pinch rolls being driven. Pneumatic opening of the entrance pinch rolls is also included.

Entrance and exit support rolls are standard with fully adjustable exit cascade rolls available as an option. Vertical entrance guide rolls are provided with tee slots for ease of adjustment.

An Ultrasonic Loop Control is included to regulate material loop and speed.

DIMENSIONS – in.	
Model	A
SS300-7	39
SS500-7	43
SS650-7	48
SS800-7	54
SS1000-7	62
SS1300-7	74

DIMENSIONS – mm	
Model	A
SS300-7	980
SS500-7	1080
SS650-7	1230
SS800-7	1380
SS1000-7	1580
SS1300-7	1880

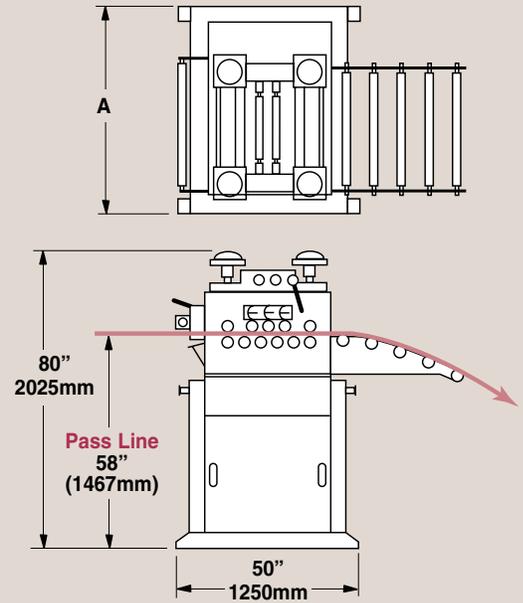
SPECIFICATIONS – USA									
Model	Max. Stock Width (In.)	Stock Thickness Range (In.)	Straightening Rolls		Pinch Rolls		Speed Range (IPM)	AC Drive Motor (HP)	Input Power VAC/Phase/Hz
			Qty	Dia. (In.)	Qty	Dia. (In.)			
SS300-7	12	.040 – .276	7	3.75	4	3.75	0 – 900	10	460 / 3 / 60
SS500-7	20	.040 – .236							
SS650-7	25	.040 – .196							
SS800-7	30	.040 – .165							
SS1000-7	40	.040 – .133							
SS1300-7	50	.040 – .118							

SPECIFICATIONS – METRIC									
Model	Max. Stock Width (mm)	Stock Thickness Range (mm)	Straightening Rolls		Pinch Rolls		Speed Range (M/Min.)	AC Drive Motor (kW)	Input Power VAC/Phase/Hz
			Qty	Dia. (mm)	Qty	Dia. (mm)			
SS300-7	300	1.0 – 7.0	7	95	4	95	0 – 23	7.5	Specify When Ordering
SS500-7	500	1.0 – 6.0							
SS650-7	650	1.0 – 5.0							
SS800-7	800	1.0 – 4.0							
SS1000-7	1050	1.0 – 3.4							
SS1300-7	1300	1.0 – 3.0							

EXTRA HEAVY DUTY STRAIGHTENERS



DIMENSIONS



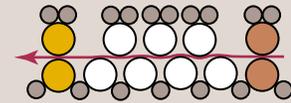
DIMENSIONS – in.			DIMENSIONS – mm		
Model	A		Model	A	
SS425-7X	45		SS425-7X	1150	
SS675-7X	55		SS675-7X	1400	
SS1025-7X	69		SS1025-7X	1750	
SS1325-7X	81		SS1325-7X	2050	
SS1525-7X	90		SS1525-7X	2290	

The Extra Heavy Duty Straightener is our most robust model built for removing coil set from thicker, wider material. This series compliments the Magnum X-Model Servo Roll Feeds.

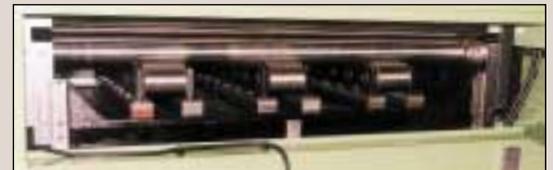
While the majority of the features and options are the same as the Magnum Straighteners, large 4 inch (100mm) diameter pinch & straightening rolls are backed up to provide the capacity for heavier applications.

The upper three straightening rolls are adjusted with ratchet handles. Roll settings are displayed on indicator dials provided or with optional digital display.

Ultrasonic loop control is included to regulate material loop and speed.



Backed-Up Straightening Rolls



SPECIFICATIONS – USA

Model	Max. Stock Width (In.)	Stock Thickness Range (In.)	Straightening Rolls		Number of Back Up Rolls for each Roll	Pinch Rolls		Speed Range (IPM)	AC Drive Motor* (HP)	Input Power VAC/Phase/Hz
			Qty	Dia. (In.)		Qty	Dia. (In.)			
SS425-7X	16	.050 – .295	7	4	1 Optional	4	4	0 – 900	20	460 / 3 / 60
SS675-7X	26	.050 – .255			1 Optional					
SS1025-7X	40	.050 – .196			3 Sets					
SS1325-7X	52	.050 – .157			3 Sets					
SS1525-7X	60	.050 – .150			5 Sets					

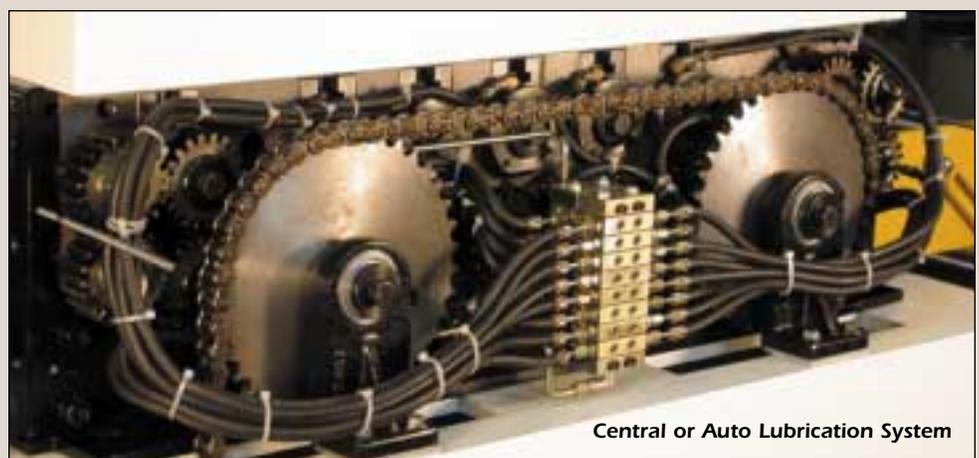
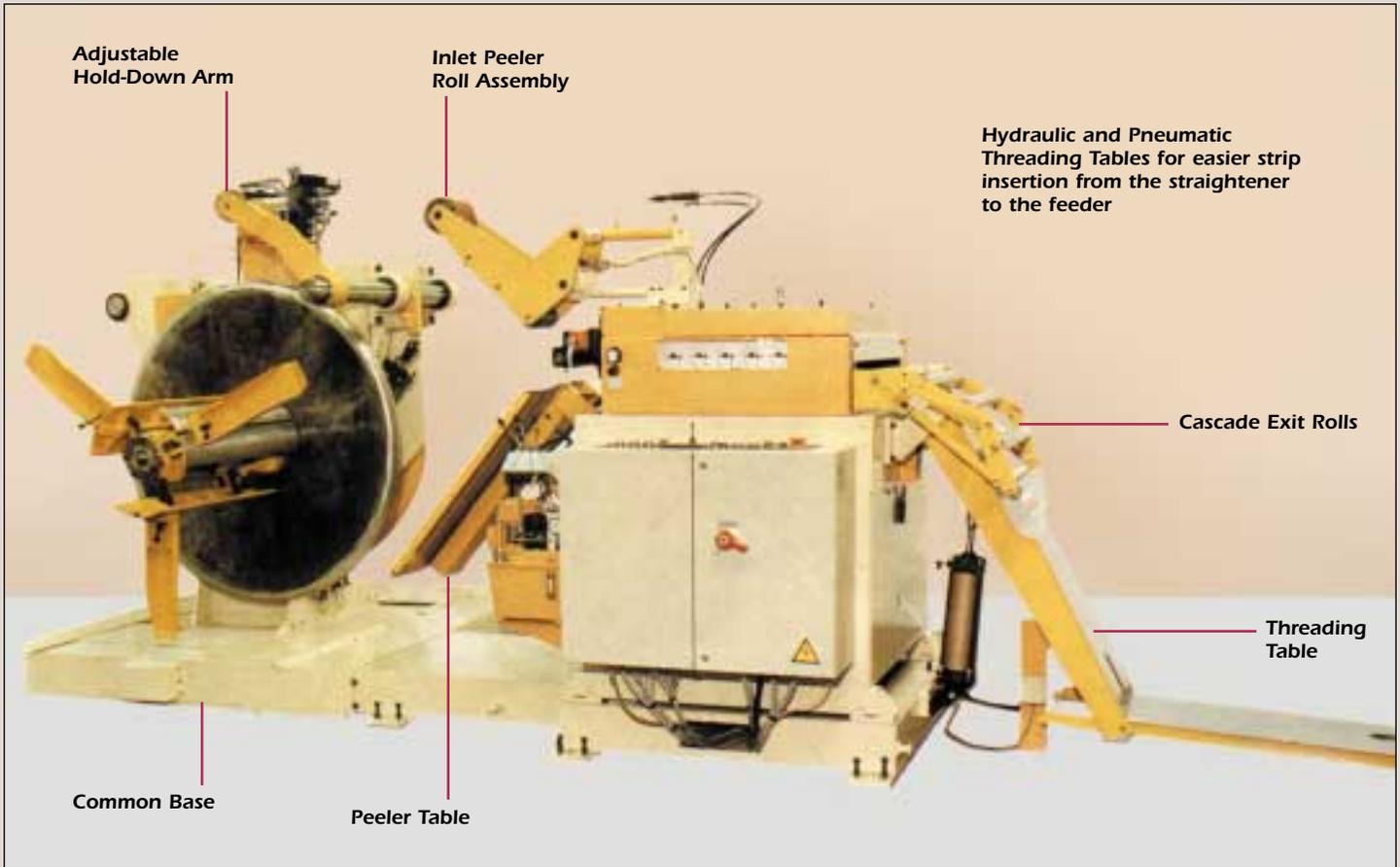
SPECIFICATIONS – METRIC

Model	Max. Stock Width (mm)	Stock Thickness Range (mm)	Straightening Rolls		Number of Back Up Rolls for each Roll	Pinch Rolls		Speed Range (M/Min.)	AC Drive Motor* (kW)	Input Power VAC/Phase/Hz
			Qty	Dia. (mm)		Qty	Dia. (mm)			
SS425-7X	425	1.2 – 7.5	7	100	1 Optional	4	100	0 – 23	15	Specify When Ordering
SS675-7X	675	1.2 – 6.5			1 Optional					
SS1025-7X	1025	1.2 – 5.0			3 Sets					
SS1325-7X	1325	1.2 – 4.0			3 Sets					
SS1525-7X	1525	1.2 – 3.8			5 Sets					

Note: Maximum material capacity for narrower widths 3/8" (9.5mm).

*Larger HP Drives are available.

STRAIGHTENER OPTIONS





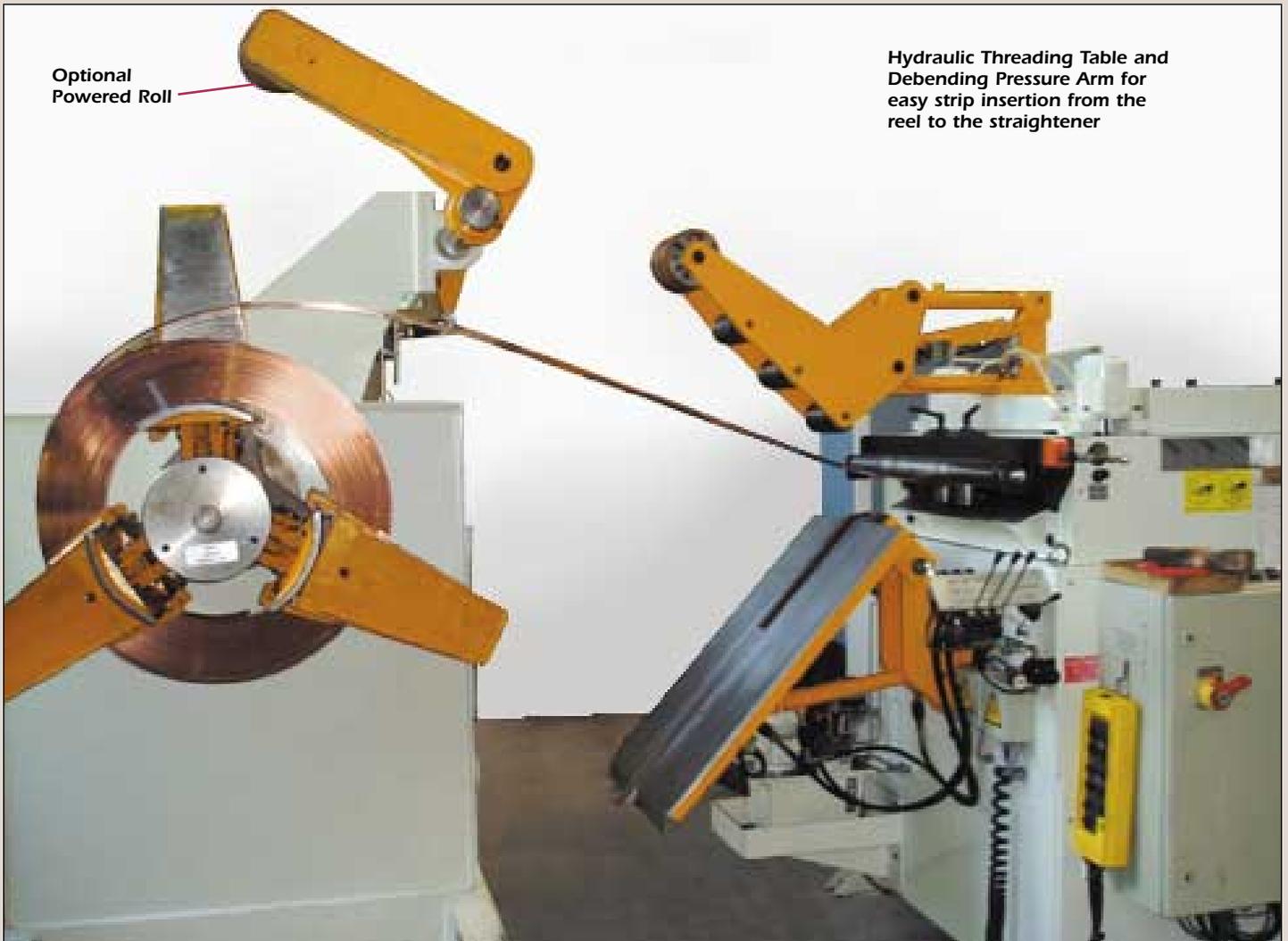
Inclined Head for better material transition



Pneumatic Flip Open Head for easy cleaning



Threading Peeler for easy strip insertion without handling the material. Pneumatic and hydraulic models are available.



