



Nabtesco
Nabtesco India Pvt Ltd

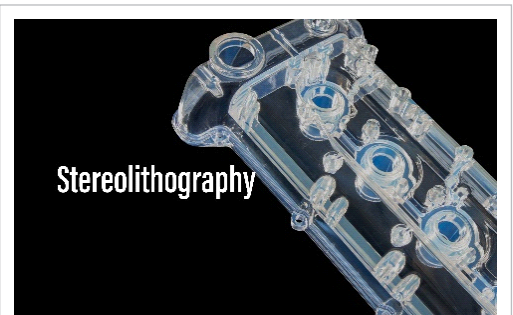
CMET
A Pioneer in Rapid Prototyping

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CMET Inc. was established in 1990, a group company of Nabtesco Corporation. We are a company that manufactures and sells the world's fastest 3D printer, which was the first domestically produced 3D printer in Japan.

Although our high-end 3D printer are a marvel of Japanese Engineering, built in Japan, delivering top-notch quality without breaking the bank. We strive to provide our customers at a reasonable price.



Strengths

- CMET have been developing 3D printing technology for over 30 Years.
- CMET specializes in high-end products and has a cumulative sales record of over 500 units. Its clientele ranges from major Automobile manufacturers to Service bureaus.
- CMET jointly works with Yokohama Resin Development Center develops higher- performance resins that meet the needs of our customers.
- CMET offers the worlds fastest speed Sand Mould Printers (SCM-1800).

Stereolithography System - SLA 3D Printer

Discover precision and efficiency in 3D modelling with CMET SLA cutting-edge solutions. Higher accuracy, effortless modelling of thin-walled structures, seamlessly smooth surfaces, unparalleled transparency, and high-speed modelling are the benefits of our technology. Ideal for both intricate details and large-scale projects, our platform delivers optimal results in the world of 3D modelling.



RAPID MEISTER CS-9

The great large modeling area

- Build the Large-scale model at once
- W900×D700×H400mm

High quality High precision Laser & Scanner system

- Adopting the latest optical system
- Realizes design freedom and high-speed modeling.

Newly developed recoating system

- Dramatically reduces the bubble trap in mode

Easier operability

- Shutter door for easier removal of the Large-scale models
- Equipped with power panel for ease of them.



RAPID MEISTER ATOMm-4000

The middle size stereolithography machine

- Build bigger than A3 Size
- W400×D400×H300mm

For reasonable price

High-speed & high-accuracy scanning system

- Equipped CMET's original scanning system

Easier operability

- Double doors for easier removal
- Equipped with touch pane for easy viewing and



Awarded the "Nikkei Business Daily Awards for Excellence" at the "2013 Nikkei Superior Products and Services Awards"

MODEL	CS-9	ATOMm-4000
Laser Type	Solid state Laser 1.0W 10KHz	Solid state laser 400mW 40KHz
Scanning System	Digital scanner mirror	Digital scanner mirror (TSS4)
Maximum Scanning Speed	47m/sec	30m/sec
Beam Diameter	Variable	Variable
Maximum Build envelope	W900×D700×H400mm	W400×D400×H300mm
Minimum Build Layer	0.1mm (standard)	0.025mm *depends on the resin used
Recoating System	Multi Function Recoater	Blade Recoater (Op.vent Recoater)
Vat	Interchangeable (Approx.340L)	Interchangeable (Approx.80L)
Controller Power	AC 100V Single phase 20A	AC 100V Single phase15A
Dimensions	W1,336×D1,793×H2,212mm	W1,565×D1,050×H1,860mm
Weight	1,250kg (without resin)	550kg (without resin)



Stereolithography Applications - Resin

TSR-829



Appearance	Highly transparent
Material	Antimony Free
Features	Excellent humidity/Moisture resistance High transparency. Optimal for Visualizing flow models etc. Very little time degradation.
Applications	Lens, Visualization test, Profile Simulation of transparent products

