

Equipments in Gifu Anpachi Plant
– Asahi Kinzoku Kogyo Inc. –

Dated 2009/7/7

Classification			Effective Work Dimensions (LxWxH)	Quantity
Machining	Machining Center	Horizontal 5-Axis Machining Center MAG3 EX	4000x1500x1000mm Max. Spindle Speed: 33000rpm	1
		Horizontal 5-Axis Machining Center MAG4	4000x2000x700mm Max. Spindle Speed: 30000rpm	1
		Horizontal 5-Axis Machining Center a82-5XR	1100x820x1020mm Max. Spindle Speed: 20000rpm	1
		Horizontal 4-Axis Machining Center MH-500	800x650x800mm Max. Spindle Speed: 13000rpm	2
		Vertical 3 Axis Machining Center MX-55VB	1050x560x450mm Max. Spindle Speed: 11000rpm	1
		Horizontal Boring Machine BTD-200QF	1000x1000x700mm Max. Spindle Speed: 1600rpm	1
		CNC Vertical Lathe TM2-10N	X1360mmxZ600mm Table Rotation Speed: 400rpm	1
		CNC Cylinder Grinding Machine RD32-B50A/RD32-B50P	φ 300x500mm	2
		Radial Drilling Machine YDM-915A	915x560x220mm Max. Spindle Speed: 1270rpm	1
		CNC Milling Machine 2K-V	300x750x350mm Max. Spindle Speed: 1500rpm	1

		Cutting Machine H-250SA	W300xH250mm	1
Classification		Equipment/Process	Effective Work Dimensions (LxWxH)	Quantity
Machining (continued)		3 Dimensional CAD	CATIA Version 4	2
		3 Dimensional CAD	CATIA Version 5	1
Shot Peening		Shot Peening Equipment (Impeller Type & Nozzle Type)	L3000xH1060mm Table: ϕ 1200xH800mm	1
		Shot Peening Equipment (Impeller Type)	L5200xH1540mm	1
		Shot Peening Equipment (Impeller Type)	L770xH930mm	1
		Shot Peening Equipment (Impeller Type)	L1070xH1230mm	1
		Tapping Machine		1
	Chemical Processing	Plating	Hard Chromium Plating	1000x2500x1100mm
Hard Chromium Plating			1500x1000x1100mm	1
Hard Chromium Plating			800x1000x650mm	1
Hard Chromium Plating			1000x700x1700mm	1
Hard Chromium Plating			2100x700x1700mm	1
Copper Plating			2000x2000x3700mm	1
Electroless Nickel Plating			1000x600x2000mm	2
Electroless Nickel Plating with Teflon Impregnated			ϕ 200x300mm	1
Silver Plating (semi bright)			400x600x900mm	1
Silver Plating (semi bright)			1000x400x900mm	1
Silver Plating (mat)			1100x1100x400mm	1

		Palladium Plating	1100x1100x400mm	1
Classification		Equipment/Process	Effective Work Dimensions (LxWxH)	Quantity
Chemical Processing (continued)	Plating (continued)	Electro Nickel Plating	1500x1500x3500mm	1
		Lead-Tin Plating	200x300x300mm	1
		Lead-Tin Plating	500x400x600mm	1
		Lead-Tin Plating	700x700x600mm	1
		Lead-Indium Plating	150x150x100mm	1
		Zinc-Nickel Plating (acidity)	400x500x800mm	1
	Baking Stress Relief	Baking Furnace	500x1000x500mm	2
		Baking Furnace	700x700x700mm	1
		Baking Furnace	500x1300x500mm	1
		Baking and Stress Relief Furnace	500x500x500mm	1
		Baking and Stress Relief Furnace	1300x1500x800mm	1
	Electro-Forming	PR Copper Electro Forming	2000x2000x3700mm	1
		PR Copper Electro Forming	1200x1000x2200mm	1
		PR Copper Electro Forming	1200x1000x1200mm	2
	Anodizing	Chromic Acid Anodizing	5000x1200x2000mm	1
		Chromic Acid Anodizing	2050x700x1400mm	2
		Chromic Acid Anodizing	880x980x1100mm	1
		Sulfuric Acid Anodizing	5000x500x2000mm	1
		Sulfuric Acid Anodizing	900x1350x1000mm	1
		Hard Anodizing	5000x500x2000mm	1