Optional Powered Roll

Hydraulic Threading Table and Debending Pressure Arm for easy strip insertion from the reel to the straightener

REEL-STRAIGHTENER-FEEDER

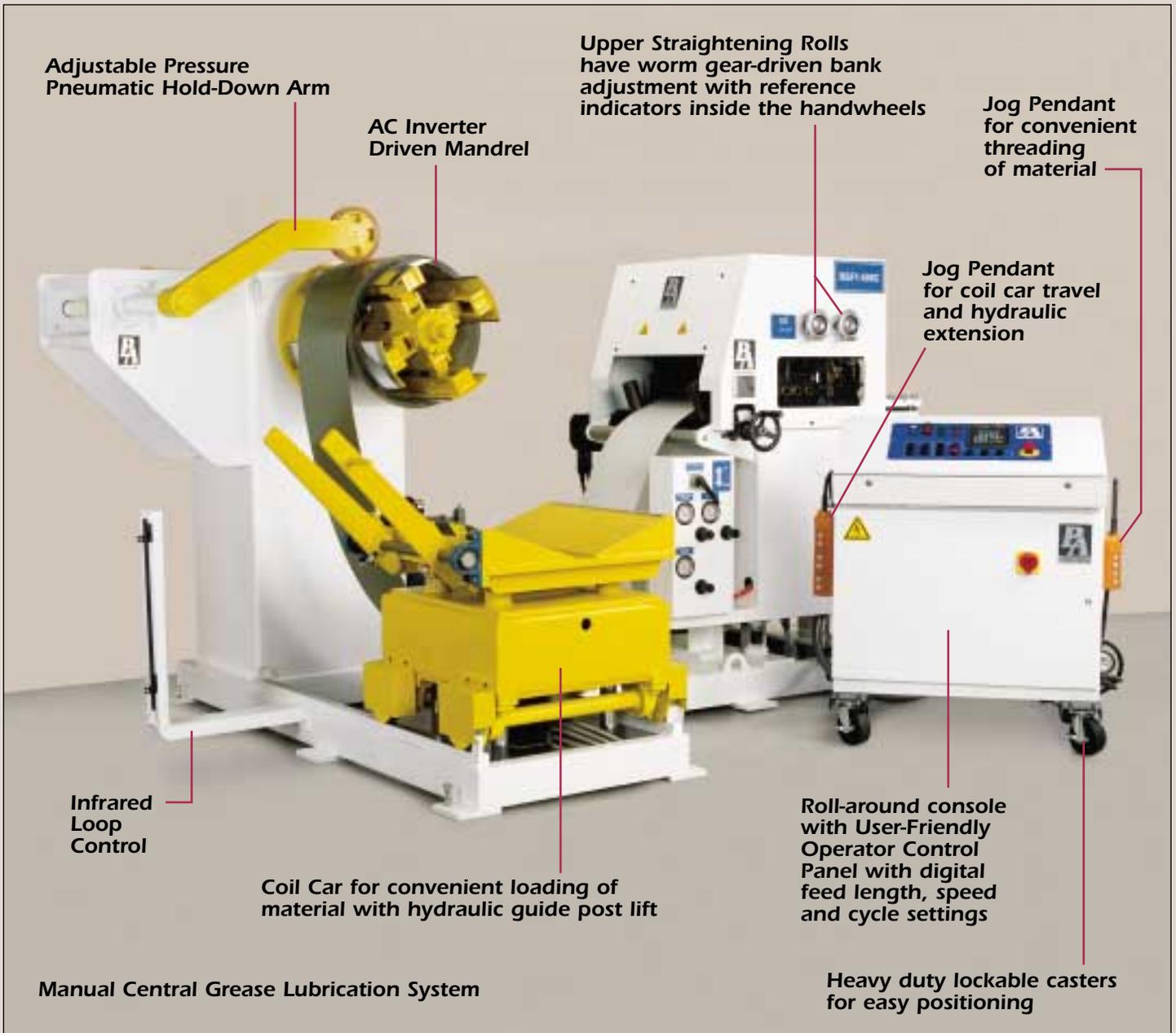
The P/A Model RSF Combination Reel-Straightener-Feeder is designed to be high performance, as well as space saving. This system, complete with coil car, is designed within a compact, floor-saving footprint. It combines simple operation with safety, easy maintenance and efficient automatic feeding.



Allen Bradley Controls with self-diagnostic error message display



Handwheel, self-centering material roller, edge guides and separate stock position adjustment



Adjustable Pressure Pneumatic Hold-Down Arm

AC Inverter Driven Mandrel

Upper Straightening Rolls have worm gear-driven bank adjustment with reference indicators inside the handwheels

Jog Pendant for convenient threading of material

Jog Pendant for coil car travel and hydraulic extension

Infrared Loop Control

Coil Car for convenient loading of material with hydraulic guide post lift

Roll-around console with User-Friendly Operator Control Panel with digital feed length, speed and cycle settings

Manual Central Grease Lubrication System

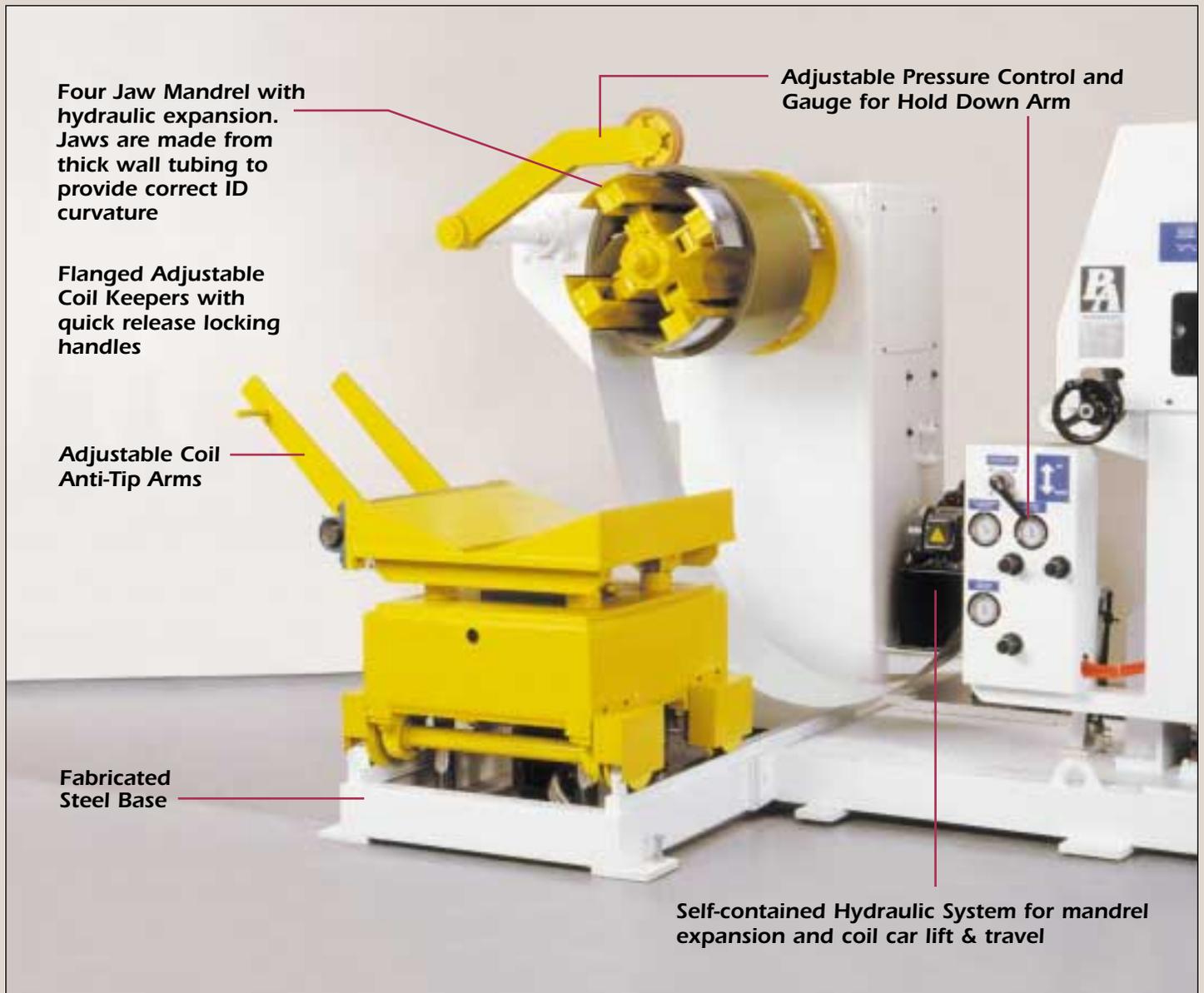
Heavy duty lockable casters for easy positioning

REEL-STRAIGHTENER-FEEDER

- Synchronized Dual Shaft Drive Design greatly reduces backlash, improves torque distribution and minimizes strip marking.
- Pneumatic Pilot Release of Straightening Rolls with spring pressure dampening to reduce material marking.



- Straightening Head Assembly designed with convenient flip top opening for cleaning rolls
- Straightening Rolls are hardened to Rockwell C60 with ground chrome finish and supported in a rugged frame with roller bearings for maximum strength and long life
- Servo Feed Rolls are larger in diameter with separate twin pneumatic cylinders for rapid pilot release



Four Jaw Mandrel with hydraulic expansion. Jaws are made from thick wall tubing to provide correct ID curvature

Flanged Adjustable Coil Keepers with quick release locking handles

Adjustable Coil Anti-Tip Arms

Fabricated Steel Base

Adjustable Pressure Control and Gauge for Hold Down Arm

Self-contained Hydraulic System for mandrel expansion and coil car lift & travel

REEL-STRAIGHTENER-FEEDER

Designed as a complete floor saving system, the RSF Models are the ultimate space-saving, material-handling and feeding systems available anywhere.

From loading of the coil onto the reel mandrel, threading into the straightener and feeding into the press, this total engineered system most efficiently handles coil processing in the absolute minimum of floor space.

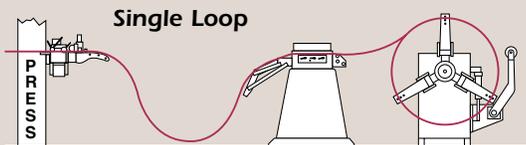
Allen Bradley PLC and electrical controls manage all the functions and provide one operator with a complete and easy way to load, straighten, feed and monitor coil processing and production.

Examine the conventional floor space requirements below and compare with the RSF systems.

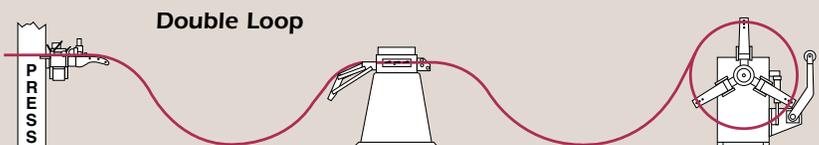
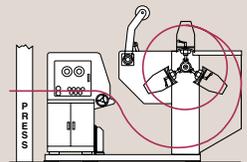


CONVENTIONAL PRESSROOM LAYOUTS

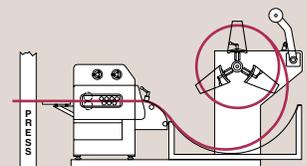
P/A RSF SYSTEM



Maximum floor space
for material
up to
.065"
(1.6mm)

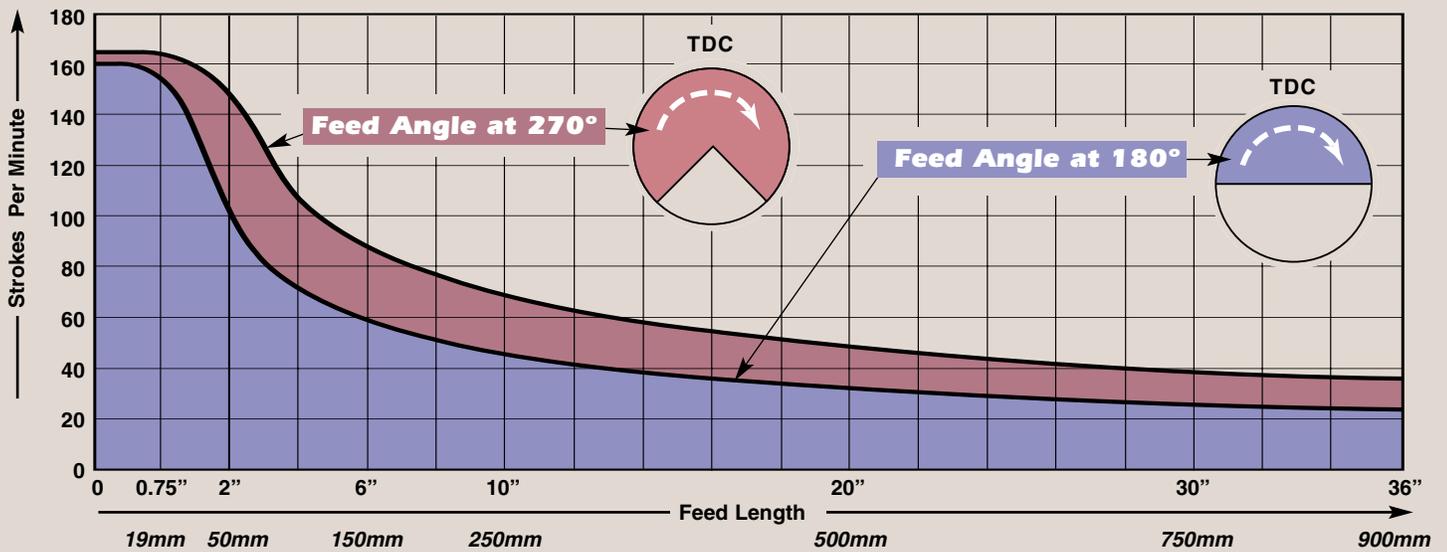


Maximum
floor space
for material
up to
.128"
(3.2mm)



