

## Precision Casting Catalogue

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### About the factory

Xiamen Hadron Import and Export Co., Ltd is located in Xiamen China, a beautiful port city, beside the Taiwan island with the Taiwan straits and its transportation is very convenient. As a participant of the Global Supply Chain, we provide precision castings for our customers.

Our cooperation factory is located in the Western Taiwan Straits Economic Zone- - **Quanzhou**, has very convenient sea, land and air transportation. At present, the company has a building area of 25000.0 square meters, with the staff hundreds of people.

We use the advanced technology process - silicon sol investment casting, precision machining, handcraft polishing and other surface treatment. Our products are in stainless steel, duplex stainless steel, carbon steel, heat resistant steel, high and low alloy steel, which are mainly used in automobile fittings, fluid chemical industry, food medical machines, ship equipment, building parts, valve pipeline and fire control equipment, sports equipment, instrument, aviation and others. The company has the ability to have the monthly output of 100-150 tons of production capacity, with 90% of products are sold to the European Union, the United States, Japan and other countries and areas.

The company has strong technical team, advanced production equipment, advanced technology level, complete quality management system, and has passed ISO9001, TUV and TS16949 certifications. All the staff of the company always adhere to the "quality first, reputation into industry" the quality policy and "continuous improvement" point of view to service to every user of both at home and abroad.

We sincerely welcome all customers to visit cooperation for the business negotiations.



## Environment



Certificate



Comply with ISO / TS 16949 - third edition



ISO/TS 16949-Third edition



Quality-Assurance System



Special equipment manufacturing license

## Process



Mould Surveying



Mould Making



Wax Injection



Tree Welding



Shell Making



Dewaxing



Shell Baking



Pouring



Shell Away



Ingate Cutting



Ingate Grinding



Sand or Shot Blasting



Heat Treatment



Check and Straightening



Nondestructive Inspection



Precision Machining



Last Inspection



Packing and Shipment

## Test equipment



Tensile Testing Machine



Impact Test Gap Machine



CMM



Mechanical Properties Testing



Microscope Detection



Endoscope Testing



Hardness Testing



Pressure, Leaking Testing



Spectroanalysis Instrument



Fracture Magnetic Particle Tes..

# PRODUCT

- Impeller Pump Part
  - Coupler and Pipe Fitting
  - Valve Fitting
  - Mechanical Part
  - Automobile Part
  - Marine Part
  - Construction Part
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## Impeller Pump Part



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## Coupler and Pipe Fitting



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## Valve Fitting



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## Mechanical Part



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## Automobile Part



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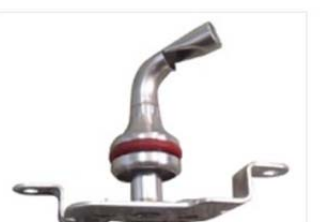
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## Marine Part



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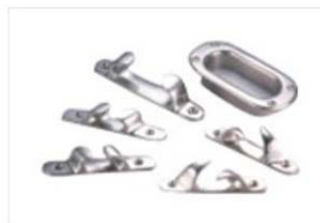
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## Construction Part



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## Technology parameters

### 1. 线性公差 (mm)

Linear Tolerance

尺寸范围 Dimensions	一般公差 Normal	特别公差 Premium
0-10	± 0.12	± 0.10
10-15	± 0.20	± 0.13
15-20	± 0.25	± 0.15
20-30	± 0.30	± 0.20
30-50	± 0.40	± 0.25
50-75	± 0.50	± 0.35
75-100	± 0.65	± 0.45
100-125	± 0.80	± 0.6
125-150	± 1.0	± 0.7
150-175	± 1.2	± 0.8
175-200	± 1.5	± 0.9
200-250	± 1.8	± 1.1
>250	± 0.8%	± 0.5%

### 2. 可铸出孔槽的极限尺寸

Limit Dimension for Cast Holes and Slots

项目 Items	孔径范围 Hole Dia.	孔深 / 孔径 L / D
	∅2 - ∅3	L / D ≤ 2
	∅4 - ∅7	L / D ≤ 5
	≥ ∅8	L / D ≤ 10
	∅2 - ∅3	L / D ≤ 1
	∅4 - ∅7	L / D ≤ 2.5
	≥ ∅8	L / D ≤ 3.5

利用水溶型芯和陶瓷型芯，我们可以铸出更深和更复杂的孔和槽。  
Deeper and more complicated holes and slots can be casted by using soluble wax cores and ceramic cores.