TSR-884B



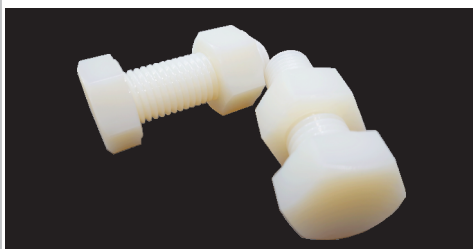
Appearance	Highly transparent
Material	Antimony Free
Features	High humidity-resistance and High transparency. Optimal for Visualizing flow models etc. Very little time degradation.
Applications	Lens, Visualization test, Profile Simulation of transparent products

TSR-851



Appearance	Light white & Transparent
Material	Non- hazardous
Features	Standard - Level heat resistance and toughness. Low-price & High-quality materials
Applications	Master patterns for vacuum casting Transparent products

TSR-852



Appearance	Milky White
Material	Non- hazardous
Features	High toughness Low moisture absorption High dimensional accuracy. Appearance and toughness of Polypropylene.
Applications	Parts assembly check, interference test, design assurance.

TSR-883



Appearance	Light yellow & Transparent
Material	Antimony Free, Non-hazardous
Features	Precision Casting masters for precision investment cast parts. High rigidity and durability
Applications	Master patterns for vacuum casting & precision Casting

TSR-886



Appearance	Transparent
Material	Antimony free, Non- hazardous
Features	General purpose prototyping Models requiring high clarity Snapfits and complex assemblies Fluid flow and visualization models
Applications	Master patterns for vacuum casting Transparent assemblies

Material Properties

Base Material of resin below is Epxy.

Comparision material

	TSR-829	TSR-851	TSR-852	TSR-884B	TSR-886	ABS	PMMA
Viscosity(mPa.s) 25 °C	210	470	515	480	330		
Specific Gravity 25 °C	1.07	1.14	1.13	1.10	1.12	1.04	1.2
Ec(mJ/cm ²)	19	16	20	24	20		
Dp(mm)	0.19	0.14	0.22	0.21	0.18		
Tensile strength(MPa)	44	40(73)	53	51(50)	50((54))	43	60
Elongation at break(%)	8	3.3 (3.1)	8.5	3.1(4.4)	4.5((5.8))	15-60	5
Tensile Modulus(MPa)	1,670	1,940(3,110)	1,850	2,370(2,090)	2,340((2,330))	1,800	3,100
Flexural Strength(MPa)	68	69(126)	78	87(79)	85((95))	70	100
Flexural Modulus(MPa)	1,840	2,270(3,140)	2,350	2,260(2,080)	2,470((2,490))	2,250	3,000
Izot Impact Strength (J/m,notched)	34	23(28)	40-50	30(25)	33((33))	200	20
HDT 1.81Mpa(°C)	49	50(85)	48	53(100)	47((60))	80-90	80
HDT 0.46Mpa(°C)	53	56(110)	52	58(117)	51((875))		
Hardness (ShoreD)	D83	D89(D90)	D80-82	D87(D86)	D87((D87))		

(XX) Physical properties after heat treatment at 100°C
(XX) Physical properties after heat treatment at 80°C

The physical properties mentioned here are typical values and are not default values. The physical property values are subject to change without prior notices.
(XX) Physical properties after heat treatment at 80 °C

Binder Jetting Sand 3D Printer

CMET Sand 3D Printer is the World's Fastest 3D printer capable of casting sand moulds for various ferrous and non-ferrous materials such as cast iron, stainless steel, heat resistant steel and aluminum. CMET offer a complete support system from prototype to mass production in Sand Casting 3D printer

The key advantage of CMET 3D printer is eliminating the need for wooden molds, which significantly reducing both costs and man-hours associated with their production. This is particularly impactful for intricate castings where the traditional method incurs high expenses and time investment. The technology promises increased efficiency and cost-effectiveness, making it a valuable advancement for manufacturers across various industries.