		Hard Anodizing	900x1350x1000mm	3
Classification		Equipment/Process	Effective Work Dimensions (LxWxH)	Quantity
Chemical Processing (continued)	Anodizing (continued)	Hard Anodizing	600x1900x700mm	2
		Hard Anodizing	4500x500x300mm	1
		Hard Anodizing with Teflon Impregnated	φ 200x300mm	1
		Boric-Sulfuric Acid Anodizing	4500x500x2000mm	1
	Anodic Coating For Magnesium	HAE Coating	500x1000x1200mm	1
		DOW17 Coating	500x1000x1200mm	1
	Chemical Coating for Aluminum	Chemical Conversion Coating (Color)	5000x1000x2000mm	1
		Chemical Conversion Coating (Color)	2050x600x1400mm	1
		Chemical Conversion Coating (Color)	480x980x1100mm	1
		Chemical Conversion Coating (Color)	480x980x1100mm	1
		Chemical Conversion Coating (Colorless)	500x1000x1100mm	1
	Chemical Coating for Magnesium	DOW17 Coating	1000x1000x900mm	1
		Chromic Acid Pickling	700x500x1200mm	1
	Passivation	Passivation for CRES	1000x700x900mm	1
		Passivation for CRES	500x700x900mm	3
		Passivation for Titanium	φ 300x500mm	1
	For Titanium	Cleaning	600x500x600mm	1
		Phosphate Fluoride Coating	600x500x600mm	1
		Phosphate Fluoride Coating	2050x600x1400mm	1
	Electro-Polishing	Copper Electro-Polishing	1500x1500x3700mm	1

		Aluminum Electro-Polishing	900x700x1100mm	1
Classification		Equipment/Process	Effective Work Dimensions (LxWxH)	Quantity
Chemical Processing (continued)	Blasting	Alumina Blasting	500x500x100mm	1
		Alumina Blasting	1500x200x150mm	1
		Glass Bead Blasting	500x500x100mm	1
	Stripping	Stripping for Chromium Plating		1
		Stripping for Copper Plating		1
		Stripping for Nickel Plating		1
		Stripping for Silver Plating		1
		Stripping for Anodizing		1
	Painting	Automatic Painting Lines (Booth)	1500x700x100mm	1
Large Size Painting Lines (Booth)		4500x1800x300mm	2	
Multiple Painting Lines (Booth)		700x500x300mm	1	
Thermal Spray Coating	HVOF Equipment (Propylene Gas) with Spray Gun DJ2700	1500x200x150mm	1	
	HVOF Equipment (Hydrogen Gas) with Spray Gun DJ2600	1500x200x150mm	1	
Assembly	Insert of Bushings	Radial Drilling Machine	510x1280x150mm	1
		Drilling Machine		1
		Hand/Hydraulic Press Machine		3
		Squeezer		1
	Assembly of Ribs	Riveter		2

	and Interiors	Squeezer		3
Classification		Equipment/Process	Effective Work Dimensions (LxWxH)	Quantity
Non-Destructive Testing (NDT)		Penetrant Inspection Equipment	4500x500x1500mm	1
		Penetrant Inspection Equipment	700x700x300mm	2
Inspection and Testing/Analysis	Inspections	CNC Coordinated Measuring Machine	1200x4200x1000mm	1
		CNC Coordinated Measuring Machine	900x1600x600mm	1
		Profile Projector		1
		Micro-hardness Tester		1
		Rockwell Hardness Meter		2
		Electric Conductivity Meter		3
		Eddy Current Coating Thickness Meter		10
		Magnetic Induction Coating Thickness Meter		2
		Surface Roughness Meter		2
	Testing/Analysis	Salt Spray Test Cabinet	1600x1000x500mm	1
		Salt Spray Test Cabinet	900x600x500mm	1
		Accurate Balance		1
		Light Fastness Tester		1
		Humidity Test Cabinet	700x700x450mm	1
		Digital Microscope		1
Abrasion Resistance Tester			2	
Tensile Creep Tester			2	

		Tensile Strength Tester		1
Classification		Equipment/Process	Effective Work Dimensions (LxWxH)	Quantity
Inspection and Testing (continued)	Testing/Analysis (continued)	PH Meter		1
		Conductivity Meter		1
		Spectro-photometer		1
		Atomic Absorption Spectrometer		1
		Surface Tension Meter		1
		Iron Meter		1
		Spiral Contractmeter		1
		High Performance Energy Dispersive X-ray Fluorescence Measuring Instrument	To measure coating thickness Resolution: 0.01 μ m	1
Other Equipments		Clean Rooms	Class 10000/ 1000/ 100	3
		Ultra-Pure Water Production Equipment		1

