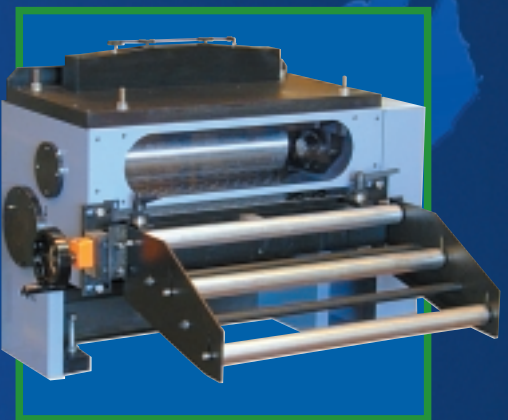
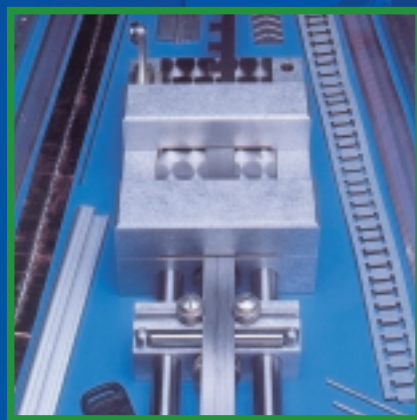
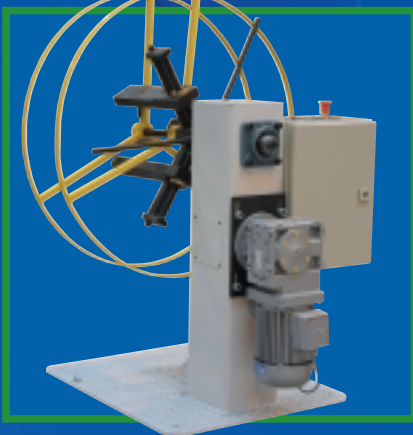


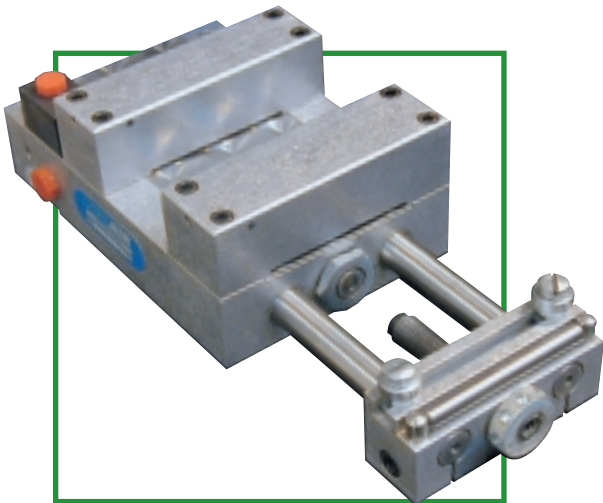
POWER AIR **Automation**



Precision press feed automation solutions



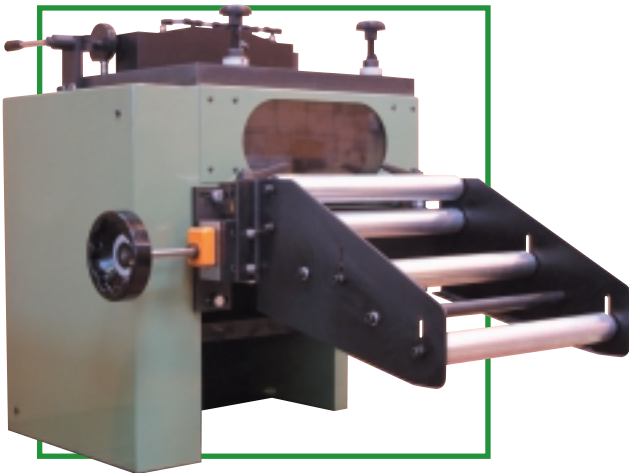
Specialists in the design & manufacture of precision press automation systems and products



POWAIR AUTOMATION design and manufacture pneumatic and electronic press automation products and also supply total turn key system solutions around the world.

The Powair range of products is designed to offer reliable and accurate handling and feeding of materials in press shop applications.

- Powair airfeeds have long been regarded as a 'best of breed' product in the industry
- Powair roll feeds offer a flexible alternative to airfeeds where changeover times and cycle times are of prime concern
- Powair also manufacture decoilers and levellers up to 2 tonne capacity
- Powair act as system integrators capable of supplying total turn key solutions for a wide range of press applications



Powair Air feeds

Standard Feeds

Heavy Duty Feeds

Rollband Feeds

Open Throat Feeds

Standard Feeds

Powair Air Feeds work on the soundest of principles. The material being fed is powerfully gripped at all times, alternatively by the fixed and moving clamps, so it cannot slip or be misfed. On all feed units shock absorbing cushioned dead stops, at either end of the stroke, provide unerring feed repeatability with no bounce.

The novel design ensures that virtually all of the pneumatics and pipework is embedded within the product; safely out of harms way.

