

Innovative Process Applications

Products & Services

*Industry Leaders in
Roll Compaction,
Milling, and Process
Solutions*





INNOVATIVE PROCESS APPLICATIONS

IPA's Story.

IPA was established as a company to pick up where others left off; filling a void within the industrial, nutraceutical, and pharmaceutical market.

As our own company of former Fitzpatrick employees, we are now able to use a lean manufacturing approach in designing roller compaction systems and size reduction equipment. Our team has extensive experiential knowledge in contract manufacturing, equipment refurbishing, and aftermarket support.

IPA distinguishes itself from competitors by working directly with your design team in order to meet specific design requirements, and produce custom engineered equipment.

Jerry Cain, President:

Two years as an independent consultant and more than 25 years experience with material processing. Sold, installed, and commissioned roll compaction systems globally.

Mike Stachowicz, Chief Engineer:

Over 25 years of machine design experience and 5 years as head R&D Engineer for Fitzpatrick.

John Stoch, General Manager:

Over 25 years experience in equipment manufacturing, assembly and procurement.

Capabilities.

Products & Services

- Turnkey Roll Compaction Systems - complete with recycle and PLC controls
- Size Reduction Equipment - new & improved equivalents available
 - Non-dairy and USDA Dairy Construction
- Contract Manufacturing
- Lab Testing - two complete roll compaction systems
- Electrical Engineering for PLC Upgrades
- On-site Trouble Shooting
- Machining and Fabrication Expertise
- *Recondition Compactors & Mills
- *Spare Parts
 - * Specializing in Fitzpatrick **Chilsonators™** & **Fitzmills™**

Customer Service.

Customer Support is one of IPA's highest priorities, understanding many companies operate 24/7 and require timely, professional, and reliable assistance. IPA offers a spare parts contract, expedited delivery, and on-site trouble shooting in order to minimize loss in production.

DRY GRANULATION IPA ROLLER COMPACTOR



The Purpose of Roll Compaction:

- Increase bulk density of powder
- Produce a uniform particle size
- Improve flow properties
- Minimize dust exposure to operators/ environment, and reduce losses & clean-up

IPA Roller Compactors are turnkey and suited for industrial, nutraceutical, and pharmaceutical applications. This compactor features a desired twin feed screw design with capability to independently adjust feed rate and deaeration.

Specifically, the HFS controls system throughput while the VFS controls pre-compression of the material into the rolls. The twin feed screw design maintains lower system operating temperatures and is ideal for processing a wide range of materials. Additionally, it is proven to be exceptionally efficient with lighter bulk density powders containing large amounts of air.

Roll Compactor Size	Capacity Range - Maximum Thru Rolls				Maximum Roll Pressure		Compactor Overall Dimensions (LxWxH)	
	Feed ρ 0.5 g/cc Compact ρ 1.2 g/cc		Feed ρ 1.0 g/cc Compact ρ 2.0 g/cc					
	Pounds	Kilos	Pounds	Kilos	lbs/in	kn/cm	inch	cm
4Lx10D	1,275	580	2,100	955	19,625	34.4	100x90x85	250x225x210
7Lx10D	2,125	966	3,520	1,600	11,850	20.7	100x95x90	250x230x225
8Lx12D	3,180	1,445	5,295	2,405	14,125	24.7	140x77x95	355x195x240
12Lx12D	4,775	2,170	7,950	3,614	9,420	16.5	150x95x95	380x230x240
12Lx16D	9,214	4,188	15,360	6,982	16,750	29.3	160x150x100	400x380x255
12Lx20D	14,325	6,511	23,880	10,855	26,170	45.8	160x150x100	400x380x255
16Lx20D	19,610	8,914	32,680	14,855	19,625	34.4	160x160x100	400x400x255
Capacity Range is Product								

SIZE REDUCTION EQUIPMENT

IPA MILL

Benefits

- Simplistic Engineering Design
- Universal base to meet Industrial, Pharma, & Nutra standards
- Streamline Chamber Mount
- Wash Down Duty Drive
- Maintenance Considerations:
 - * Removable Pulleys (In-Field)
 - * Designed for Water Run-Off



The IPA Mill is built for companies who want robust performance and durability, but with a modern and economical design. IPA's innovative approach uses a simple engineering design without compromising the original function of this industry "Workhorse."