### 3. 角度公差 Angle Tolerance

角度形式 Angle Type	
一般公差 Normal	± 1°
特殊公差 Premium	± 0.5°

铸件结构应避免急剧变化，尽可能避免尖角，圆角应达到 R0.3 以上  
Avoid the quick changes of casting structure, use fillet radius on internal angle when possible, which is no less than R0.3.

± 2°	± 2°
± 1°	± 1°

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#### 4. 平面度，直线度，圆度公差

Tolerance for Flatness, Straightness and Roundness:

铸件尺寸 (mm) Dimension	一般公差 Normal	特殊公差 Premium
0-25	0.2	0.1
25-50	0.4	0.2
50-100	0.6	0.3
100-150	0.8	0.4

#### 5. 大小和重量范围

Size and Weight Range

项目 Items	范围 Size	最优 Premium
轮廓尺寸 (mm) Outline Dimension	1000×620×380	<100
重量 (Kg) Weight	0.001-80	0.1-1.5
轮廓尺寸 (mm) Outline Dimension	0.5	5-10

#### 6. 表面粗糙度 (Ra/um) Surface Roughness

铸造状态 Rough Castings	重量 (Weight) ≥5 Kg, 主要壁厚 ≥12mm Main Wall Thickness	3.2-6.3
	重量 (Weight) <5 Kg, 主要壁厚 <12mm Main Wall Thickness	1.6-3.2
精整状态 Finished Castings	0.8-1.6	

我 公 司 有 能 力 对 铸 件 表 面 作 如 下 精 整 处 理 ， 对 于 碳 钢 和 低 合金 钢 ， 可 作 研 磨 ， 手 工 拉 丝 ， 电 抛 光 及 镜 面 抛 光 ， 电 抛 光 ， 钝 化 处 理 ； 所 有 钢 种 可 作 喷 砂 （ 玻 璃 砂 ， 刚 玉 砂 ， 石 英 砂 ） 处 理 。  
The surface finish for the casting we can provide with are as the following: Blacking, zinc plating, chrome plating and nickel plating for the carbon steel and the low alloy steel castings; Tumbling, hand dull polishing, mirror polishing, electrolytic polishing and passivation treatment for the stainless steel castings and sandblasting, including glass bead blasting, corundum-sand blasting and quartz-sand blasting for all the steel castings.

