



Advanced Atomization Technology

Vacuum Induction Inert Gas Atomization

Nickel 、Cobalt、
Aluminium、 Custom alloys

High Spherical shap
Size Distribution:0-150µm
High purit

Electrode Induction Gas Atomization

Titanium 、Ti-Al 、Ni-Ti、
Refractory metals

High Spherical shap
Size Distribution:0-150µm
High Purity

Plasma Rotating Electrode Process

Titanium 、Nickel、
Cobalt 、Steel

Superior flowability
Size Distribution:30-300µm
High purity

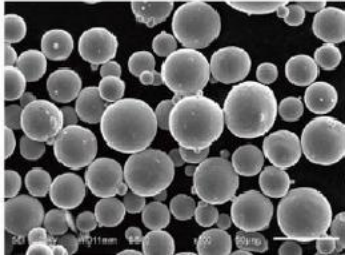
Plasma Atomization

Titanium

High Spherical
Size Distribution : 0-150um
High purity

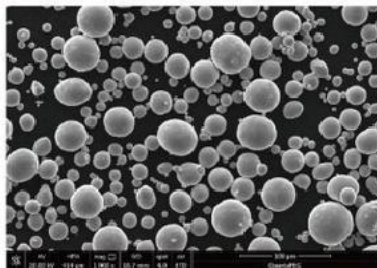
B Product Catalogue

Ti64 Gr5

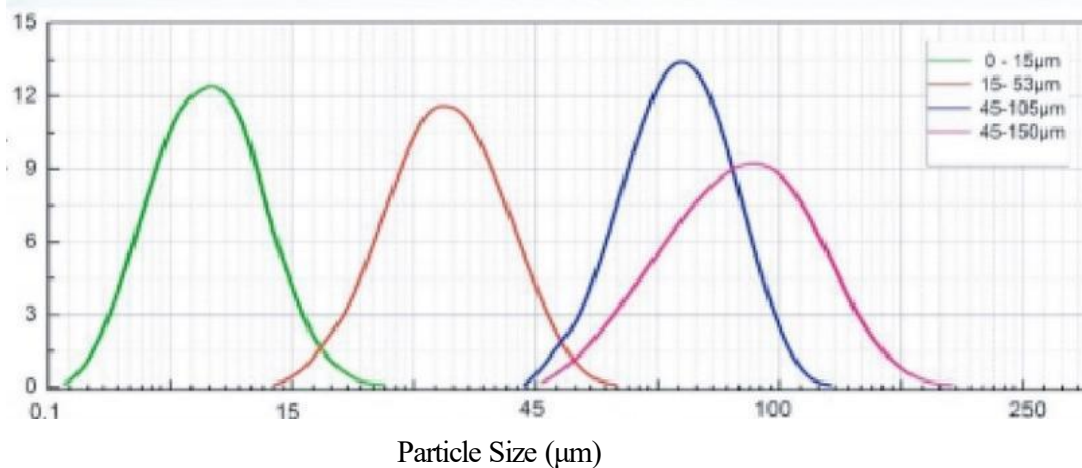


Typical Product	Ti64			
Size Distribution(μm)	0~15	15~53	45~105	45~150
Flowability		$\leq 35\text{s}$	$\leq 25\text{s}$	$\leq 25\text{s}$
Packing Density (g/cm^3)	2.1	2.2	2.4	2.4
Oxygen content	800-1500ppm			

Inconel 718



Typical Product	IN 718			
Size Distribution(μm)	0~15	15~53	45~105	45~150
Flowability		$\leq 20\text{s}$	$\leq 20\text{s}$	$\leq 15\text{s}$
Packing Density (g/cm^3)	4.2	4.3	4.4	4.4
Oxygen content	0-300ppm			



Titanium, Titanium alloy powder

Category /China Brand		Foreign brands	Particle size	Flowability	Ayunen content/ppm
Pure Ti	TAD	TiCp	15-45μm	≤35s/50g	≤1300
Titanium	TC4	Ti64 G5			≤1500
	TC4E	Ti64G23			≤1300
	TC11	BT9			≤1600
	TA15	BT20			≤1600
	TA19	Ti6242			≤1600
calloy	Ti48Al2Cr2Nb	Ti4822	15-53μm		≤1500
	Ti2AlNb		20-63μm		≤1000
	NiTi		45-105μm	Ni: 40-50%	Ti: 50-60%
	ZrTi			Zr: 10-50%	Ti: 50-90%
	NbSi				