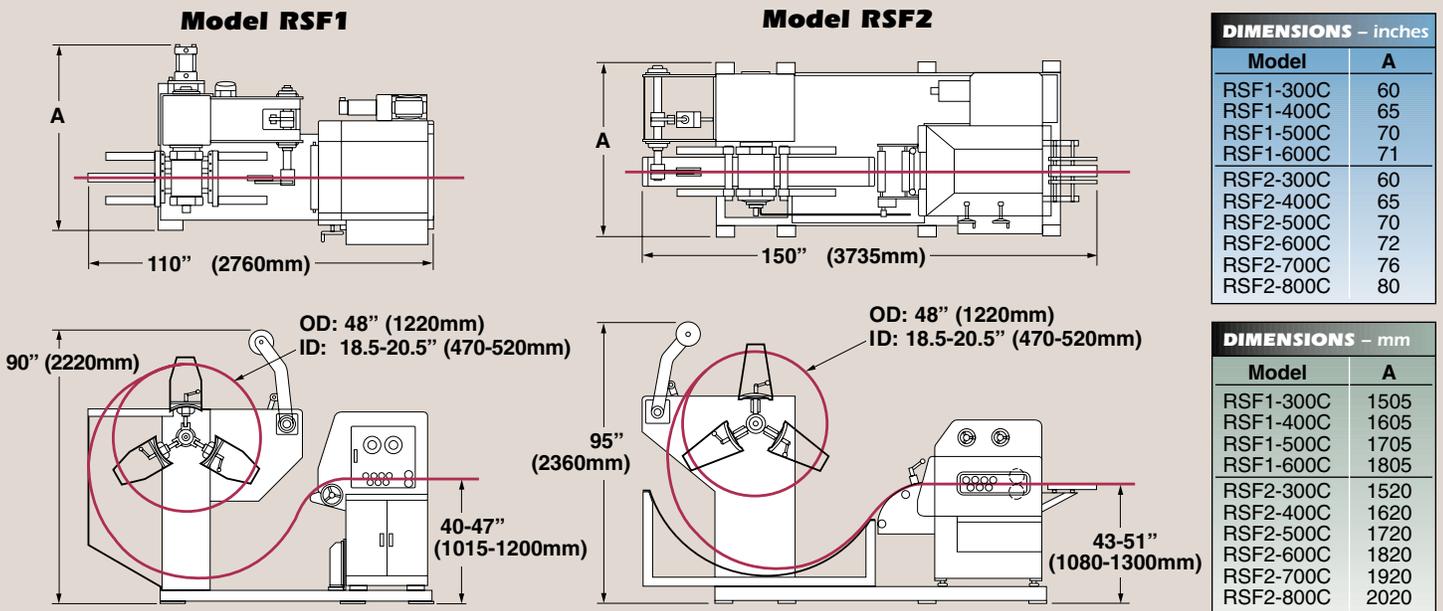
REEL-STRAIGHTENER-FEEDER SPECIFICATIONS

SAFE WORKING SPEEDS AT VARYING LENGTHS



Performance data shown is for estimating purposes only. Production rates and capacities are dependent upon feed length and material. Consult P/A for specific application needs.

DIMENSIONS



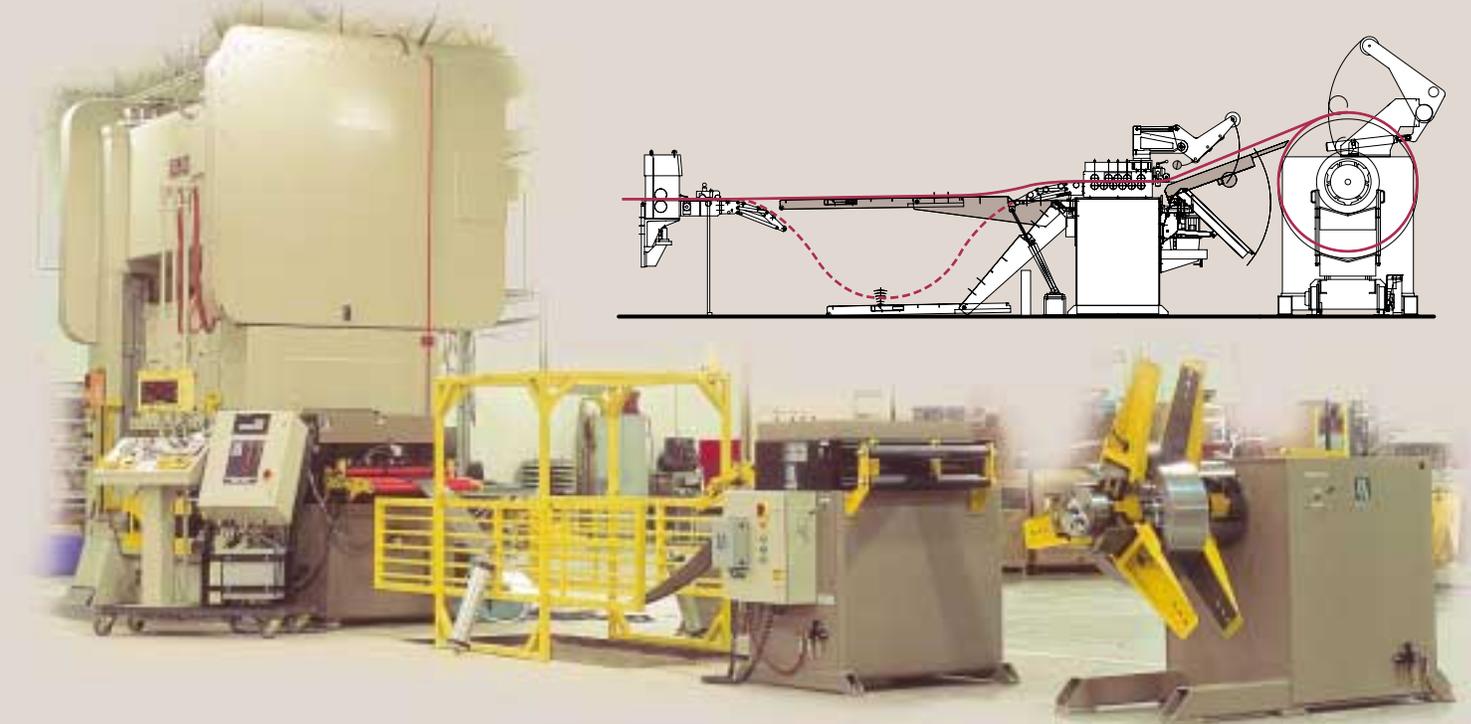
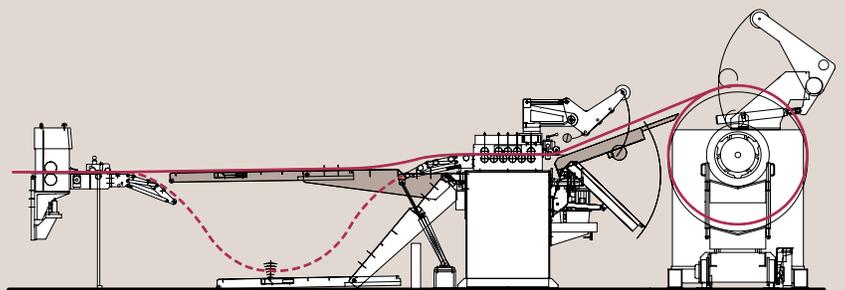
DIMENSIONS - inches	
Model	A
RSF1-300C	60
RSF1-400C	65
RSF1-500C	70
RSF1-600C	71
RSF2-300C	60
RSF2-400C	65
RSF2-500C	70
RSF2-600C	72
RSF2-700C	76
RSF2-800C	80

DIMENSIONS - mm	
Model	A
RSF1-300C	1505
RSF1-400C	1605
RSF1-500C	1705
RSF1-600C	1805
RSF2-300C	1520
RSF2-400C	1620
RSF2-500C	1720
RSF2-600C	1820
RSF2-700C	1920
RSF2-800C	2020

SPECIFICATIONS - USA							
Model	Stock Width Range (in.)	Stock Thickness Range (in.)	Coil Weight (lbs.)	AC Power Input			
				V	Ph	Hz A	
RSF1-300C	2.2 - 12	.012 - .128	4500	230	3	60	30
RSF1-400C	2.2 - 16						
RSF1-500C	2.2 - 20						
RSF1-600C	2.2 - 24						
RSF2-300C	2 - 12	.012 - .177	4500	230	3	60	30
RSF2-400C	2 - 16						
RSF2-500C	2 - 20						
RSF2-600C	2 - 24						
RSF2-700C	2 - 28						
RSF2-800C	2 - 32						

SPECIFICATIONS - METRIC							
Model	Stock Width Range (mm)	Stock Thickness Range (mm)	Coil Weight (kg)	AC Power Input			
				V	Ph	Hz A	
RSF1-300C	50 - 300	0.3 - 3.2	2000	230	3	50	30
RSF1-400C	50 - 400						
RSF1-500C	50 - 500						
RSF1-600C	50 - 600						
RSF2-300C	50 - 300	0.3 - 4.5	2000	230	3	50	30
RSF2-400C	50 - 400						
RSF2-500C	50 - 500						
RSF2-600C	50 - 600						
RSF2-700C	50 - 700						
RSF2-800C	50 - 800						

SYSTEMS





LOOP CONTROL

The ON/OFF dancer arms normally furnished on your older constant speed cradles, reels, or straighteners may not provide the necessary loop required for long feed or higher speed applications. The bouncing dancer arms often dent, scratch, and crease delicate, prepainted, or highly polished stock. This causes press downtime and rejected parts. To address this problem, P/A offers two inexpensive solutions: the LC-2 and LC-3. Retrofit your existing equipment with either model.

The LC-2 is an ON/OFF electronic limit switch that senses vertical movement in a slack loop of conductive material. Spring probes maintain smooth stock delivery between the adjustable upper and lower limits.

The LC-3 is a proportional loop control designed to interface with a variable speed AC or DC Drive. The Drive changes speed automatically in response to signals from the touch probes for smoother payoff and take-up. No operator intervention is required after the initial set-up. The LC-3 can also be converted to a no-touch sensor system with the use of proximity sensors, which are available upon request.

STOCK DETECTOR

The P/A Stock Detector reduces die breakage and machine downtime by using a resistance-sensing controller to monitor material position as it enters the press or moves through the die. Stock buckling, run-out, and misfeeds are detected before a serious problem develops.

The low voltage controller allows the Detector to be used in areas where limit switches, operating at line voltage, are dangerous to personnel.

The Stock Detector operates through customer-supplied contact sensors or probes to signal either an Emergency Stop or Top Stop of the press. P/A will help you select the probes and sensors best suited to your application. Prevent the smash-up of **one** die and this sensor pays for itself.

NO TOUCH SENSORS

Any one of the P/A motorized Stock Reels or Straighteners can be equipped with an electronic sensing system that detects material position without physically touching it. These non-contact control systems permit smooth acceleration, deceleration, and braking throughout the reel's speed range, as well as maintaining constant torque/ tension characteristics. These sensors are ideal for the rewinding of lead frame, connectors, or payoff of delicate, thin, and highly polished material applications.

RF SYSTEM

The RF System uses a shielded antenna and a radio frequency field to sense conductive material. As the loop changes height, the radio signal changes in response. This causes the solid state circuitry to instantly adjust the variable DC Drive of the Reel or Straightener to maintain a constant loop. The RF is not susceptible to ultrasonic interference which makes it an attractive alternative to sonar sensing systems.



ULTRASONIC

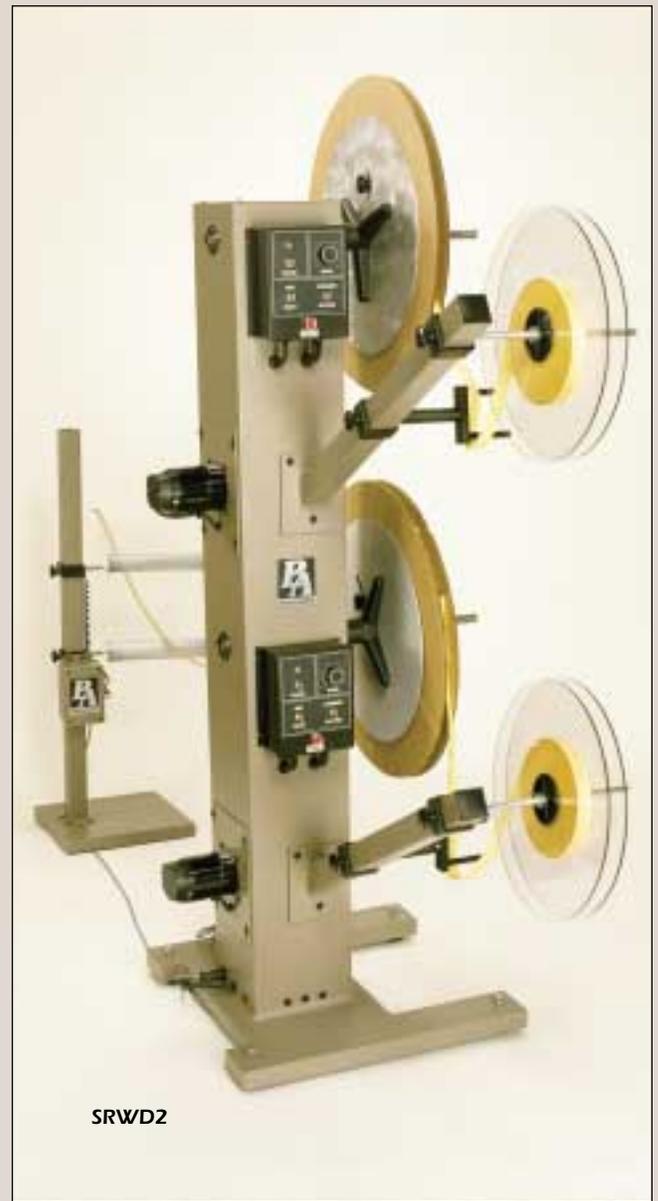
The UltraSonic Loop Control utilizes sonar, or "echo location", to determine and maintain a constant loop height. The adjustable sensor head bounces controlled, coded bursts of high frequency sound off the lowest point in the strip. It then measures the echo distance and adjusts the operating speed of the Reel or Straightener.