Heavy Duty Feeds

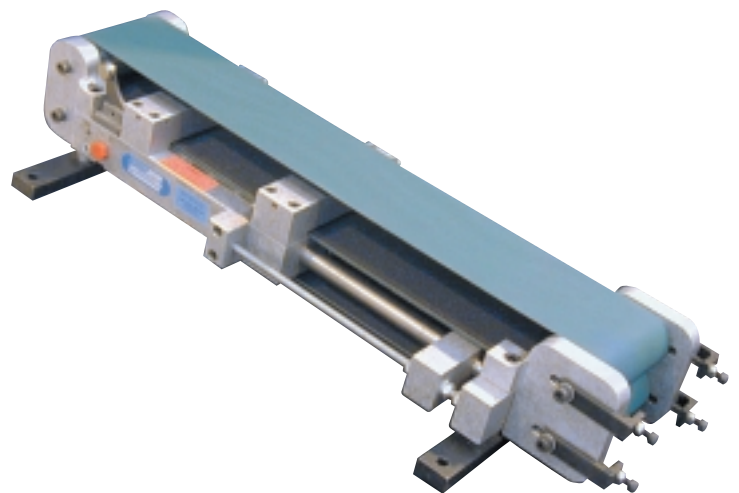
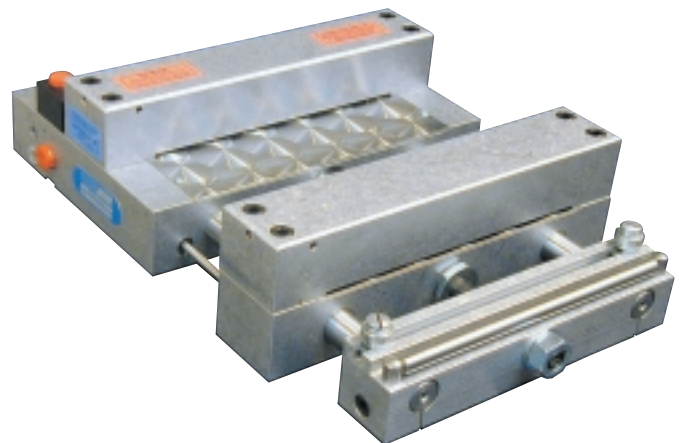
As well as the standard feeds the HD and HDX feeds offer higher performance by using increased clamp and feed cylinder bores. Some HDX units offer twice the pulling power performance of the comparable standard product.

Rollband Feeds

(Brit. Patent No. 1285763) Rollband Feeds, which were pioneered by Powair, completely eliminate 'buckling' when feeding very thin or flimsy materials. They are modified versions of standard units where two endless bands are added. The material is 'sandwiched' between the bands over a large area, and these units feed metallic or non-metallic strip with the normal Powair high accuracy.

Open Throat Feeds

For applications where a variety of strip widths must be accommodated. Powair can supply specially strengthened open-side units. These operate in synchronised pairs, one on each edge of the strip, and provide double the pulling power. Apart from being able to space them apart to any width within the limits of the particular model, the units operate exactly as standard feeds, providing full stroke variation and the usual 0.03mm (0.001") repeatability. Material widths up to 2 meters have been fed with open throat feeds.



Features and Options

Reversing Feature

Pilot Release System

Trigger Operation

Remote Air & Solenoid

Repeater Control

Safety Guards

Reversing Feature

All Powair units incorporate a reversing feature as standard, enabling them to be positioned either way round on the press. In certain circumstances, using a unit in the reverse mode can be an advantage. For forward operation one of the two screws is tightened and the other can be adjusted to give the required speed, and for reverse operation the screws remain in their holes but exchange functions.

Pilot Release System

Where tools with pilots are to be used, Powair will supply units which have a simple calve arrangement whereby clamping is momentarily released just as the pilots enter, then clamping is re-applied immediately they are 'home'. The material is thus always under control, either by the clamps or the pilots.

Trigger Operation

Powair Feeds can be supplied with a trigger which is operated by a striker fitted to the press ram. The trigger remains deflected during the down stroke so the material is firmly clamped, then as it is released on the upstroke it initialises the feeding sequence. A reverse feature allows feed in either direction.

Remote Air and Solenoid

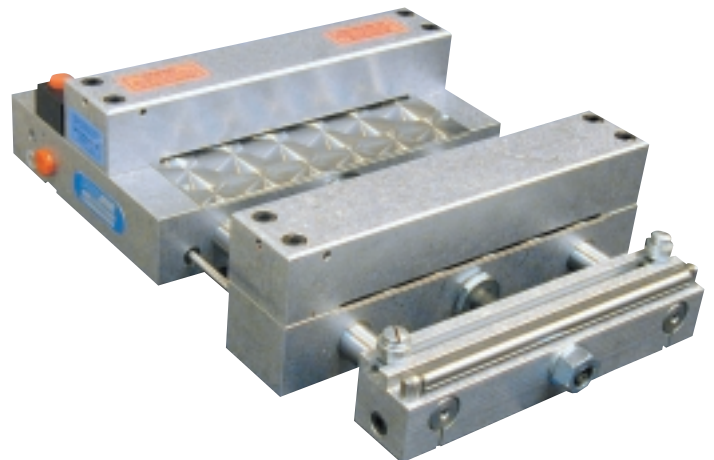
Where there are frequent set-up changes which would mean resetting the tripping action with Trigger Operation, an alternative is to use a Powair remote control feed. In this case either an electrical switch or a pneumatic valve mounted from the press frame is tripped by a cam added to the end of the crankshaft. Thus the action is independent of the press stroke setting or the tools being used.

Repeater Control

Where feed lengths are required in excess of the maximum stroke setting of a particular unit, Powair can supply an electronic repeater control system which is capable of initiating up to 99 feed movements for each stroke of the press. The system also allows normal single stroking operation, being readily switchable between the two.

