



# RELIABLE POWER OF INVESTMENT CASTING

[www.afshassasdokum.com](http://www.afshassasdokum.com)



DEFENCE

MACHINE

TEXTILE

MARINE

PUMP & VALVE

AVIATION

AUTOMOTIVE

AGRICULTURE

MEDICAL

INDUSTRIAL KITCHEN



## Our Company

AFS Hassas Dokum San. Tic. Ltd. Şti. was established as subsidiary of AFS Bıçak ve Kalıp San. Dış Tic. Ltd. Şti. in 2011 and in 2014 with new investment and increased capacity, AFS Hassas Dokum moved to new modern facility, has 2000 m2 closed area 4000 m2 open area, in Tuzla İstanbul. Depending on new breakthrough AFS Hassas Dokum, has the continuous development, has succeeded in moving up to the level of the export share.

Our company which serves to Defense industry, Aviation, Automotive, Machinery , Agricultural , Industrial kitchen, Pumps & Valve, Medical and Other industries, has equipped our laboratory to respond to every requirement with its experienced technical staff, continues their work depends of European.

As the casting material ; Steel, Stainless Steel , Aluminium, Copper, Bronze, using optional super alloys and special alloys, are casted in induction melting and resistance combustion furnace in control.

AFS Hassas Dokum has a monthly 60.000 kg casting capacity in Investment casting of for the parts which have 1 gr of weight up to 50 kg.

AFS Hassas Dokum, as well as being a supplier company, it provides the customers for product development and supports their design with its experience and knowledge.

AFS Hassas Dokum has been a reliable and the strong brand name in investment casting sector with its commitment to customers, advanced staff, its value to the environment and its energy since its establishment.



## Our Mission

- To convert our earnings to investment, and also to convert the investments to technology,
- To focus on research and developing for products which are in superior technically and have international competition power,
- To develop high technology and quality products which have optimum price/performance ratio,
- To provide our customer fast and effective technical support,
- To create and maintain a dynamic and flexible organizational structure that is adapted so fast to the changeable World conditions and satisfy them,
- To achieve financial stability and profitable growth,
- To have a high opinion of occupational health and safety and to act responsibly taking notice of social sensivity.

## Our Vision

Since it was founded, our vision has been to protect and empower our status as being a solution center which we have deserved to be with good reason, and to be a desired company with its service quality, solution partners and production quality during the forthcoming period not only in Turkey but also in the worldwide market.

## Quality Control

- TS EN ISO 9001:2008 Quality Management System Certificate
- Ability of preparing the documantation of APQP, 8D Report, EN-10204-3.1, PPAP and SPC files and tracing them.
- Chemical analysis, Hardness Test and Surface Roughness Equipments
- Metallography Laboratory Equipments
- Dimensional Measurement Equipments
- Non-destructive Testing Equipments



## Our Sales Policy

AFS Hassas Dokum 's name is frequently mentioned as a strong company in investment casting by producing competitive and sustainable quality products because of working in line with technical staff and certified suppliers.

Our company with its customer visits, determining customer needs, keeping communication with customer at each stage from order to delivery , is growing with strong steps with domestic and overseas sales.