SAND CASTING MEISTER

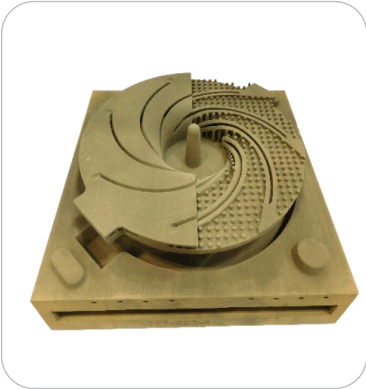


SCM-800

SCM-1800

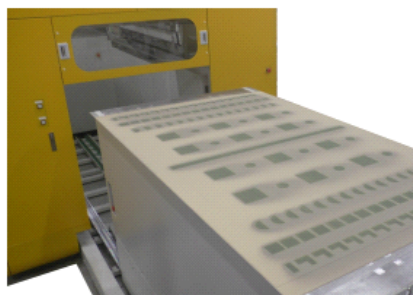
DEVICE NAME	Sand 3D Printer Sand Casting Meister SCM-800	Sand 3D Printer Sand Casting Meister SCM-1800
Process	High Speed Binder Jetting process	High Speed Binder Jetting process
Build envelope	W800×D400×H400mm	W1,800×D1,000×H750mm
Layer thickness	0.28mm	0.28mm
Material	G-CCS (Catalyst Coated Sand) */ Dedicated Binder	G-CCS (Catalyst Coated Sand) */ Dedicated Binder
Operation method	Touch Screen Monitor	Touch Screen Monitor
Weight	Approximately 2,000kg (Excluding Materials)	Approximately 4,000kg (Excluding Materials)
Dimensions	W2,344 x D1,494 x H1,950mm	W4,550 x D2,515x H3,210mm
Supply Voltage	AC 200V x 3 phase	AC 200V x 3 phase /AC 100V x 1 Phase
Compressed Air Dryers	0.6 -0.85 Mpa	0.6 -0.85 Mpa
Working Temperature	23 ± 2°C	23 ± 2°C
Working Humidity	≧ 40% RH	≧ 40% RH
Altitude	< 1,000m	< 1,000m

*Specifications are subject to change without notice
*Sand and Binder will be provided by CMET

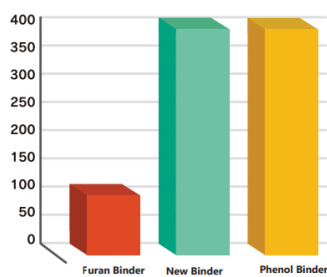


Features Sand Material (G CCS/Binder)

3D Sand Mold Properties

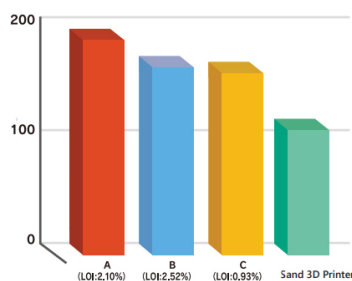


Collapsibility of moulding sand



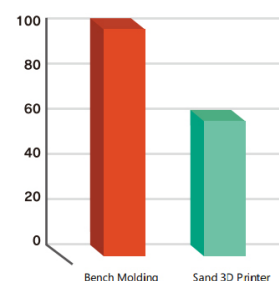
*Bench Molding

Sand casting defects



*1,000°C Reaction Time 60 min

Sulfurous acid gas reduction during casting



*Comparison with repetitive use sand model



Suggestion for higher productivity & Lower running cost in 3D printing process

- No activator & Mixer Required
- Dry Process & Easy to Finish
- Sand almost 100% Recyclable
- Good Binder Strength



Advantages of 3D Printed Sand Molds

- Design Freedom
- Quick Turnaround
- Improved Efficiency
- Reduced Costs
- Reduced Material Waste
- Prototype to mass production

CMET.Inc

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