Equipments in Headquarter Plant
– Asahi Kinzoku Kogyo Inc. –

Dated 2009/7/7

Classification		Equipment/Process	Effective Work Dimensions (LxWxH)	Quantity
Machining		Vertical Boring Machine JB-6CM	1020x760x800mm Max. Spindle speed: 2000rpm	1
		Vertical Boring Machine 4DN	610x410x280mm Ma. Spindle Speed: 6000rpm	1
		CNC Milling Machine CM 3ST	610x410x280mm Max. Spindle Speed: 3000rpm	1
	Grinding Machine	CNC Cylindrical Grinding Machine G25N	φ 150x250mm	1
		CNC Cylindrical Grinding Machine RD32-B50A	φ 300x500mm	1
		CNC Cylindrical Grinding Machine TOYODA	φ 320x1000mm	1
		CNC Cylindrical Grinding Machine GPH-30	φ 300x700mm	1
		CNC Internal Grinding Machine G25	Max. φ 50x55mm Min. φ 5x20mm	1
		Flat Surface Grinding Machine GHL-B406N	750x440x340mm	1
			Lathe LS	φ 288mm
		Horizontal Honing Machine	φ 3.05 ~ φ m79.37m	1
Shot Peening		Shot Peening Equipment (Nozzle Type)	300x400x340mm	1

		Shot Peening Equipment (Nozzle Type)	300x600x300mm	1
Classification		Equipment/Process	Effective Work Dimensions (LxWxH)	Quantity
Inspection and Testing	Inspection	CNC Coordinate Measuring Machine	850x1000x600mm	1
		Contour Measuring Meter		1
		Surface Roughness Meter		1
		Profile Projector		1
Others Equipments	Brazing	Silver Brazing		1
	Baking	Baking Furnace (Stress Relief)	800x800x800mm	1

Equipments in Kyoto South Plant
– Asahi Kinzoku Kogyo Inc. –

Dated 2009/7/7

Classification		Equipment/Process	Effective Work Dimensions (LxWxH)	Quantity
Chemical Processing	Plating	Hard Chromium Plating	3000x700x1300mm	1
		Hard Chromium Plating	2000x700x1300mm	1
		Microcrack Chromium Plating	750x500x500mm	1
		Crack-free Chromium Plating	1600x500x500mm	1
		Cadmium Plating (bright)	2000x700x800mm	1
		Cadmium Plating (mat)	1000x700x800mm	1
		Titanium –Cadmium Alloy Plating	1400x700x800mm	1
		Tin Plating	500x500x800mm	1
		Copper Plating	500x1000x950mm	1
		Zinc Plating	700x1000x800mm	1
		Electroless Nickel Plating	700x1300x1600mm	1
		Electroless Nickel Plating	700x900x1600mm	1
		Baking	Baking Furnace	500x1400x500mm
	Baking Furnace		500x500x500mm	4
	Baking Furnace (High Temperature)		500x500x500mm	2
	Chemical Coating	Black Oxide Coating	500x500x200mm	2
		Phosphate Coating (Manganese Base)	500x500x800mm	1
		Phosphate Coating (Zinc Base)	500x500x800mm	1
		Phosphate Coating (Zinc Base)	250x550x750mm	1
	Electro-Polishing	Electro-Polishing for CRES	500x500x800	1
	Pre-Treatment	Solvent Cleaning Equipment		1

Classification		Equipment/Process	Effective Work Dimensions (LxWxH)	Quantity
Chemical Processing (continued)	Pre-Treatment	Glass Bead Peening Equipment		1
		Liquid Honing Equipment		1
		Dry Blasting Equipment		2
	Brush Plating	Power Supply 50A		1
		Power Supply 20A		1
	Stripping	Stripping for Chromium Plating		1
		Stripping for Cadmium Plating		1
		Stripping for Copper Plating		1
	Non-Destructive Testing (NDT)		Magnetic Particle Inspection Equipment	φ 150x1100mm
Inspection and Testing/Analysis		High Performance Energy Dispersive X-ray Fluorescence Measuring Instrument	To measure coating thickness Resolution: 0.01 μ m	1
		Magnetic Induction Coating Thickness Meter	Resolution: 0.1 μ m	5
		Digital Data Logger for TUS		3
		Luster Meter		1
		Spectro-photometer		1
		Hydrogen Detection Instrument (BPPM)		1
		Accurate Balance		1
		PH Meter		1
		Conductive Meter		1