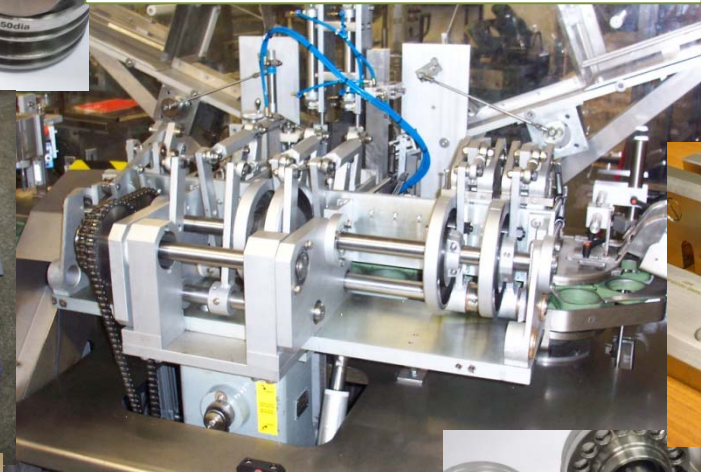


Manufacturing Support & Design



**SPARE & CHANGE PARTS
SERVICE & REPAIR
MACHINE REBUILDS & PROJECTS**



Manufacturing Support & Design Ltd
25A Knowl Piece
Wilbury Way
Hitchin
Herts.
SG4 0TY
Tel: 01462 421400
Fax: 01462 423300
Email: msd.ltd@btconnect.com

Index

Parts and Change Parts

Spare Parts
Hinged cassette in feed
Tube Holders
Common Holder Designs
Lightweight Filling Pump
Toothpaste Valve Drive
Filling nozzle styles
Striping nozzles
Lift @ Fill Cams
Hot Air Station
Cooling ring styles
Hot Air Upgrade
Linear Closing Station
Deep Faced Coding Jaws
Coding Jaws
Double Pre-closing Jaws
Shaped Seals
Linear Trim station
Beam Overload Clutch
Parts Identification

Ancillary Equipment

Transport & Storage Trolleys
Tube Testing
Divert Chute
Bench Top Sealer

Reconditioning and Projects

Reverse Engineering Service
Reconditioning Tube Fillers
a) NM1000 HOT AIR
b) AM2000 HOT AIR
c) AM2000-M OVERHAUL



Spare Parts.

We have built up a wealth of experience over many years of manufacturing parts for customers in many diverse industries, one thing they have in common is their need for support at one time or another.

Manufacturing Support and Design Ltd has used its experience and knowledge of the Norden tube fillers to build up a stock of parts to offer that support.

Most parts for the tube transport system, the pump house mechanism and many common sealing beam stations are offered for quick delivery with same day dispatch where possible.



'A typical order from stock'

We understand how vital it is for many of our customers that their machine To help keep our customer's machines operational, a variety of parts and stations are held that we can lend to customers in an emergency or until their change part, spares or repairs are ready for them.

If you need a more bespoke part or approach to a problem machine or product related we would also like to help. We understand that it helps to discuss these things face to face and we will always make ourselves available to visit you where required

If you need parts or assistance to keep your Norden working well please call us on 01462 421400.

MSD Ltd, Tel: 01462 421400 Fax: 01462423300
msd.ltd@btconnect.com



Seals & Gaskets



Tube Holder Parts



Bearings, Bushes & Machined parts



Castings & Transmission Parts

Hinged cassette in feed.

For tube filling and labelling machinery.

In-feed automation for any type of tube filler or labeller.

Enables a single operator to keep up with the speed of the machine.



Tubes from 10 – 50 ϕ
40 – 250 long

Feed rates up to 100 tubes per minute dependant on size.

Metal, plastic or laminate tubes.

Cap less or Coppered tube, stand up or flowerpot caps.



Tube Holders.

Correctly sized tube holders are one of the most important elements in any tube filler, badly sized they allow tube seals to vary or be formed badly.

There are many styles of Holders available, to meet the huge range of tubes being sealed today.

Plastic or Aluminium holders can be colour coded to help with the sorting of the change parts.

Tube holder baskets are available Plain or serrated. The serrated types for more positive tube registration.



ACETAL

ALUMINIUM



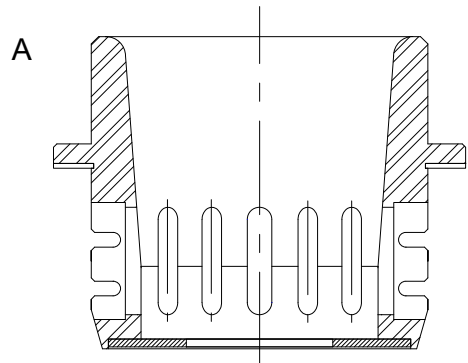
ONE PIECE



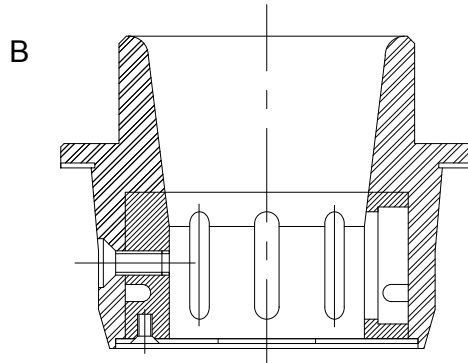
TWO PIECE



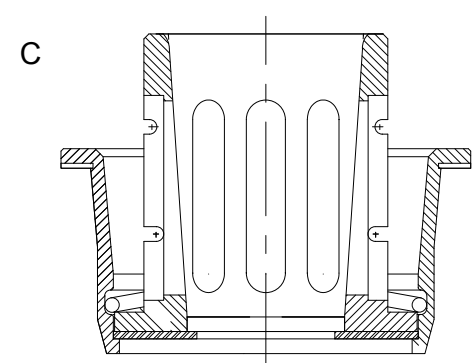
PLAIN OR SERRATED
BASKETS.



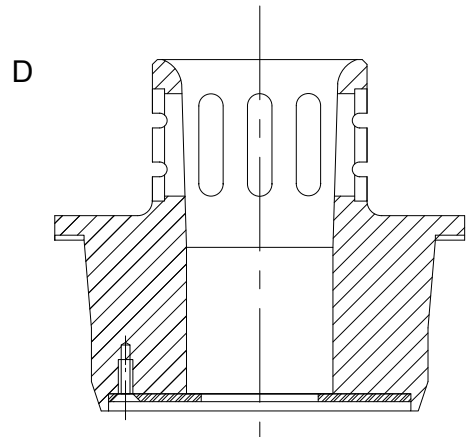
TUBE HOLDER ASSEMBLY
Solid type with with fingers in base



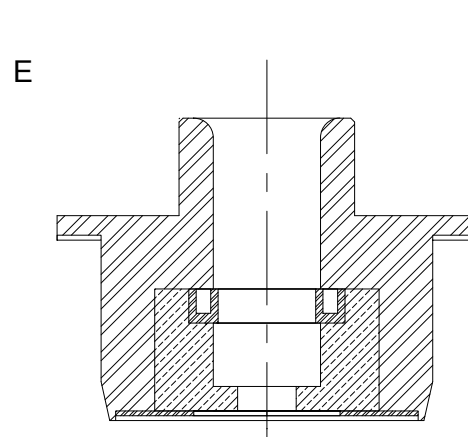
TUBE HOLDER ASSEMBLY.
Solid type with base insert and fingers.



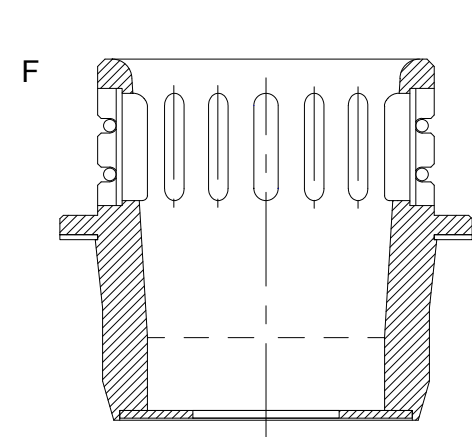
TUBE HOLDER ASSEMBLY
2 part with fingers



TUBE HOLDER
Solid 1 piece easy cleaning



TUBE HOLDER ASSEMBLY
Lip seal as tube retainer



TUBE HOLDER ASSEMBLY
Solid type with with fingers

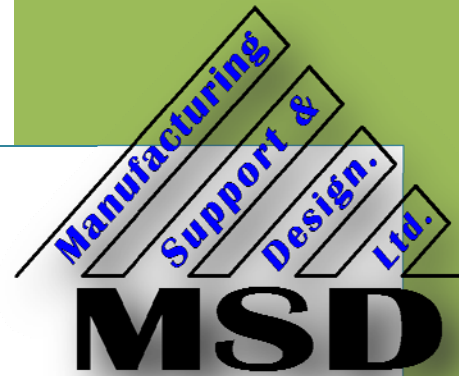


Tel. 01462 421 400

Common holder designs for Norden type tube filling machines.
Other designs of holder are available

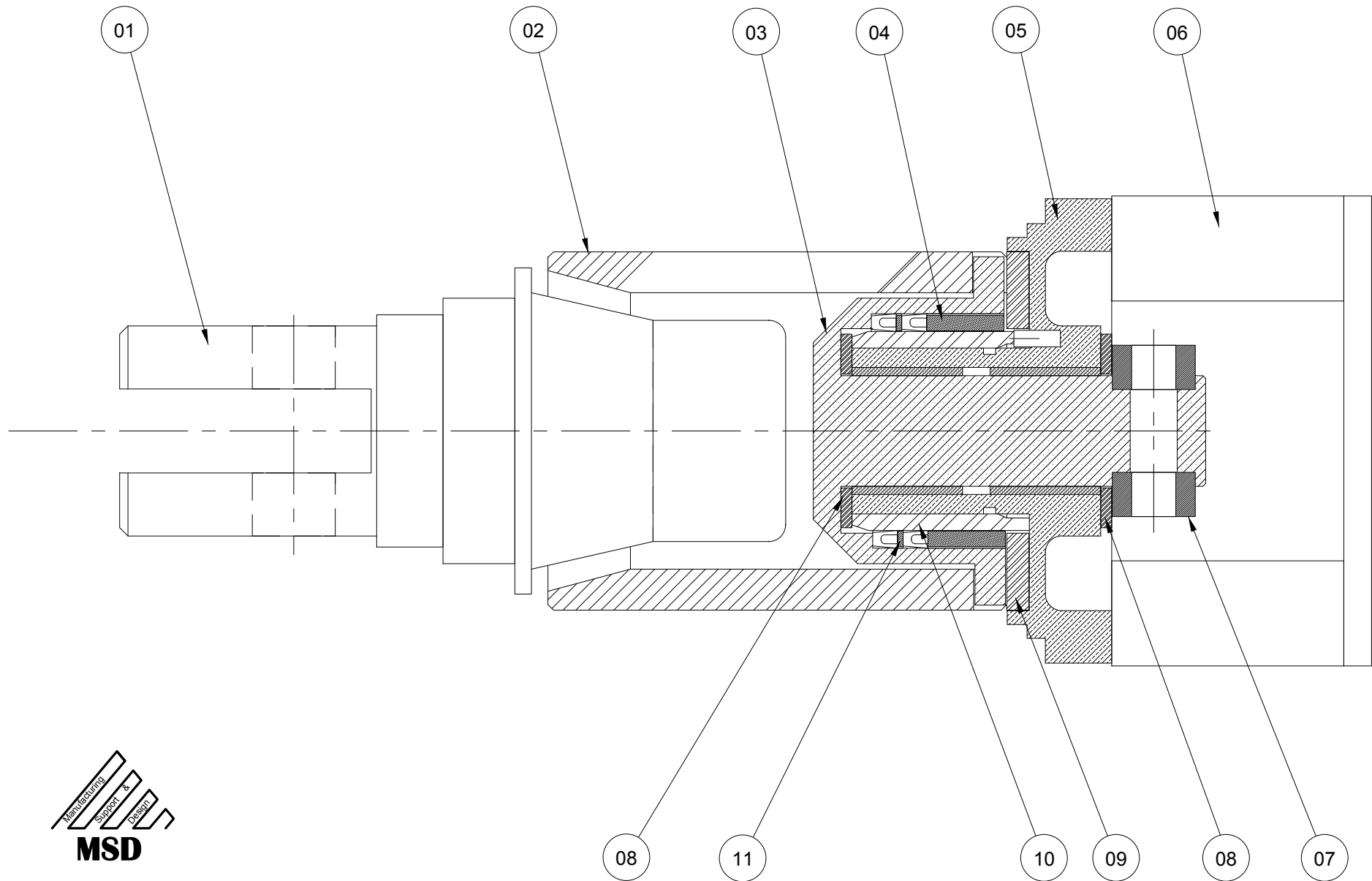
Lightweight Filling pump.