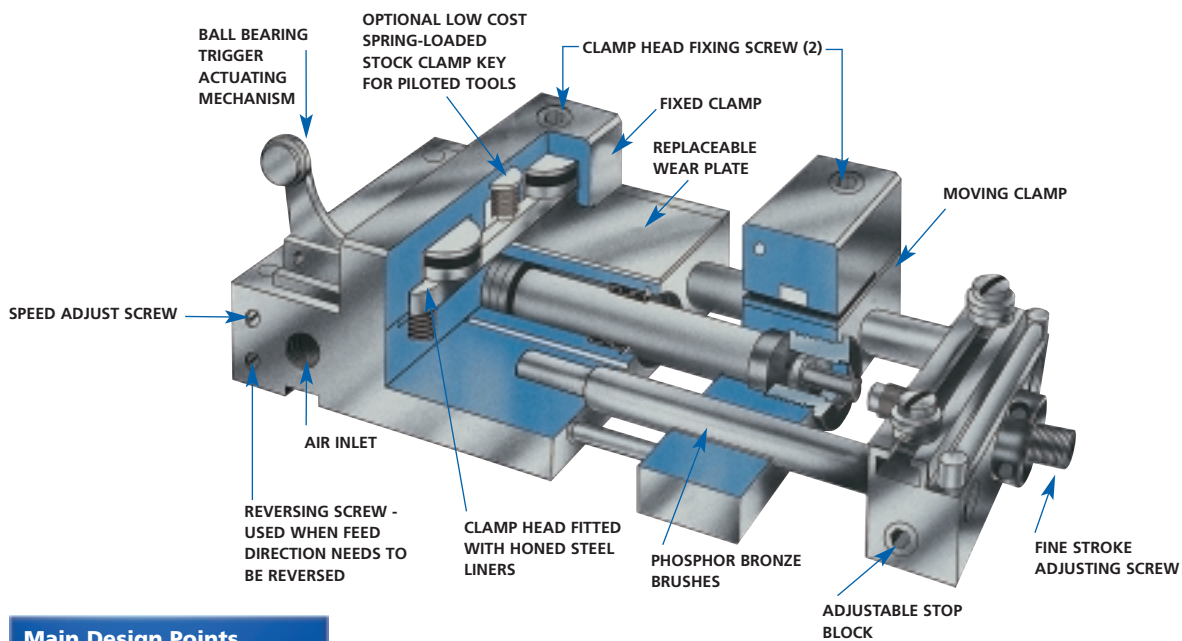
Safety Guards

When required the feeder can be fitted with safety guards. They completely enclose the moving parts yet allow full access for adjusting the stroke and can be easily removed when necessary.



Main Design Features

Product Information



Main Design Points

- Only one airline supply
- Unique internal damage-proof main valve
- No marking or marring of material
- Easily adjusted stroke lengths
- No control cams necessary, only a striker to actuate the trigger
- Simple adaptation for remote air valve activation if cams are to be used
- No projecting nuts, screws, bolts, bars, levers or plates to work loose
- Speed adjustable in forward or reverse mode
- Sliding elements fully cushion against shock at both ends of stroke
- Designed for long life – (Feeds 25 years old are still coming back for servicing)
- Easily fitted replaceable stainless steel wear plates
- Repeatable accuracy 0.03mm (0.001")/cycle
- Compact, safe, fast and self contained
- Positive guiding of sliding elements
- Clamp heads can be removed without dismantling feed from press
- Easy 'O' ring change. Recommended every 25 million cycles or 6 months depending on usage
- Clamp heads easily adaptable for profile sections
- Simple retro-fit electric solenoid stock clamp release system
- Over 100 standard models
- Roll Band feeds for flimsy materials
- High speed feeds to give up to 50% more performance
- Open throat feeds for wide materials up to 1500mm
- Fast, efficient after-sales service
- Used in over 32 countries worldwide

