



SPUTTERING

Tecnomet Combi MV / MO
Combimet MC



VACUUM TECHNOLOGY SOLUTIONS

COMPANY

TECNO VACUUM s.r.l. is a company that researches and develops high vacuum solutions for metallic coatings of objects.

The Company, which has a consolidated experience world-wide, designs and builds high vacuum metallization equipment since 1990 for the sectors of automotive, cosmetics and in general the ennobling of various objects.

With our second production site, we have an area of 15.000 mq in total and a covered area of about 6.000 mq for warehouses, workshop, technical and commercial offices.



The range of TECNO VACUUM s.r.l. products includes various types of process, even combined:

- Thermal Evaporation
- Sputtering
- Cathodic Arc

SPUTTERING EQUIPMENT

Tecno Vacuum produces standard equipment available in stock and special equipment on request



TECNOMET COMBI MV

Vertical equipment, two doors, two magnetrons

TECHNOLOGY

- **PVD (Physical Vapor Deposition):**
Thermal Evaporation, Sputtering, Cathodic Arc (Combimet)
- **PLASMA (DC or MF)**
(activation and vacuum surface cleaning)
- **PECVD (Plasma-enhanced chemical vapor deposition):**
PROTECTOR (vacuum polymerization, transparent organic coating)
- **MULTILAYER DEPOSITION**
(Metals, metal alloys, nitrides and carbonitrides of Ti, Cr, Zr, etc...)
- **AUTOMATIC CRYO TRAP WITH DEFROST DURING THE PRODUCTION CYCLE**
(LN2 or Polycold)
- **THICKNESS GAUGES**
(automatic control of deposited film thickness)
- **REPORT FOR EVERY PRODUCTION CYCLE**
(printouts with process graphics and traceability for each cycle)



TECNOMET COMBI MO

Horizontal equipment, two trolleys, two magnetrons

Our machines are equipped with **energy management systems** to optimize the operation of pumping units and reduce the consumption of electrical energy.

Angle piston valves (low costs of maintenance, guaranteed for over one million movements without maintenance).

Our exclusive technological systems, guarantee extremely short cycle times, such as the “**Diffusion Pump Speed**” system which allows the high vacuum valve to operate directly in the chamber.

The DPS system reduces the cycle time and allows longer maintenance intervals with considerable cost saving:

- diffusion pump oil change every 3 years
- diffusion pump internal cleaning every 6 years

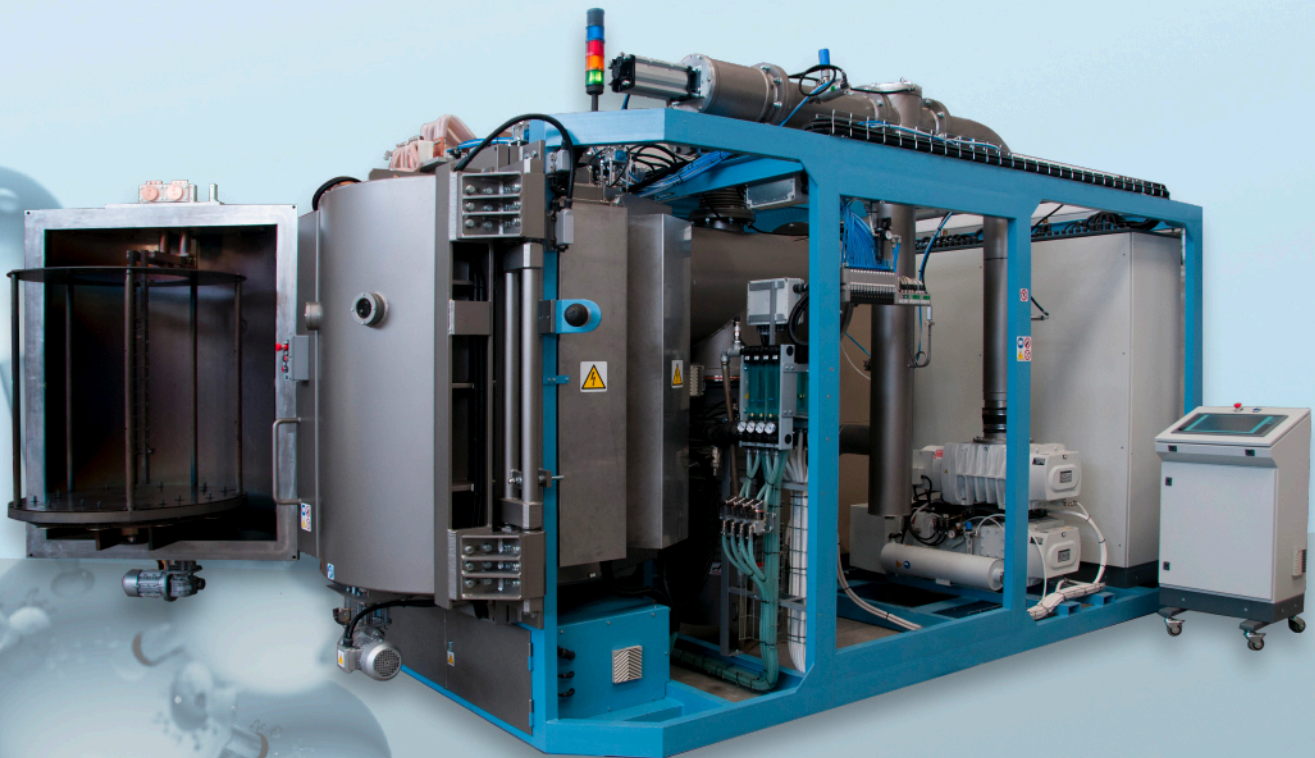
New **control system** for constant and correct process operation managed by the control panel, which also it allows remote monitoring and technical assistance via internet in real time.