Designed to reduce the manual strain involved when fitting and removing the filling pump.



As you can see from the illustration, much of the surplus material has been removed from the pump body, pistons, barrel and ancillary components. The body is contoured, pistons are hollow, barrels thinned down and other items such as clamps and covers shaped.

All parts fit the machine the normal way and need no other special tools or modifications.



Drg: - assyub
Date: - 20-11-02
Issue: - 1

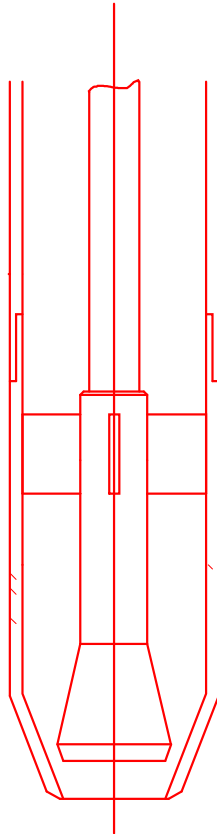
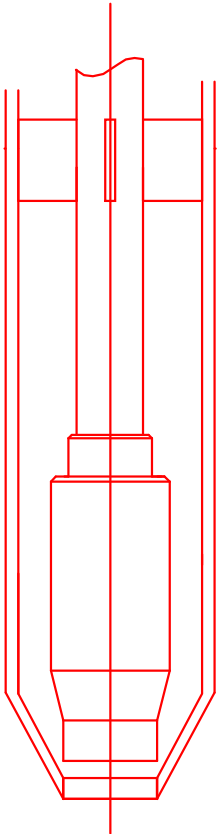
Norden fill pump.
Paste pump front seal assy

Filling Nozzle Styles.



Filling Nozzles available

- Filling nozzles from 7.5 to 40mm diameter.
- Plain or for striping applications.
- Cut off or Blow off.
- With or without Blow off.



New Nozzles and repairs to worn ends

If you have nozzles that have worn or damaged ends, MSD can offer a repair service where the nozzle end is fitted to give as new performance.

MSD also supply blow off filters.



Striping Nozzles.

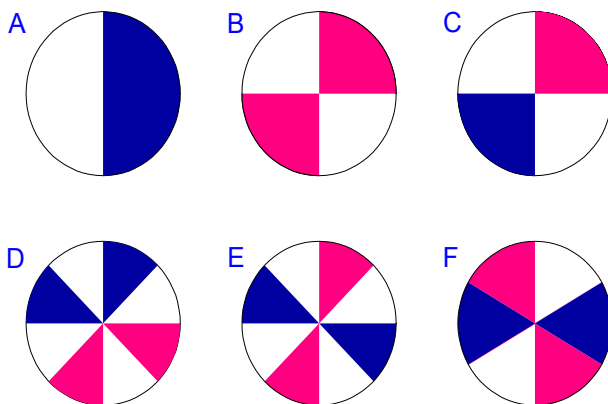
Deep stripe system

Striping nozzles can be produced to achieve many colour or stripe patterns using two or three paste colours.

MSD can manufacture nozzles to fit your existing machine and striping system or we can offer complete striping kits for your machine.



Some examples of striping patterns.



A and B are 2 colour
C, D, E and F are 3 colour

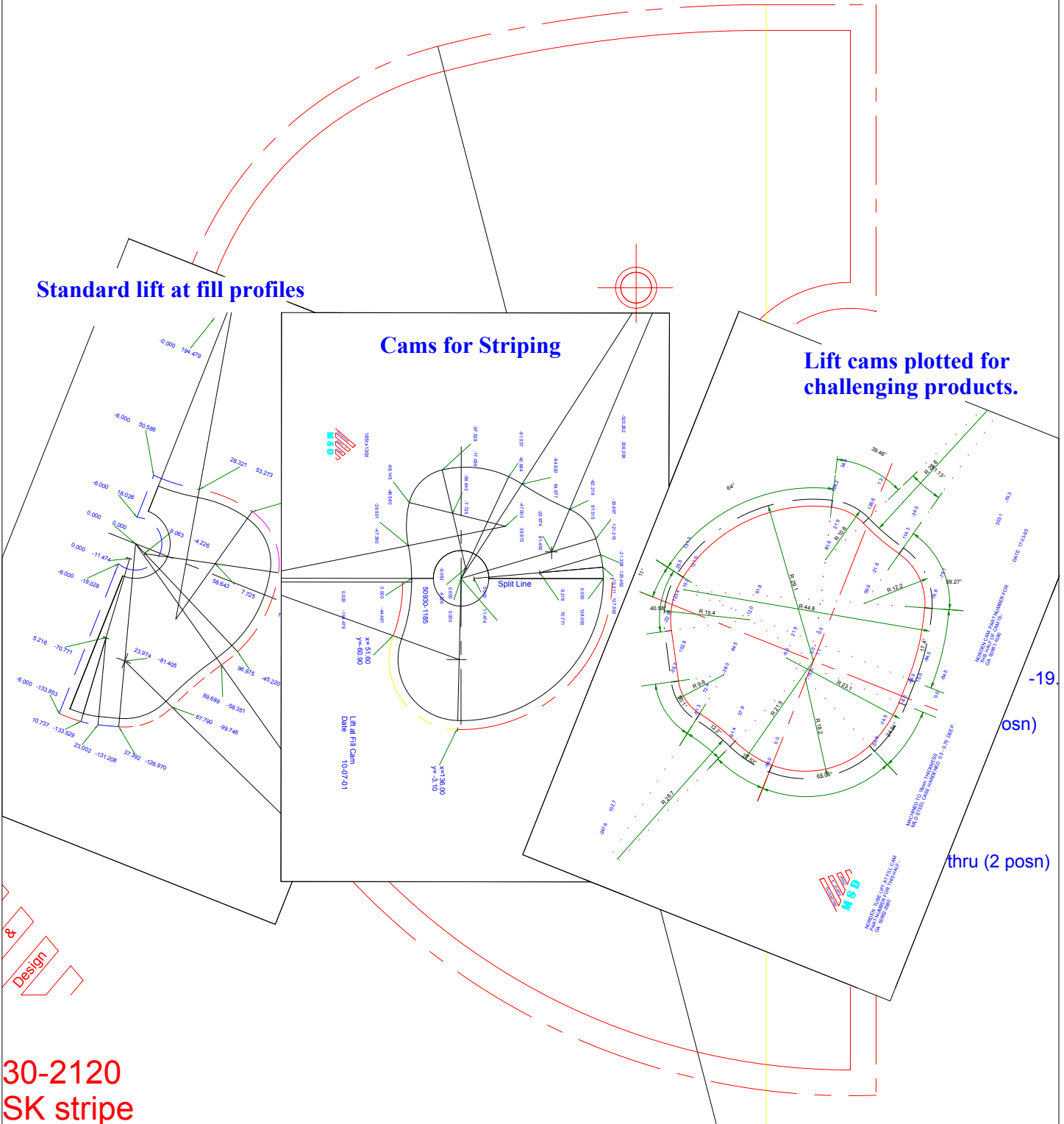


Lift at fill cam profiles.
Norden

Standard lift at fill profiles

Cams for Striping

Lift cams plotted for
challenging products.



30-2120
SK stripe

-19
osn)

thru (2 posn)

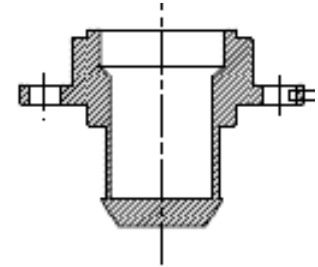
&
Design

Hot Air Stations.

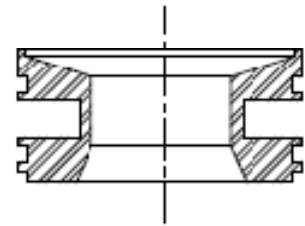
Parts to replace or upgrade

Complete Hot Air Stations with 3kw heaters for standard applications. Larger heaters can be fitted for wide seal or high temperature applications to give longer life.

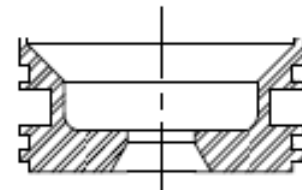
3kw Heaters and adapter kits are available to upgrade older 2kw Hot air stations.



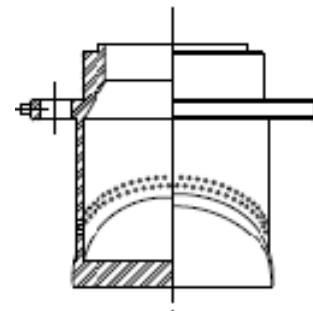
NOZZLES



PLASTIC



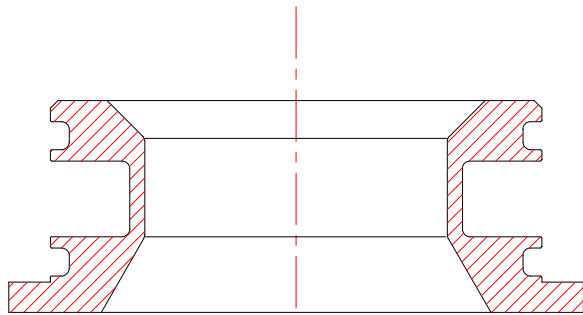
LAMINATE



SHAPED OR WIDE SEAL PARTS

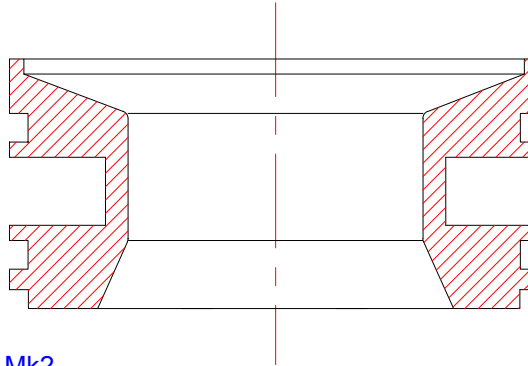
Three styles of Hot Air Station require three profiles of Cooling Ring as shown here.