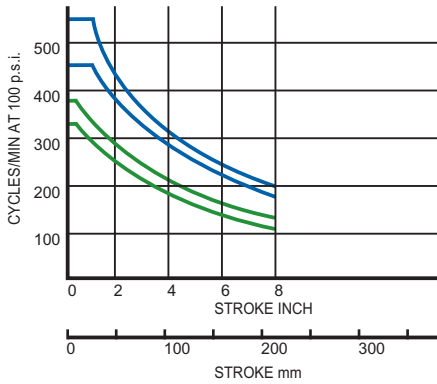
Airfed Performance Data

Key: SPEED CHARTS

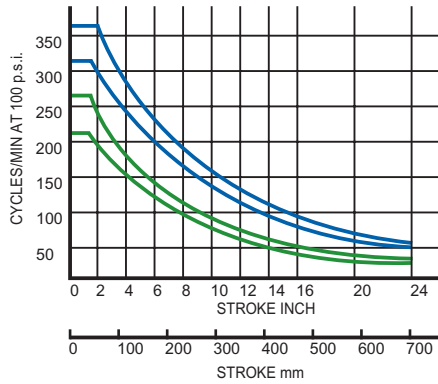
HIGH SPEED ———

STANDARD ———

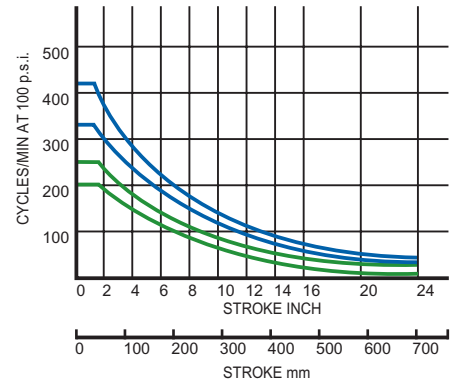
15 SERIES SPEED CHART



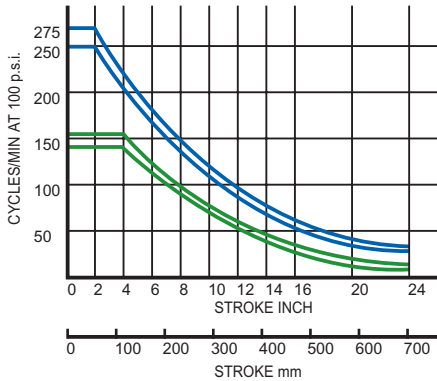
30 SERIES SPEED CHART



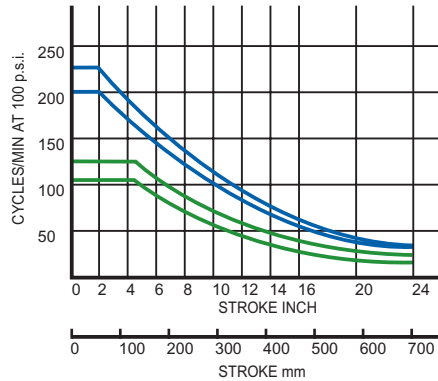
30HD SERIES SPEED CHART



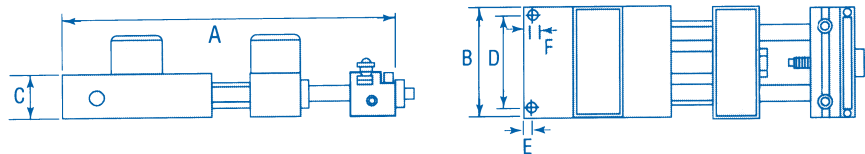
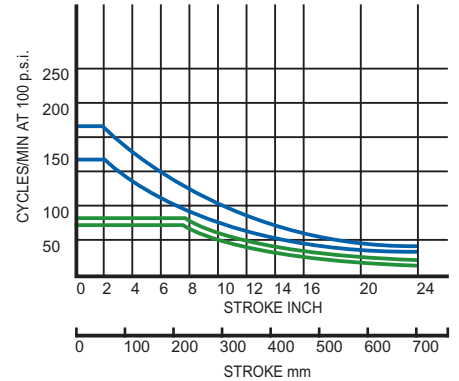
60 SERIES SPEED CHART



60HD SERIES SPEED CHART



120 SERIES SPEED CHART



Overall length of Feed Units is A dim = 2 x MAX stroke of Model required.

Eg. Model 152 has 50mm stroke. A dim = 120mm. Therefore length = 120 + (2 x 50) = 220mm.

	15 SERIES	25 SERIES	30 SERIES	40 SERIES	60 SERIES	80 SERIES	100 SERIES	120 SERIES
	mm	mm	mm	mm	mm	mm	mm	mm
A	120	120	175	175	210	210	210	279
B	82.5	108	140	165	235	286	337	387
C	32	32	44	44	49.6	49.6	49.6	63
D	67	92	114	140	190.5	241	292	343
E	9.5	9.5	12.7	12.7	12.7	16	16	16
F	8	8	9.5	16	16	16	16	16

	140 SERIES	30HD	60HD	60HDX	120HD	160HD	200HD	240HD
	mm	mm	mm	mm	mm	mm	mm	mm
A	279	218	279	396	322	322	322	322
B	438	140	235	235	406	406	610	711
C	63	49.6	63	86	86*	86*	86*	86*
D	394	114	190	191	362	464	565	667
E	16	12.7	16	16	22	22	22	22
F	16	9.5	16	20	19	19	19	19

The speeds quoted in this brochure are for guidance only. Repeatable accuracy of feeding for standard. POWAIR FEEDS (±0.001) (±0.03mm). * Note long feeds of this size are fitted with support rails which increase C by 57mm.

Airfeed Specifications

Key: Specifications

PREFERRED 12012

NON PREFERRED 12020

Delivery of Non preferred Feeds may be slightly extended.

Standard Models

FEED MODEL NO.	MAX STRIP WIDTH mm	MAX STRIP THICKNESS mm	MAX STROKE mm	STROKES/MIN (at MAX STROKE)	PULLING POWER (Supply at 6.8 Bar/100psi) kg
152	38	1.0	50	270	9
154			100	200	
156			152	160	
158			203	130	
252	64	0.8	50	230	9
254			100	175	
256			152	140	
258			203	110	
303	76	1.9	76	200	20
306			152	140	
308			203	110	
3010			254	95	
3012			305	80	
3016			406	50	
3020			508	35	
3024			610	20	
404	102	1.8	102	180	20
406			152	140	
408			203	110	
4010			254	95	
4012			305	70	
4016			406	50	
4020			508	35	
4024			610	18	
606	153	1.7	152	120	45
6010			254	80	
6012			305	70	
6016			406	40	
6020			508	25	
6024			610	18	
804	203	1.65	102	150	45
808			203	100	
8010			254	80	
8012			305	70	
8016			406	40	
8020			508	25	
8024			610	15	
1004	254	1.6	102	150	45
10010			254	80	
10012			305	70	
10016			406	40	
10020			508	25	
10024			610	15	
1206	305	2.0	152	70	66
12012			305	40	
12016			406	30	
12020			508	20	
12024			610	15	

Heavy Duty Models

FEED MODEL NO.	MAX STRIP WIDTH mm	MAX STRIP THICKNESS mm	MAX STROKE mm	STROKES/MIN (at MAX STROKE)	PULLING POWER (Supply at 6.8 Bar/100psi) kg
303HD	76	2.3	76	200	45
306HD			152	140	
3010HD			254	95	
3012HD			305	80	
3016HD			406	45	
3020HD			508	35	
3024HD			610	20	
606HD	152	2.3	152	110	66
6010HD			254	80	
6012HD			305	70	
6016HD			406	40	
6020HD			508	25	
6024HD			610	18	
606HDX	152	4.0	152	60	136
6010HDX			254	50	
6012HDX			305	45	
6016HDX			406	35	
6020HDX			508	25	
6024HDX			610	15	
1206HD	305	3.2	152	70	136
12010HD			254	45	
12012HD			305	40	
12016HD			406	30	
12020HD			508	20	
12024HD			610	16	
1406HDX	355	4.0	152	55	272
14010HDX			254	45	
14012HDX			305	40	
14016HDX			406	30	
14020HDX			508	20	
14024HDX			610	12	
1606HD	406	2.3	152	70	136
16010HD			254	50	
16012HD			305	45	
16016HD			406	35	
16020HD			508	25	
16024HD			610	16	
2006HD	508	1.9	152	70	136
20010HD			254	50	
20012HD			305	30	
20016HD			406	26	
20020HD			508	20	
20024HD			610	15	
2406HD	610	1.5	152	46	136
24010HD			254	30	
24012HD			305	26	
24016HD			406	20	
24020HD			508	14	
24024HD			610	10	

Powair Press Roll Feeds

Driven Top & Bottom rollers

Driven top & bottom rollers

To provide maximum drive capability Powair drive both top and bottom rollers on every product in the range. The rollers are held in a dual bearing arrangement of needle bearings and ball bearings.