Self-diagnostic function: checking the proper functioning of pumps, valves and vacuum gauges, reporting anomalies and suggesting corrective actions.

Exploded view drawings of the main machine assemblies, complete of materials list and ordering codes.

We use **dry rotary pumps**, standard on our equipment, with several advantages compared to traditional oil pumps:

- Lower pressure level
- Low maintenance costs
- No oil consumption
- Lower noise



COMBIMET

Vertical equipment, two doors, four magnetrons

		TECNOMET COMBI						COMBIMET	
		VERTICAL				HORIZONTAL		VERTICAL	
		MV 11	MV 15	MV 17	MV 19	MO 11	MO 15	MC 12	MC 15
INSIDE CHAMBER DIAMETER **	mm.	1100	1500	1700	1900	1100	1500	1200	1500
INSIDE CHAMBER LENGTH **	mm.	1500	1500	1800	1800	1500	1500	1600	1900
SATELLITE LENGTH **	mm.	1005	1005	1630	1630	1005	1005	1005	1630
USEFUL LENGTH (THERMAL EVAPORATION) **	mm.	900	900 / 1200	1500	1500	900 / 1200	900 / 1200	900	1500
USEFUL LENGTH (SPUTTERING)	mm.	950				950		950	1450
SATELLITES / MAX DIAMETER **	Nr. / mm.	6 / 340 9 / 255 12 / 200	6 / 465 9 / 350 12 / 280	6 / 540 9 / 405 12 / 325	6 / 600 9 / 455 12 / 360	6 / 340 9 / 255 12 / 200	4 / 555 8 / 360	6 / 350 9 / 260 12 / 205	2 / 560 2 / 430
SPUTTERING SOURCES (1200 x 127 mm.)	Nr.	2				2		4	-
SPUTTERING SOURCES (1700 x 150 mm.)	Nr.	-				-		-	2
GAS INJECTION SYSTEM (MFC)	Nr.	1 - 4				1 - 4		1 - 4	1 - 4
ROTARY PUMP **	m ³ /h (Nr.)	280 (1)	650 (1-2)	650 (1-2)	650 (1-2)	280 (1)	650 (1-2)	650 (1)	650 (1)
ROOTS PUMP **	m ³ /h (Nr.)	1730 (1)	7000 (1-2)	7000 (1-2)	7000 (1-2)	1730 (1)	7000 (1-2)	7000 (1)	7000 (1)
DIFFUSION PUMP **	l/sec (Nr.)	20000 (1)	20000 (2)	32000 (2)	50000 (2)	20000 (1)	32000 (2)	20000 (1)	20000 (1-2)
CRYO TRAP (LN2 or POLYCOLD)	Nr.	1	1	1	2	1	1	1	1
VACUUM TIME 2 x 10 ⁻⁴ mbar *	min.	4	3	4	4	4	3	4	4
* WITH EMPTY CHAMBER									
** MODIFICATIONS AVAILABLE ON REQUEST									



Tecno Vacuum s.r.l. is represented worldwide by agencies of commercial and technical assistance.
Among the markets in which we operate: automotive, lighting, cosmetics, footwear, decorations, optics, fashion accessories, mechanics, electronics.

Our services include:

TECHNICAL ASSISTANCE

- Remote assistance on-line
- Assistance at customers from various centers of the world
- Software updates
- Ordinary assistances programmed
- Timely extraordinary assistances
- General overhauls at our or your site
- Encoded spare parts service (always in stock)

COURSES

- Specific courses for the training of operators and maintainers at your site
- Free regular courses at our site

For more information visit our website www.tecnovacuum.it



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