The micro-processor-based control eliminates signal drift, while the coded sound bursts reject interfering sound waves.

The UltraSonic gives the operator the flexibility of using the longer loops required when stamping long progressions. It is a highly accurate and sophisticated way to monitor both conductive and non-conductive material.



REWIND REELS



Custom designs are our specialty.

P/A Rewind Reels were designed for the electronics industry to handle delicate, prefinished or stamped materials without stretching, deforming, or in any way damaging the strip to be rewound.

Low voltage (less than 12 volts) antennas sense material position and signal the smoothly accelerating/ decelerating DC Drive to maintain a predetermined loop. A solid state controller allows the operator to set the speed to suit press/feed conditions and spool rotation.

The drive plate is slotted to accommodate different size spool drive pins and a quick release outer hub supports the spool. The pivoted tension/tuning fork and spring loaded paper interleaf holder provides the right amount of drag tension to ensure correct paper material wrap.

The compact modular construction reduces floor space and accommodates a variety of different configurations to suit your particular production needs.

Longer drive mandrels will accept multiple spools or provide offset staggered stock paths to keep material separated.

Available options include spool spreaders to maintain cardboard spool openings, and emergency stock detectors to shut down the press in case of taut loop conditions.

Magnetic Brakes can be added for tension control of paper.

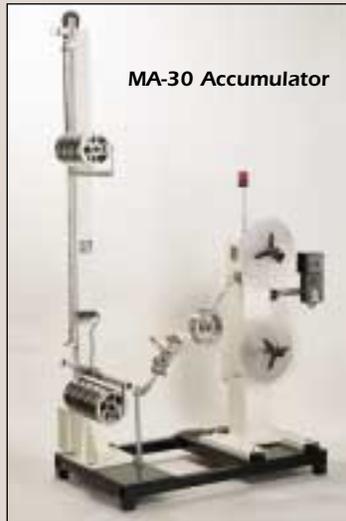
The Dual unit is equipped with a Loop Control to handle single strip rewind operations with an empty spool always ready for material when the first spool fills up. This is normally used when production wants the high speed press to be kept running, so changeover from one spool to the other can be accomplished on the fly.

Two-Out Die applications are accommodated by dual control models with two LC-2 Loop Controls. Two spools are rewound simultaneously and individually controlled.

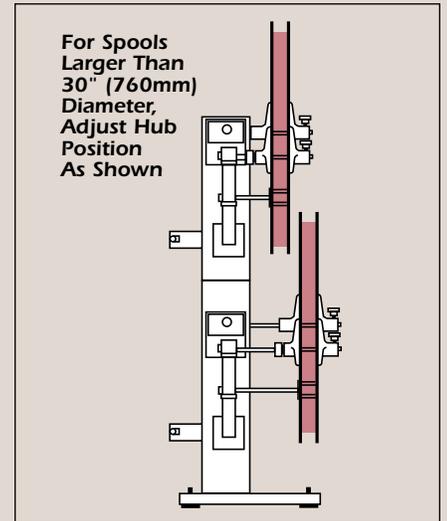
The proportional speed LC-3 Loop Control, UltraSonic Sonar Sensing System, and RF System can be supplied for other Loop System applications.



SRWD2



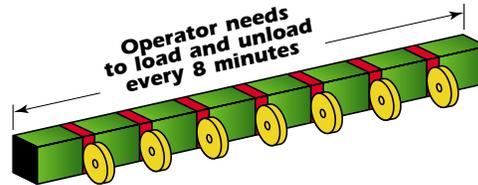
MA-30 Accumulator



TYPICAL PRODUCTION WITH SPOOL CHANGES

Example:

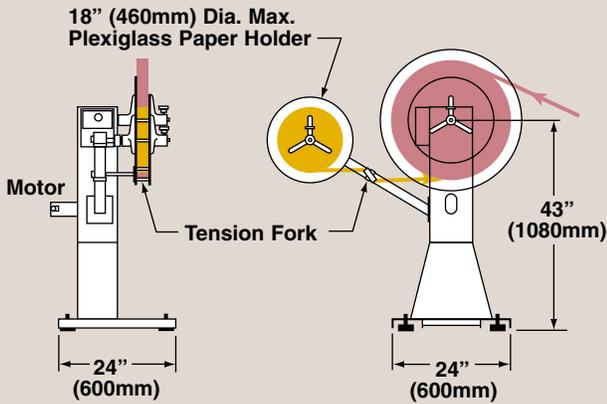
- 650 spm with 650 parts per minute.
- 24" diameter spool fills up in 8 minutes.
- Approximately 2 minutes to unload and load each spool.



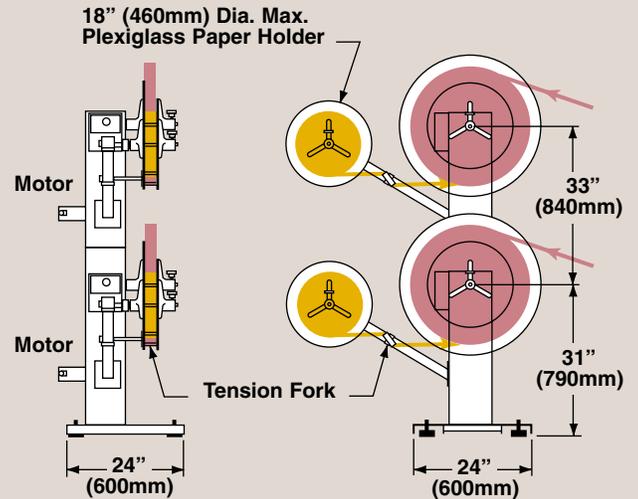
- Production
- Downtime
- Unload (1) Filled Spool Load (1) Empty Spool Thread Paper & Strip

DIMENSIONS

Model SRWD



Model SRWD2



SPECIFICATIONS – USA

Model	Max. Spool Weight (Lbs.)	Max. Strip Width (In.)	Shaft Dia. (In.)	Max. Spool OD (In.)	Speed Range (RPM)	DC Drive Motor (HP)	Input Power VAC/Ph/Hz	Number of Motors	Number of Controls	Spool Shafts	Stock Sensors
SRWD	75	3	.75	30	0 – 50	1/8	120 / 1 / 60	1	1	1	1
SRWD2								2	1	2	1
SRWD2/2LC								2	2	2	2

SPECIFICATIONS – METRIC

Model	Max. Spool Weight (Kg)	Max. Strip Width (mm)	Shaft Dia. (mm)	Max. Spool OD (mm)	Speed Range (RPM)	DC Drive Motor (kW)	Input Power VAC/Ph/Hz	Number of Motors	Number of Controls	Spool Shafts	Stock Sensors
SRWD	34	75	19	760	0 – 50	0.1	Specify When Ordering	1	1	1	1
SRWD2								2	1	2	1
SRWD2/2LC								2	2	2	2

Consult factory for higher speeds.

Custom Configurations available.



Increased productivity is the motivation behind the introduction of entry-level automation. These compact, high-speed units perform automated reel changes based on a pre-programmed number of parts per pancake reel without stopping the press. This makes them ideally

suited for continuous stamping, plating and molding operations.

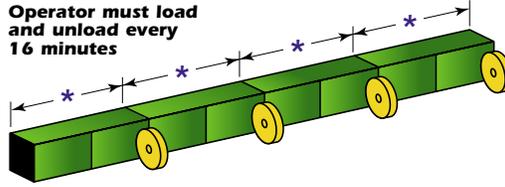
Increasing your process run-time with automated reel changes will allow you to realize a return on investment from 6 months to one year.

TYPICAL PRODUCTION WITH SPOOL CHANGES

Example:

- 650 spm with 650 parts per minute.
- 24" diameter spool fills up in 8 minutes.
- Approximately 2 minutes to unload and load each spool.

Operator must load and unload every 16 minutes



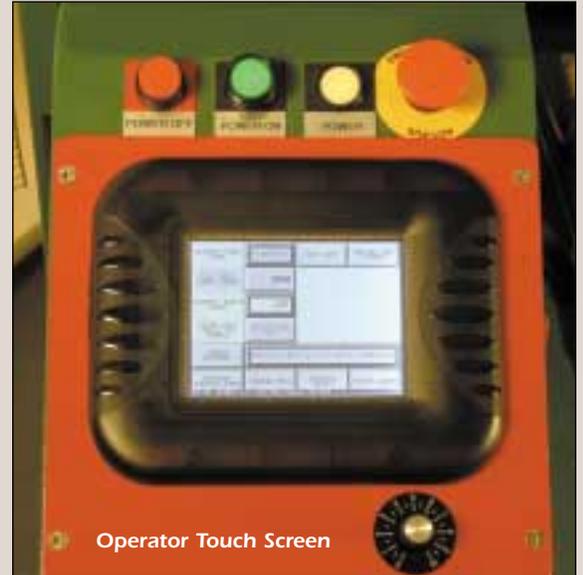
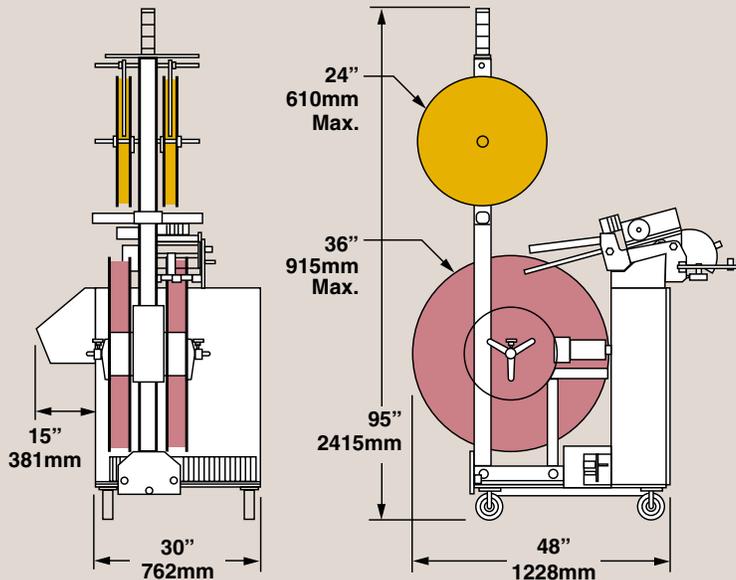
- Production
- Spool Changeover

* Unload (2) filled spools, load (2) empty spools, thread paper every 16 minutes

STANDARD FEATURES

- Motorized and width adjustable material chute
- Locking casters for positioning and movement
- Sample part ejection & storage tray
- High speed parts counter integrated into PLC
- Adjustable drag brake to maintain paper tension
- Non-Contact Infrared Loop Control
- Tight Loop Safeguard System
- Light Tower provides a visual indication of line status
- Recipe and Job Storage
- Touch-screen operator control interface
- Reduced and simplified set-up
- Underwind/Overwind Standard

DIMENSIONS



Operator Touch Screen



Overwind and Underwind Feed Head with Material Chute and pneumatic cutter for sample tray

SPECIFICATIONS – USA

Model	Number of Reels	Max. Strip Width ⁽¹⁾ (In.)	Max. Pancake Spool Width (In.)	Max. Pancake Spool O.D. (2) (In.)	Max. Paper Coil O.D. (In.)	Shaft Dia. ⁽²⁾ (In.)	Max. Winding Speed (IPM)**	Number of Winding Motors	DC Drive Motor (HP)	Power Required ⁽³⁾ VAC/Phase/Hz
WR 36-2E	2	3.5	5	36	24	.78	980	1	1/4	120 / 1 / 60

SPECIFICATIONS – METRIC

Model	Number of Reels	Max. Strip Width ⁽¹⁾ (mm)	Max. Pancake Spool Width (mm)	Max. Pancake Spool O.D. (1) (mm)	Max. Paper Coil O.D. (mm)	Shaft Dia. ⁽²⁾ (mm)	Max. Winding Speed (MPM)**	Number of Winding Motors	DC Drive Motor (KW)	Power Required VAC/Phase/Hz
WR 36-2E	2	90	125	915	600	20	25	1	.2	Specify

(1) Max stock width is influenced by the thickness of the outer flanges.

(2) Consult factory for larger diameters. (3) Specify when ordering. Consult factory for higher voltages.

**Speed at 6" (150mm) core.

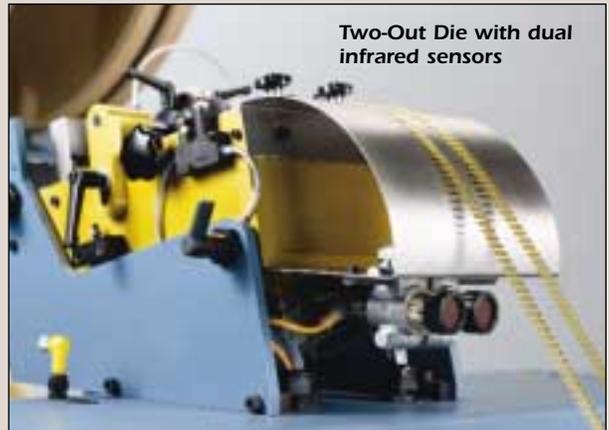
AUTOMATIC REWIND EQUIPMENT WR 36-4



P/A Automatic Winding Equipment incorporates high-quality design and components to make these units virtually maintenance free. Welded steel construction provides long term rigidity and stability while lockable casters provide ease of movement and positioning.

All of the WR Series of Automated Winders are designed for easy set-up and quick changeover between jobs. Job storage and Numerically Controlled reel positioning have been added to decrease this changeover time. The standard operator interface is Siemens. Consult factory for Allen-Bradley, Mitsubishi and others. Operator interaction has been cut to a minimum. Mechanical settings that remain are limited to material width and adjustment of parts counting location.

These units automatically fill each pancake reel with material and will index from full reel to empty reel, as well as wrap the full with interleaf in preparation for removal. Between each reel change a sample can be automatically cut and ejected without stopping the process. The reel change process repeats itself indefinitely – as long as full reels are removed and empty reels are replaced. A three tiered light tower provides a visual indication of the process lines status.



Two-Out Die with dual infrared sensors



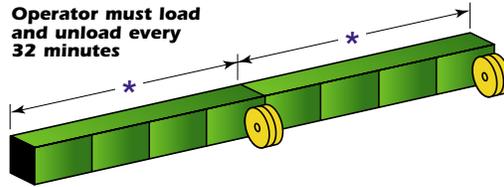
Material strip is stabilized prior to the parts counting sensor and entry into the pancake reel.