Roll Adjustment

Roll adjustment

Rolls are adjustable for both load and eccentricity helping to eliminate feed induced camber and marking of the material.

Constant Mesh Gearing

Constant Mesh Gearing

The gears are arranged to remain in mesh even when open minimising wear, noise and vibration. This also ensures that full gear contact is maintained throughout the range of material thicknesses handled by each model in the range.

Input Cascade Rolls

The use of straight cut gears eliminates the need for an oil bath.

Over 10 years ago when Powair produced their first roll feed product they had one aim above all others; to develop a product that matched the quality and reputation of their world renowned air feeds. Since then the product range has been enhanced and extended to reinforce that aim.

The products are, as you would expect from Powair, very robust. A solid framework holding high quality rolls that are put through a multistage grinding and hardening process offer the precision and toughness required in the most demanding applications. Powair manufacture a wide range of roll feed products capable of handling materials up to 6.0mm in thickness and 1300mm in width.

The roll feeds are supplied with two different control system options to suit varying customer requirements.

These roll feeds are what you would expect from Powair; a heavy duty high performance product that's built to last.

Input cascade rolls

All feeds incorporate a cascade roller section at infeed to support material feeding into the feed. Easily adjusted side guides ensure consistent material throughout.



RF Series Roll Feeds

The Powair RF range of roll feeds from the compact RF50 to the massive RF160 are able to cater for a wide range of material feeding applications.

RF 65

The RF65 range of feeders were specifically designed as a mid-range product to satisfy the widest range of material sizes in a single product in a cost effective manner. After all, the main reason people buy a roll feed is to be able to quickly change over from one product to another. Many feeders in the market place restrict the full utilisation of a press because of the limited width and thickness of material they can feed. Economics dictates that it's the press that should be the limiting factor not the roll feed.

All pneumatics for the roll lift unit are piped internally within the top mounted chamber.

The RF65 is compatible with both the SV-1 and SVX range of Powair servo controllers or they can be supplied in mechanics only form for system integrators.

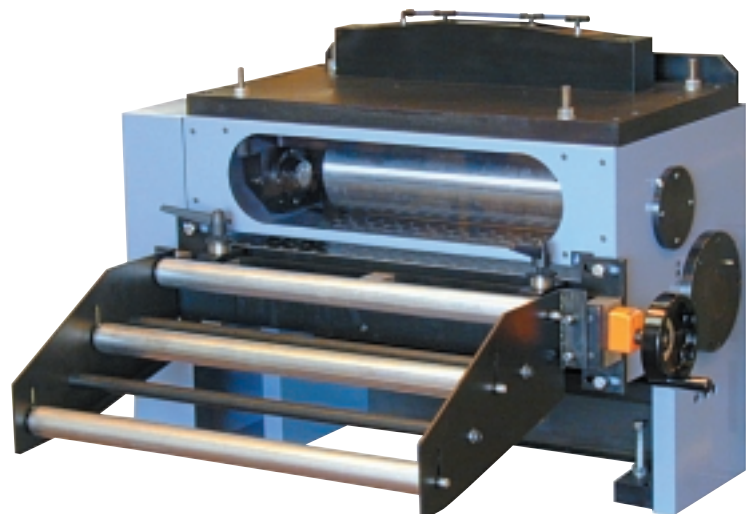
These feeds are the most popular range at Powair and have been used in a multitude of applications.



RF 160

The RF160 is a sturdy workhorse capable of accurately feeding materials up to 1.3 meters in width. The heavy duty rollers are specially designed to minimise inertial loads without compromising roll deflection. Roll release is optimised over the range of material thicknesses via a manual adjustment cam.

Single or double roll supports and rubberised rolls are available as options.



Powair Roll Feed Controllers

Product Information

The SV-1 servo controller from POWAIR offers a high performance servo drive solution at a very reasonable cost. The SV-1 incorporates a simple control panel for operator control and is designed to comply with European Safety Standards.

The complete control system is mounted in a compact electrical enclosure. Plus connections at the motor enable quick and easy installation.

A resolver is used to provide reliable and consistent feedback from the 3 phase AC brushless servo motor. The controller can act as a master or a slave to the press.

An 'in metal' signal input facility from the press is linked into the dual circuit safety system enabling a controlled shutdown of the motor drive should an attempt be made to feed while the press is cutting into the material. This signal may be also used to link into guard entry circuits.

The 2 line display and multi-function key pad allows setting of the pitch length, selecting operating mode and manual jogging.

The SVX controller extends the capabilities of the standard SV unit by incorporating additional features for the most demanding control requirements. These include:

- Multi job and Multi station programming
- Storage for 100 programs
- 4 line x 20 character display
- Networking option (eg. Profi - bus)
- Additional material slip feedback option.



THE SV-1 CONTROLLER

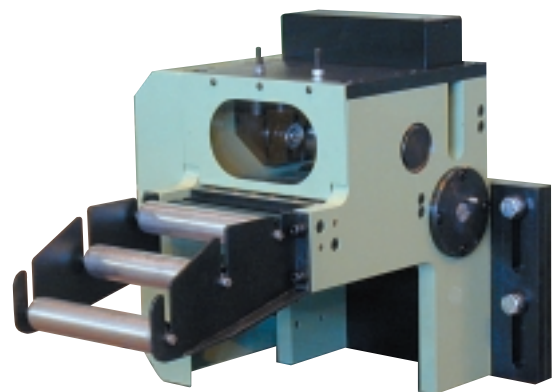


THE SVX CONTROLLER

Powair Roll Feeds *Continued...*

Technical Data

MODEL	MAX WIDTH	MAX THICKNESS	MAX CROSS SECTION mm ²	ROLL DIAMETER	MAX METERS/MIN
RF50 - 100	100	1.0	100	50	30
RF65 - 150	150	1.8	270	65	30
RF65 - 200	200	1.7	340	65	30
RF65 - 300	300	1.6	480	65	30
RF80 - 150	150	2.5	375	80	60
RF80 - 300	300	2.5	750	80	60
RF80 - 400	400	2.0	750	80	60
RF125 - 150	150	3.5	375	125	40
RF125 - 300	300	3.5	750	125	40
RF125 - 400	400	2.5	800	125	40
RF160 - 150	150	6.0	900	160	30
RF160 - 300	300	5.0	1000	160	30
RF160 - 400	400	2.5	1000	160	30
RF160 - 500	500	2.0	1000	160	25
RF160 - 600	600	2.0	1000	160	25
RF160 - 800	800	1.6	1000	160	25
RF160 - 1000	1000	1.2	1200	160	25
RF160 - 1300	1300	1.0	1300	160	25



