A GUIDE TO OPTIMIZING AND ENHANCING YOUR TABLET PRESS PERFORMANCE

FETTE COMPACTING
be efficient

Introduction

This guide has been produced to help ensure that your Fette Compacting Tablet Press is operating at peak efficiency and maintaining the consistently high level of performance that you would expect from Fette Compacting.

As the global leader in tableting technology, Fette Compacting takes tremendous pride in delivering the finest equipment, service, training and parts in the industry. Our team of experts is uniquely positioned to help you get the most out of your tablet press, so please do not hesitate to contact us with any questions at **973-586-8722.**

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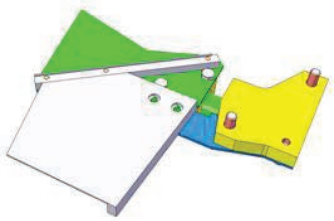
Section One: Preventative Maintenance

Scraper Bar Maintenance

Machine types: 1200, 2200, 2090, 3200 and 3090
Recommended replacement frequency: as needed
Estimated service time: 10 minutes

The scraper assembly and tail over die should be inspected at the start of each batch. The scraper can be checked on a flat level surface for any wear or damage. If any is noted, it should be replaced. The tail over die must be visibly inspected for damage then checked for slight turret contact when installed. Worn out or damaged scraper blades can contribute to loss of granulation and weight variation issues as shown in the picture to the right.



Scrapers:

PART #	DESCRIPTION	QTY	MACHINE TYPE
3113917	SCRAPER BLADE FOR SCRAPER 2	1.00	1200/1200i
3106361	SCRAPER BLADE FOR SCRAPER 2	1.00	2090/2200
3110416	SCRAPER BLADE FOR SCRAPER 2	1.00	3090/3200

Tail over dies:

PART #	DESCRIPTION	QTY	MACHINE TYPE
3114763	DIE COVER WITH INSERT	1.00	1200/1200i
3106362	DIE COVER WITH INSERT	1.00	2090/2200
3109940	DIE COVER WITH INSERT	1.00	3090/3200
7103886	DIE COVER WITH INSERT	1.00	3090i/3200i

BENEFIT:

- Reduced granulation loss
- Better weight control
- Eliminates tablet press overloads
- Improved SREL

Punch Seals

Machine types: 1200, 2200, 2090, 3200 and 3090
Inspection interval: At every batch change

Upper and lower punch seals are designed to keep oil and debris contained within the upper and lower sections of the turret. These seals should be changed on a regular pm basis or sooner depending on cleaning solutions and cleaning method. Lack of PM or seal replacement can contribute to punch seizures and cross contamination issues. Seals should be inspected regularly for any visual damage or looseness. To check lower punch seals unclamp the lower punch retention band when tooling up the press and note if any lower tools drop. If dropping tools are noted, lower punch seals should be replaced. It might also be a good time to change the uppers as well. Damaged lower punch seals can contribute to lower punch drop and cause and weight variation.

1200/2090/3200/3090:

PART #	DESCRIPTION	QTY
3115549	TSM 1	1.00
3115767	TSM 1	1.00

1200/2090/3200/3090:

PART #	DESCRIPTION	QTY
1600003	IPT 19	1.00
3115546	IPT 19	1.00

BENEFIT:

- **Less punch seizures**
- **Better weight control**
- **Improved SREL**
- **Eliminates cross contamination**

Turret Upper Cam Body Maintenance Kit

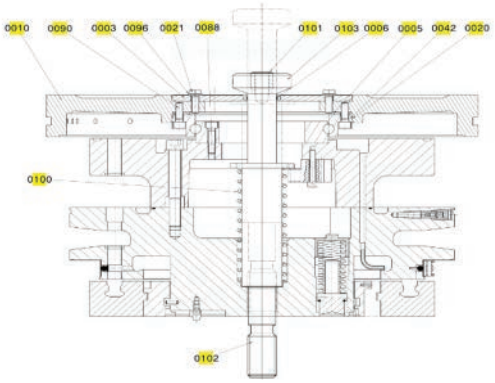
Machine types: 1200, 2200, 2090, 3200 and 3090
Recommended replacement frequency: 20,000 hours
Estimated service time: 5 hours

The upper cambody bearing provides precision alignment of the upper cam carrier. Over time, it can become worn and can contribute to upper cam track wear and improper punch tightness readings.

Assembly group contains:
- Spring for center shaft
- Upper cam body bearing
- Center cover plate
- Center shaft
- New bolts
- O-ring

When ordering use group part number:

PART #	DESCRIPTION	QTY	MACHINE TYPE
3504266	UPPER CAM CARRIER	1.00	1200/1200i
3503319	UPPER CAM CARRIER	1.00	2090/3090
3510549	UPPER CAM CARRIER	1.00	2090i/3090i



BENEFIT:

- **Reduced upper camtrack wear**

Turret Service

Machine types: 1200, 2200, 2090, 3200 and 3090
Recommended cleaning frequency: 12 months
Estimated service time: 16 hours

The internals of the turrets will become dirty over time and must be cleaned. Used oil and dust will accumulate inside the turret and impede the lubrication system and may pose a potential **contamination risk**. It is our recommendation that turrets be removed, disassembled and cleaned on an annual basis. Cleaning should involve complete disassembly of the upper and lower cam bodies, seals, retaining band and o-ring. The turret should be brought to a suitable cleaning area where the entire turret (including oil galleys) is cleaned.

Important: The turret must be dried completely following completion of cleaning to avoid rust.

