

NO	DESCRIZIONE	Q.TA	MATERIA	REMARKS
01	GUARNIZIONE PROF. Ø140-Ø176 H. 32	1	PPF	
02	GUARNIZIONE PROF. Ø140-Ø176 H. 32	1	PPF	
03	SPINA CILINDRICA FIBRO 2001-13000-030	1	FIBRO	
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DMT-AD Aerosol Top Manufacturing Lines

INVERNIZZI PRESSE PROFILE AND PRODUCTION

The technical staff of Invernizzi Presse has more than 55 years of experience (for transfer presses and for relative tooling and special equipment) to design and realize complete Turn-Key System to produce automatically a very large range of metal parts. Particularly the specialization of Invernizzi Presse is dedicated to the production of aerosol dome making lines.

DMT – AD INVERNIZZI PRESSE AEROSOL DOME MANUFACTURING LINES MAIN FEATURES

- High volume production of aerosol dome production with 1 or 2 pieces at stroke.
- The press and transfer tool sets are studied according to the last aerosol markets needing in term of material hardness. The project foresees material hardness TH435 and TH550, **T5 tinplate for material saving.**
- Dynamically balanced high speed transfer press.
- Press accuracy (using pre-charged roller ram guides, bearing guided, tool columns etc.) and frame rigidity guaranties the max reliability for the repeatability of the stamping conditions;
- Mechanical reduction gear to allow press to supply the nominal energy even at a low number of strokes/min. Special drive unit of new design consisting of 3 thrust planetary gears. The extremely low moment of inertia of the thrust unit ensures highly reduced breaking angle.
- Special hydraulic unlocking system for fast and safe release of the ram in case of tool stuck at BDC.
- High efficiency
- Tool active parts carbide.
- Simple tool setting guarantees a continue and uniform stamping quality, nor tool adjustment required during the production.
- Rapid production exchange system.
- Complete finished tops production ready for lining.
- Feeding device designed to prevent scratching of pre draw shell (cups) or scroll/strip.

T60 DMT2 – AD FED FROM 90° P&P STRIP/SCROLL FEEDER ZIG ZAG 1 OUTPUT

Aerosol Top Manufacturing Line able to reach 150 pieces/minute

- 600 kN transfer press 9 stations dynamically balanced high speed press
- 90° P&P STRIP/SCROLL FEEDER ZIG ZAG push & pull technology guaranties a high equipment performance in term of productivity and production exchange
- Single row mechanical transfer

T80 DMT2 – AD FED FROM PRE DRAW SHELL (CUP)

Aerosol Top Manufacturing Line able to reach 400 pieces/minute

- 800 kN transfer press 9 + 9 stations dynamically balanced high speed press
- Fed from pre draw shell (cup)
- 2 output and double row mechanical transfer
- Double pre draw shell (cup) feeder integrated into the press

T90 DMT3 – AD FED FROM 90° P&P STRIP/SCROLL FEEDER

Aerosol Top Manufacturing Line able to reach 360 pieces/minute

- 700 kN transfer press 9 + 9 stations dynamically balanced high speed press
- 200 kN Blank & Cup external press 1 + 1 station
- 2 output and double row mechanical transfer
- Double ram
- 90° P&P STRIP/SCROLL FEEDER push & pull technology guaranties a high equipment performance in term of productivity and production exchange

T60 DMT2 – AD FED FROM 90° P&P STRIP/SCROLL FEEDER ZIG ZAG - 1 OUTPUT

Capacity – force of main press	kN	600
Nominal force at	1'/m	45
Working stations in main ram	Nr.	11
Stations pitch in main ram	mm	135
Adjustable cycles	spm	30 – 150
Upper extractors		
Upper holding pins		
Lower ejectors		
Diameter range - metric	mm	41 - 65
Diameter range - inch	inch	112 - 211

T80 DMT2 – AD FED FROM PRE DRAW SHELL (CUP) - 2 OUTPUTS

Capacity – force of main press	kN	800
Nominal force at	1'/m	45
Working stations in main ram	Nr.	9 + 9
Stations pitch in main ram	mm	110
Adjustable cycles	spm	30 - 200
Upper extractors		
Upper holding pins		
Lower ejectors		
Diameter range - metric	mm	41 - 65
Diameter range - inch	inch	112 - 211

T90 DMT3 – AD FED FROM 90° P&P STRIP/SCROLL FEEDER - 2 OUTPUTS

Capacity – force of main press	kN	700
Capacity – force of external blank and cup press	kN	200
Nominal force at	1'/m	45
Working stations in main ram	Nr.	9 + 9
Working stations in external ram	Nr.	1 + 1
Stations pitch in main ram	mm	110
Adjustable cycles	spm	30 – 180
Upper extractors		
Upper holding pins		
Lower ejectors		
Diameter range - metric	mm	41 - 65
Diameter range - inch	inch	112 - 211



AVAILABLE WITH AUTOMATIC PALLET FEEDER (APF)

The operator places the scroll (strips) stacked on the pallet in the loading area of the APF and the system handles the needed procedures to allow the material to reach the scroll feeder feeding the transfer.

