

TF Series

Thin Film Deposition Systems



ADVANCED
Technologies



The TF series of coaters comprising the TF 500, 600 and 800 are designed for enhanced levels of process capability. A choice of chamber sizes, accessories, deposition techniques, work holders, load locks and pumping options allows the system to be configured to your exact needs. The chambers allow for glove-box integration with either horizontally sliding or vertically sliding access doors. Control options include manual operation or a PLC based control of vacuum cycle in combination with manual or deposition controller based process cycle, or a PC-based system which provides complete automation with advanced functions such as recipe control and data logging.

CHAMBER CONFIGURATIONS



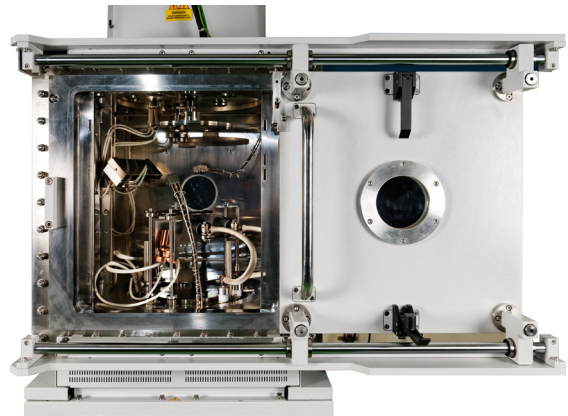
TF 500



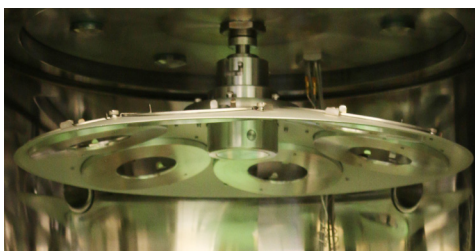
TF 600



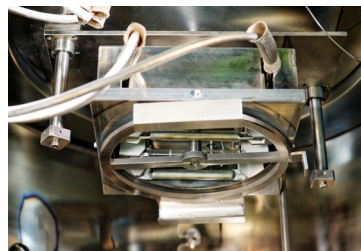
TF 800



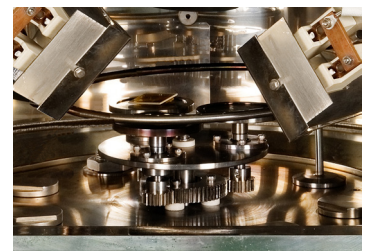
Glove Box Integrated Coater



Rotary Holder



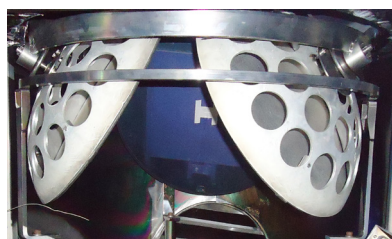
Rotary with Heating, Biasing and Z-shift options



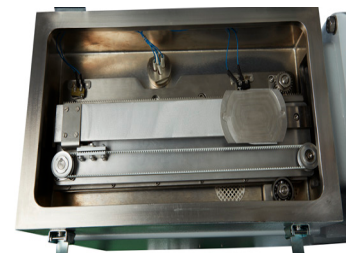
Planar Planetary



Planetary



Knudsen Planetary



Load Lock Substrate Handling

SPECIFICATIONS

CHAMBER SIZE	Chamber diameter ranging from 500 mm to 800 mm. Customizable Height
HV PUMPING OPTIONS	Turbo / Cryo
ROUGHING/BACKING OPTIONS	Rotary / Dry. Optional Booster Pumps
BASE PRESSURE	Up to 10^{-7} mbar
SUBSTRATE SIZE	Maximum up to a 600 mm diameter
SUBSTRATE HOLDER	Rotary, Planetary, Knudsen Planetary, Domed, Drum, Heating, Biasing, Z shift, and other custom options