Recommended parts:

1200/1200i:

PART #	DESCRIPTION	QTY
3722106	O-RING	1.00
3733406	PUNCH RESTRAINER	1.00

3200/3090/3090i:

PART #	DESCRIPTION	QTY
3752505	O-RING	1.00
3752506	PUNCH RESTRAINER	1.00

2200/2090/2090i:

PART #	DESCRIPTION	QTY
3761205	O-RING	1.00
3772705	PUNCH RESTRAINER	1.00

BENEFIT:

- **Improved lubrication**
- **Reduced risk of contamination**
- **Improved punch tightness monitoring**

Compression Gearbox Assembly Maintenance

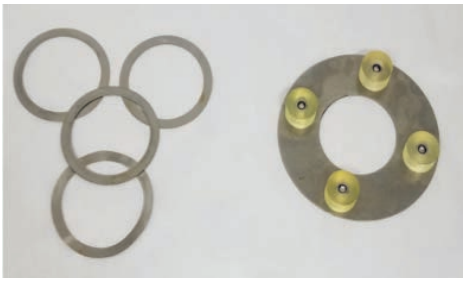
Machine types: 1200, 2200, 2090, 3200 and 3090
Inspection interval: Monthly
Recommended preventative maintenance frequency:
12 months for high compression applications
Estimated service time: 4 hours per station
Inspection (and as needed) for 1000 compression force applications

Some of the most heavily abused components of a Fette Compacting tablet press are the compression stations. These stations are responsible for compressing tablets to specified thickness and hardness. It is critical that the compression stations remain tight and do not develop wear. Worn out assemblies can contribute to thickness variation, weight variation, improper compression force monitoring, broken tools and increased tablet press vibration.

How to check for damage or play: A pry bar can be used to check the lower stations for play by simply inserting the bar at the base of the assembly and lifting up. If the assembly moves, the internal parts require re-shimming or replacement. The upper assemblies can be checked by sliding rolls out of the gearbox and reinstalling. If they slide in easily they need to be re-shimmed. The tablet press should be in the disassembly position prior to removing the roll assembly from the gearbox.

Fette Compacting offers two shim kits for basic wear maintenance: The standard shim kit consists of metal shims and is typically used for lower compression force applications. The fibroflex shim kits are designed for tablet presses running compression forces in excess of 50kN.

Metal shims Fibroflex kit



Basic metal shim stock:

PART #	DESCRIPTION	QTY
2235229	SHIM RING .1	2.00
2235230	SHIM RING .2	2.00
2235231	SHIM RING .5	1.00

Fibroflex kit replaces shim stock:

PART #	DESCRIPTION	QTY
3135925	SUPPORT PLATE	1.00
2143676	NUTS	4.00
3775506	FIBROFLEX SPRINGS	4.00

BENEFIT:

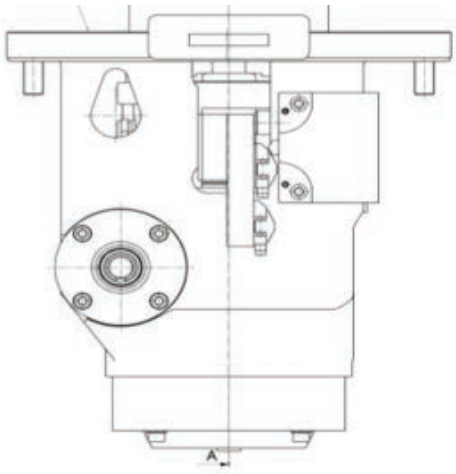
- More evenly compressed tablets
- Less thickness variation
- Less tablet press vibration
- Improved weight control and SREL

Compression Station Major Rebuild

Machine types: 1200, 2200, 2090, 3200 and 3090
Inspection interval: Monthly
Recommended preventative maintenance frequency:
12 months for high compression applications
Estimated service time: 4 hours per station
Major component interior gearbox parts recommended at annual PM

Recommended PM parts:

PART #	DESCRIPTION	QTY
3107014	SCREW WHEEL	1.00
3107823	WORM SHAFT	1.00
3107821	HOLDING GROOVE	1.00
2234343	SEAL	1.00
2142514	SPACER	2.00
2142515	SPACER	2.00
2147340	BEARING	2.00
3109085	KEY	1.00
2143191	SCREW	1.00



BENEFIT:

- More evenly compressed tablets
- Less thickness variation
- Less tablet press vibration
- Improved weight control

Compression Roll Assembly Maintenance

Machine types: 1200, 2200, 2090, 3200 and 3090
Inspection interval: Every Cleaning
Recommended preventative maintenance frequency: 12 months

Compression roll assemblies should be inspected at every cleaning. To inspect, simply rotate the compression roll and check for pitting or damage. Avoid using pitted tooling as the pitting will transfer to the wheels. When setting up the tablet press, confirm the compression rolls are pre-lubricated before starting the run. For high compression (over 50kN) applications, bushings and shafts seals should be inspected yearly.

Compression roll carrier complete rebuild PM:

PART #	DESCRIPTION	QTY
3112094	COLUMN	2.00
3735705	SEAL	2.00
3738505	BUSHING	4.00
3112101	HOUSING	1.00
3504242	ROLL WHEEL	1.00
7018831	TEFLON RINGS	2.00
3715902	DRAIN PLUG	1.00

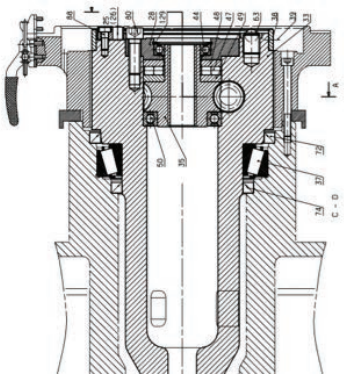
BENEFIT:

- **No damage to punch heads**

Main Drive Rotor Bearings

Machine types: 2200, 2090, 3200 and 3090
Inspection interval: 12 months
Replacement: as needed
Estimated service time: 2 days

The main drive rotor bearings are heavy-duty precision bearings which are designed to last for years. Tablet presses running high compression forces over 50 kN should be checked annually to ensure that no wear or damage has occurred. The easiest way to check the bearings is to put a dial indicator on the turret and measure the horizontal and vertical runout. The runout should be less than .003.
Other indications of worn out bearings can be turret wobble, Fill-O-Matic base plate wear and calibration issues.