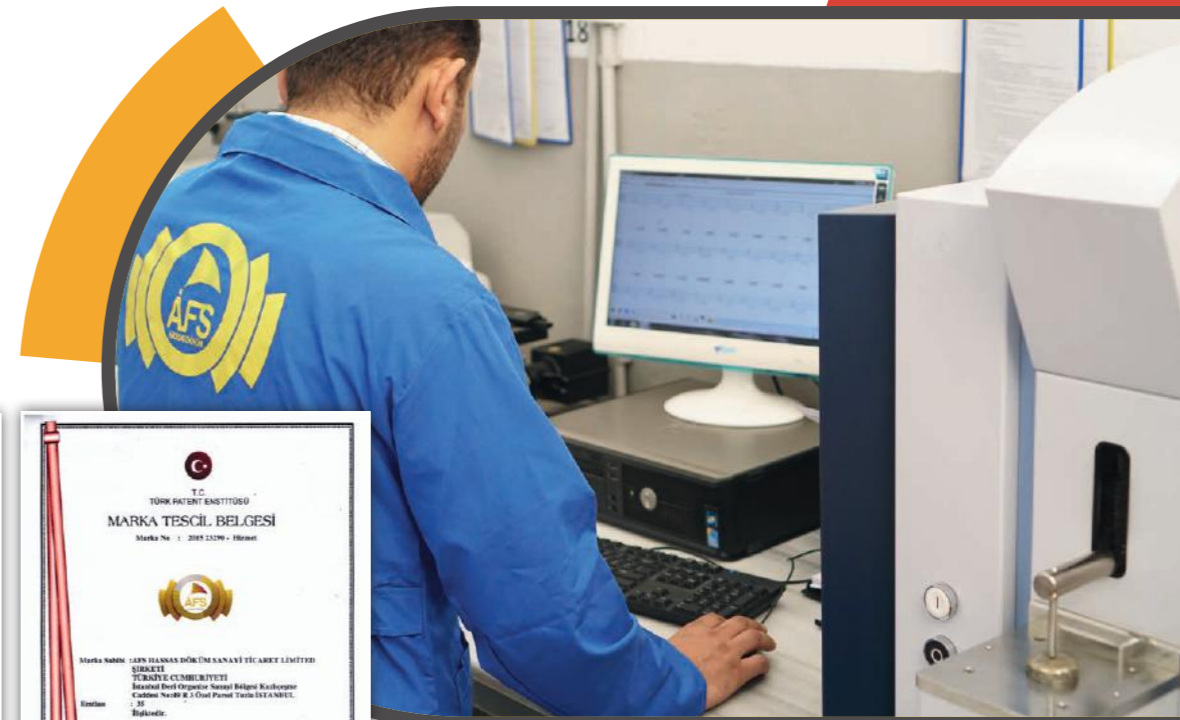


## Advantages Of Investment Casting

- Casting in high surface quality
- Capability of producing interlaced parts with fine details
- Freedom in material selection
- Reducing machining to minimum level
- Dimensional precision
- Economic tooling investment
- Reasonable prices

## Our Quality Policy

- TS EN ISO 9001:2008 : **“Providing quality product and service at each stage”**  
with the purpose of realization of Quality Norms under the light of Quality Management System.
- **“Continuous Customer Satisfaction”**  
by meeting customer need & expectations and giving good service for after-sales in the best way with the guarantee of fulfillment and quality assurance
- **“Protection of Company Image and to move the High Level”**  
with the management’s effective leadership with the latest innovations in modern technology .
- **“Continuous Process Improvement”**  
with the being aware of saving time and waste of resources and reducing cost of production, producing right and requested quality product at first time instead of reproduction
- **“Protection of the Natural Environment”**  
For both using of production facilities, and also using products & services
- **“Continuous Education”**  
with the transferring of the necessary information to employees at all levels of the organization and all of the company’s suppliers by senior management to achieve higg level performance.