CONTROL OPTIONS

CYCLE MODE		PUMPING MODE ONLY AUTO		VENT PUSH BUTTON	
MANUAL	AUTO	START PUMPING	STANDBY PUMPING	VENT	MIMIC
PRESSURE GAUGE					
TURBO PUMP-1 PR1 (mbar)	4.0E-3	DC PULSE POWER	ENABLE	MFC1-ARGON1	ENABLE
TURBO PUMP-2 PR2 (mbar)	1.0E+0	MAGNETRON	MAG SEL	SV (sccm)	250
CHAMBER PRESSURE PR3 (mbar)	8.0E+2	PULSED DC MODE	VOLTAGE	PV (sccm)	0
CM GAUGE (mbar)	1.0E-4	TARGET VALUE	100.0	MFC2-OXYGEN	ENABLE
PENNING GAUGE (mbar)	OFF	POWER (W)	0.0	SV (sccm)	100
HMSO TANK- PR4 (mbar)	1.0E+1	VOLTAGE (V)	0.0	PV (sccm)	0
PUMP PUSH BUTTON					
ROTARY PUMP	ON	CURRENT (A)	0.000	MFC3-HMSO	ENABLE
ROOTS PUMP	OFF	PULSE FREQUENCY (kHz)	50	SV (sccm)	500
TURBO PUMP-1	OFF	PULSE REVERSE TIME (ms)	3.0	PV (sccm)	0
TURBO PUMP-2	OFF	RF POWER	ENABLE	MFC4-ARGON2	ENABLE
VALVE PUSH BUTTON					
V1-1 TURBO PUMP1	OFF	SET POWER (W)	500	SV (sccm)	400
V1-2 TURBO PUMP2	OFF	FORWARD POWER (W)	0	PV (sccm)	0
V2-CHAMBER	OFF	REFLECTED POWER (W)	0	SHUTTER STATUS	
V3-1 CHAMBER-TMP-1	OFF	BIAS VOLTAGE (V)	0	SHUTTER1-MAG LEFT	OFF
V3-2 CHAMBER-TMP-2	OFF	LT POWER	ENABLE	SHUTTER2-MAG RIGHT	OFF
VALVE MASS FLOW AND GAUGE PUSH BUTTON					
V4-VENT VALVE	OFF	PV (A)	40.0	SHUTTER3-LT	OFF
V5-1 ARGON SPUTTERING	OFF	MF POWER	ENABLE	ROTARY DRIVE	ENABLE
V5-2 OXYGEN SPUTTERING	OFF	SET POWER (W)	500	ROTATING SPEED	5
V5-3 HMSO TANK	OFF	POWER (W)	0	TOP/BOTTOM	DRIVE SELECTION
V5-4 ARGON MF	OFF	VOLTAGE (V)	0.1	NO. OF STEPS	5
V6-1 PENNING GAUGE	OFF	CURRENT (A)	0.00	STEP	JOG
V6-2 CAPACITANCE GAUGE	OFF	HMSO HEATER	ENABLE	CONTI.	
		SET VALUE (°C)	45	ROOTS H2 VALUE SET	60
		CURRENT VALUE (°C)	45		

Auto mode

Mimic screen

RESULTS



Range of Optical and Electronic Thin Film Coatings produced using TF Series Coaters

Uniformity of $\pm 5\%$ as standard. Custom designed configurations to get better than $\pm 3\%$.

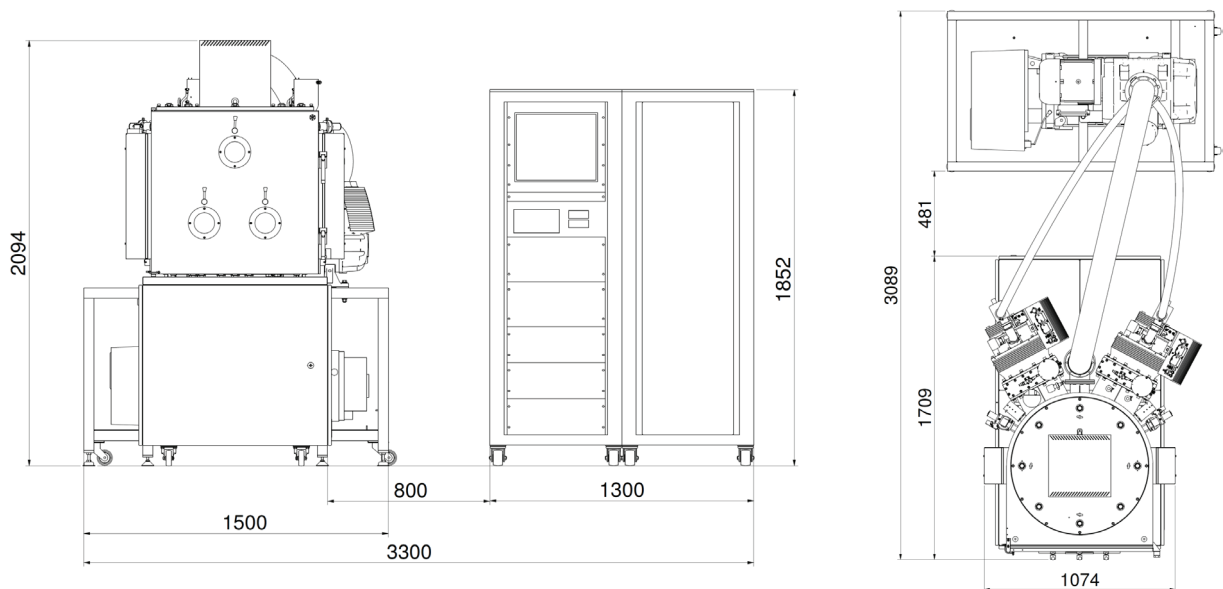
FEATURES

- Wide range of processes in a single system package
- Ion beam process for optical coating applications
- Customizable chamber height to suit user requirements
- Accommodates range of work holders
- Fully interlocked for operator safety
- Compact unit minimizing footprint

APPLICATIONS

- Semiconductors
- Optical coatings
- Metal coatings
- Organic Electronics
- Hard coatings
- Solar cells

LAYOUT



All dimensions in mm

Representative footprint. Actual dimensions will depend on system configuration.



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Registered Office:

Site No. 17, Phase 1, Peenya Industrial Area, Bengaluru 560058,
Karnataka, India. Phone: +91-80-41931000
Email: infotfed@hhvadvancedtech.com
Website: www.hhvadvancedtech.com

Manufacturing Unit:

Site No. 31-34 & 37, Phase1,
KIADB Industrial Area, Dabaspeta, Bengaluru Rural 562 111,
Karnataka, India, Phone: +91-80-66703700