PART #	DESCRIPTION	QTY
2236333	SEAL DIN3760-A230X260X15NB	1.00
2236332	SEAL DIN3760-A170X200X15NB	1.00
2144734	ROTARY SHAFT SEAL DIN3760-B-100X115X9-NB	1.00
3744805	TIMKEN TAPERED ROLLER BEARING JM624649/610-90B02 INNER D=120 OUTER D=180	1.00
2236332	TIMKEN TAPERED ROLLER BEARING JM734449/410-90B01 INNER D=170 OUTER D=240	1.00

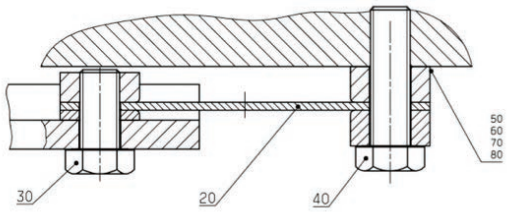
BENEFIT:

- **Precision movement of turrets**
- **Less Fill-O-Matic base plate wear**
- **Reduced tablet press vibration**

Torque Strap Replacement

Machine types: 2200, 2090, 3200 and 3090
Inspection interval: 6 months
Recommended replacement frequency: 12 months
Estimated service time: 1 hour

The torque strap on Fette Compacting tablet presses is used to connect the main drive assembly to the support column of the tablet press. It must be checked from time to time to reduce the risk of failure. Failures typically occur when the tablet press is running in excess of 60 kN and the torque strap has not been maintained. This applies to tablet presses equipped with main drive motor gearbox assemblies only.



Torque Straps:

PART #	DESCRIPTION	QTY
3115638	2090/2200 HEAVY DUTY	1.00
3506397	3090/3200 HEAVY DUTY	1.00

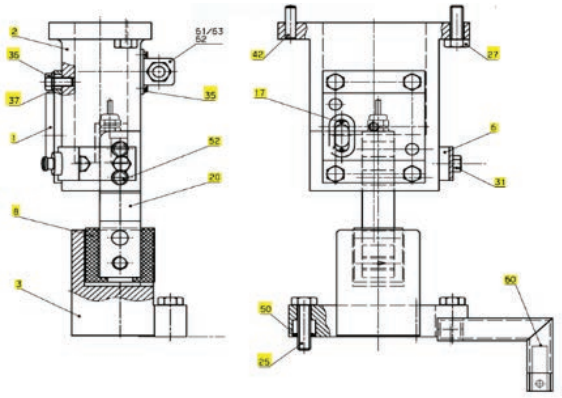
BENEFIT:

- **Assurance that torque strap does not break during production and damage more parts**

Torque Bracket Upper Punch Tightness Assembly Maintenance

Machine types: 1200, 2200, 2090, 3200 and 3090
Inspection interval: Monthly
Recommended replacement frequency: 12 months
Estimated service time: 15 minutes

How to check for damage or play: The upper cam track is connected to the upper section of the tablet press with a torque bracket which contains the 2500 N shearing probe. This probe measures the torque exerted against the cam body when the tablet press is in operation and provides the punch tightness reading in parameter 45. The rubber bushing which holds the bracket should be replaced annually. To check for wear, simply grasp the assembly and apply pressure in both directions. If play is noticed, the bushing should be replaced.



Parts required:

PART #	DESCRIPTION	QTY
3115527	BUSHING	1.00

BENEFIT:

- Removes play in the upper cam body
- Assures accurate upper punch tightness measurement

Helpful Tablet Press Torque Specifications And General Settings

Torque Specifications

PART	UNIT OF MEASUREMENT
Die Lock Screws	10 Nm
Die Segments	40 Nm
Cams	10 Nm
Dosing Head	10 Nm
Upper Stiffness Bracket	46 Nm
Main Drive Shaft	50 Nm
Center Shaft P1200	400 Nm
Compression Station	195 Nm
Manual Penetration Adjustment	600 Nm

General Settings

PART	UNIT OF MEASUREMENT
FOM Base Plate Refer to MOK	0.05 - 0.10 mm
FOM Table Refer to Turret (w/o sealing)	0.10 mm
Tablet Scraper Refer to MOK	> 0.50
Ejector Above MOK	0.10 - 0.20 mm
Pull Down Cam Dosing Head	3.00 mm
Air Reject Nozzle Refer to Tablet	2.00 - 3.00 mm

BENEFIT:

- **Proper torque prevents broken components**

Fill-O-Matic Assembly Paddle Seal Replacement

Machine types: 1200, 2200, 2090, 3200 and 3090
Inspection interval: At every batch change
Recommended replacement frequency: At major cleaning
Estimated service time: 30 minutes

How to check for damage: The Fill-O-Matic paddle seals prevent granulation from entering the bearings located under the paddles. The seals should be checked regularly as some products can migrate under the seals and pose a **contamination risk**. To be safe, it is recommended that these seals be replaced after each major cleaning. Each Fill-O-Matic contains 3 seals. The older style black rubber seals (as pictured here) must be replaced as they are not food grade.

PART #	DESCRIPTION	QTY
3766108	FILL-O-MATIC PADDLE SEAL	1.00
3766008	FILL-O-MATIC PADDLE SEAL	2.00

BENEFIT:

- **Eliminates the potential for cross contamination**
- **Prevents granulation migration into bearings**

Fill-O-Matic Replacement: When And Why

Machine types: 1200, 2200, 2090, 3200 and 3090
Inspection interval: Every major cleaning
MUST BE REPLACED-NON GMP

The Fill-O-Matics are manufactured from aluminum that is then anodized to provide a hard coating. This coating provides an easy-to-clean GMP surface. The Fill-O-Matic should not be cleaned with CIP cleaners as they erode the anodized coating. It is also highly recommended that the Fill-O-Matic paddle removal tools are used when removing paddles to prevent damage to the anodized coating. Once the anodizing has been compromised and bare aluminum is exposed, the Fill-O-Matic must be replaced. **Bare aluminum is not considered GMP and poses a contamination and potential micro failure risk as it is porous.**

PART #	DESCRIPTION	QTY
3504674	FILL-O-MATIC COMPLETE	1.00
3511810	OPTIONAL FILL-O-MATIC STAINLESS STEEL	1.00

Images of Fill-O-Matic castings damaged by CIP and improper paddle removal tools.