TYPICAL PRODUCTION WITH SPOOL CHANGES

Example:

- 650 spm with 650 parts per minute.
- 24" diameter spool fills up in 8 minutes.
- Approximately 2 minutes to unload and load each spool.

Operator must load and unload every 32 minutes



Production

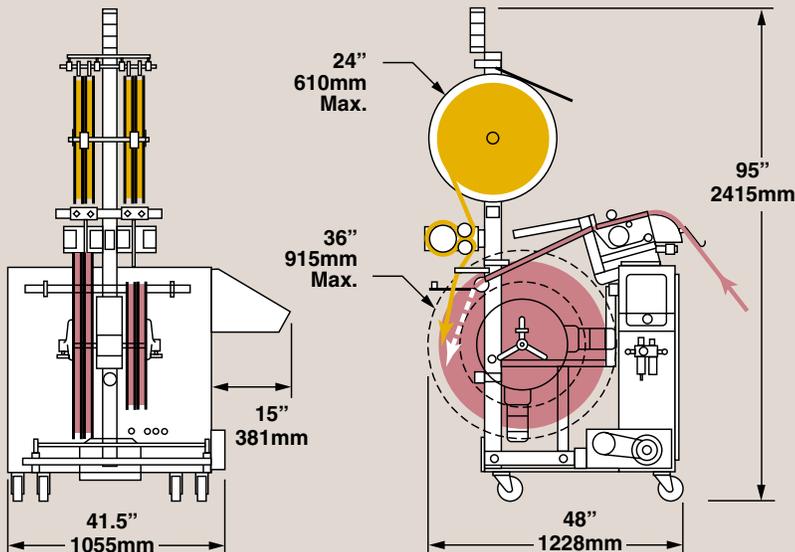
Spool Changeover

* Unload (4) filled spools, load (4) empty spools, thread paper every 32 minutes

STANDARD FEATURES

- Numerically-Controlled Reel positioning
- Width adjustable material chute
- Remote Service available via modem
- Locking casters for positioning and movement
- Sample part ejection & storage tray
- High-speed parts counter integrated into PLC
- Adjustable drag brake to maintain paper tension
- Non-Contact Infrared Loop Control
- Tight Loop Safeguard System
- Light Tower provides a visual indication of line status
- Recipe and Job Storage
- Larger, easier-to-read control interface
- Reduced and simplified set-up
- CE conformity
- Underwind/Overwind option available

DIMENSIONS



WR36-4 with Accumulator

SPECIFICATIONS – USA

Model	Number of Reels	Max. Strip Width ⁽¹⁾ (In.)	Max. Pancake Spool Width (In.)	Max. Pancake Spool O.D. ⁽²⁾ (In.)	Max. Paper Coil O.D. (In.)	Shaft Dia. ⁽²⁾ (In.)	Max. Winding Speed (IPM)**	Number of Winding Motors	DC Drive Motor (HP)	Power Required ⁽³⁾ VAC/Phase/Hz
WR 36-2	2	5	7					1		
WR 36-4	4	3.25	3.5	36	24	.78	980	2	1/4	120 / 1 / 60
WR 36-4D	4	2.10	3.5					2		

SPECIFICATIONS – METRIC

Model	Number of Reels	Max. Strip Width ⁽¹⁾ (mm)	Max. Pancake Spool Width (mm)	Max. Pancake Spool O.D. ⁽¹⁾ (mm)	Max. Paper Coil O.D. (mm)	Shaft Dia. ⁽²⁾ (mm)	Max. Winding Speed (MPM)**	Number of Winding Motors	DC Drive Motor (KW)	Power Required VAC/Phase/Hz
WR 36-2	2	125	180					1		
WR 36-4	4	90	90	915	600	20	25	2	.2	Specify
WR 36-4D	4	50	90					2		

(1) Max stock width is influenced by the thickness of the outer flanges.

(2) Consult factory for larger diameters. (3) Specify when ordering. Consult factory for higher voltages.

**Speed at 6" (150mm) core.

AUTOMATIC REWIND EQUIPMENT WR36-10



Lower your Man-to-Machine Ratios or run unattended with up to 10 reels of Automated Winding.

Incorporating the same high-quality features found on all of the P/A Automated Winders, the WR36-10 models are ideal for long running or fast running production lines. Six- and eight-spool models are available with single or dual strip winding. These multi-reel machines will allow personnel increased time to make quality inspections or to service multiple production lines.

The Feeding Head and the Loop Sensors are the heart of the automated winding process. Once the strip is controlled it can be wound with precision. A light tower provides visual indication of line status

These machines will keep your process line running and improve your productivity. Customers report productivity increases of 30 to 40 percent.



The same-side load and unload feature of this Automated Winder helps to improve material handling in tightly packed press shop environments.



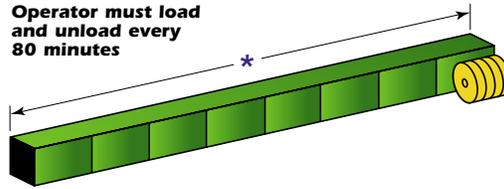
Loading of empty spools and removal of filled pancake spools are done by one operator. Interleaf material is loaded on a swiveldown holder assembly for easy set-up.

TYPICAL PRODUCTION WITH SPOOL CHANGES

Example:

- 650 spm with 650 parts per minute.
- 24" diameter spool fills up in 8 minutes.
- Approximately 1 minute to unload and load each spool.

Operator must load and unload every 80 minutes



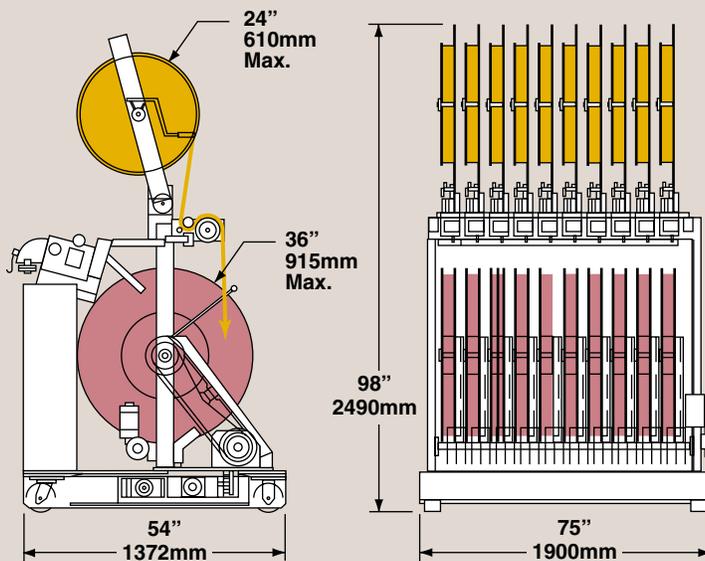
- Production
- Spool Changeover

* Unload (10) filled spools, load (10) empty spools, thread paper every 80 minutes

STANDARD FEATURES

- Servo-Controlled Reel Positioning
- Motorized and width adjustable material chute
- Sample part ejection & storage tray
- High-speed parts counter integrated into PLC
- Adjustable drag brake to maintain paper tension
- Non-Contact Infrared Loop Control
- Tight Loop Safeguard System
- Recipe and Job Storage
- Touch-screen operator control interface
- Reduced and simplified set-up
- Underwind/Overwind Optional

DIMENSIONS



SPECIFICATIONS – USA

Model	Number of Reels	Max. Strip Width ⁽¹⁾ (In.)	Max. Pancake Spool Width (In.)	Max. Pancake Spool O.D. ⁽²⁾ (In.)	Max. Paper Coil O.D. (In.)	Shaft Dia. ⁽²⁾ (In.)	Max. Winding Speed (IPM) **	Number of Winding Motors	DC Drive Motor (HP)	Power Required ⁽³⁾ VAC/Phase/Hz
WR 36-8	8	3.0	3.5	36	24	.78	980	1	1/4	120 / 1 / 60
WR 36-10	10	2.25	2.6	36	24	.78	980	1	1/4	120 / 1 / 60

SPECIFICATIONS – METRIC

Model	Number of Reels	Max. Strip Width ⁽¹⁾ (mm)	Max. Pancake Spool Width (mm)	Max. Pancake Spool O.D. ⁽¹⁾ (mm)	Max. Paper Coil O.D. (mm)	Shaft Dia. ⁽²⁾ (mm)	Max. Winding Speed (MPM) **	Number of Winding Motors	DC Drive Motor (KW)	Power Required VAC/Phase/Hz
WR 36-8	8	75	90	915	600	20	25	1	.2	Specify
WR 36-10	10	60	65	915	600	20	25	1	.2	Specify

(1) Max stock width is influenced by the thickness of the outer flanges.

(2) Consult factory for larger diameters. (3) Specify when ordering. Consult factory for higher voltages.

**Speed at 6" (150mm) core.

TURRET WINDER TWR 24-3



The TWR 24-3 Turret Winder is a 24 inch, 3 station, automatic material winding machine capable of continuous operation when assisted by an operator.

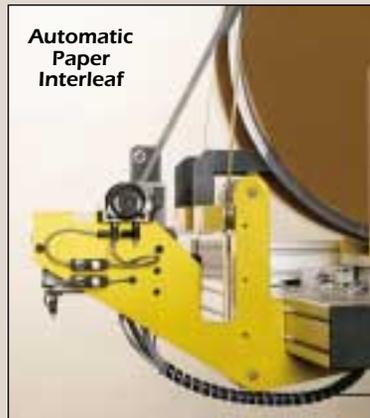
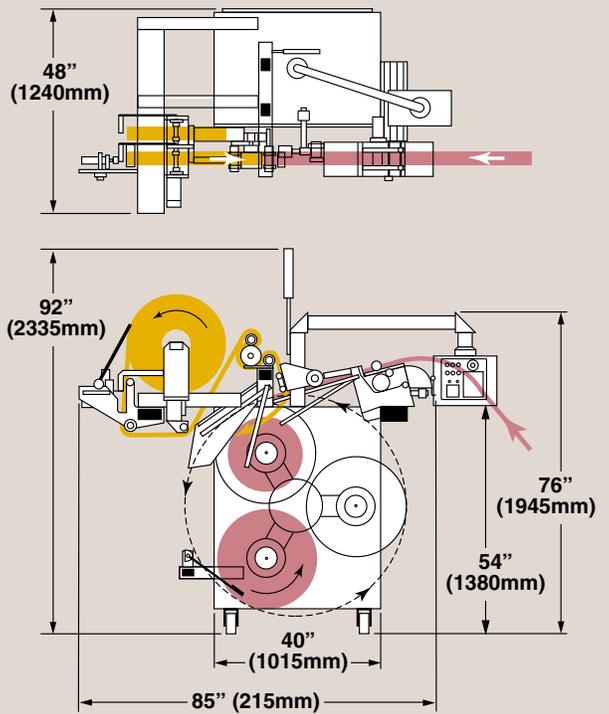
This machine is designed to automatically “pancake” wind predetermined quantity of strip components onto each spool with paper interleaf.

The paper is automatically dispensed, cut and taped to each spool without operator intervention.

Standard design features include: high-speed electronic counter, programmable index cutting, adjustable light beam terminal counter, adjustable material guides, pneumatically operated material cutter, adjustable material chutes and fully integrated automatic paper interleaf system.

Compact, portable and proven design enables installation even in the most demanding production environments.

DIMENSIONS



SPECIFICATIONS – USA								
Model	Max. Spool Wt (Lbs.)	Max. Strip Width (In.)	Max. Spool Dia.* (In.)	Max. Thickness (In.)	Max. Speed** (FPM)	Take-up Shaft (In.)	Number Turret Stations	Power Required VAC/Ph/Hz
TWR 24-3	75	2.5	24	.030	90	0.78	3	115 / 1 / 60

SPECIFICATIONS – METRIC								
Model	Max. Spool Wt (Kg)	Max. Strip Width (mm)	Max. Spool Dia.* (mm)	Max. Thickness (mm)	Max. Speed** (MPM)	Take-up Shaft (mm)	Number Turret Stations	Power Required VAC/Ph/Hz
TWR 24-3	34	65	600	.75	27	20	3	Specify

*Consult factory for larger spool applications. **Speed at 6" (150mm) core.

AUTOMATIC TURRET WINDER TWR 24-50



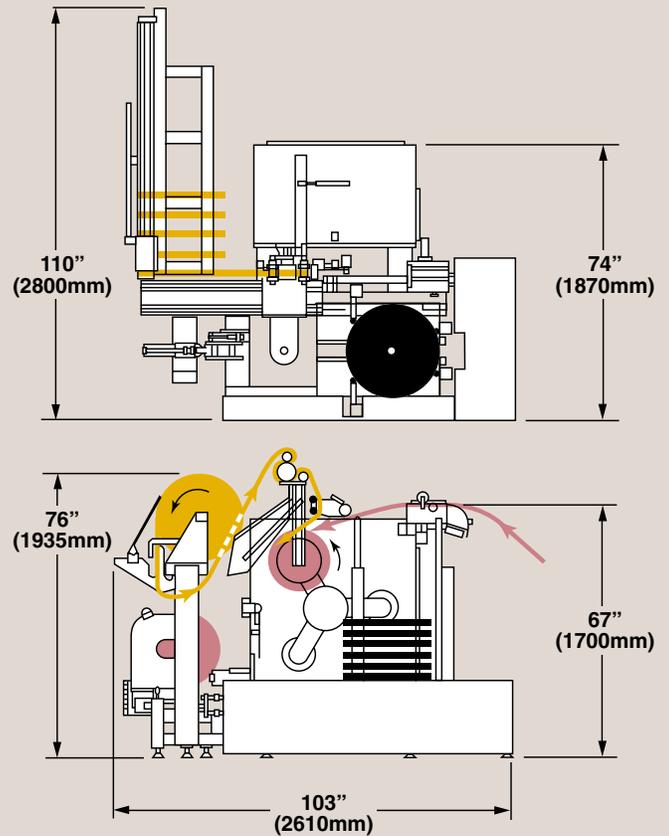
The fully automated model TWR 24-50 winding system is designed to wind stamped strips onto flat pancake spools made of cardboard or plastic materials while using interleaf paper.

The winder is equipped with a three-spool turret, two-spool magazines and a spool loading/unloading arm. The magazine can accept 50 one-inch pancake spools.

The winder will perform the winding of each spool until the preset quantity of terminals per spool is achieved. A fully wound spool is wrapped with several layers of paper, and then cross taped on the outer diameter. The turret then rotates the reel to be unloaded and moved to the storage magazine.