The original hot air employed the Mk1 approximate change dates are indicated.



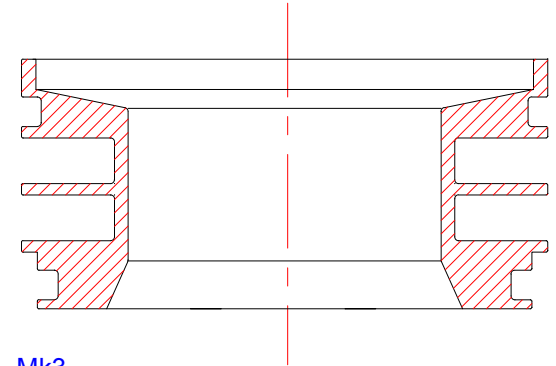
Mk1
Before 1992

Features.
Square flange at one end.
4 Bolt holes in flange.



Mk2
1992 on

Features
All round and no bolt holes.
Used with Mk2 HA Nozzle.



Mk3
Some machines 2007 on.

Features
Similar to Mk2 , all round no bolt holes.
O'ring groove within 2mm of front face.
Extra web in waterway.
Uses same Mk2 HA Nozzle

There are also a number of variations in the bore detail employed to run with different tube materials and seal styles.



Cooling Ring Profiles.

Date	12-11-08
Drg	Norden /hot air/cooling ring styles
Issue	1
Drawn	MG

Hot air Station.

3 kw Leister Upgrade kit.

Manufacturing
Support &
Design.
Ltd.
MSD

- UPGRADE YOUR OLD HOT AIR STATION TO OUR 3 kw HOT AIR GUN.
- SIMPLE TO REPLACE
- NO ELEMENT TO BURN OUT
- EXTRA POWER

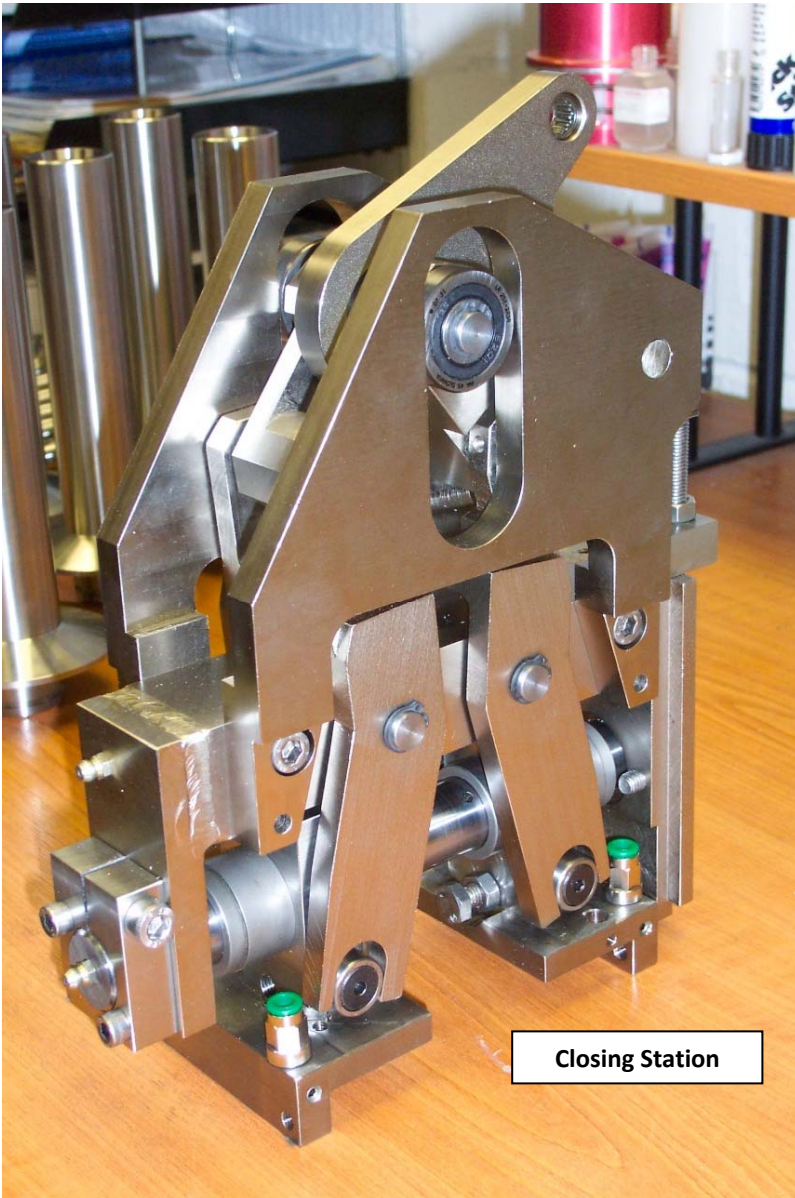


Linear Closing Station.

CLOSING & CODING STATION FOR HOT AIR MACHINE.

New closing stations that accept standard as well as deep or shaped jaws to produce top class seals.

A range of pre-closing Jaws are also available to shape the tube.



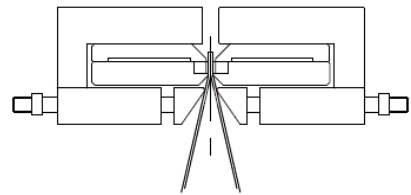
Parts sold individually or as a conversion kit.

A full Kit of parts to convert to linear closing contains arms, cam, air cylinders, regulators and closing station.

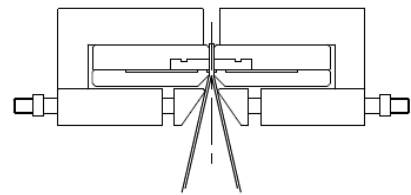
MSD Ltd, Tel: 01462 421400 Fax: 01462423300
msd.ltd@btconnect.com



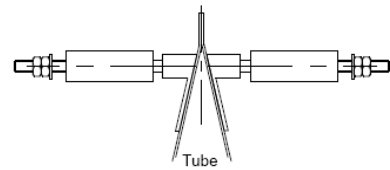
Standard width jaw



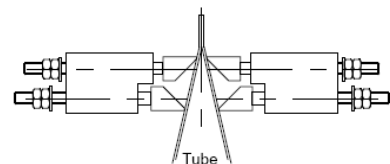
MSD deep faced jaws.



Fish tail pre-closing jaws



Double pre closing jaws



New deep face Jaws.

After many requests from our customers, MSD have produced this new deep faced closing/coding jaw to make setting easier and reduce scrapped tubes. As you will be aware the line between trimming too much off the crimp (cutting into the coded area) or missing the top of the serrated crimp altogether is a fine and expensive one leading to unwanted scrap, the new wide jaws remove this problem saving scrap, time and money.

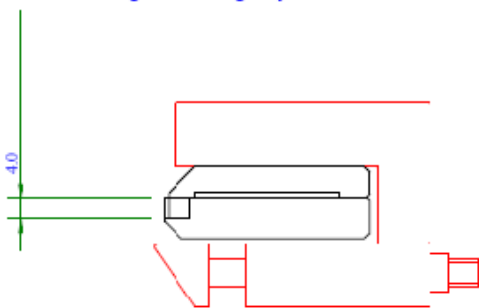
The new jaws have been designed to take the standard metal codes and fit in place of the standard jaws they are also 6mm longer to catch those 50mm tubes the standard length jaws sometimes miss.

Our tests and customer feedback all confirm that not only will the tubes wasted due to trim / setting errors be reduced but the quality of the seal is improved and it has made setting easier and quicker by making the trim position less critical.



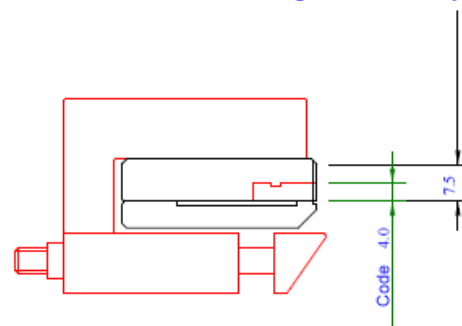
Standard width jaw

Width of closing face on Original jaws.



New deep faced jaws.

Width of closing face on the new jaws.



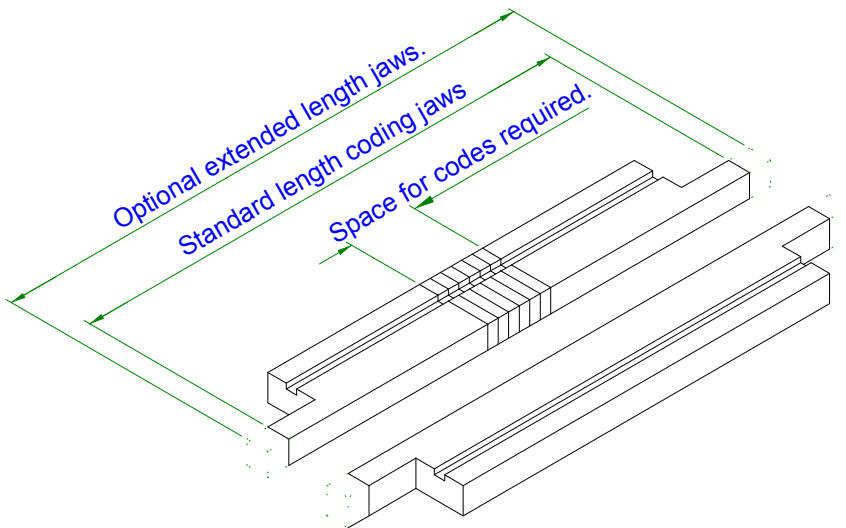
The coding jaw takes 10 standard Norden style metal code.

Coding Jaws.

Coding Jaws can be supplied to produce a variety of seal styles.

Serrated Jaws for Plastic or Laminate tubes are engraved prior to hardening.

The Jaws are manufactured in sets dependent on the number of codes required.

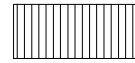
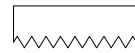


An extended version is available and very popular where machines are running larger diameter tubes.

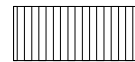
Contacts us with your ideas for decorative seals.