AEROSOL DOMES: SAVING MATERIAL UP TO 11%

It is possible to further lower the costs for the production of aerosol domes?

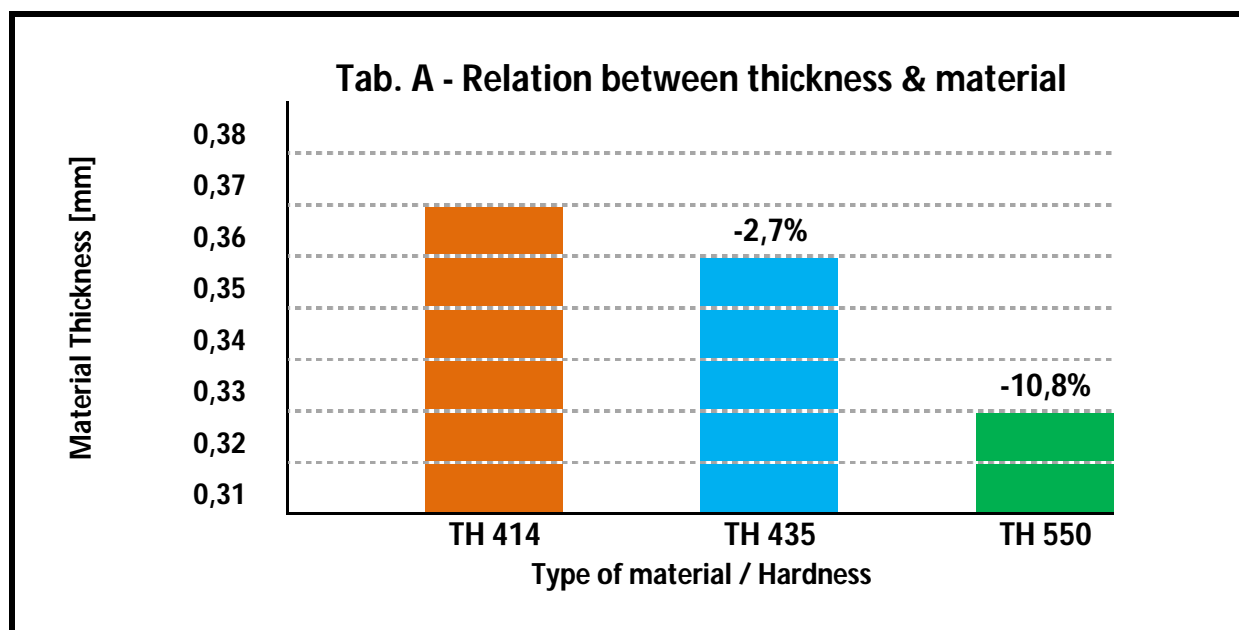
The answer is **YES**, through the innovative equipment of **INVERNIZZI PRESSE**, that is designed to produce particular drawing parts, in the specific case domes for spray cans, with material of reduced thickness and having different hardness from **TH435** to **TH550**, with or without coating (EN 10202-04).

The use of these materials with higher hardness values, than the materials normally used for the production of similar pieces, it allows to obtain particular drawing parts using a tin plate with reduced thickness. In fact with this system the end-user has the possibility to produce the domes using a material hardness TH550 and a thickness of **0.32mm** for aerosol dome **60mm diameter and 15 bar** and a thickness of **0.33mm** for aerosol dome **60mm diameter and 18 bar**.

The obvious advantage that is achieved by producing the special parts in this innovative manner is that we have an impact not only on the economic aspect, by using less raw material, but also the **reduction of the emissions in the atmosphere**. There are operations that take place in this transfer system, such as the **CURLING** where to eliminate the residues of the processing dispersed in the environment, the machine is equipped with an aspiration system for the purpose of evacuating the dust produced by the wrinkling of the coating of the material. This activity is also designed to simplify the collection and therefore the proper disposal of processing residues, avoiding the dispersion in the environment of machining dust, through channels and magnetic conveyors which convey the processing scraps in an appropriate collection point.

The entire process has been the subject of study to achieve the construction of a machine able to guarantee also in the future the same initial performance.

In the **Tab. A** (here below) is illustrated the savings generated by the use of different materials and thicknesses. The graphic takes in consideration tinplate Aerosol domes diameter 60mm resistant to 18 bar.



Thanks to this optimization of the equipment, on one million of pieces produced you can save about two tons of raw material.

INVERNIZZI PRESSE

Via Belvedere, 20

I - 23855 PESCATO (LC)

Tel. +39 (0)341 360184

Fax +39 (0)341 281982

Internet: www.invernizzi.com

E-mail: info@invernizzi.com