These features enable an easy operation of the system using the text display to operate the winder and to set parameters. The display will indicate the location of any kind of fault.

DIMENSIONS



SPECIFICATIONS – USA

Model	Max. Spool Wt (Lbs.)	Max. Strip Width (In.)	Max. Spool Dia.* (In.)	Max. Thickness (In.)	Max. Speed** (FPM)	Take-up Shaft (In.)	Number Turret Stations	Power Required VAC/Ph/Hz
TWR 24-50	75	2.5	24	.030	90	.78	3	115 / 1 / 60

SPECIFICATIONS – METRIC

Model	Max. Spool Wt (Kg)	Max. Strip Width (mm)	Max. Spool Dia.* (mm)	Max. Thickness (mm)	Max. Speed** (MPM)	Take-up Shaft (mm)	Number Turret Stations	Power Required VAC/Ph/Hz
TWR 24-50	34	64	600	.75	27	20	3	Specify

*Consult factory for larger spool applications. **Speed at 6" (150mm) core.

TRAVERSE LAYER WINDER 4 Spool



The LW 15-4P is a fully automatic traverse winder equipped with a universal material feeding and guiding head. The winder automatically inserts the strip into the empty spool and fills the spool until the preset number of terminals is reached.

The strip is then automatically cut, the turret (capacity 4 spools) loads a new empty spool into the winding station and the cycle is repeated.

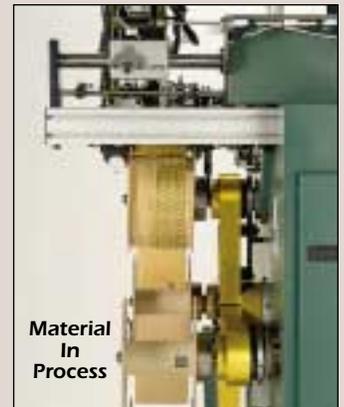
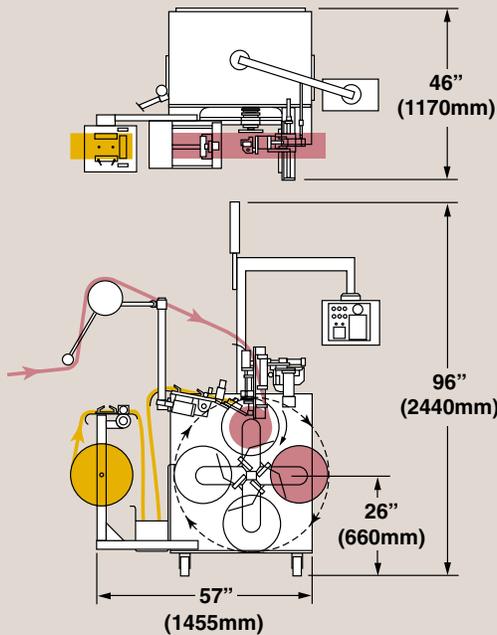
The winder automatically inserts a sheet of interleaf paper after each layer of material wound onto the spool. The length of each paper layer is automatically adjusted with the increasing spool diameter. The length of the paper overlap is programmable/adjustable.

The LW 15-4P is equipped with a universal material guide, light sensor, and a high-speed electronic parts counter. The traverse pitch per revolution and the reversing points are easily adjustable. This unit enables an automatic and continuous run of the stamping line. A sample length is programmable. The strip will be cut between the terminals.

Technical Specifications:

- Spool Core Diameter: 3" (75mm)
- Spool Width between Flanges: Up to 9" (230mm)
- Paper Insertion: Paper Width Adjustment from 4" to 9" (100 to 230 mm)
- PLC-Controller: SIEMENS S7 or Allen Bradley
- Sample Ejection/Index Cut: Standard Feature
- Traverse Device: UHING Rolling Ring Device
- Loop Control: By Dancer and Analog Sensor
- Winding Direction: Left-to-Right, Right-to-Left, Overwinding or Underwinding

DIMENSIONS



SPECIFICATIONS – USA							
Model	Max. Spool Wt (Lbs.)	Max. Strip Width (In.)	Max. Spool Dia.* (In.)	Max. Speed** (FPM)	Take-up Shaft (In.)	Number Turret Stations	Power Required VAC/Phase/Hz
LW 15-4P	55	1.2 per Revolution	15	80	.78	4	230 / 1 / 60

SPECIFICATIONS – METRIC							
Model	Max. Spool Wt (Kg)	Max. Strip Width (mm)	Max. Spool Dia.* (mm)	Max. Speed** (MPM)	Take-up Shaft (mm)	Number Turret Stations	Power Required VAC/Phase/Hz
LW 15-4P	25	30 per Revolution	380	24	20	4	Specify

*Consult factory for larger spools. **Material Dependent.

TRAVERSE LAYER WINDER 3 Spool



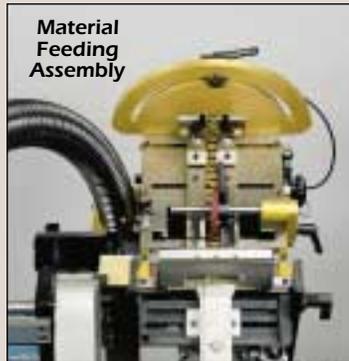
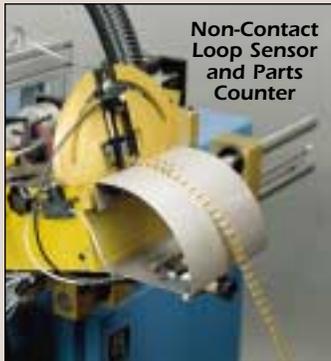
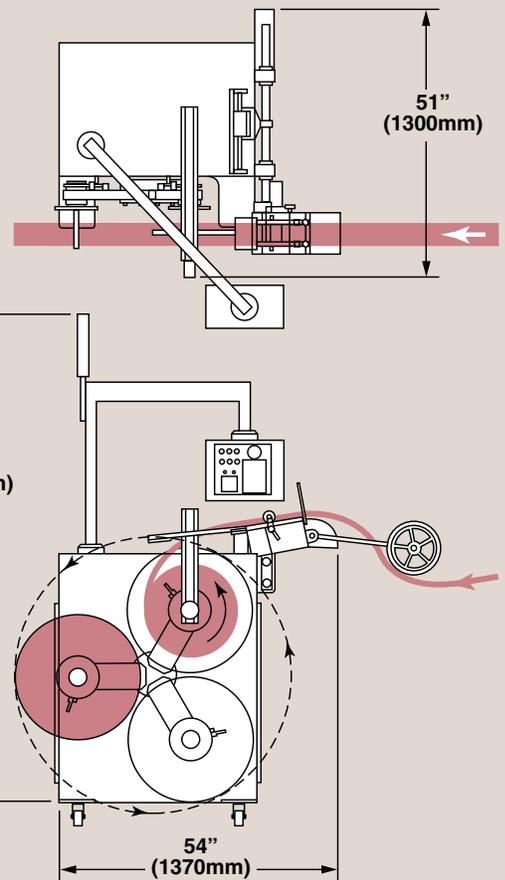
The LW 24-3 Traverse Layer Winder is a 24-inch, 3 station, automatic material winder capable of continuous operation when assisted by an operator.

This machine is designed to “layer” fill each reel to a predetermined level, then advance to the next consecutive empty spool to continue its uninterrupted winding cycle.

Standard design features include: high-speed electronic counter, programmable index cutting, adjustable light beam terminal counter, adjustable material guides, pneumatically operated material cutter and adjustable material chutes.

The compact, portable, and reliable design of this unit enables installation even in the most demanding production environments.

DIMENSIONS



SPECIFICATIONS – USA							
Model	Max. Spool Wt (Lbs.)	Max. Strip Width (In.)	Max. Spool Dia.* (In.)	Max. Speed** (FPM)	Take-up Shaft (In.)	Number Turret Stations	Power Required VAC/Phase/Hz
LW 24-3	75	3	24	70	.78	3	115 / 1 / 60

SPECIFICATIONS – METRIC							
Model	Max. Spool Wt (Kg)	Max. Strip Width (mm)	Max. Spool Dia.* (mm)	Max. Speed** (MPM)	Take-up Shaft (mm)	Number Turret Stations	Power Required VAC/Phase/Hz
LW 24-3	34	75	600	21	20	3	Specify

*Consult factory for larger spools. **Material Dependent.

TRAVERSE LAYER WINDER Single Spool



LW 18-1

The LW Semi-Manual Layer Winder is a basic machine designed to wind material strips in a traversing, side-to-side manner. Once preset for a winding range, this machine will continue to fill each new reel until it is interrupted by an operator, or a tight loop condition.

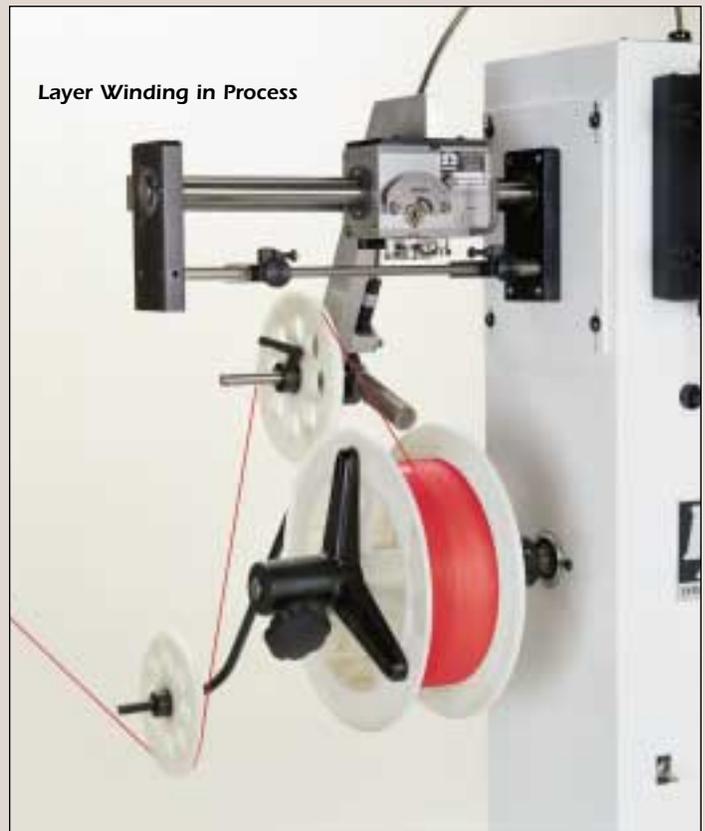
As the tight material strip forces the dancer arm to elevate, this engages the dancer arm/proximity sensor to change the winding speed or stop the winding process.

The LW is equipped with an on/off switch and indicator lights showing power status and fault conditions.

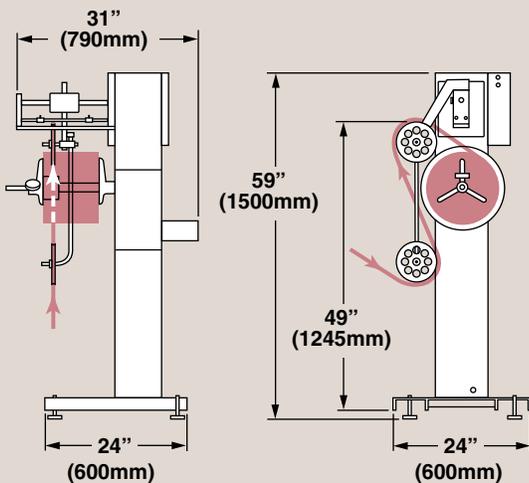
This machine is designed to place the spool and controls at a comfortable height, to reduce operator fatigue.

A spool change is easily accomplished by loosening and removing a shaft/spool retainer stop. Loading is performed by removing a full spool and replacing it with an empty one to begin a new winding process.

Because the LW has only a few moving components, it should provide years of uninterrupted service while requiring only minimal maintenance.



DIMENSIONS



SPECIFICATIONS – USA

Model	Spool Diameter (In.)	Spool Width (In.)	Max. Spool Weight (Lbs.)	Reel Shaft Diameter (In.)	Speed Range (RPM)	Pitch Adjustment (In.)	Power Required VAC/Phase/Hz
LW 18-1	18	5.5	75	.75	0 – 50	0 – .98	110 / 1 / 60
LW 24-1	24						

SPECIFICATIONS – METRIC

Model	Spool Diameter (mm)	Spool Width (mm)	Max. Spool Weight (Kg)	Reel Shaft Diameter (mm)	Speed Range (RPM)	Pitch Adjustment (mm)	Power Required VAC/Phase/Hz
LW 18-1	460	140	34	19	0 – 50	0 – 25	Specify When Ordering
LW 24-1	600						

MOTORIZED PALLET REWINDER



MPR 42

The semi-automatic MPR Models are designed for horizontal, high-volume rewinding operations.

a) The operator performs the threading of the material strip and paper interleaf to the winding core. The rewinding operation can be performed also without the interleaf paper. In this case, the end of the strip is secured by a spring.