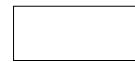
Seal styles available



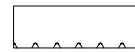
Plastic



Laminate



Plain

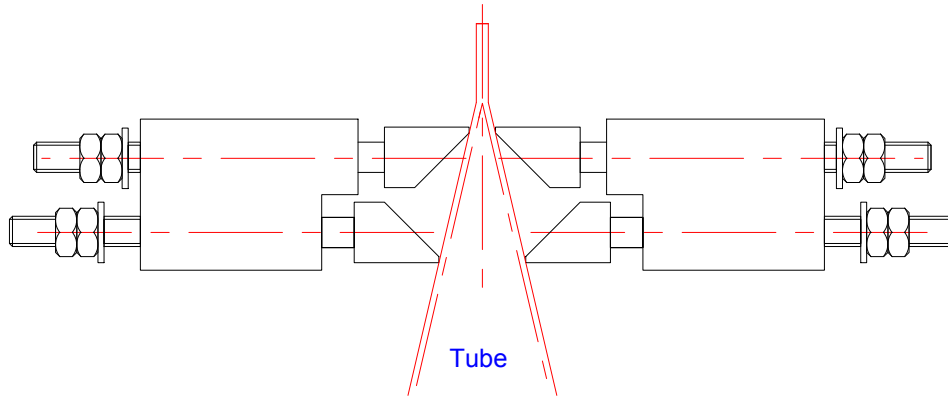
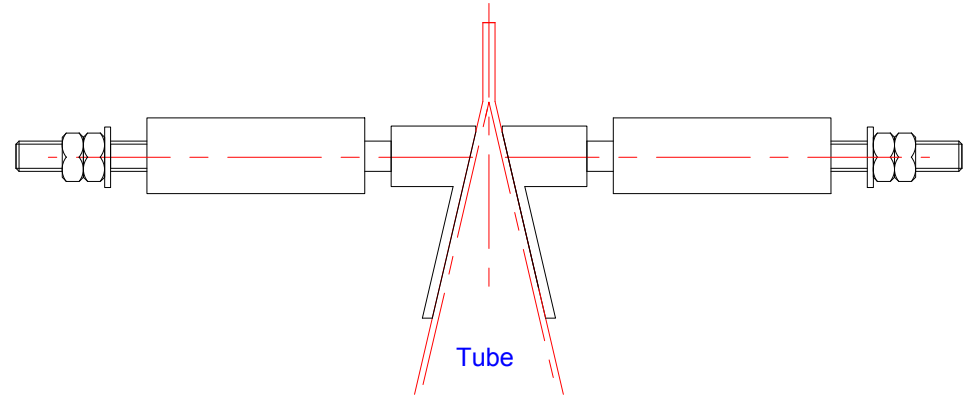


Angled



PARTS FROM MSD LTD
Manufacturing Support and Design Ltd

FISH-TAIL PRE CLOSING JAWS
Often used to shape the tail end of the tube.
The angle of the jaws used will depend on
the tube length and shape required.

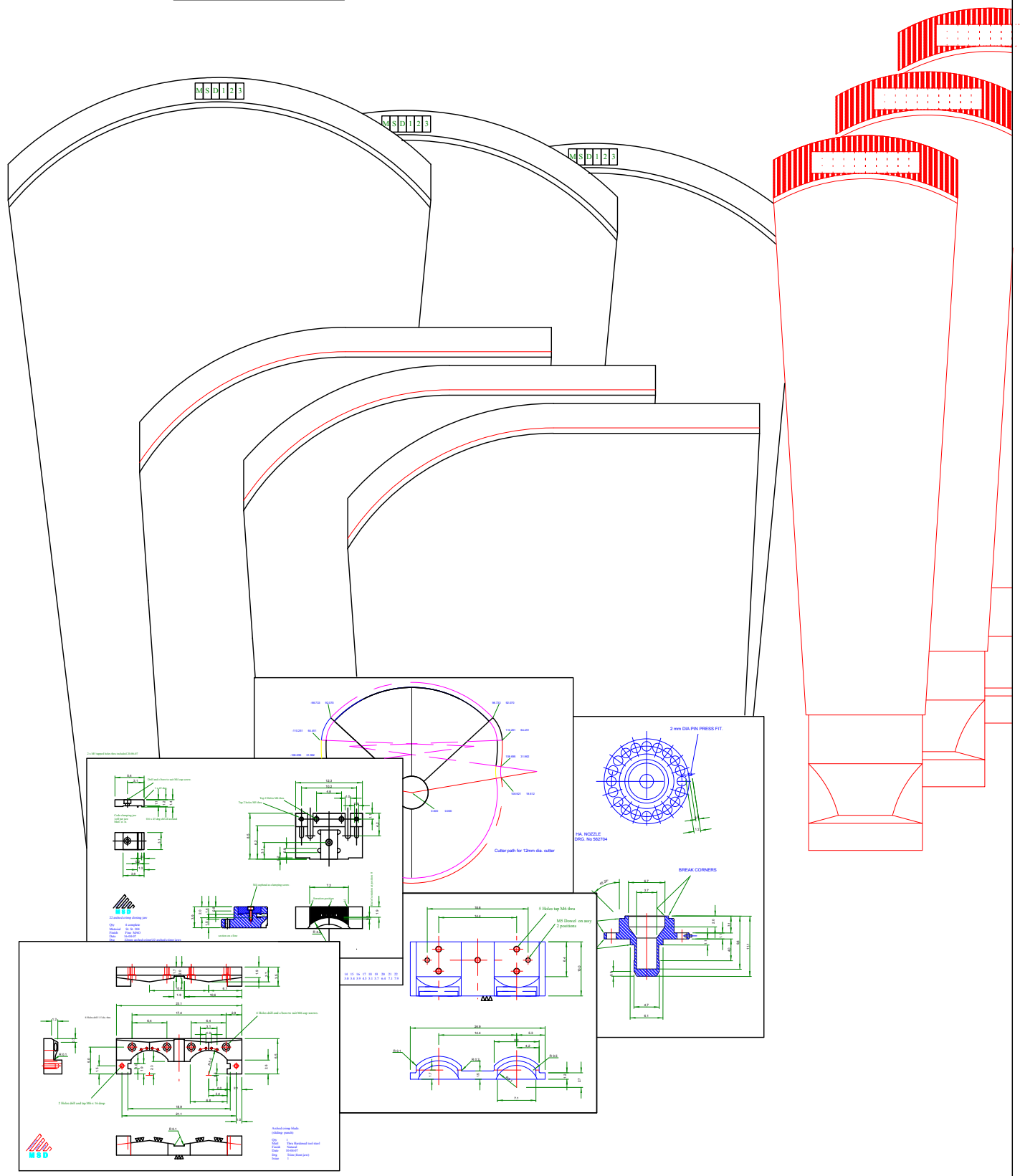


DOUBLE PRE CLOSING JAWS
Can be used to shape the tube but
are mainly to control the level of the
product at the point of sealing.



PARTS FROM MSD LTD
Manufacturing Support and Design Ltd

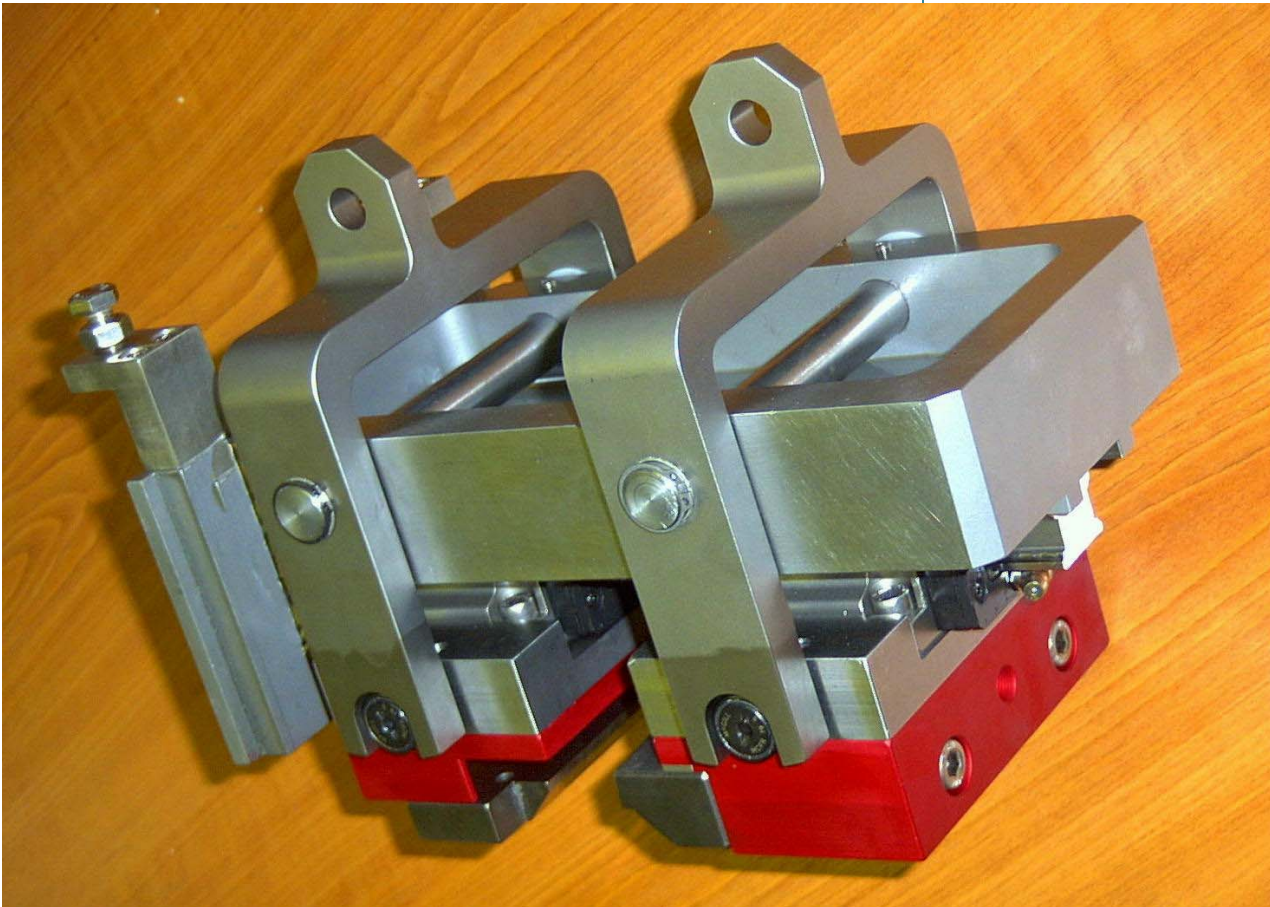
Shaped seals on Plastic or Laminate tubes.
Norden and IWKA



Linear Trim Station.

A robust option to the rotary drum knife, giving a positive repeatable trim with the advantage that it can be fitted with punches for hanging slots and or shaped trim blades for putting a stylish finish to tubes.

A kit can be supplied that includes cams, levers and rods to make a direct swap with a rotary trim station.



Two Blade options.



Punch and Blade Options.



Beam overload Clutch

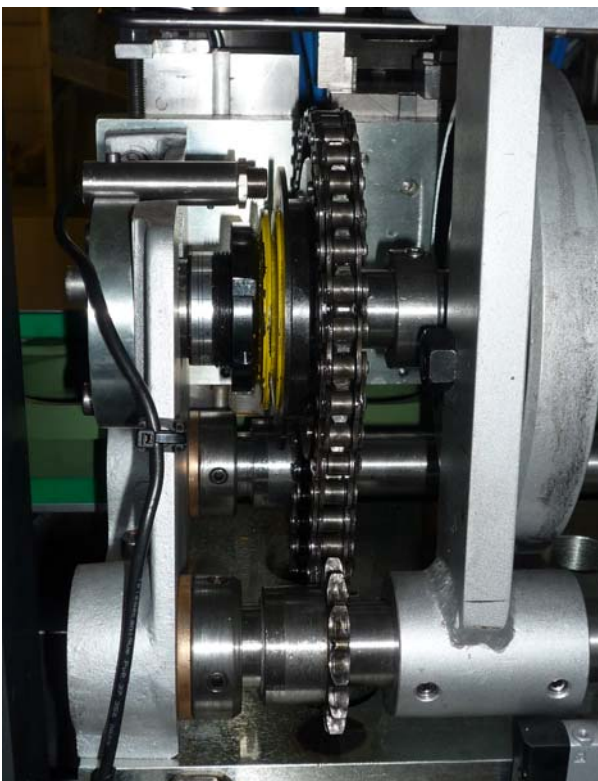
At last we can offer a solution to safeguard the mechanical stations on your sealing beam to stop the unwanted damage and that unplanned and expensive downtime.

