

META^{TABLE} C

Fully automated metallization system



This short-cycle sputter coating system is a newly developed plant concept which can be specifically integrated into fully automated production lines including upstream and/or downstream manufacturing processes.

Moulded 3-D parts made of plastic, for example, are metallized in a high vacuum in the META^{TABLE} C. Cosmetic packages, among others, can be primed, metallized and then varnished according to the inline principle in conjunction with a varnishing plant.

The substrates are metallized by a high-performance magnetron sputter system. Apart from aluminium as the standard target material, chromium or stainless steel can also be used as coating materials.

The vacuum chamber is designed to hold a carrier measuring 850 mm x 930 mm equipped with substrates. The parts to be coated are generally fitted to rods. The plant's own carrier can hold up to 11 rods. Loading and unloading are carried out by a manipulator system. This allows the parts to be handled exclusively on a horizontal level with no manual interaction.

Advantage: little work for the substrate holders and thus cost savings

Depending on the equipment and technological features, the overall process time is between 130 and 240 seconds including batch change.

The plant system's high efficiency makes the automotive industry and cosmetics packaging industry preferred fields of application.

OPTION

Headlight reflectors are coated with aluminium and an HMDS(O)-based protective layer directly after injection moulding in an alternative plant version. An optional MF plasma equipment that is used to activate the substrates and deposit a protective layer by plasma polymerisation can be integrated into the system for this purpose.

Overview

Technical parameters	Unit	Plant
Substrate carrier, coatable surface [l x w]	mm	850 x 460 / 930
Height including substrate carrier	mm	210
Process time (total cycle time)*	seconds	approx. 130 without glowing approx. 150 with glowing approx. 240 glowing and HMDS
Media, without options		
Mains connection**	3 NPE	400/230 V ± 5%
Connected load	kVA	172
Fuse	A	250
Cooling water temperature	°C	15 - 20
Water pressure	bar	5 - 6
Circulated quantity	m ³ /h	8
Compressed air	bar	7 ... 8
Consumption	m ³	3.6

Optional pretreatment

MF electrodes	mm	1,030 x 450 / 930
Power	kW	10
Operating range	kHz	approx. 40

Process chamber - sputtering

Sliding vane rotary pump	m ³ /h	1 x 630
Roots pump	m ³ /h	1 x 2,000 (100 Hz)
Oil diffusion pump	l/s	1 x 12,000
Kryo generator	l/s	1 x 100,000 (water vapour)
Technological equipment:		
Sputter source	unit	1
Target	mm	200 x 1,000 x max. 22
Power	kW	90

Optional plasma polymerisation

MF electrodes	mm	1,030 x 450 / 930
Power	kW	10
Operating range	kHz	approx. 40

*depending on substrate and technology

** others on request

Further information:

VTD Vakuumtechnik Dresden GmbH
Bismarckstraße 66, D-01257 Dresden
Phone: +49 (0) 351 2805-226; Fax: 2805-222
E-mail: sales@vtd.de; www.vtd.de