# INVESTMENT CASTING PROCESS



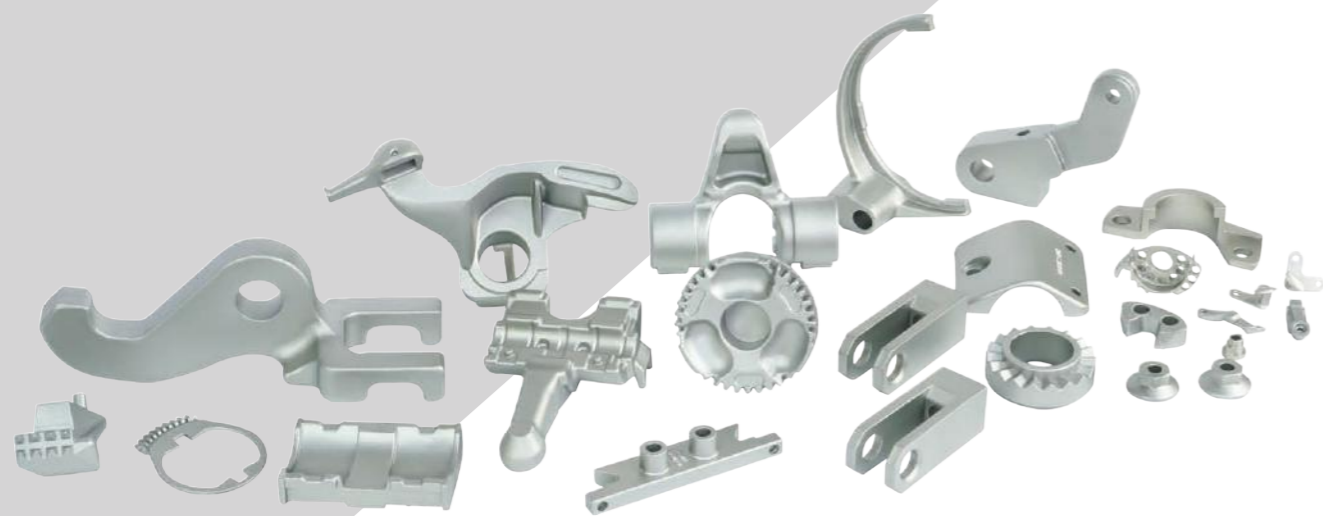
# INDUSTRIES WE SERVE



Medical Device Industry