Nickel base alloy powder

Category /China Brand		Foreign brands	Particle size	Flowability	Oyuoen content/ppm
Superalloy	GH4169	In718	15-45μm	≤18s/50g	≤300
	GH3625	In625			≤300
	GH3536	Hastelloy X			≤300
	GH738	Waspaloy	15-53μm		≤300
	K418	In713	20-63μm		≤300
	GH5188	HA188	53-150um		≤300
	DZ125/ DZ1251	Renc125			≤300
	DD402	CMSX-2			≤300
	FGH91/95/ 96/97	Rene95/ 88DT			≤300

Die Steel、Stainless steel powder

Category /China Brand		Foreign brands	Particle size	Flowability	Oxyaen content/ppm
Die Steel	4Cr5MoSiV	H13	15-45μm 15-53μm 20-63μm	≤18s/50g	≤500
	18Ni300	1.2709/MS1			≤500
	4Cr13	Invar36			≤500
	-----	A100			≤500
	0CrNi2Si2MoVA	300M			≤500
	W6Mo5Cr4V2	M2			≤500
	-----	Corrax			≤500
Stainless steel	00Cr17Ni14Mo2	316L			≤500
	0Cr17Ni4Cu4Nb	17-4PH			≤500

Cobalt chromium alloy powder

Category/China Brand		Foreig n brands	Particle size	Flowability	Oxygen content/ppi
Cobalt	CoCrMo	spi	10-30μm	≤18s/50g	≤300
	CoCrMoW	sp2	15-45μm		≤300
	Cocrw		20-63μm		≤300

Aviation aluminum alloy powder

Category/China Brand		Foreign brands	Particle size	Oxygen content/ppm
Aluminium	2024		15-53μm	≤600
	6061			≤600
	ZL104	AlSi10Mg	20-63μm	≤600

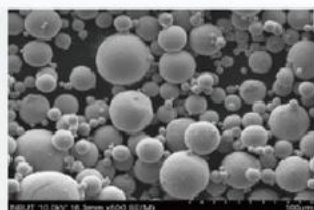
Refractory Metal powder (spherical)

Category	Category	Particle siz
w	Cr	0-45μm
Ta	V	
Nb	No	

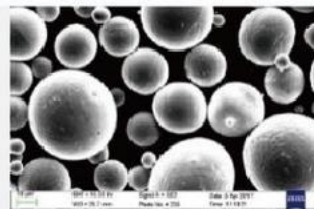
Precious metal powder(spherical)

Species	Gravity	Apparent density	Particle siz
18Kgold	Au75%	15.5g/cm ³	0-45μm
silver	Ag930%	10.3g/cm ²	0-45μm
pltinum	P95.5%	20.7g/cm ³	0-45μm

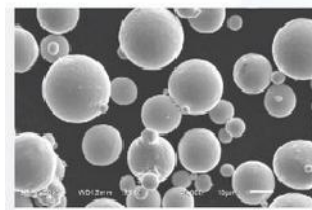
SLM, Laser cladding, HIP, PM, MIM, Thermal Spraying



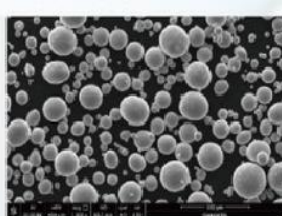
Ti64(Gr5)