SV-1 Outline Specifications

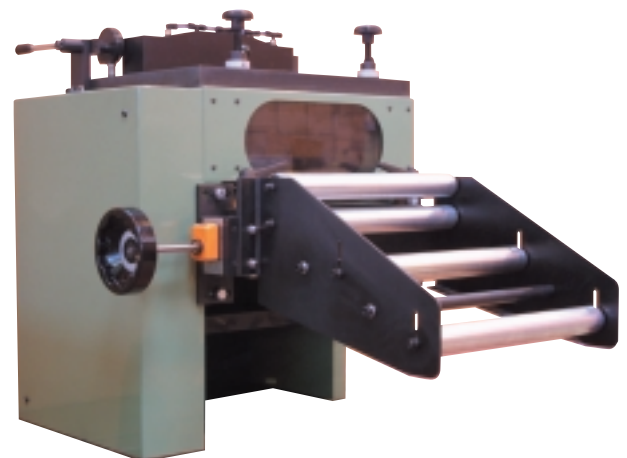
THE SV-1 CONTROLLER

SUPPLY:	3 PHASE 50-60Hz 320-500V 7A
MOTOR:	Brushless Servo
PERFORMANCE:	Speeds 5m/s Maximum.
PITCH LENGTH CONTROL:	0.5-9999.99mm Selection in metric or imperial
OPERATOR CONTROLS:	Stop. Start. Reset.
EXTERNAL INPUTS:	Start Cycle (24V PNP) Press in metal (24V PNP)
SAFETY:	Dual circuit System with power On/Off delay (Class 4)
DISPLAY:	LCD 2 line x 20 character alpha numeric
DISPLAY MODES:	Mode Select/Manual/Auto.

SVX Outline Specifications

THE SVX CONTROLLER

SUPPLY:	3 PHASE 50-60Hz 320-500V 7A
MOTOR:	Brushless Servo
PERFORMANCE:	Speeds 5m/s Maximum.
PITCH LENGTH CONTROL:	0.5-9999.99mm Selection in metric or imperial
PITCH ACCURACY:	+/- 0.05 mm Selection in metric or imperial
PRESS SPEED:	0-300 strokes per minute (Depending on material)
OPERATOR CONTROLS:	Stop. Start. Reset. (Job Program via operator keypad display)
PROGRAM (JOB) STORAGE:	0-99 jobs 0-10 Stations per job 0-99 Repeats per Station 0-8 Tool outputs per Station
EXTERNAL OUTPUTS:	Up to 8 program outputs available
SAFETY:	Dual circuit System with power On/Off delay (Class 4)
DISPLAY:	LCD 4 line x 20 character alpha numeric
DISPLAY MODES:	Job Status/Mode Select/Manual/Auto/Program User



Powair Decoilers, Levellers & Straighteners

POWAIR offer a range of decoilers, levellers and straighteners to complement the air feed and roll feed products. As you would expect from POWAIR the products are robust and reliable. A variety of combination decoiler leveller units are also available to minimise floor space and provide an integrated coil handling and material preparation solution. POWAIR are also able to provide custom made material handling solutions to stack or accumulate product following the press operation.

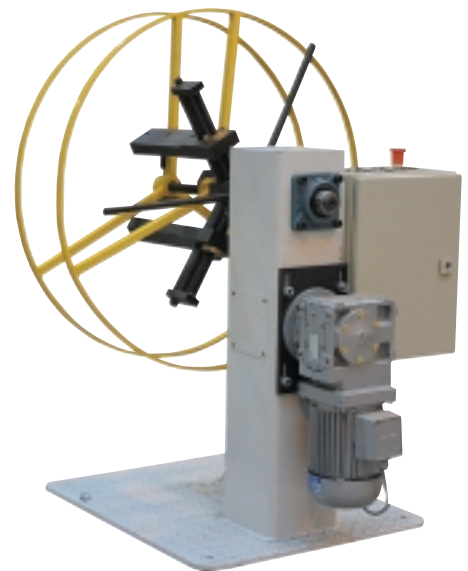
Decoilers

Powair Decoilers

A range of single or double headed decoilers can be supplied as un-motorised or motorised units. They can incorporate self centring expanding heads or bobbin head adapters. Each unit is mounted on a secure frame welded to a substantial base plate.

The mandrel consists of a manually operated 3-jaw synchronously geared assembly fitted with an adjustable drag brake to prevent coil overrun. An outer coil retaining disk or ring is easily removed using a robust securing handle.

The motorised units incorporate a torque limiter to prevent problems when a coil over load occurs and helps cushion the forces imparted by the initial load on the transmission. Different loop control options are available.