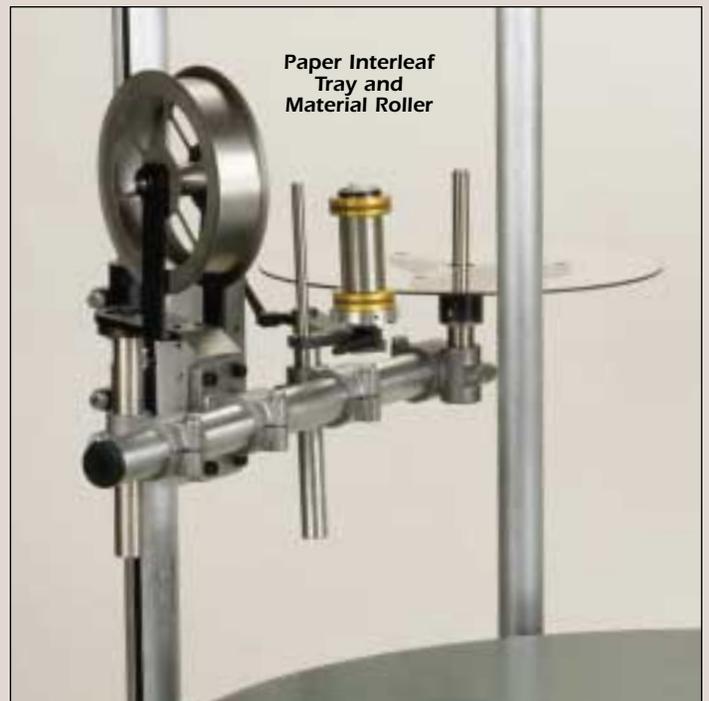
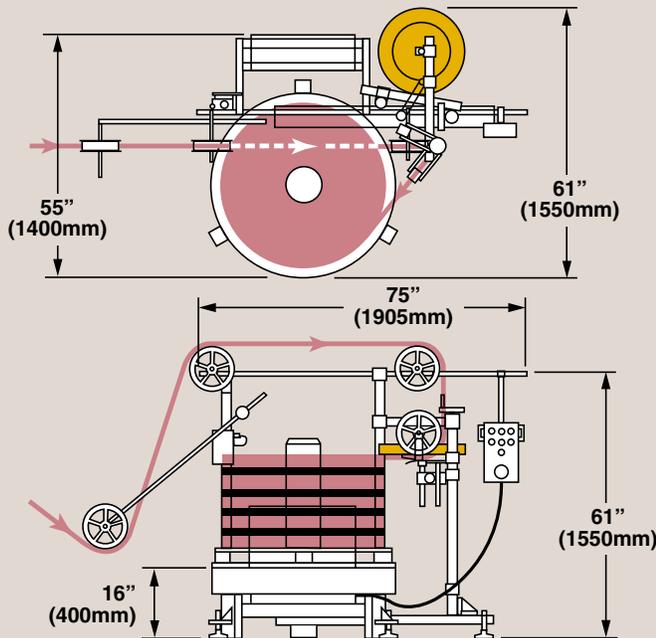
b) The number of terminals per each coil is pre-programmed on the press counter. The material guide is adjustable. The winding speed is controlled by a dancer.

c) When the quantity of terminals per layer is reached, the press/winder stops, and a flashing light informs the operator to perform a layer change.

d) The operator loads a plastic disc on top of the last layer, threads the strip to the core, readjusts the guide pulley by turning a crank handle to a new height matching the layer level and starts the press and the winder. The Semi-Automated Pallet Rewinder is equipped with the following features:

- Adjustable material guide
- Adjustable guide pulley push button (up/down)
- Paper interleaf assembly with an adjustable paper brake

DIMENSIONS



Paper Interleaf Tray and Material Roller

SPECIFICATIONS – USA

Model	Coil Stack Height (In.)	Max. Strip Width (In.)	Max. Coil O.D. (In.)	Capacity (Lbs.)	Max. Winding Speed (RPM)	Table Dia. (In.)	AC Drive Motor (HP)	Power Required VAC/Phase/Hz
MPR 42	24	4	40	4000	24	42	1	220 / 3 / 60
MPR 52			50		20	52		

SPECIFICATIONS – METRIC

Model	Coil Stack Height (mm)	Max. Strip Width (mm)	Max. Coil O.D. (mm)	Capacity (Kg)	Max. Winding Speed (RPM)	Table Dia. (mm)	AC Drive Motor (kW)	Power Required VAC/Phase/Hz
MPR 42	600	100	1015	1800	24	1070	.75	Specify When Ordering
MPR 52			1270		20	1325		

AUTOMATIC HORIZONTAL SYSTEM



PRW 42



PRD 42

P/A's new Automatic Horizontal Systems are designed to **continuously** wind or rewind products directly to or from a palletized stack of multiple coils. By utilizing 40 inch reels it is possible to increase production by 40 to 80 percent.

With a P/A welder incorporated into the machine, you continuously join the material strips. The minimal amount of handling resulting from this process leads to virtually "zero scrap" production. The result of these advances is that P/A's new Horizontal System will dramatically improve quality and productivity.

Standard features include: Adjustable Paper Interleaf, Adjustable Material Strip Tension, Variable Table Speed, PRD Automatic Paper Rewind and PRW Parts Counter.

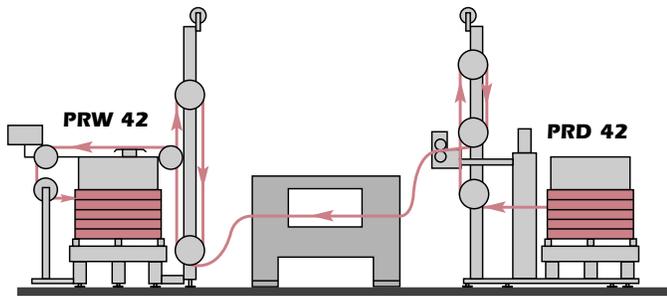
ACCUMULATORS

The use of an accumulator is an effective and inexpensive method for resolving the material flow interruptions which can occur in the primary processes of plating, stamping and assembly operations. These interruptions generate scrap, add unnecessary costs, and can cause quality control problems.

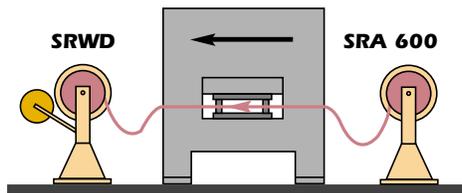
The P/A accumulators are specifically designed to address this issue by providing continuous, material flow to various process operations during short interruptions in the primary material supply.

During operation, the accumulator fills its pulleys with process material. This material reserve supplies the process line during changeover of payoff reels, welding of strips, or other normal interruptions. Once material flow resumes, the accumulator refills itself to full capacity in preparation for the next interruption.

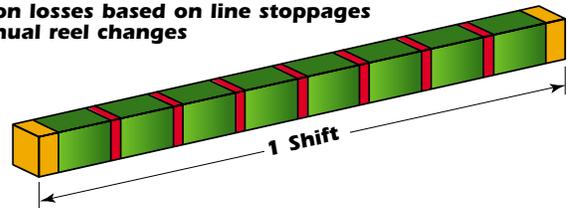
PLATING/MOLDING SYSTEM APPLICATION



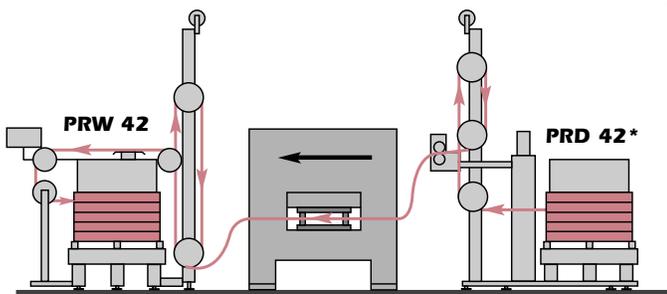
TRADITIONAL VERTICAL METHOD



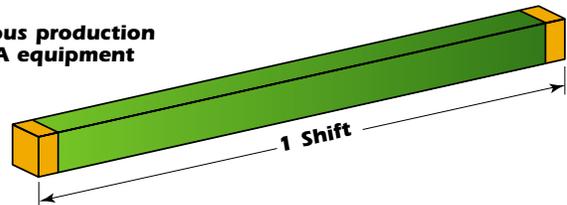
Production losses based on line stoppages with manual reel changes



AUTOMATIC HORIZONTAL METHOD

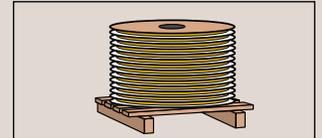
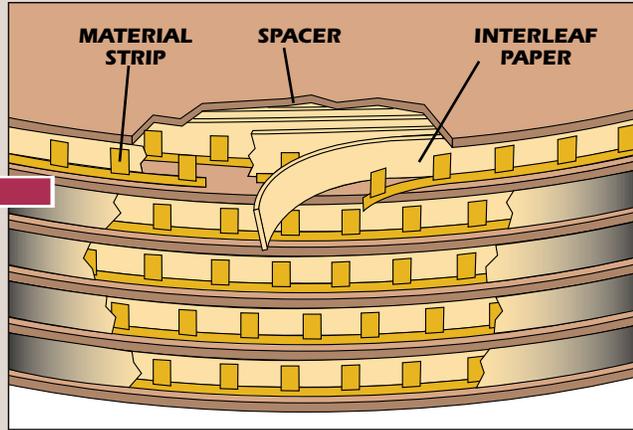


Continuous production using P/A equipment

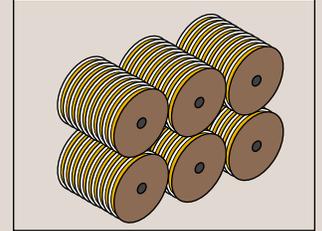


*Use any of these payoffs to decrease coil change time: PR-4, TSR-D, TDD-40

HORIZONTAL WINDING



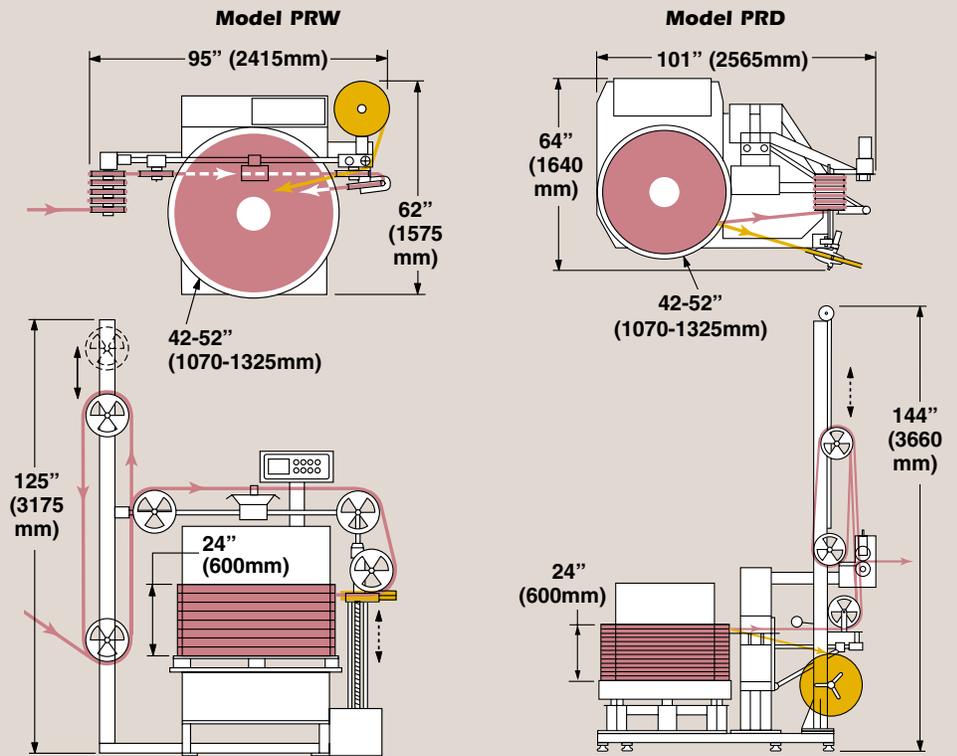
12 Coil Stacks Replace 60 Standard Reels



ACCUMULATORS



DIMENSIONS



SPECIFICATIONS – USA

Model	Strip Width* (In.)	Max. Material Coil O.D. (In.)	Max. Paper Coil O.D. (In.)	Max. Core Dia. (In.)	Winding Speed (RPM)	DC Gear Motor HP	Power Required VAC/Phase/Hz
PRW 42 PRW 52	1.75	40 50	24	8	0-24	1/2	120 / 1 / 60
PRD 42 PRD 52	1.75	40 50					

SPECIFICATIONS – METRIC

Model	Strip Width* (mm)	Max. Material Coil O.D. (mm)	Max. Paper Coil O.D. (mm)	Max. Core Dia. (mm)	Winding Speed (RPM)	DC Gear Motor kW	Power Required VAC/Phase/Hz
PRW 42 PRW 52	45	1015 1270	600	200	0-24	.37	Specify When Ordering
PRD 42 PRD 52	45	1015 1270					

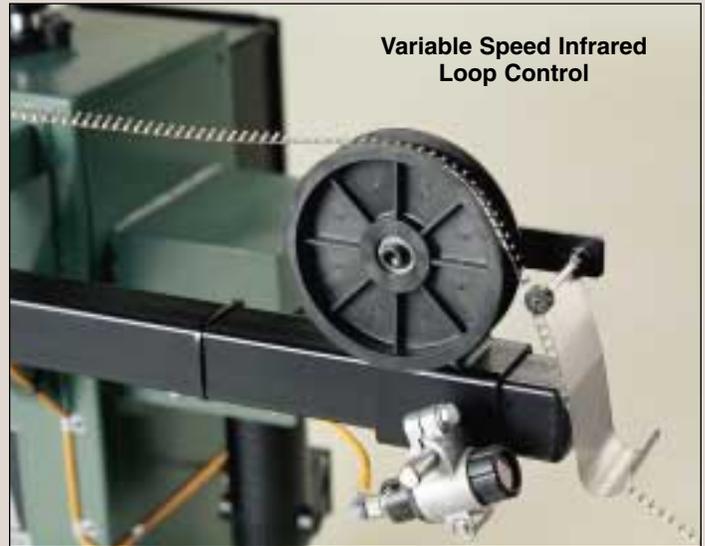
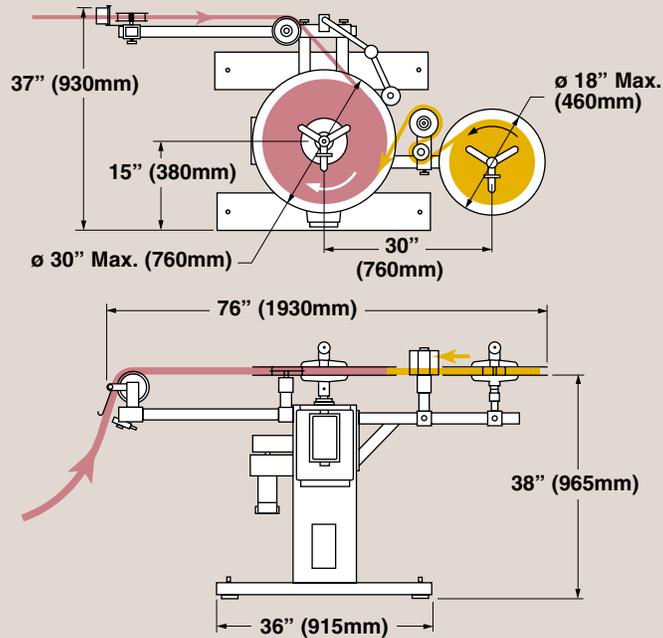
* Actual strip width is application dependent and may vary with strip geometry and thickness.

HORIZONTAL WINDER



Our Horizontal Winder Reel was designed for winding processed material in the horizontal mode. Horizontal winding is desirable when winding terminal strips with a carrier strip located downward for smooth winding of the strip onto the spool. A reel is equipped with paper interleaf payoff and a variable speed infrared loop control. Optional magnetic paper tension brake mat be provided for precision control of paper tension.