We are often asked by people with Norden tube fillers to replace or repair closing stations, after they have been damaged when stray tube holders or tube caps accidentally jam the mechanism. Even on machines with an overload cylinder the repairs can often be expensive and untimely for the customer, who is left with a machine down.

The solution has been to use an adjustable torque limiting overload clutch to the driven (top) shaft on the sealing beam and a sensor to stop the machine immediately an overload occurs. The parts required for this are sold to you as a kit for your engineers to fit or MSD will undertake the fitting as required.

The overload point of the new clutch can be adjusted and set at a level that suits the individual beam.

The new sensor would be wired in conjunction with the existing sensor with the main indexing overload and stop the machine immediately a beam overload occurs at the same time bringing up the 'overload' message.



The new clutch assy. and shaft will fit in place of the existing driven sprocket and shaft on many machines we feel this is an easy and cost effective addition to any single head Norden filler that has a chain driving the sealing beam.



Parts Identification.

We can etch stainless steel parts to keep track on change parts, sizes stock or for maintenance identification. Identification up to 12-15mm tall.

Stainless steel parts can be etched with part numbers, logos or other identification markings required.



Hot air Nozzles & Cooling rings with identification marks requested by customer. Also MSD Coding Blocks with our own identification marks to help keep parts together.



Acetal Tube Holders with coloured identification bands to identify different lines or sizes of Tube Holders.



Aluminium Tube Holders available in a choice of colours.

Transport & Storage Trolleys.

For Transporting and storing items for cleaning.



Stainless steel construction in a variety of designs to suit your requirements.

- Storage benches
- Mobile benches
- Assembly stations

MSD Ltd, Tel: 01462 421400 Fax: 01462423300
msd.ltd@btconnect.com



Tube Testing

Burst Testing Devices

1. Mechanical testing using pressure pad to simulate external pressure on tubes.
2. Pressure test using low pressure compressed air applied inside each tube.



Photo shows 5 Head Pressure Tester with timer, inlet pressure gauge and failure pressure indication on each station. Selector switches allow 1 to 5 tubes to be tested during each cycle.

Divert Chute.

A beautifully simple divert mechanism designed to speed up the loose pack operation, counting specific numbers of tubes into boxes.

The divert chute would be fixed onto the out feed end of a transfer conveyor taking tubes away from the tube filling machine. A sensor positioned just prior to the divert unit signals a counter that on reaching its pre-set value, controls the divert plates guiding the tubes into the left or right side.

Boxes are held in position under the out feed chute by simple latches, once filled they can be disengaged from the latch and sealed by hand or slid directly into a box taping machine. The time available to move boxes is dependent on machine speed and the number of tubes to go into each box.



Advantages.

- | | |
|-----------|--|
| Fast | Air operated guide plates only move 25mm. |
| Safe. | No pinch points to trap product or operator. |
| Compact. | Very short economic use of space. |
| Variable. | The counter is operator adjustable from 1 to 9999. |



Bench Top Sealer.

Designed to give the same quality of seal found in the best tube fillers of today, utilizing mechanical lift and closing mechanisms, precise air flow and temperature control equipment, there are options to use HA tooling from many of the leading tube filler manufacturers.



For use in the following area's

1. Production area where low volume high quality sealing is important, test facilities.
2. Tube manufacturing, testing the ability to seal with HA
3. Laboratory work sealing pre production batches.

Suitable for plastic, plastic laminate or metal laminate tubes.

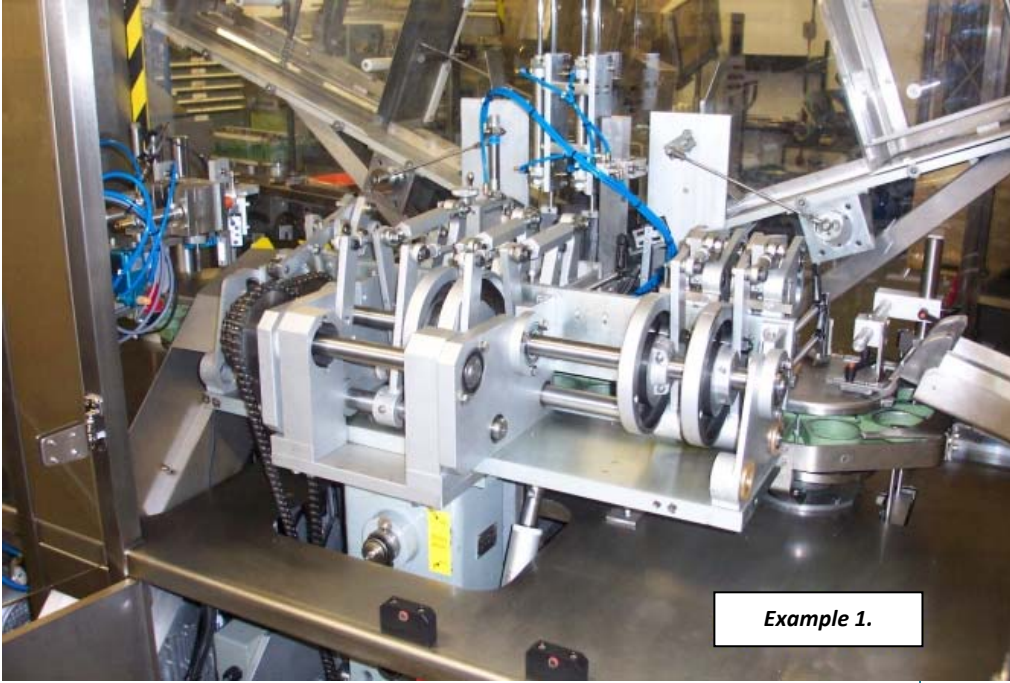
Tube dia. 10mm – 50mm 60mm available.

Tube length. 50mm – 250mm



Reverse Engineering Service.

MSD offer a reverse engineering service for customers who have existing parts or mechanisms that they would like reproduced or modified for use on other machines.



Example 1.

Example 1.

A customer preferred closing station adapted and manufactured for another machine.



Example 2.

Example 2.

A tilting sealing beam adapted from one machine to fit another model.

NM1000 -HOT AIR CONVERSION.



MACHINE INSTALLED DAY 1.



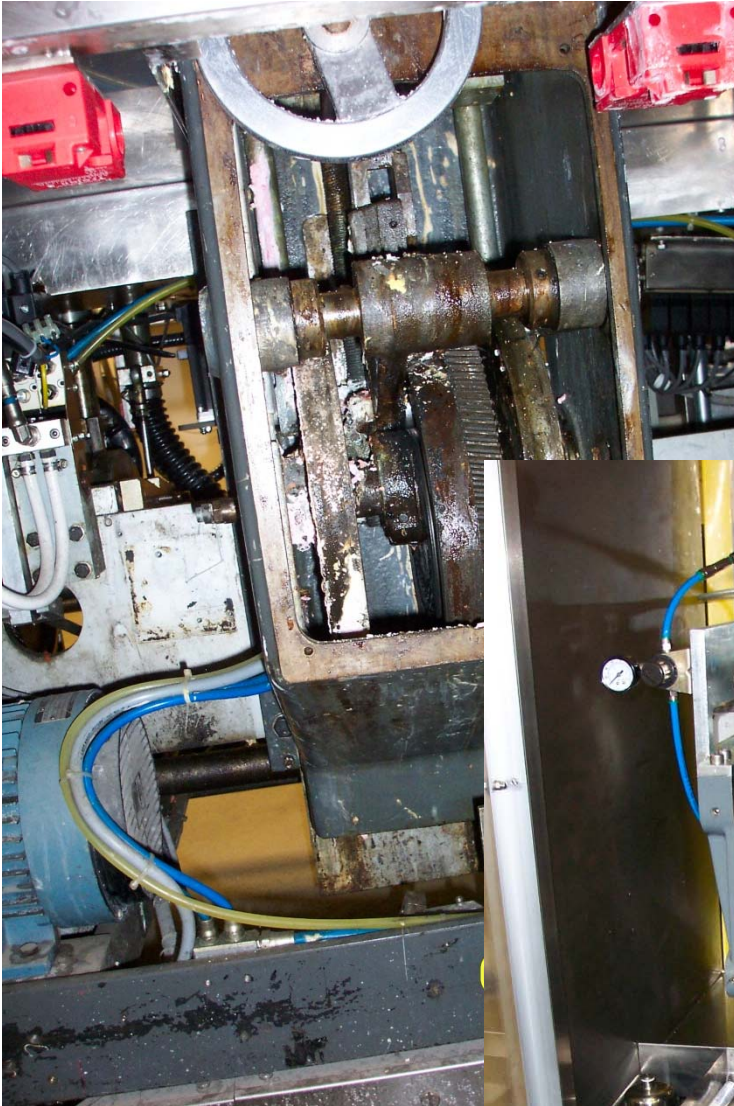
VIEW IN REAR OF MACHINE.



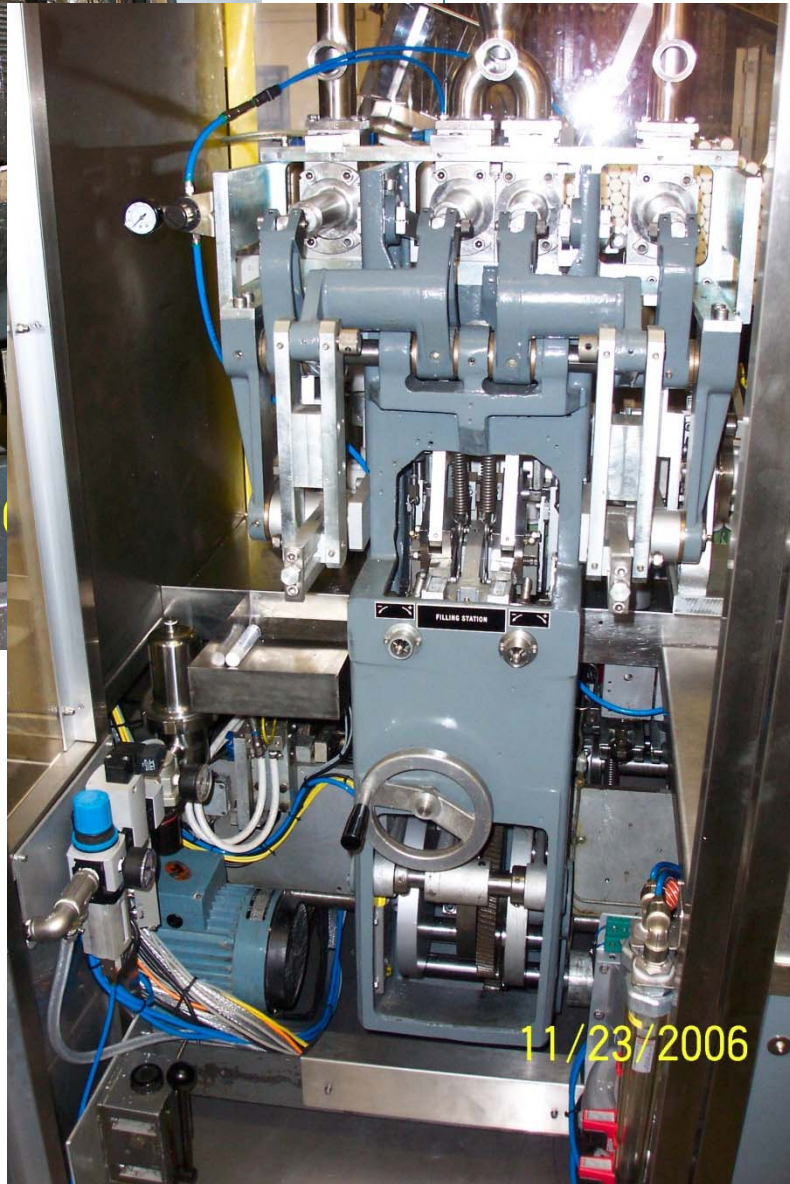
ELECTRICAL PANEL.