BENEFIT:

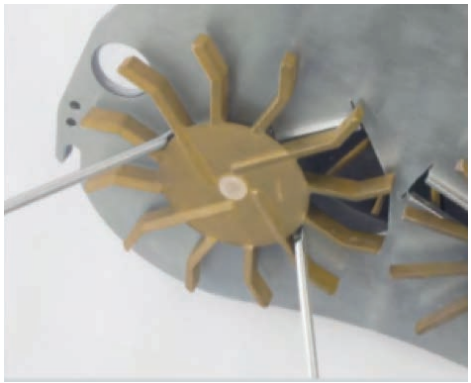
- **Eliminates the potential for failed micro testing, cross contamination and metal contamination**

Fill-O-Matic Paddle Removal Tool (2 Per Set)

Machine types: 1200, 2200, 2090, 3200 and 3090

A necessary tool when removing feeder paddles. The damage on the feeder body pictured here is a direct result of not using the proper tool to remove the paddles. When the feeder body anodizing has been damaged, bare aluminum is exposed and the feeder body **no longer meets GMP standards**. In this particular case, the feeder body should be replaced.

PART #	DESCRIPTION	QTY
3114939	REMOVAL TOOL - SET OF 2	1.00



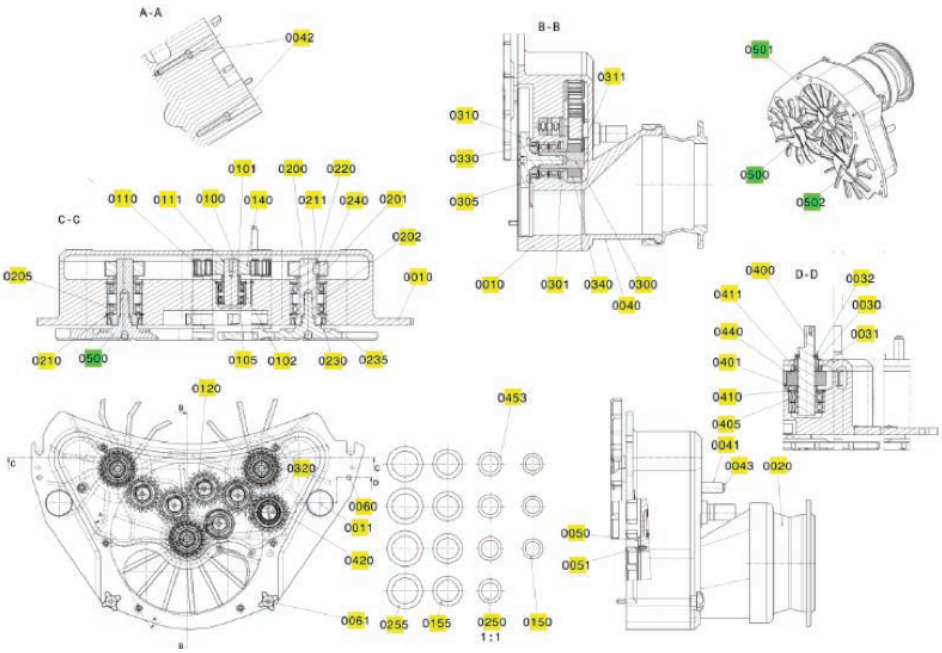
BENEFIT:

- **Eliminates damage to Fill-O-Matic**

Fill-O-Matic Maintenance

Machine types: 1200, 2200, 2090, 3200 and 3090
Inspection interval: monthly
Recommended preventative maintenance frequency: 12 months
Estimated rebuild: 24 hours

The Fill-O-Matic gearbox housing should be opened and inspected for moisture on a monthly basis. At the same time the Fill-O-Matic paddles should be inserted and rotated to check for any binding or looseness. When rotating the paddles, make sure they align with each other. Years of use and lack of preventive maintenance often leads to worn out components. There is a detailed parts breakdown in the parts manual. The Fill-O-Matics are not easy to rebuild, as the shimming and assembly is critical. **If internals are severely damaged, Fette Compacting offers complete new castings (part number: 1600448).** These castings come complete with internal components.



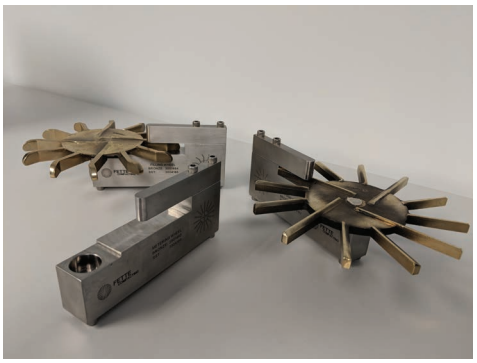
BENEFIT:

- **Fill-O-Matics are kept in optimal condition**
- **Eliminates downtime**

Fill-O-Matic Paddle Test Tools

Machine types: 1200, 2200, 2090, 3200 and 3090
Inspection interval: Monthly

Fill-O-Matic paddles often get dropped or damaged during the cleaning process. They are also not normally checked for wear. Damaged paddles that run unnoticed often lead to further damage, resulting in more expensive parts getting compromised like the Fill-O-Matic casting, and can also lead to metal contamination. These tools are designed to quickly identify worn-out, damaged, or bent paddle wheels. Simply insert a paddle wheel into the fixture and rotate. Test tools enable you to repair or replace paddles before inserting them into the feeders.



Kit contains: 3 test tools with paddle type identified on each tool. Test tools work for standard and wire wheel paddles.

PART #	DESCRIPTION	QTY
1600768	ALL 3 ASSEMBLIES	1.00

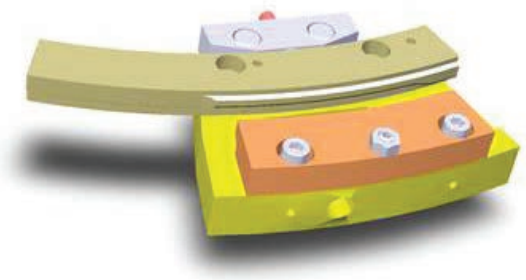
BENEFIT:

- **Quickly identifies worn out or damaged paddles before they damage Fill-O-Matic**
- **Improved granulation fill**

Dosing Station Inner And Outer Ledge Cams

Machine types: 1200, 2200, 2090, 3200 and 3090
Inspection interval: At every batch change
Estimated service time to replace: 1 hour

The inner and outer ledge cams hold the lower tools in place at the final filling of the die. It is critical that they do not wear to the point of lower punch looseness or vibration. The inner ledge cam is designed to pull the lower punches down 2 mm at exit so that granulation remains in the die when the tool approaches the pre compression wheel. If the pull down area of the inner ledge cam is worn, the cam must be replaced as granulation loss from over filling will occur at the pre compression. This over filling will cause weight variation and excessive granulation loss.