Mill Size	Competitive Model	Rotor Diameter	Mill Speed Ratio	Capacity Range (0.079" - 0.25" RH Screen)	Scale Up Factor	Mill Overall Dimensions (LxWxH)
		inch / cm	Ratio	lbs/hr / kgs/hr	Ratio	inch / cm
PM6X15	D6A	10.5 in	1.0	400 - 1500 lbs/hr	1.0	59x39x63 in
		26.7 cm		180 - 680 kgs/hr		150x100x160 cm
M6X15	DASO6	10.50	1.0	400 - 1500	1.0	39x30x64
		26.67		180 - 680		100x75x160
M12x15	DKASO12	10.50	1.0	960 - 3600	2.4	42x36x73
		26.67		435 - 1635		105x90x185
M8x22	FASO8	14.375	0.743	720 - 2700	1.8	61x36x63
		36.51		325 - 1225		155x90x160
M12x22	FASO12	14.375	0.743	1120 - 4200	2.8	61x40x63
		36.51		510 - 1910		155x100x160
M20x22	FASO20	14.375	0.743	1960 - 7350	4.9	63x49x85
		36.51		890 - 3340		160x125x215
M30x28	HASO30	17.25	0.609	3600 - 13500	9.0	77x69x70
		43.82		1635 - 6135		195x175x178

SPARE PARTS & EQUIPMENT REFURBISHING

Spare Parts

IPA supplies OEM parts for original IPA machinery as well as parts for Fitzmill™ and Chilsonator™ equipment across the pharma, food, and industrial market. We stock as many consumable parts as possible to allow for shorter lead times. IPA provides quotes within 24 hours.

With applications that endure extreme wear, we will work with our clients to create an Individual Maintenance Plan (IMP) with specified parts available for quick delivery.

Supported Equipment: OEM IPA, Chilsonator™ Pharma Line CCS 220-1025 & IR Series, Chilsonator™ Industrial Line 4x10-16x20, Fitzmill™ Pharma Line L1A, M5A, D6A, Fitzmill™ Industrial Line DASO6-HASO30

Compactors

Industrial

Drop-In Roll Assembly
Roll Repairs
Feed Screws
Screens
Hydraulic Components
All Seals & Gaskets
Gears– Rolls & HFS

Compactors

Pharmaceutical

Roll Shells
Side Seals
Top Seals
All Gaskets
Shaft Packing
All Mechanical Parts

Mills

Industrial & Pharma

Drop-In Rotor Assembly
Blades
Rotors
Screens
All Seals & Gaskets

Auxiliary Equipment

Elevators

- Belts
 - Buckets
 - Fully Assembled Belts
- SWECO
- Screen
 - Gaskets

Auxiliary Equipment

GKM Screeners

- Screens
 - Gaskets
 - Flexible Tubing
- Initial Feed Hoppers
- Feed Screw
 - Agitator
 - All Seals & Gaskets

Items In-Stock

Blades
Bearings
Rotor Shafts
O-Ring Rope
Side & Top Seals

Equipment Refurbishing

IPA's service department is highly experienced in inspecting and rebuilding existing units to restore for optimum performance. Our team will provide an initial consult to determine the compactor/mill upgrades required and ensure your equipment meets the current OSHA safety standards.

LAB TESTING & CONTRACT MANUFACTURING

Lab Testing

IPA houses a full test lab facility to produce samples for your own lab analysis, or larger samples for your customers to evaluate.

Our testing objective: Develop the compactor settings to meet your criteria, determine the proper product characteristics, and size to a system that is ideal for your rate requirements.

Contract Manufacturing

— *Supporting a Niche Market* —

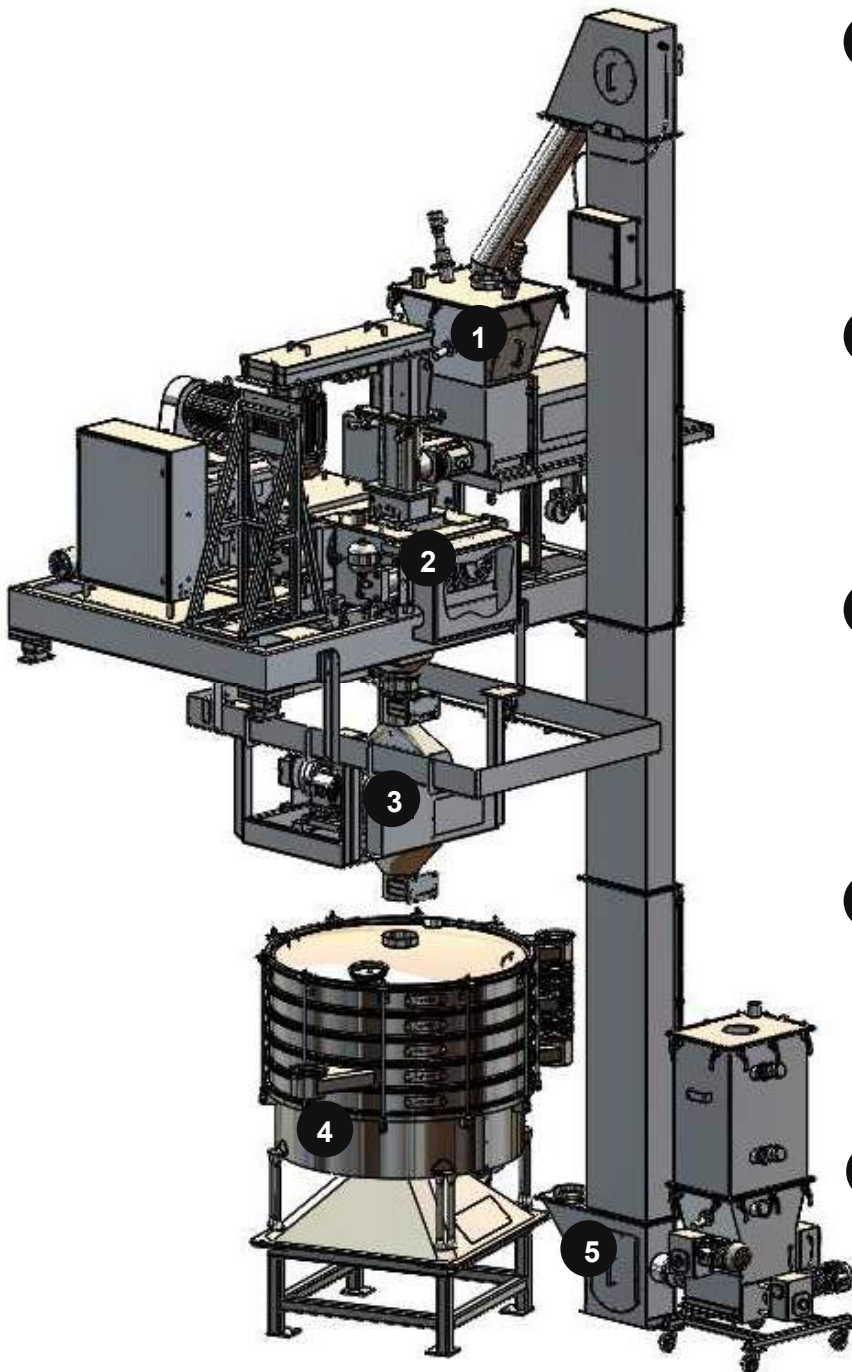
- IPA distinguishes itself from competitors by supporting companies with niche market requests – smaller batch sizes from as little as 50lbs to 3,000 lbs or more
- In-house roller compaction systems can accommodate initial market studies
- Capability to scale up to larger production systems for companies looking to expand production