# Chemical Alloy List

Main Alloys Cast and Chemical Composition 主要合金种类及化学成分																			
Alloy Type	Standard Specification					C	Si	Mn	P	S	Cr	Ni	Mo	Others	6b Mpa	6s Mpa	δ %	HardnessHBS	Heat Treatment
	DIN(W-Nr.)	AISI	ASTM ACI	BS3100 BS3146	JIS														
Carbon Steel & Low Alloy	1.0416 GS-38	1020	415-205	CLA1A	SC410	15-25	2-6	4-1.0	0.04	0.04					415	205			Anneal
	1.0446 GS-45	1025	WCB	CLA1B	SC450	2-3	2-6	4-1.0	0.04	0.04					485	250	22		Anneal
	GS-34CrMo4	4135			SCM435	3-37	3-5	5-8	0.035	0.035	8-1.2		2-3		880-1080	665	12	269-332	hardening+tempering
	GS-42CrMo4	4140		CLA3	SCM440	38-43	15-35	75-1.0	0.035	0.035	8-1.1		2-3		980-1180	765	12	285-352	hardening+tempering
Tool Steel		8620		805A20	SNCM220	18-23	15-35	7-9	0.035	0.04	4-6	4-7	15-25		830		17	248-341	hardening+tempering
	100MnCrW4		1	BO1	SKS3	9-1.0	1	9-1.2	0.04	0.04	5-1.0			W0.5-1				HRB<96	Anneal
	4Cr5MoSiV1		H13	BH13	SKD61	32-42	8-1.2	0.75	0.04	0.04	4.5-5.5		1.0-1.5	V 8-1.2				HRB>63	
	W6Mo5Cr4V2		M2	BM2	SKH9	8-9	<1.0	0.75	0.04	0.04	3.8-4.5	W5.5-6.7	4.5-5.5	V1.6-2.2				HRC>62	hardening+tempering
High Manganese Steel	G-X120Mn13		B-3	BW-10		1.1-1.3	1	41257	0.7	0.4					637			<229	hardening+tempering
			B-1		SCMnH2	0.9-1.2	0.8	41227	0.7	0.4					735			<229	hardening+tempering
Stainless Steel	1.4305	303		303S21	SUS303	0.15	1	2	0.2	>15	17-19	41131	-0.6						
	1.4308	304	CF-8	ANC3A	SCS13	0.08	2	1.5	0.04		18-21	41132	-0.5		440	185	30	183	Solution annealing
	1.4306	304L	CF-8	304C12	SCS19A	0.03	2	>1.5	0.04		17-21	41133	-0.5		48	205	33	183	Solution annealing
	1.4408	316	CF-8M	ANC4B	SCS14A	0.08	1.5	1.5	0.04		18-21	41164	40942		485	205	30	183	Solution annealing
	1.4404	316L	CF-3M	316C12	SCS16A	0.03	1.5	1.5	0.04		17-21	41165	40942		485	205	30	183	Solution annealing
	G-X10Cr13	410	CA-15	410C21	SCS1	0.15	1.5	1	0.04		11.5-14	-1	-0.5		620	450	18	183	hardening+tempering
	1.4507	431		ANC2	SUS431	0.2	0.2-1	0.2-1	0.35		15.5-20	1.5-3			850-1000		8	248-302	hardening+tempering
	1.4581	318	CF8C	ABC4C	SCS21	0.08	2	1.5	0.04		18-21	41164		Nb 8xC-1.55	485	205	28	183	Solution annealing
		41016	CB7Cu-1		SCS24	0.07	1	1	0.04		15.5-17.5	3.5-5		Cu2.5-4 Nb 15-45	980	885	9	311	PrecipitationH1025
Heat-Resisting Steel	GX40CrNiSi2512		HH		SCH13	0.2-0.5	2	2	0.4	0.4	24-28	41227	-0.5		515	240	10		Not heat treated
			HU	309C35		35-75	2	2.5	0.4	0.4	17-21	37-41	-0.5		450		4		Not heat treated
	G-X15CrNiSi25		HK30	331C40	SCH21	0.2-0.6	2	2	0.4	0.4	24-28	18-22	-0.5		450	240	10		Not heat treated
	G-X40CrNiSi25		HK40	310C	SCH22	35-45	1.75	1.5	0.4	0.4	19-22	23-27	-0.5	N<0.2	235	440	8		Not heat treated
	G-X40CrNiSi35		HP		SCH24	35-75	2.5	2.5	0.4	0.4	24-28	33-37	-0.5		430	235	4.5		Not heat treated
Alloy Type	Standard ASTM	C	Si	Mn	S	P	Cr	Ni	Mo	W	Co	Fe	Others	6b Mpa	6s Mpa	δ %	HardnessHRC	Heat Treatment	
Nickel Based Alloy	MORE2	0.15	0.5	0.5	0.3	0.03	34.5	47	0.5	15		<3.1						Not heat treated	
	Hastelloy X	0.2	1	10	0.4	0.03	20.5-23	Balance	41131	0.2-1.0	0.5-2.5	17-20		434-483	283-310	41197	85-96 HRC	Not heat treated	
	NW-22	0.05-0.15	0.25-0.75	0.3-1.0	0.03	0.015	20-24	Balance	40911	13-15	<5	<3	A10.2-0.5					Not heat treated	
	UMCo50	0.08	0.75	0.65			28	Co 50				20.5					55-60	Not heat treated	
Cobalt Based Alloy	Cobalt J	2.2-2.7	1	1	0.03	0.03	31-34	2.5		16-19	Balance	3	0.25B					Not heat treated	
	Cobalt 21	0.2-0.3	1	1	0.04	0.04	25-29	1.75	41035		Balance	3	0.007B	655-595	445-655	41141	24-32	Not heat treated	
The above lists give details of the main alloys cast , and whilst many other material are also regularly cast , it is not include them all in this brochure . However , we will pleased to discuss any other material with you .As the list is only intended as a guide , for full information , the relevant standard specifications should be referred to . The comparable specifications have been compiled on the basis of chemical analysis and it is important for other relevant factors to be taken into account .																			

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