1200/1200i:

PART #	DESCRIPTION	QTY
3114813	GRIP LEDGE TSM 1	1.00
3114814	PULL DOWN LEDGE TSM 19	1.00
3114815	PULL DOWN LEDGE TSM 1	1.00
3137334	GRIP LEDGE TSM 19	1.00

3090/3200:

PART #	DESCRIPTION	QTY
3133029	GRIP LEDGE TSM 19	1.00
3133030	PULL DOWN LEDGE TSM 19	1.00
3111439	GRIP LEDGE TSM 1	1.00
3111540	PULL DOWN LEDGE TSM 1	1.00

2090/2200i:

PART #	DESCRIPTION	QTY
3110927	GRIP LEDGE TSM 19	1.00
3110928	PULL DOWN LEDGE TSM 19	1.00
3112015	GRIP LEDGE TSM 1	1.00
3112016	PULL DOWN LEDGE TSM 1	1.00

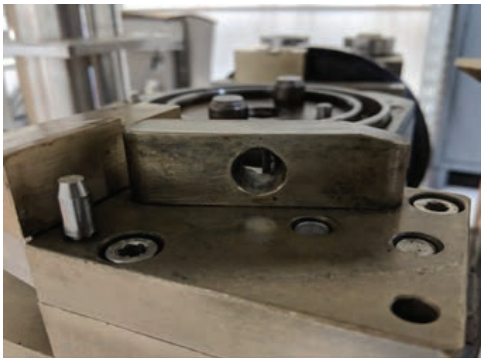
BENEFIT:

- Improved weight control
- Improved SREL
- Improved yields
- Reduced granulation loss

Dosing Station Base And Guide Piece

Machine types: 1200, 2200, 2090, 3200 and 3090
Inspection interval: 6 months
Replace: 12 months

Often neglected and very seldom changed, the dosing base and guide piece play a key role in maintaining tablet weights. Worn components contribute to faster wear of the inner and outer dosing station ledge cams and can contribute to high SREL and weight variation. Tablet presses running abrasive products or nutraceuticals can result in granulation penetrating the lower cam track area. The guide piece should be changed annually and base the inspected.



1200/1200i:

PART #	DESCRIPTION	QTY
3113823	GUIDE PIECE TSM 1 & 19	1.00

2090/2200i/3090:

PART #	DESCRIPTION	QTY
3109730	GUIDE PIECE TSM 1 & 19	1.00

3200i/3090i:

PART #	DESCRIPTION	QTY
9138353	GUIDE PIECE	1.00

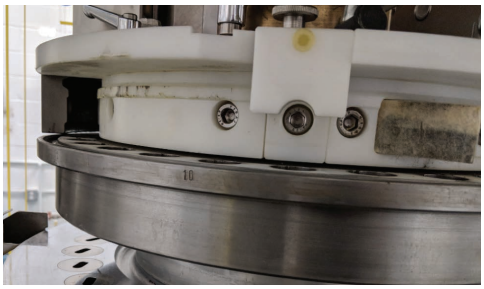
BENEFIT:

- **Improved weight control**

Upper Cam Track

Machine types: 1200, 2200, 2090, 3200 and 3090
Inspection interval: At every batch change
Estimated service time to clean and inspect: 15 minutes

The entire cam track should be inspected and cleaned at every batch change; specifically to the upper punch insertion cams, lubrication cams, and lowering cam. If wear is noted in these areas, the cams should be replaced. Wear found specifically in the punch insertion cam can cause upper punches to make contact with the Fill-O-Matic resulting in severe damage. Wear at the lowering cam can affect upper punch penetration at the pre compression area damaging the tail over die or affecting tablet weights. Punch felts should be replaced at each major cleaning.



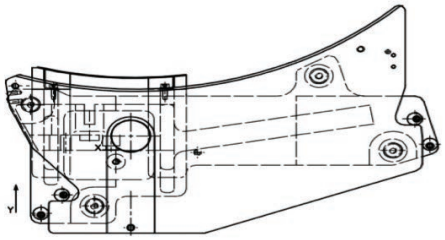
BENEFIT:

- **Improved tablet press performance**
- **Reduced downtime due to cam wear**

Fill-O-Matic Table 4-Point Adjustment

Machine types: 1200, 2200, 2090, 3200 and 3090
Inspection interval: At every batch change
PM schedule: Annually
Estimated service time to inspect: 10 minutes

The 4-point Fill-O-Matic tables have 4 locking bolts located underneath the assembly. These bolts should be removed and lubricated annually. The flatness of the tables should also be checked using a precision straight edge for any warping or damage. If damage is noted, the table should be replaced. The 4-point Fill-O-Matic table is very difficult to adjust and in recent years has been replaced with a 3-point easy to adjust assembly. **The new 3-point assembly can save hours of set up time and is manufactured entirely out of stainless steel. Upgrades are available for all tablet presses.**



Old style 4-point table

1200/1200i:

PART #	DESCRIPTION	QTY
3512424	3-POINT FEEDER TABLE UPGRADE	1.00

2090/2200i:

PART #	DESCRIPTION	QTY
3511060	3-POINT FEEDER TABLE UPGRADE	1.00

3090/3200i:

PART #	DESCRIPTION	QTY
3511065	3-POINT FEEDER TABLE UPGRADE	1.00

BENEFIT:

- **Keeps adjustment screws from seizing**
- **Recommended upgrade to 3-point table, if possible**

Top Tablet Press Cleaning And Fill-O-Matic Drive Belt Inspection

Machine types: 1200, 2200, 2090, 3200 and 3090
Inspection interval: 6 months
Replace: 12 months

The Fill-O-Matic drive belt should be inspected every 6 months and replaced yearly. The top sections of tablet presses should be inspected and cleaned regularly. PM's need to be put in place to clean upper sections and inspect belts and lubrication lines. Hand scooping tops of tablet presses should be cleaned regularly to eliminate any contamination issues.