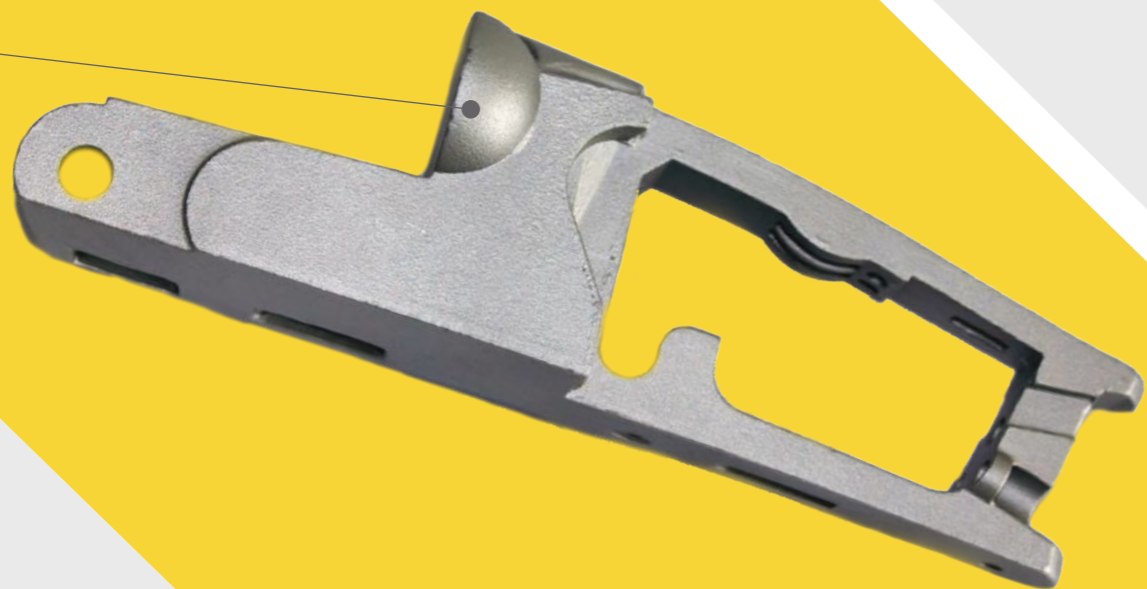


Automotive Industry

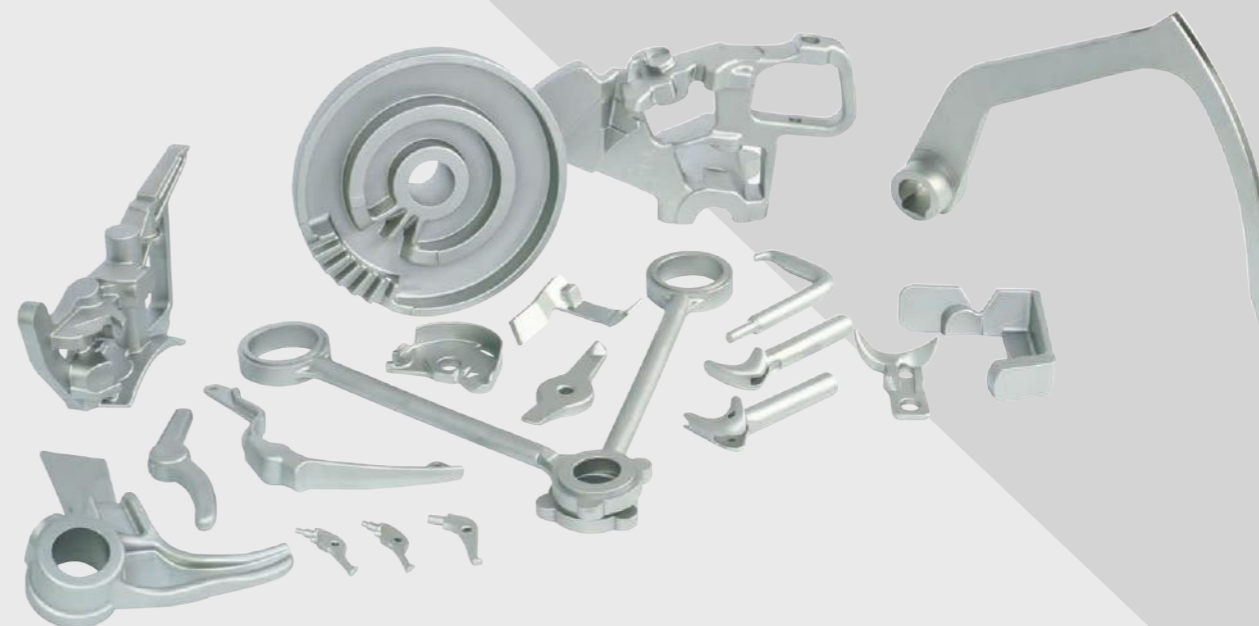