DIMENSIONS



SPECIFICATIONS – USA

Model	Max. Strip Width (In.)	Max. Stock Weight (Lb.)	Max. Spool Outside Dia. (In.)	Max. Paper Outside Dia. (In.)	Max. Rewind Speed* (FPM)	Spindle Speed (RPM)	Spindle Shaft Dia. (In.)	Paper Tension Range (Lbs.)	DC Drive Motor HP	Input Power VAC/Ph/Hz
HRW	1	120	30	18	48	0 - 15	1	.5 - 6	1/8	120 / 1 / 60

SPECIFICATIONS – METRIC

Model	Max. Strip Width (mm)	Max. Stock Weight (kg)	Max. Spool Outside Dia. (mm)	Max. Paper Outside Dia. (mm)	Max. Rewind Speed* (MPM)	Spindle Speed (RPM)	Spindle Shaft Dia. (mm)	Paper Tension Range (kg)	DC Drive Motor kW	Input Power VAC/Ph/Hz
HRW	25	55	760	460	14	0 - 15	25.4	.23 - 2.7	.1	Specify

* Based on 12" (300mm) Dia. Core.

CUSTOM & SPECIAL APPLICATIONS



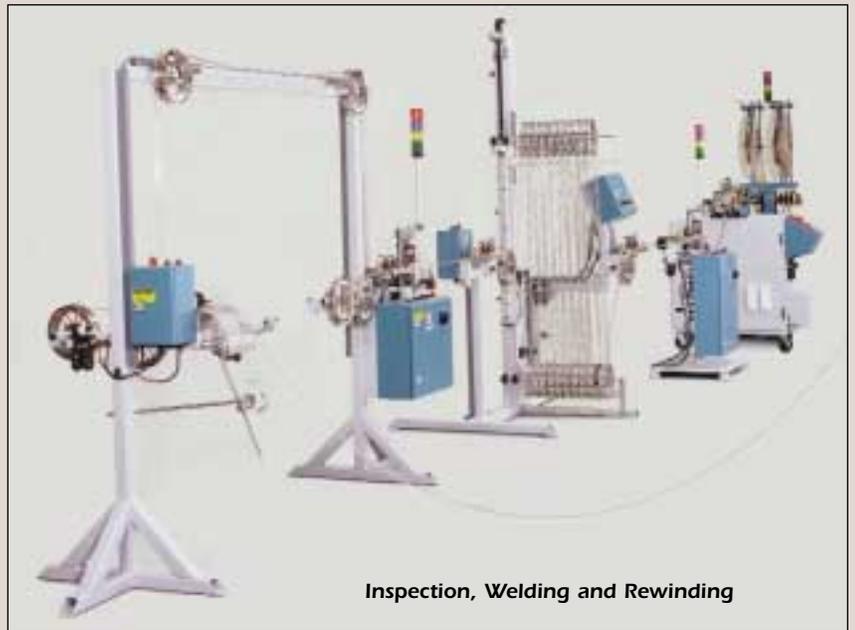
Flexible Lead Frame Unwind/Rewind Station



Horizontal Inspection Station



Combination Traverse Payoff/Wire Feed/Straightener



Inspection, Welding and Rewinding



Continuous, Dual Strand Decoiler into Accumulator into Plating Line to Auto Rewind



Special Palletizer

REFERENCE DATA

PRODUCTION – PARTS PER HOUR (Figures Based Upon One Part Per Press Stroke)

Press Speed (Strokes Per Minute)		40	60	70	80	100	120	150	200	250	300
Efficiency Rate	100%	2400	3600	4200	4800	6000	7200	9000	12000	15000	18000
	90%	2160	3240	3780	4320	5400	6480	8100	10800	13500	16200
	80%	1920	2800	3360	3840	4800	5760	7200	9600	12000	14400
	75%	1800	2700	3150	3600	4500	5400	6750	9000	11250	13500
	70%	1680	2520	2940	3360	4200	5040	6300	8400	10500	12600
	60%	1440	2160	2520	2880	3600	4320	5400	7200	9000	10800
	50%	1200	1800	2100	2400	3000	3600	4500	6000	7500	9000

STRIP CONSUMPTION – FEET PER MINUTE

Feed Length (Inches)		0.5	1	1.5	2	3	4	5	6	8	10	12	16
Press Speed (Strokes Per Minute)	40	1.7	3.3	5.2	6.5	10	13	16	20	26	33	40	52
	60	2.5	5	7.5	10	15	20	25	30	40	50	60	80
	70	2.9	5.8	8.8	11	17	23	29	35	46	57	70	92
	80	3.3	6.6	10	13	20	26	33	40	52	66	80	105
	100	4.2	8.2	13	16	25	33	41	50	66	82	100	131
	120	5.0	10	15	20	30	40	50	60	80	100	120	160
	150	6.3	12	18	25	37	50	62	75	100	125	150	200
	200	8.3	16	25	34	50	66	82	100	131	164	200	266
	250	10.4	21	31	41	62	83	103	125	164	205	250	328
	300	12.5	25	40	50	75	100	125	150	200	250	300	400

COIL ROTATIONAL SPEEDS – REVOLUTIONS PER MINUTE

Strip Consumption (Feet Per Minute)		5	15	30	45	60	75	90	120	150	180	210	240	270	300	330	360
Coil Diameter (Inches)	60	0.3	1.0	1.9	2.9	3.8	4.8	5.7	7.6	9.5	11.5	13.4	15.3	17.2	19.1	21.0	22.9
	48	0.4	1.2	2.4	3.6	4.8	6.0	7.2	9.5	11.9	14.3	16.7	19.1	21.5	23.9	26.3	28.6
	36	0.5	1.6	3.2	4.8	6.4	8.0	9.5	12.7	15.9	19.1	22.3	25.5	28.6	31.8	35	38.2
	24	0.8	2.4	4.8	7.2	9.5	11.9	14.3	19.1	23.9	28.6	33.4	38.2	43.0	47.7	52.5	57.3
	18	1.1	3.2	6.4	9.5	12.7	15.9	19.1	25.5	31.8	38.2	44.6	50.9	57.3	63.7	70.0	76.4
	12	1.6	4.8	9.5	14.3	19.1	23.9	28.6	38.2	47.7	57.3	66.8	76.4	85.9	95.9	105.0	114.6

COIL WEIGHT REFERENCE CHART

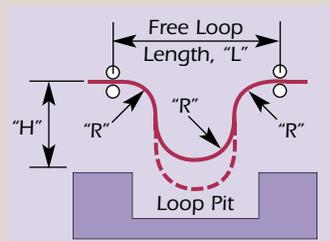
Based on 1 Inch Strip Width – Steel.
Factor From Chart x Width of Coil = Total Coil Weight.

To Obtain Weight of:

Aluminum. Multiply Total Wt. x .344
Brass. Multiply Total Wt. x 1.08
Copper. Multiply Total Wt. x 1.14
Stainless Steel. Multiply Total Wt. x 1.02

Inside Diameter	6	8	10	12	14	16	18	20	22	24
Outside Diameter	10	15	-	-	-	-	-	-	-	-
	12	25	15	-	-	-	-	-	-	-
	14	35	20	20	-	-	-	-	-	-
	16	50	40	35	25	-	-	-	-	-
	18	65	60	50	40	30	-	-	-	-
	20	80	75	65	55	45	35	-	-	-
	24	120	110	105	95	85	70	55	40	-
	28	170	160	150	140	130	120	105	85	65
	32	220	210	205	195	185	170	155	140	120
	36	280	270	265	255	245	230	215	200	180
	40	350	340	330	325	310	300	285	265	250
	44	420	410	405	400	385	375	360	340	325
	48	500	490	485	480	470	455	440	425	405
	52	590	580	575	570	560	545	530	510	495
	56	690	680	670	665	655	640	625	610	590
60	800	790	780	770	760	745	730	710	695	

FREE LOOP AREA & SLACK MATERIAL AVAILABILITY FOR MILD STEEL COIL STOCK

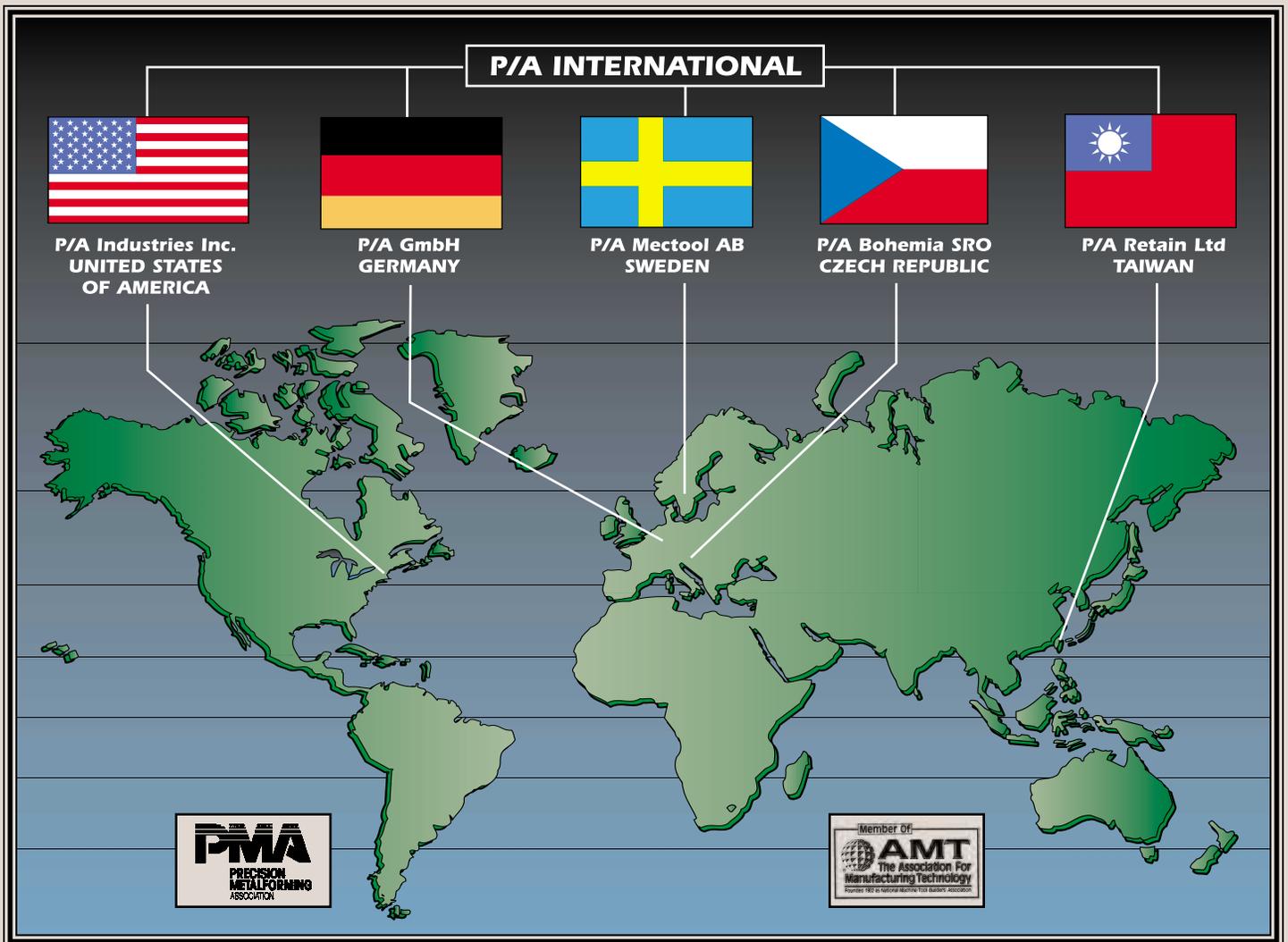


"R" = Radius desirable to avoid distortion of material in free loop calculated at approximately 360 times metal thickness.

Loop Pit can provide 2 inches of additional slack material for each inch of depth once "H" is equal to at least two times "R".

Chart below shows inches of loop required for a given thickness & inches of slack material in a full loop.

Material Thickness T, (Ins.)	Free Loop Length L, (Ins.)	Pass Line Height H, (Ins.)							
		36	42	48	54	60	66	72	
Accumulated Slack									
0.015	48	48	56	68	81	99	107	121	
0.031	72	37	45	56	67	78	90	106	
0.062	96	30	38	47	57	67	78	88	
0.093	144	21	29	36	44	52	61	71	
0.125	180	18	24	31	38	45	53	61	
0.187	276	-	19	22	27	33	39	45	
0.250	360	-	-	18	22	27	32	37	



WARRANTY

We warrant our mechanical parts against defects under normal use and service for a period of 2 years after date of shipment. We warrant all components installed, but not manufactured by P/A, for 1 year after date of shipment. Our obligation under this warranty is limited to replacing or repairing (at our option) the defective part without charge, F.O.B. our plant in Bloomfield, Connecticut. The defective part must be forwarded to our plant, freight-prepaid, for our inspection prior to replacement or repair. EXCEPT AS EXPRESSLY PROVIDED HEREIN, THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING A WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

WARNING !

This equipment offers various means of operating metal forming machines, delivers material or parts to the machine, or removes material, parts, or scrap from the machine. The operator's hands must NOT be in or near the point-of-operation of the machine, or the operating parts of any equipment installed on the machine, or bodily injury could result. The EMPLOYER must post adequate warning signs on the press with proper warnings for his machine and the specific application to which the machine and equipment are being applied. If the EMPLOYER requires help in preparing wording for his application after he has determined the details of that application, he is invited to contact P/A Industries for such help.

The EMPLOYER must meet all OSHA regulations including, but not limited to, 1910.211, 1910.147, 1910.212, 1910.217 and all applicable state laws. All equipment manufactured by P/A Industries is designed to meet the construction standards of OSHA in effect at the time of sale, but the EMPLOYER installs the equipment, and therefore the EMPLOYER is responsible for installation, use, application, training, and maintenance, as well as adequate signs on the press or other machine onto which this equipment will be installed.

All P/A products are sold for use only in accordance with our installation and operating instructions which accompany the products. P/A accepts no responsibility for any use or application not in accordance with our instructions, or for any modification or alteration of the product.

Accident-free press operation will result from a well developed, management-sponsored and enforced press safety program. P/A Industries is not responsible for notifying the user of this equipment of further changes in State or Federal laws, construction standards, or changes in P/A designed and built products.



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