BENEFIT:

- Less granulation loss
- Saves hours on set up
- Stainless steel easy to clean
- Better GMP

Ejection Station

Machine types: 2200, 2090, 3200 and 3090
Inspection interval: At every batch change

The ejection station ramp and ledge cam are the most commonly damaged parts on the tablet press. Typically, the first part to wear is the ramp, then the ledge cam. When the ledge cam and ramp wear out, the ejection of the tablet can be affected. Broken and chipped tablets can occur as a result of these components being worn out. The ramp should be replaced before it is so worn out that it can affect lower punch trajectory.

2090/2200/3090/3200:

PART #	DESCRIPTION	QTY
3108387	EJECTION RAMPS	1.00

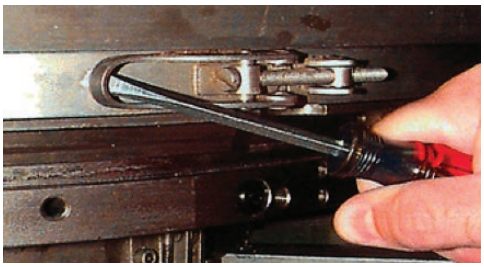
BENEFIT:

- **Eliminates broken tablets**
- **Reduces tool wear**

Lower Punch And O-Ring Retention Band

Machine types: 1200, 2200, 2090, 3200 and 3090
Inspection interval: At every batch change
PM schedule: 6 months

The lower punch retention band is designed to firmly hold the lower punches in place when the machine is in operation. The band, the O-ring, and lower punch seals work in combination to assure that the lower punches do not drop. To test lower punch seals, loosen the clamp and hand rotate the turret. If the tools drop, the seals need to be replaced. Re-clamp the band and rotate the turret again. If any tools continue to drop, replace the band. The band and O-ring should be replaced on an annual basis.



Recommended parts:

1200/1200i:

PART #	DESCRIPTION	QTY
3722106	O-RING	1.00
3733406	BAND	1.00

2200/2090/2090i:

PART #	DESCRIPTION	QTY
3761205	O-RING	1.00
3772705	BAND	1.00

3200/3090/3090i:

PART #	DESCRIPTION	QTY
3752505	O-RING	1.00
3752506	BAND	1.00

BENEFIT:

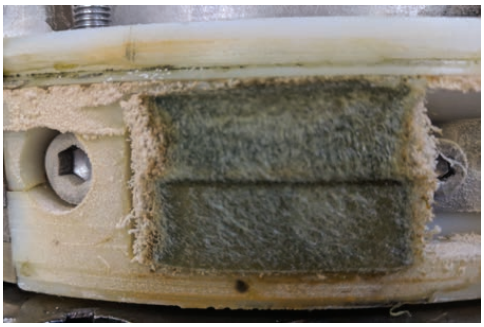
- **More precise weight control**
- **Eliminates weight fluctuation**

Lubrication Pad And Oil O-Ring Inspection And Replacement

Machine types: 1200, 2200, 2090, 3200 and 3090
Inspection interval: At every batch change with O-ring change annually

The upper and lower cam tracks provide lubrication to several points on the tablet press. The oil O-rings should be changed annually as they become brittle and lose contact with the cam profiles. Worn out O-rings will cause a lack of oil to the applied position and can often cause oil to run down onto the turret instead of the lubrication pad.

Felt pads should be replaced frequently. Once they become contaminated with product, they lose their ability to absorb oil. We recommend changing felt pads at every major clean.



PART #	DESCRIPTION	QTY
2148759	LUBRICATION O-RING	1.00

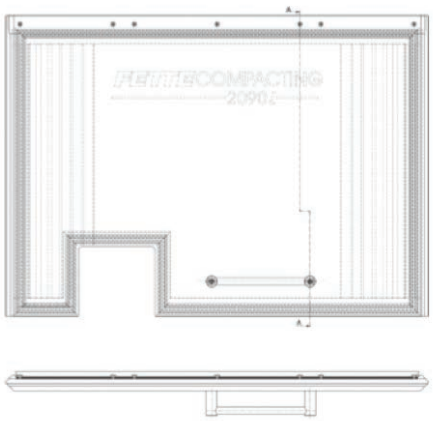
BENEFIT:

- Increased lubrication to upper punches
- Less oil required for upper punch lubrication
- Less black spots

Window Flaps

Machine types: 1200, 2200, 2090, 3200 and 3090
Inspection interval: Monthly
Estimated inspection time: 5 minutes

The four Fette Compacting tablet press window flaps are made from acrylic and require periodic preventative maintenance and inspections. We recommend a monthly inspection of the general door and gas strut condition. Each window flap should be opened and tested to make sure that the struts hold the doors in the open position. If any of the doors do not stay open, the struts must be replaced. The acrylic, specifically along the frame support should be inspected for cracks and damage. Years of cleaning solvents and stress will sometimes cause the window flaps to crack at the frame assembly. If any cracks are noted, the window flap must be replaced. At the same time, all the silicone gaskets should be checked for damage or wear.



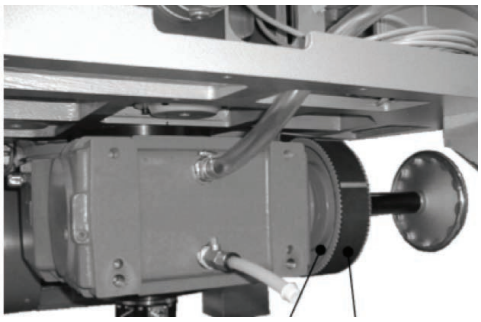
BENEFIT:

- **Inspections can extend door life**
- **Keep struts working at optimal performance**

Main Drive Gearbox Assembly

Machine types: 1200, 2200, 2090, 3200 and 3090
Inspection interval: major cleaning
Preventative maintenance schedule: annually
Basic preventative maintenance schedule: 6 months

The main drive motor gearbox assembly can be easily checked at major cleanings. The gearbox should be visibly checked for any leaks. Leaks can typically be seen at the bottom of the assembly, by the encoder or behind the cog gear at the hand wheel location. If any leaks are noted, new seals will be required. The assembly should also be checked for loose play or movement. The entire assembly is bolted to the side column of the tablet press with a torque bracket. If any physical movement is noticed, the torque bracket as well as the main drive motor to frame bolts should also be checked.