Technical Data

MODEL	COIL WEIGHT (kg)	EXPANSION RANGE (mm)	STOCK WIDTH (mm)	STOCK RANGE (mm)	MOTOR RATING (kw)	MAX COIL Ø (mm)	SPEED (rpm AC)
PAL 150V/F	150	200 - 455	15 - 150	1.5	-	800	-
PAL 150V/M	150	200 - 455	15 - 150	1.5	1.5	800	24
PAL 500V/F	500	264 - 620	15 - 305	3	-	1000	-
PAL 500V/M	500	264 - 620	15 - 305	3	1.5	1000	22
PAL 1000V/F	1000	350 - 550	15 - 400	3	-	1250	-
PAL 1000V/M	1000	350 - 550	15 - 400	3	1.5	1250	19
PAL 2000V/F	2000	350 - 550	50 - 400	3	-	1250	-
PAL 2000V/M	2000	350 - 550	50 - 400	3	1.5	1250	19
PAL 150V/FD	150	200 - 455	15 - 150	1.5	-	800	-
PAL 150V/MD	150	200 - 455	15 - 150	1.5	1.5	800	24
PAL 500V/FD	500	264 - 620	15 - 305	3	-	1000	-
PAL 500V/MD	500	264 - 620	15 - 305	3	1.5	1000	22
PAL 1000V/FD	1000	280 - 455	15 - 400	3	-	1250	-
PAL 1000V/MD	1000	280 - 455	15 - 400	3	1.5	1250	19
PAL 2000V/FD	2000	350 - 500	50 - 400	3	-	1250	-
PAL 2000V/MD	2000	350 - 500	50 - 400	3	1.5	1250	19

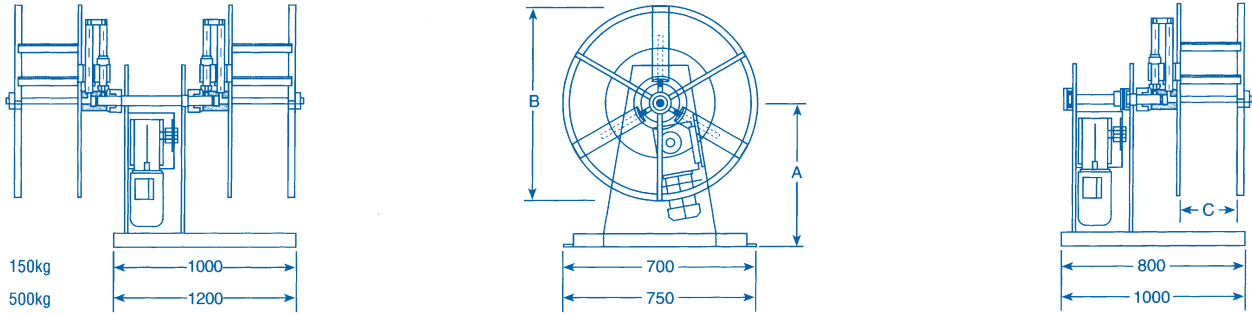
Key: Specifications

- V/F Un-motorised
- V/M Motorised
- V/FM Un-motorised double sided
- V/MD Motorised double sided

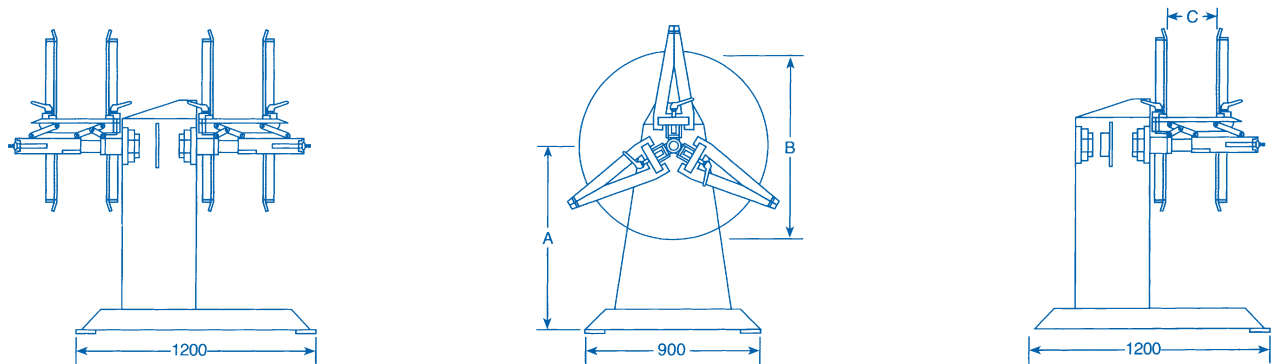
Key: Dimensions

- A** Spindle Height (customer Specified)
- B** Maximum Coil Diameter
- C** Stock Width