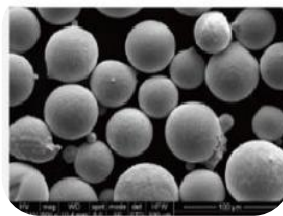
NiTi50



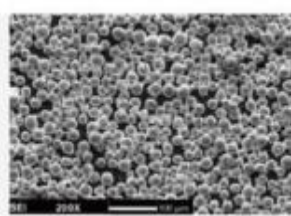
IN718



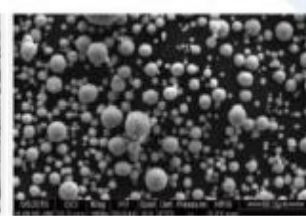
Hastelloy X



SP1



1.2709/MS1



AlSi10Mg



Applied Technology



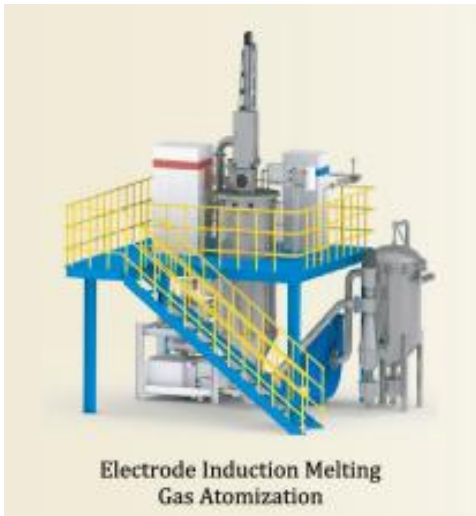
Brand	Ti64	TA15	In718	Hastelloy X	HA188	316L	1.2709	AlSi10Mg
Tensile Strength/Mpa	1110±30	1000±30	1200±30	720±20	930±20	600±30	1990±30	350±20
Yield Strength/Mpa	1050±30	930±30	1050±30	340±20	520±20	490±30	1890±30	250±20
Elongation%	15±2	15±2	16±2	30±2	50±2	38±2	4±2	7±2



Advanced Atomization System

It is ceramic-free atomization process. The liquid metal on the top of bar flows downward and falls into a gas nozzle, where it is atomized. This technology can be applied to any material capable of being inductively heated.

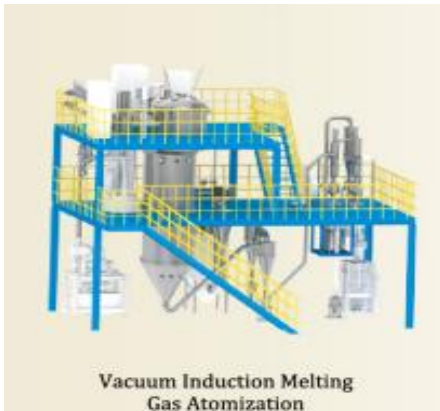
Technical Parameters



Equipment model	AVI-EIGA-50	AVI-EIGA-75
Maximum temperature	2200°C	2200°C
Induction electrode diameter	40-50mm	60-75mm
heating method	60kw	80kw
Overall power	130kw	150kw
Ultimate vacuum	6.67x10 ⁻³ Pa(max)	6.67x10 ⁻³ Pa(max)
Working vacuum degree	1~6.67x10 ⁻² Pa	1~6.67x10 ⁻² Pa
Pressure rise rate	<2Pa/h	≤2Pa/h
Atomizing gas pressure	2.5-5MPa,max7MPa	2.5-5MPa,max7MPa
Atomizing gas flow	m≥1200Nm ³ /h	m≥1200Nm ³ /h
Equipment size/mm	6000*5500* 7500	6000*5500*7500

It is usually equipped with a furnace for melting,a thin flow of the melted alloy dispersed on-into small droplets by high pressure of inert gas. Powders produced by VIGA have a spherical shape(p020.85) , l ower oxygencontent(wt%0.005~0.03),and homogeneous.

Technical Parameters



Equipment mode l	AVI-VIGA-50	AVI-VIGA-100	AVI-VIGA-250
Crucible capacity	Max:50kg	Max: 100kg	Max: 250kg
Maximum temperature	1700°C	1700°C	1700°C
Holding furnace maximum temperature	1400°C	1400°C	1400°C
Atomizing gas pressure	2.5~5Mpa,Max:7MPa	2.5~5Mpa,Max:7MPa	≥2.5~5Mpa,Max:7MPa
Atomizing gas flow	≥800Nm ³ /h	800Nm ³ /h	≥800Nm ³ /h
Overall power	200kw	260kw	380kw
Illtimate yacuum	6.67x10 ⁻³ Pa	6.67x10 ⁻³ Pa	6.67x10 ⁻³ Pa
Working vacuum degree	1~6.67x10 ⁻² Pa	1~6.67x10 ⁻² Pa	1~6.67x10 ⁻² Pa
Pressure rise rate	≤2Pa/h	≤2Pa/h	≤2Pa/h
Equipment size/mm	5000x6000x8500	6000X7000x10000	7000x8000x11300