Annual PM should include gearbox oil change, torque bracket replacement, belt change and a check of all motor to sub frame bolts.

BENEFIT:

- **Extend gearbox life**

Section Two: Upgrades For Efficiency

Machine types: 1200, 2200, 2090, 3200 and 3090

The following section contains efficiency upgrades and services offered by Fette Compacting America for your tablet press. These services can improve change-over times, cleanability, product fill, tablet rejection, yields, and overall efficiency.

3-Point Fill-O-Matic Table Upgrade

Machine types: 1200, 2200, 2090, 3200 and 3090

If you ever had to adjust the old style Fette Compacting 4-point feeder table, we highly recommend this upgrade. The new simplified design is fabricated entirely out of stainless steel and only has 3-points to adjust. Simply loosen or tighten the three 13mm bolts to raise and lower the table. The 3 adjustment points use a fibro flex bushing which expands and contracts to set the table height. Simply loosen or tighten the 13 mm hexagon head bolt to change the height. **This will help to eliminate hours of set-up time.**

1200/1200i:

PART #	DESCRIPTION	QTY
3512424	3-POINT FILL-O-MATIC TABLE UPGRADE	1.00

2090/2200i:

PART #	DESCRIPTION	QTY
3511060	3-POINT FILL-O-MATIC TABLE UPGRADE	1.00

3090/3200i:

PART #	DESCRIPTION	QTY
3511065	3-POINT FILL-O-MATIC TABLE UPGRADE	1.00

BENEFIT:

- Less granulation loss
- Saves hours on set up
- Stainless steel easy to clean
- Better GMP

Stainless Steel Replacement Fill-O-Matic

Machine types: 1200, 2200, 2090, 3200 and 3090

Stainless steel Fill-O-Matics are available for all tablet presses. These Fill-O-Matics will not get damaged from the daily abuse. If they become scratched or chipped, they can be polished back to new. The stainless steel casting and base plates are easily cleaned and have a much better finish for micro testing.

Kit contains:
- Entire new table and stand
- Fibro flex shims for raising and lowering the assembly

BENEFIT:

- **Complete GMP finish**
- **Easily cleaned gearbox separates from unit when cleaning**

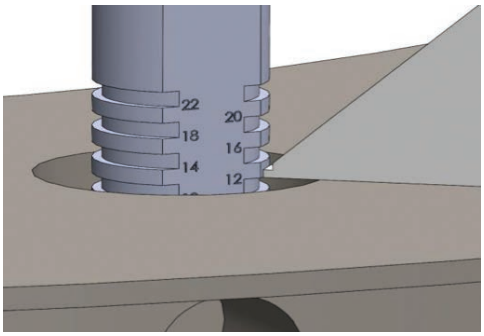
Fill Cam Wear Inspection Tool

Machine types: 1200, 2200, 2090, 3200 and 3090
Inspection interval: 6 months
Estimated inspection time: 30 minutes with test tool

This is one of the most commonly overlooked areas of the tablet press. When fill cams wear, they typically wear upwards which reduces the filling capacity of the cam. Fill cams should be visibly inspected for wear and replaced as needed. The amount of wear can also be measured using the fill cam test tool.

PART #	DESCRIPTION	QTY
1600769	TSM 1	1.00
1600768	TSM 19	1.00

Fill Cam Test Tool



This tool helps you to quickly identify worn out or damaged fill cams. The test tool comes with easy to read SOP.

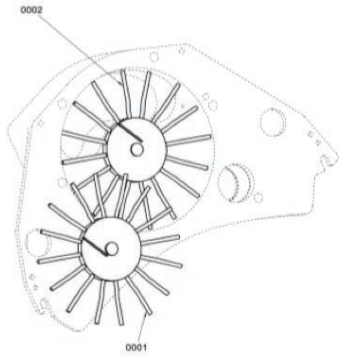
BENEFIT:

- **To be able to identify worn out and damaged fill cams before they affect tablet weight**

Wire Fill-O-Matic Paddle Wheels And Larger Opening Dividing Plate

Machine types: 1200, 2200, 2090, 3200 and 3090

Did you know that Fette Compacting offers several versions of the feeder paddles, from standard brass to standard stainless? For special applications, we also offer wire filling wheels which can be used with the standard feeder. The wire paddles can be used in any combination and are extremely useful when filling problems are present. They work extremely well with low bulk density products. The stainless steel dividing plate can also be used with or without wire paddles and allows more granulation into the lower section of the Fill-O-Matic.



PART #	DESCRIPTION	QTY
3503107	ROUND ROD WHEEL F-O-M WHEEL - SET	1.00
3513114	FILLING WHEEL WITH ROUND RODS F-O-M WHEEL	1.00
3513113	DISTRIBUTOR WHEEL WITH ROUND RODS F-O-M WHEEL STAINLESS STEEL	1.00
3111541	INTERMEDIATE PLATE	1.00

BENEFIT:

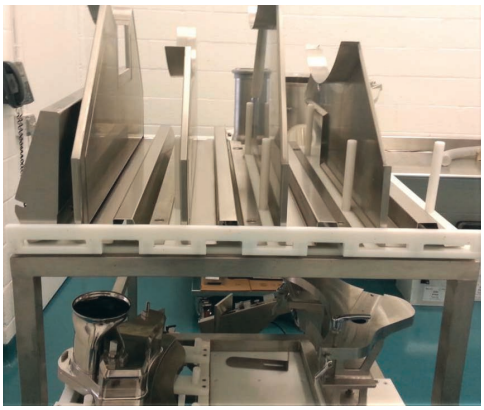
- Improves SREL and fill
- Great for low density products
- Improves content uniformity with low active products

Parts Carts

Machine types: All Fette Compacting tablet presses

Upgrading to a Fette Compacting parts cart prevents parts from becoming damaged during the cleaning process. It helps to keep components organized, easier to clean and improves changeover times. Parts can be washed on the cart, covered and stored until needed.