AM2000 HOT AIR CONVERSION.

Pump House

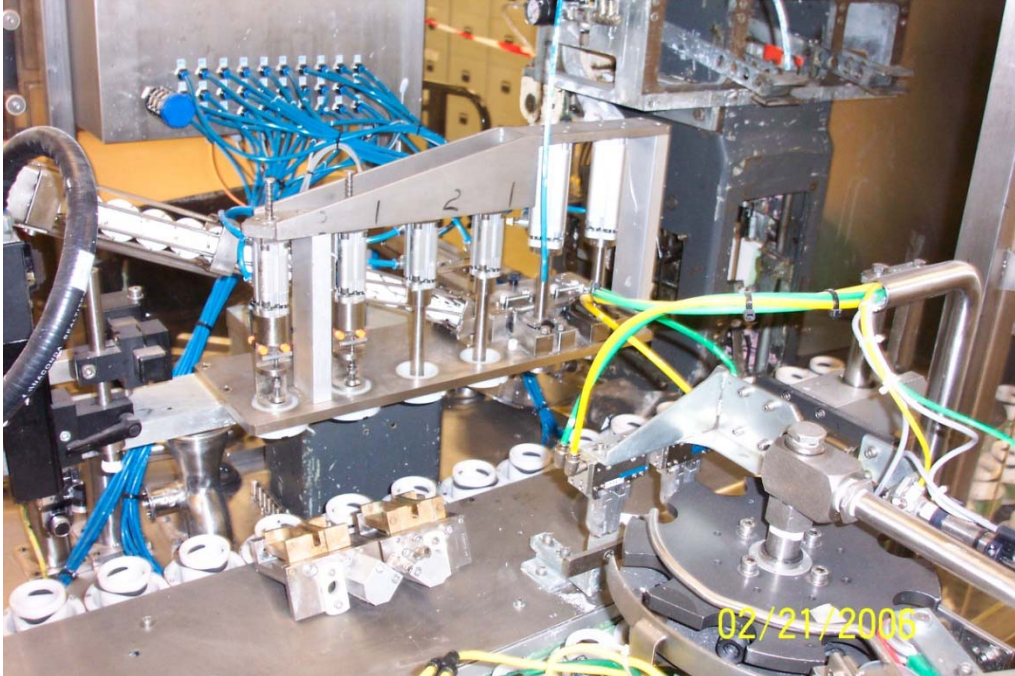


Rear of Pump House before and after Overhaul.



AM2000 HOT AIR CONVERSION.

SEALING BEAM



Plugging Beam before removal and replacement with Hot air Sealing Beam.

New Hot Air Sealing Beam



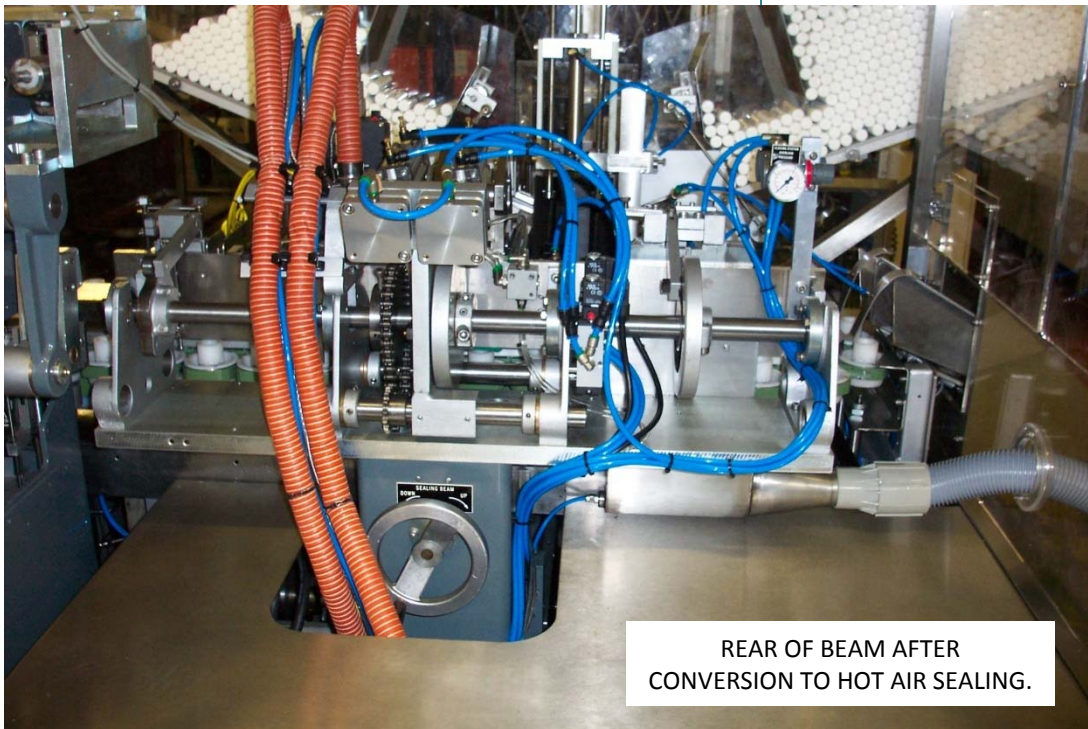
AM2000 HOT AIR CONVERSION.



BEAM

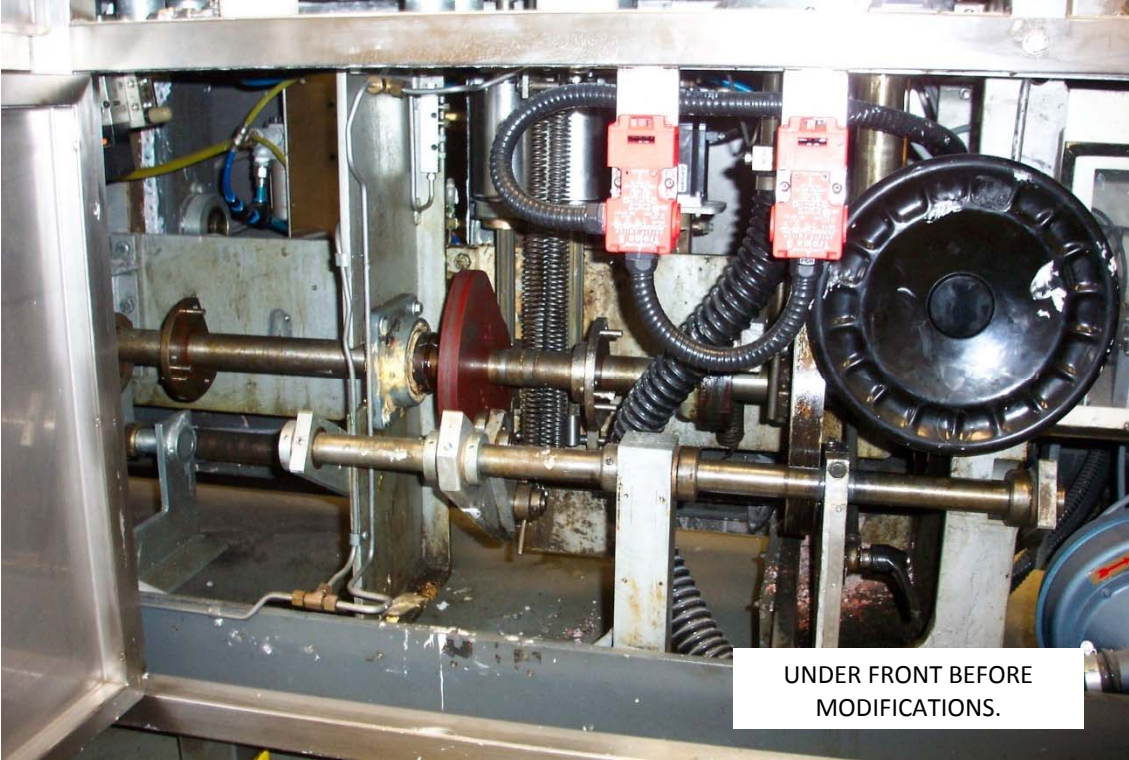


REAR OF PLUGGING BEAM BEFORE
CONVERSION TO HOT AIR.

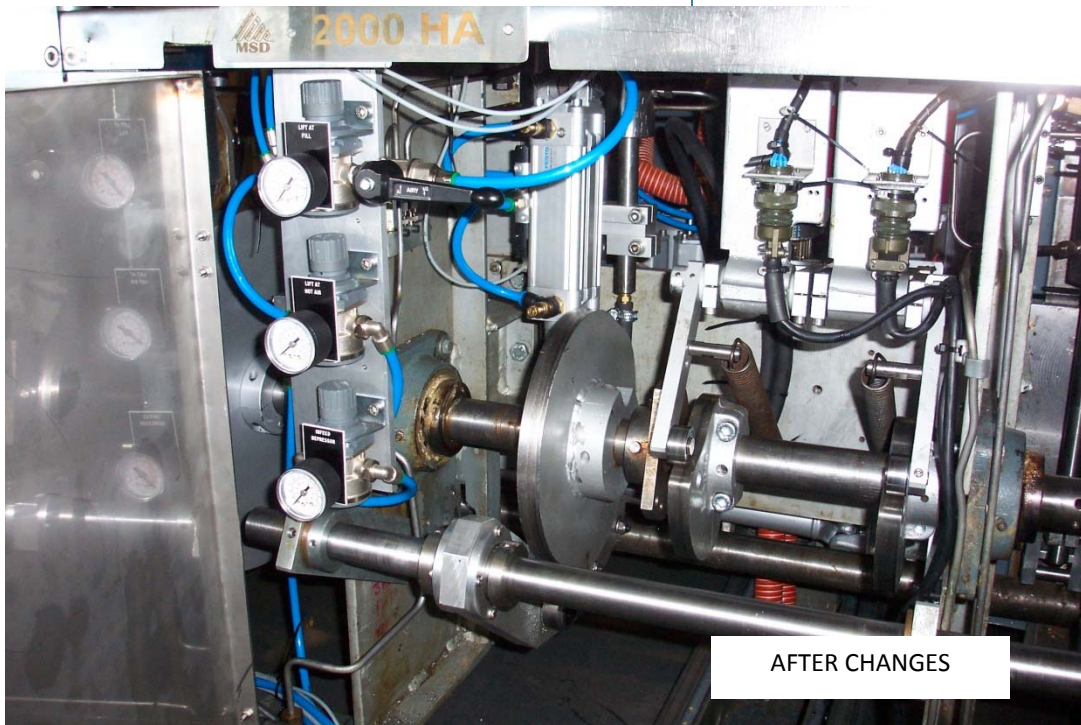


REAR OF BEAM AFTER
CONVERSION TO HOT AIR SEALING.