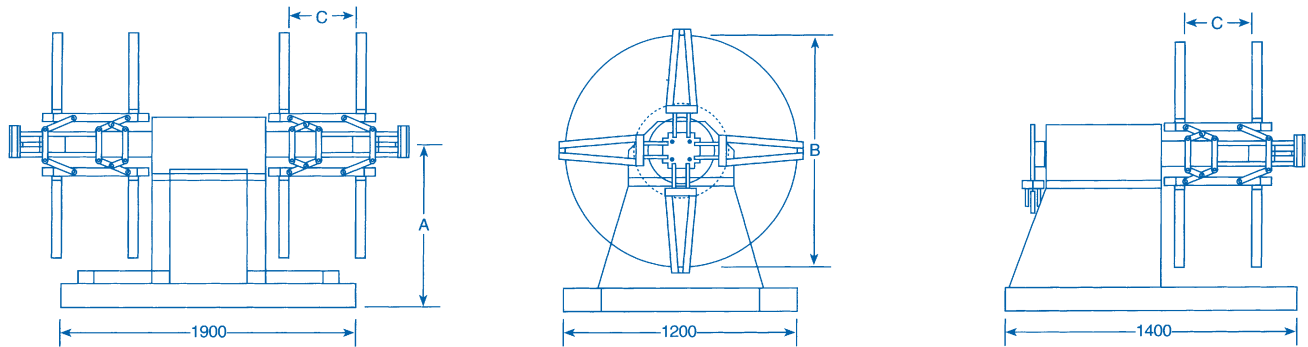
150kg and 500kg Decoiler



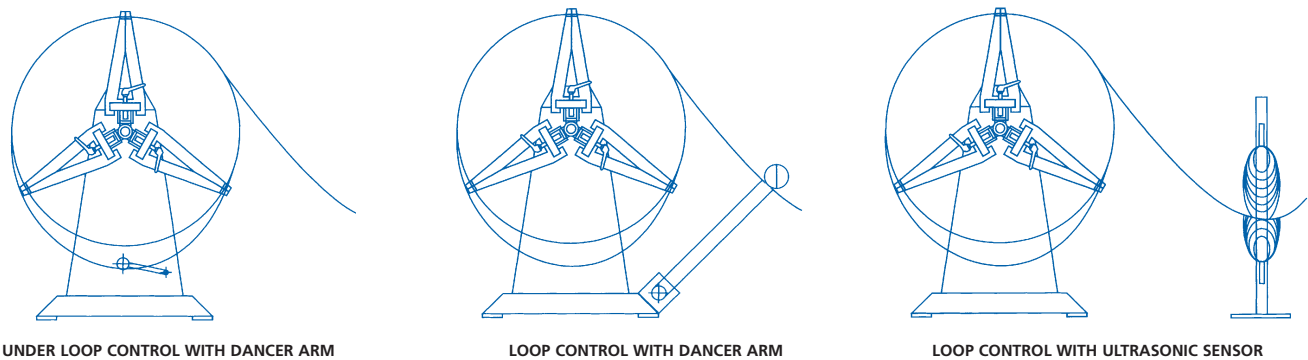
1000kg Decoiler



2000kg Decoiler



Loop Control Solutions



UNDER LOOP CONTROL WITH DANCER ARM

LOOP CONTROL WITH DANCER ARM

LOOP CONTROL WITH ULTRASONIC SENSOR

Levellers and Straighteners

Powair Levellers and Straighteners

Levellers incorporate straightening rollers and either one or two pairs of pinch drive rollers. All rollers are hardened and ground and are geared together for maximum traction. The top straightening rollers are easily adjusted from a single point.

These can be supplied as powered or un-powered units for use with wire, ribbon and flat stock.



Combination Units

Powair Decoiler / Leveller

By combining the mechanics of a decoiler and a leveller together within the same unit Powair can offer a complete compact coil handling and material preparation solution. The 'Combi' units are based on an unmotorised decoiler and a powered leveller mounted within the same frame.

LEVELLERS

2 ENTRY ROLLS, BOTH DRIVEN:	32mm diameter
MAX WIDTH:	300mm
No. STRAIGHTENERS ROLLS:	5
BOTTOM STRAIGHTENER ROLLS, DRIVEN:	3
STRAIGHTENER ROLL DIAMETER:	32 mm

(80 diameter rolls are used for thicker materials)

COMBI UNITS	PALC 500	PALC 1000	PALC 2000
MAX COIL LENGTH	500kgs	1000kgs	2000kgs
MAX STRIP WIDTH	300mm	300mm	300mm
MAX STRIP THICKNESS	3mm	3mm	3mm
MAX COIL O/D	1000mm	1250mm	1400mm
COIL I/D	264-620mm	350-450mm	350-550mm

Combi units can be supplied for materials up to 450mm wide.

Pull Through Straighteners with Reload Release (for Wire and Ribbon)

MODEL NO.	MAX WIRE DIA. mm	MAX RIBBON WIDTH mm	ROLL CENTRES mm	ROLL DIA.	NO. OF ROLLS	NO. OF PLANES
A515-5	0.4-1.6	9.52	25.4	19.0	5	1
A52-10					10	2
A54-20					20	2
A71-7					7	1
A72-14					14	1
A72-28					28	4
A91-9					9	1
A92-18					18	2
A94-36					36	4
B515-5	1.6-5.0	12.70	38.1	24.4	5	1
B52-10					10	2
B54-20					20	4
B71-7					7	1
B72-14					14	2
B72-28					28	4
B91-9					9	1
B92-18					18	2
B94-36					36	4
C515-5	3.8-7.6	19.05	57.1	41.3	5	1
C52-10					10	2
C54-20					20	4
C71-7					7	1
C72-14					14	2
C72-28					28	4
C91-9					9	1
C92-18					18	2
C94-36					36	4

Flat Stock Straighteners

MODEL NO.	MAX WIDTH mm	MAX THICKNESS mm	ROLL DIA. mm
3 x 5	76	0.76	22.2
3 x 5 - 1		1.52	31.7
3 x 5 - 2		2.28	44.4
3 x 5 - 3		3.81	63.5
6 x 5	152	0.76	22.2
6 x 5 - 1		1.52	31.7
6 x 5 - 2		2.28	44.4
6 x 5 - 3		3.81	63.5
8 x 5 - 1	203	1.52	31.7
8 x 5 - 2		2.28	44.4
8 x 5 - 3		3.81	63.5
10 x 5 - 1	254	1.0	31.7
10 x 5 - 2		2.0	44.4
10 x 5 - 3		3.0	63.5
12 x 5 - 2	305	1.52	44.4
12 x 5 - 3		2.28	63.5

These Flat Stock Straighteners have 5 Rolls. Also available are 7 and 9 Roll Models

Turn Key Solutions

Many people want to buy total solutions. Putting together the pieces of a jigsaw is of no interest to them.

Powair can offer total solutions to many press shop applications.

Powair work in partnership with ADM Automation, another part of the Automation Group Ltd.

By combining the skills and capabilities of both companies it is possible to offer a wide range of innovative solutions that give our customers a significant advantage over their competitors.

Solutions can incorporate state of the art control systems, robotic handling and automated vision inspection equipment.



POW
AIR
Automation

POW
AIR
Automation

POW
AIR
Automation

Powair Automation Limited

Nest Road
Felling Industrial Estate
Gateshead
Tyne & Wear
NE10 0ER

Tel: +44 (0) 191 469 5211
Fax: +44 (0)191 469 1858
Email: automation@powair.com
www.powair.com



Powair Automation Limited are part of the Automation Group.