Call for part number based on machine type.



BENEFIT:

- **Less damaged parts**
- **Faster changeover times**
- **More GMP**

Fill-O-Matic Baseplates With Slide-In Inserts Available For All Tablet Presses

Machine types: 1200, 2200, 2090, 3200 and 3090

The base plate with slide-in inserts serves several purposes:

- Eliminates excess granulation on the die table
- Provides better sealing
- Available in different fill openings to adapt to tablet sizes
- Helps to minimize sticking of granulation to die plate
- Saves money when running abrasive products. Instead of replacing the entire baseplate only the inserts need to be replaced

1200:

PART #	DESCRIPTION	QTY
1600605	FILL-O-MATIC BASEPLATE FOR SLIDE-IN INSERTS	1.00

2090/2200:

PART #	DESCRIPTION	QTY
3127033	FILL-O-MATIC BASEPLATE FOR SLIDE-IN INSERTS	1.00

3090/3200:

PART #	DESCRIPTION	QTY
3131474	FILL-O-MATIC BASEPLATE FOR SLIDE-IN INSERTS	1.00

BENEFIT:

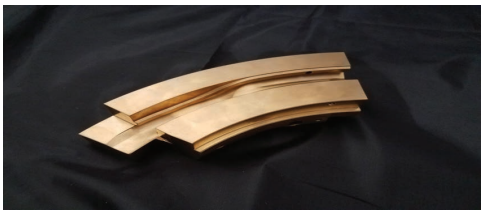
- **Improves yield**
- **Less granulation loss**
- **Tablet press runs cleaner**

Deep Fill Cams

Machine types: 2200, 2090, 3200 and 3090

Deep fill cams were designed to help fill difficult products. They work similar to the standard fill cams but provide an extra 5 mm of fill upon initial tool entry (thus providing more overfill). For example, a 10mm deep fill would initially fill to 15mm then exit at the normal 10mm range. These cams are extremely beneficial when running low density products with filling issues. Combine the deep fill cams and wire feeder paddles and you have the optimal filling capabilities for low density products. We have noted 4 to 5% improvements with SREL in some cases.

Call for part number based on machine type and tooling size.



BENEFIT:

- **Overfills die initially by 5mm to improve fill**
- **Makes difficult filling products run better**
- **Improved SREL**
- **Reduces weight variations**

Turret Inspection Go/No-Go Test Punch for Turret Bore Inspection

Machine types: 1200, 2200, 2090, 3200 and 3090

Fette Compacting America offers Go/No-Go gauges for TSM 19 and TSM 1 inch turrets. These gauges allow you to determine if upper or lower punch bores are out of tolerance. If any bores are out of tolerance, we can repair the bores. Fette Compacting America also offers a full repair service for turrets including re-sleeving and hardened wear plates. If you think your turret is damaged, we can provide an inspection report and quotation for the repair.

PART #	DESCRIPTION	QTY
1600740	TSM 1	1.00
1601076	TSM 19	1.00

BENEFIT:

- **Determine any damaged bores before tooling damage occurs**

Dust Tight Chutes

Machine types: 1200, 2200, 2090, 3200 and 3090

Our new pneumatically-controlled dust tight chutes are designed to connect directly to the discharge container. Tri clover connections allow a direct sealed link from the tablet press to the external container, greatly reducing airborne particulates. Retrofit kits are offered for all 2090 and 3090 tablet presses.

BENEFIT:

- **Reduced operator exposure**
- **Compression room stays cleaner**

Machine Refurbishing

Machine types: 1200, 2200, 2090, 3200 and 3090

Fette Compacting America currently offers two basic refurbishment services (minor and major).

Minor Service: Your tablet press is shipped to Fette Compacting America where we proceed to do a top-to-bottom cleaning in order to perform a basic inspection. You are then quoted on the job which would typically consist of rebuilding the compression stations as well as removing and servicing the turrets.

Major Service: The same as Minor, but in more detail. The tablet press is cleaned from top-to-bottom while all compression assemblies as well as rotor bearings compression roll bearings and shafts are replaced. Electrical components are also cleaned up.

BENEFIT:

- **Tablet press restored to full operation**
- **Extend machine performance**

Turret Rebuilding Services

Machine types: 1200, 2200, 2090, 3200 and 3090

Fette Compacting America offers refurbishment of all Fette Compacting turrets. This includes re-sleeving of upper and lower bores as well as the installation of hardened wear plates for die tables. Fette Compacting America also offers new replacement turrets and stainless steel turrets. If you need a turret repaired, simply contact our Spare Parts Department. Once the turret is received, it will be inspected and a quotation will be provided with copies of the inspection report.

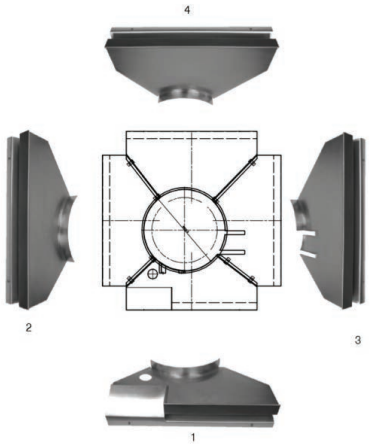
BENEFIT:

- **Turrets rebuilt to as-new or better-than-new**
- **Hardened wear plates extend turret life**

Shrouding Kits

Machine types: 1200, 2200, 2090, 3200 and 3090

New upper and lower shrouding kits are available for all machines. These kits provide precision-fitted pieces that replace older damaged ones. This eliminates difficulties when assembling machines. Old or bent shrouding can also contribute to metal contamination. After the shrouding is installed, it comes into contact with the turret causing metal contamination.



BENEFIT:

- **Improved tablet press cleanability**
- **Reduced risk of metal contamination**

Notes

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FETTE COMPACTING
be efficient