AM2000 HOT AIR CONVERSION.



UNDER FRONT BEFORE MODIFICATIONS.



AFTER CHANGES

NEW TUBE REGISTRATION UNITS FITTED & COIL SPRINGS REPLACED WITH AIR SPRINGS

AM2000 HOT AIR CONVERSION.

Manufacturing
Support &
Design.
MSD
Ltd.



AM2000 HOT AIR CONVERSION.



FRONT VIEW AFTER
CHANGES

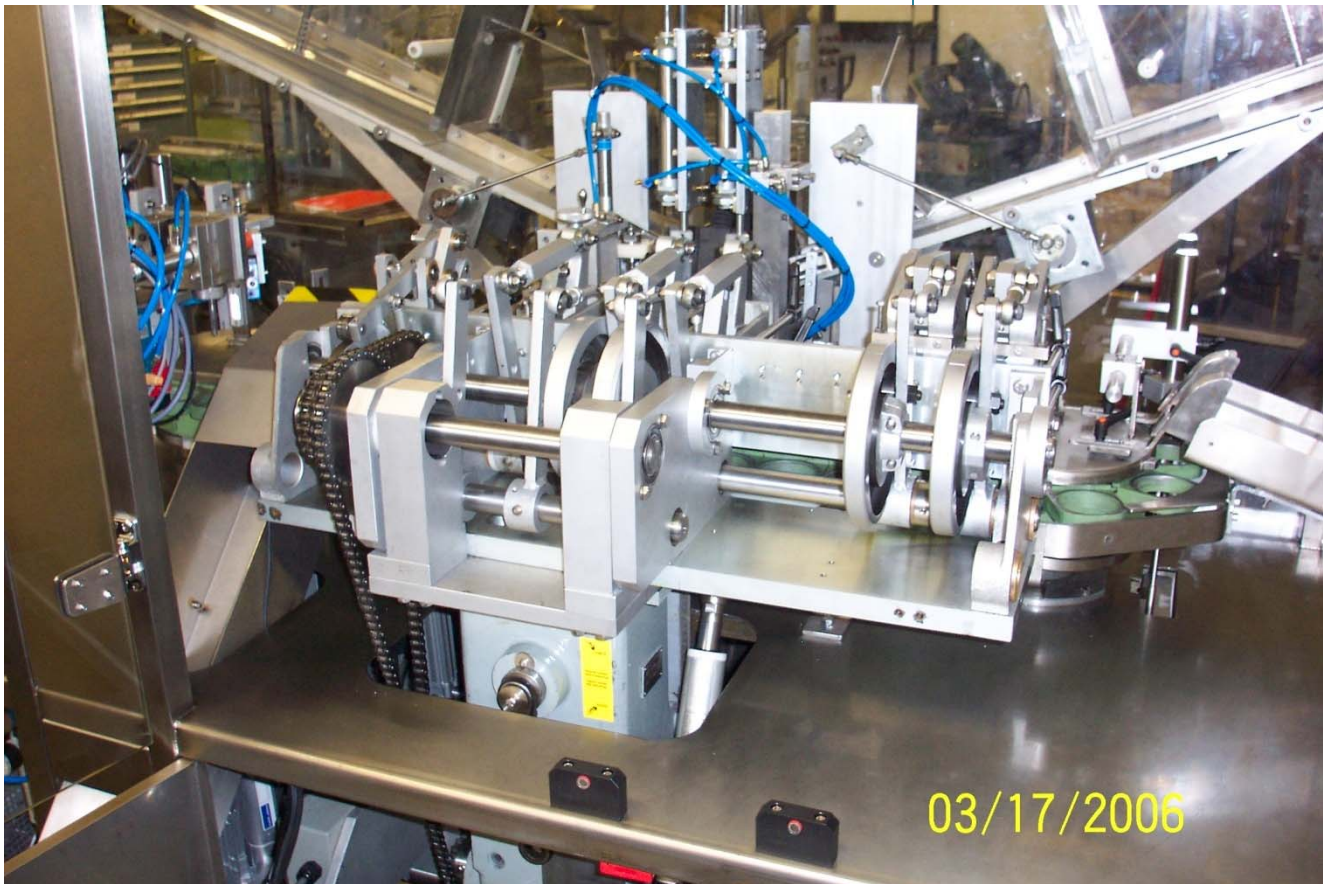


REAR VIEW AFTER
CHANGES

AM2000-M OVERHAUL.



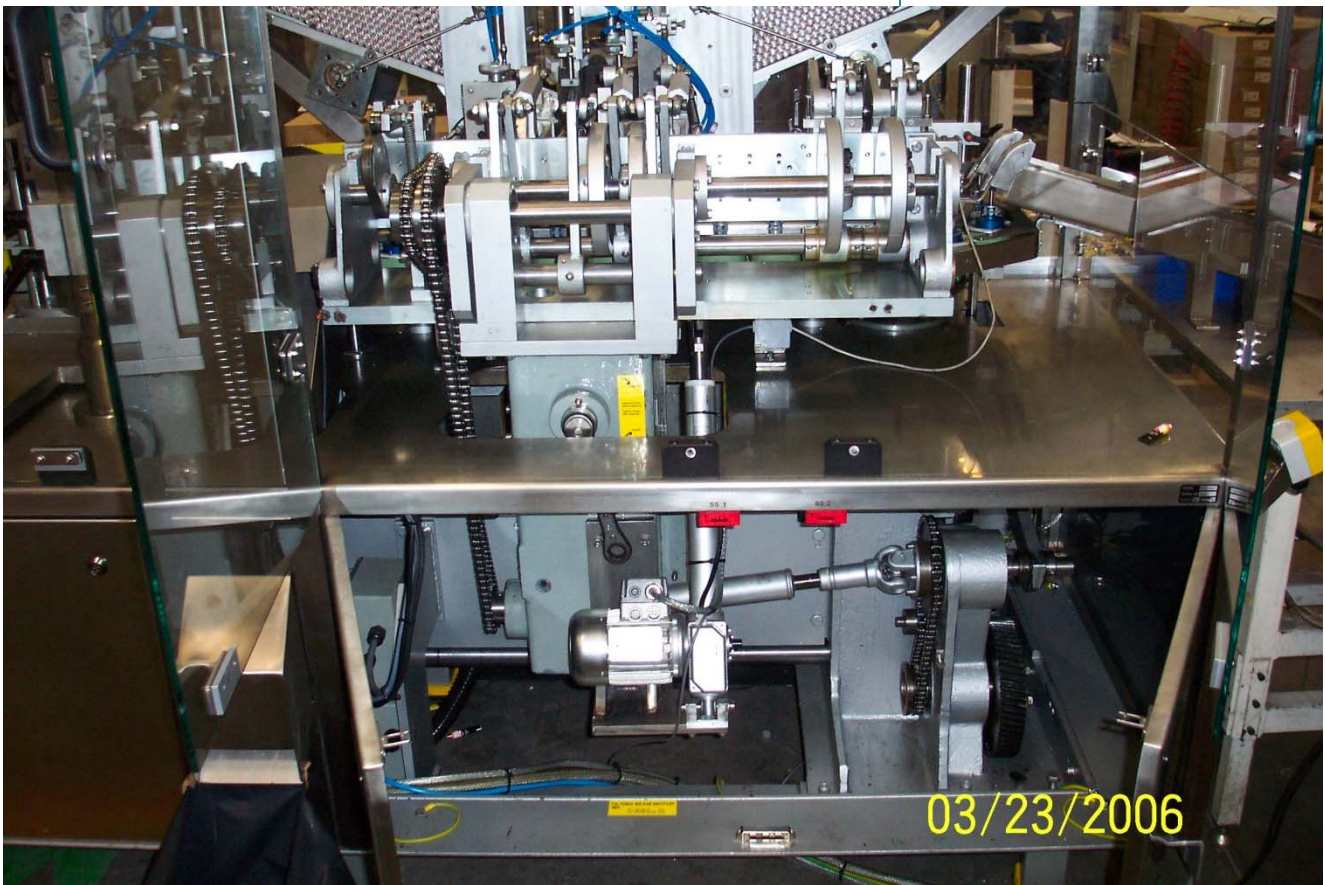
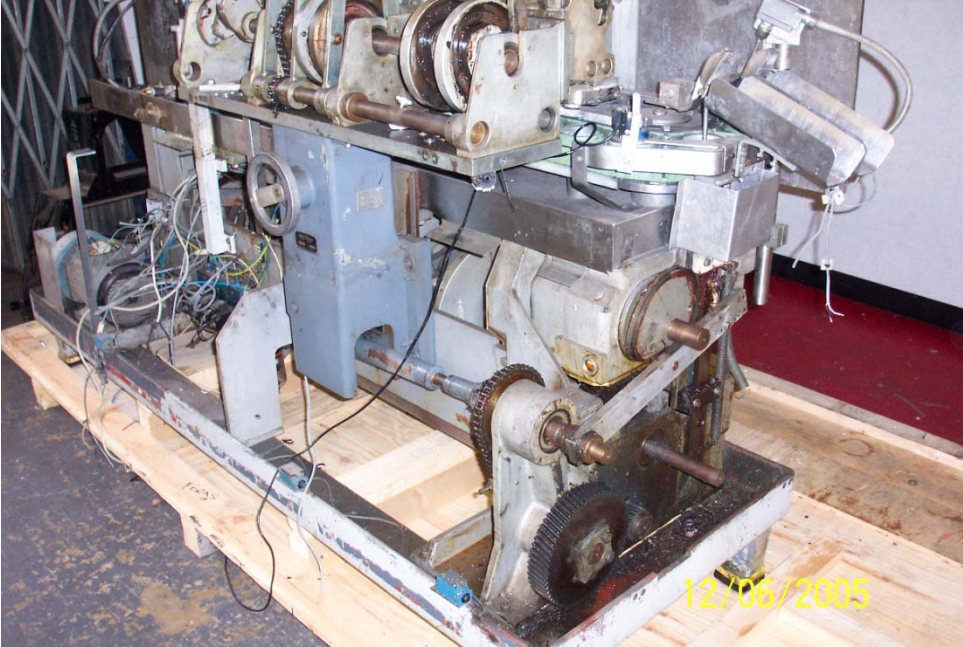
REAR OF SEALING BEAM BEFORE



AM2000-M OVERHAUL.



BEAM BEFORE MODIFICATION.



BEAM AFTER MODIFICATIONS.

AM2000-M OVERHAUL.



FRONT OF SEALING BEAM BEFORE.