IPA dives into the science of roll compaction and recognizes the requirements to bring a new material into the marketplace. Our complete understanding of roll compaction allows for a quick turnaround from R&D, to providing customer samples, and through contract manufacturing. Properly adjusting various machine settings, such as feed rate, motor speeds, and roll pressure will improve flowability, density, and reduce dust, resulting in a quality final product.

Our compaction systems have multiple roll profiles available to process a wide range of materials; including, but not limited to, Alumina Trihydrate, Urea, Potassium Chloride, various plastic additives (antioxidants).



REPRESENTATIVE ROLLER COMPACTOR WITH KEY COMPONENTS



1 Feed System

IPA uses a unique twin feed screw design, ideal for processing fine powders. This feed system removes air from the product using the least amount of energy.

2 Rolls

The rolls, performing majority of the work, apply force to the densified feed material forming a quality compact.

3 Mill

IPA uses an “in air” particle impact milling method. This method has been tested and proven to increase yields and reduced fines as compared to low speed mills.

4 Screener

Selecting an appropriate screen manufacturer, model, and size is a critical element in achieving your final product quality.

5 Recycle

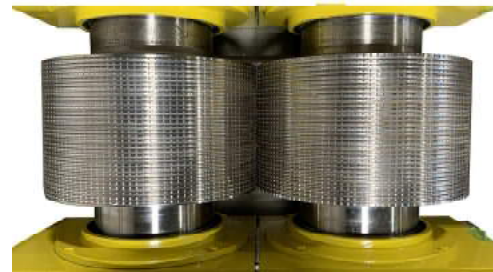
A uniform of blend of fresh feed & recycle is essential to obtain uniform product density & particle size.

IPA strives to transform ideas of innovation into quality products and services for our customers. Our experts are available to consult with your new or existing applications!
Visit us at ipaapplications.com.

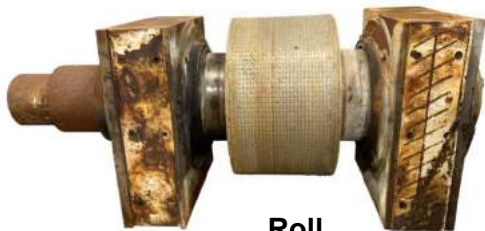
IPA Industrial Mill
RV M6x15



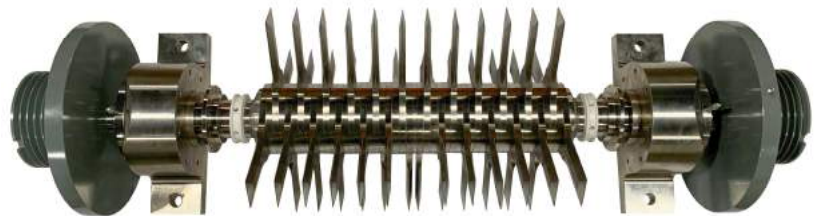
IPA Industrial Mill
M30x28



In-House Roll Alignment



Roll
Refurbishment
Before



M30x28 Rotor



After