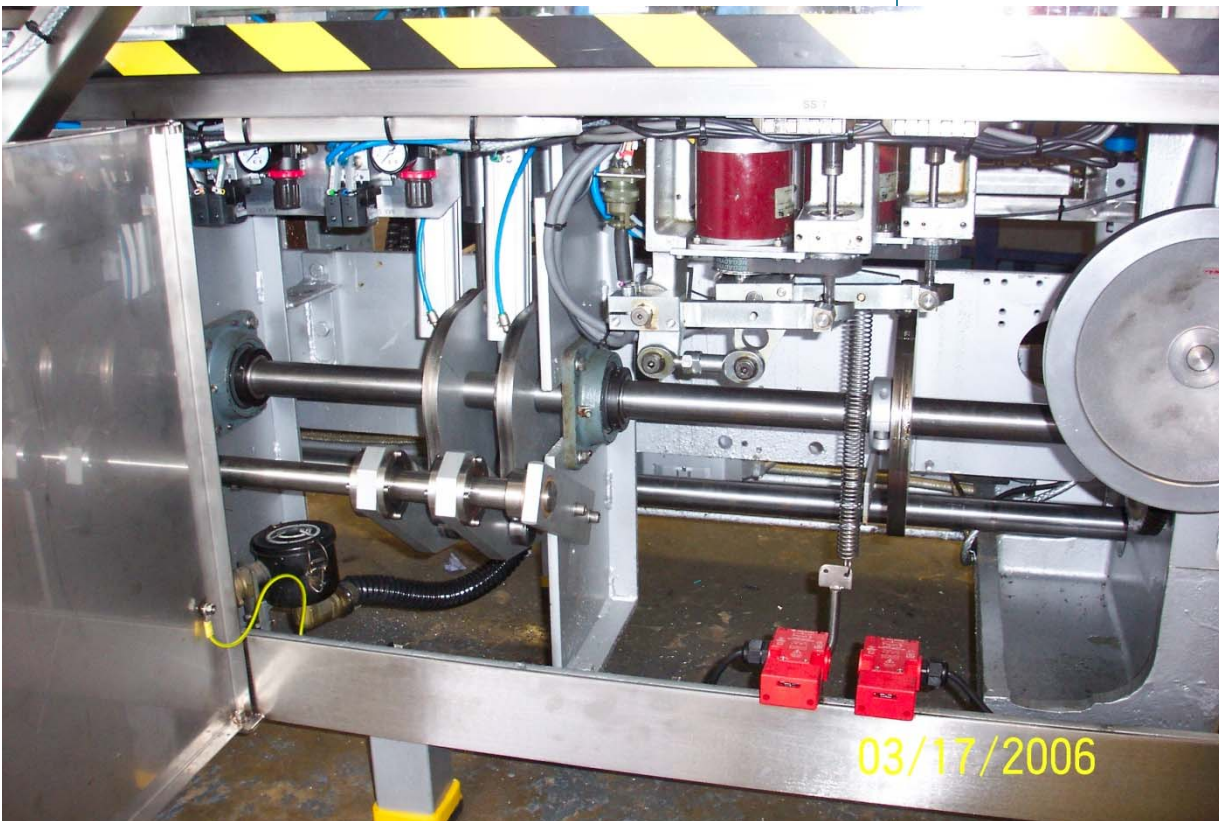
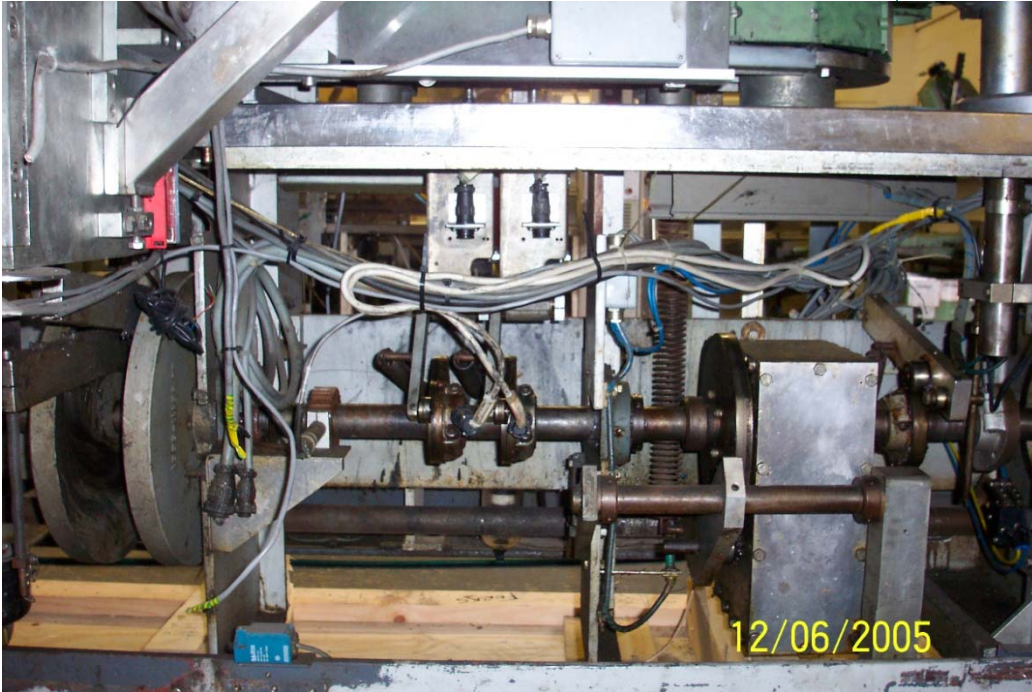


FRONT OF SEALING BEAM AFTER.

AM2000-M OVERHAUL.



UNDER FRONT BEFORE CHANGES.



UNDER FRONT AFTER CHANGES.

AM2000-M OVERHAUL.



MACHINE STRIPPED FOR WORK.

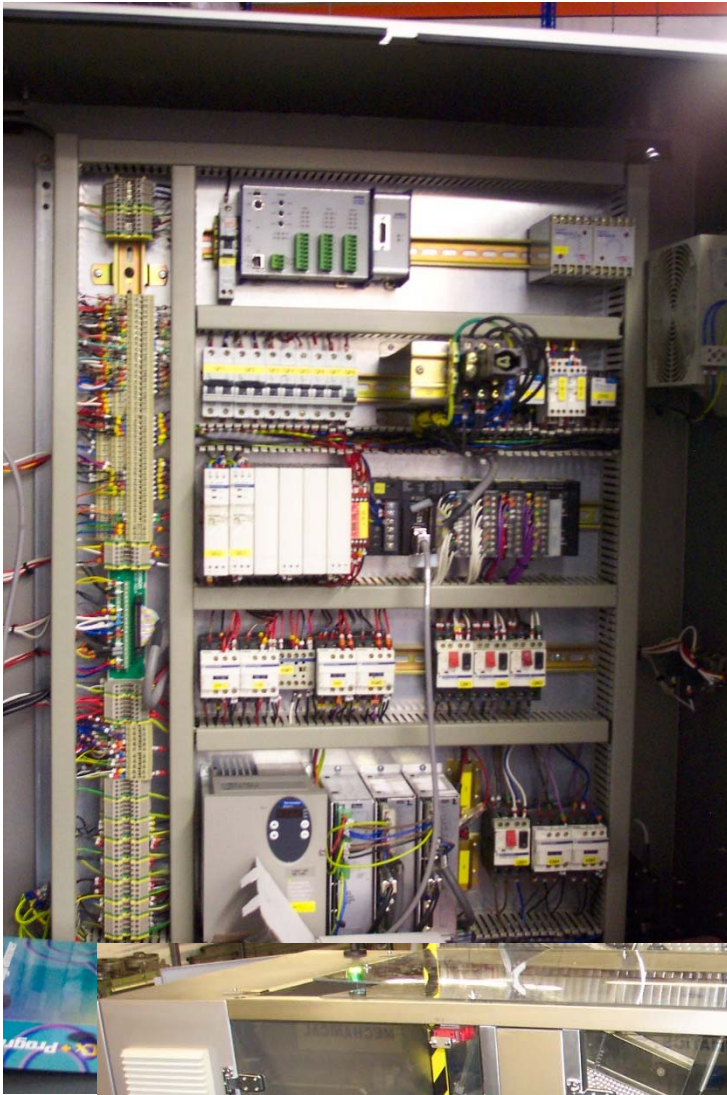


MSD Ltd, Tel: 01462 421400 Fax: 01462423300
msd.ltd@btconnect.com

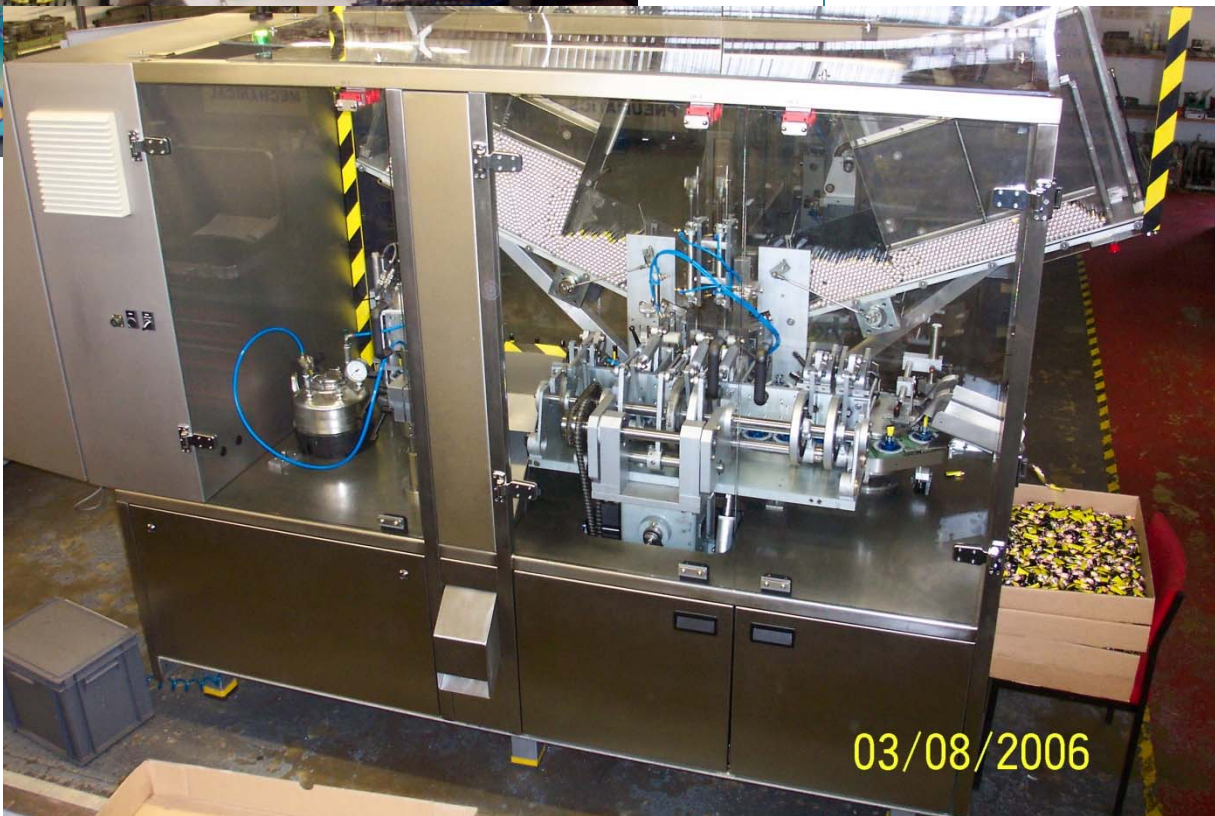
FRONT VIEW AFTER WORK.

AM2000-M OVERHAUL.

ELECTRICAL ENCLOSURE.



Manufacturing
Support &
Design.
Ltd.
MSD



03/08/2006

MSD Ltd, Tel: 01462 421400 Fax: 01462423300
msd.ltd@btconnect.com

REAR VIEW OF MACHINE ON COMPLETION.