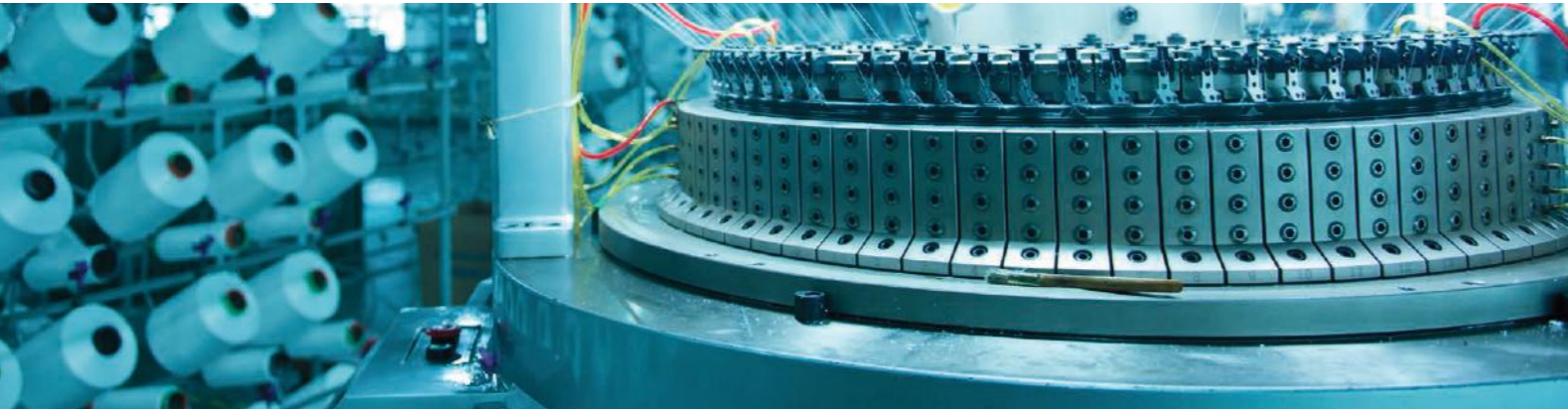
## Defence Industry



## Agricultural Technologies



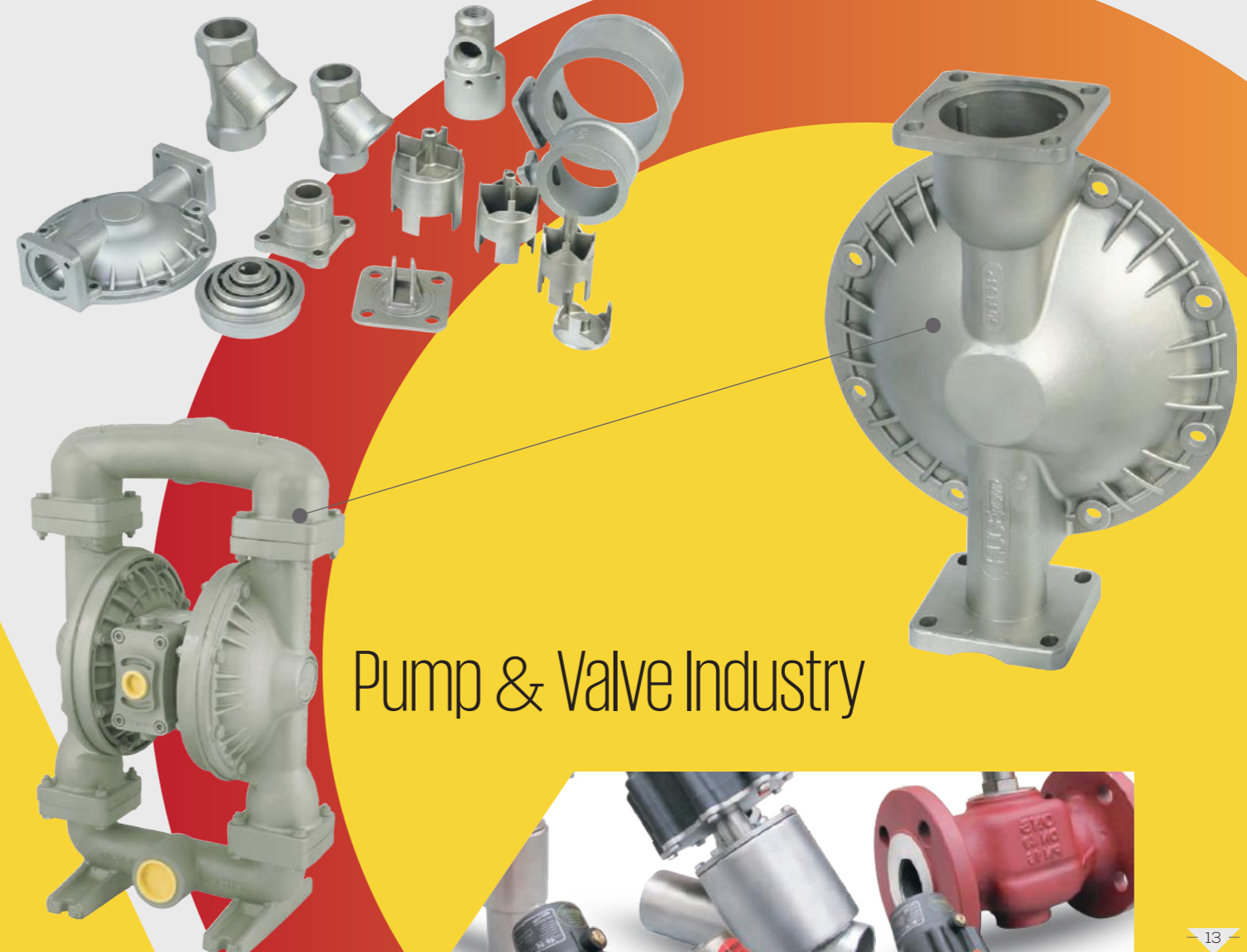
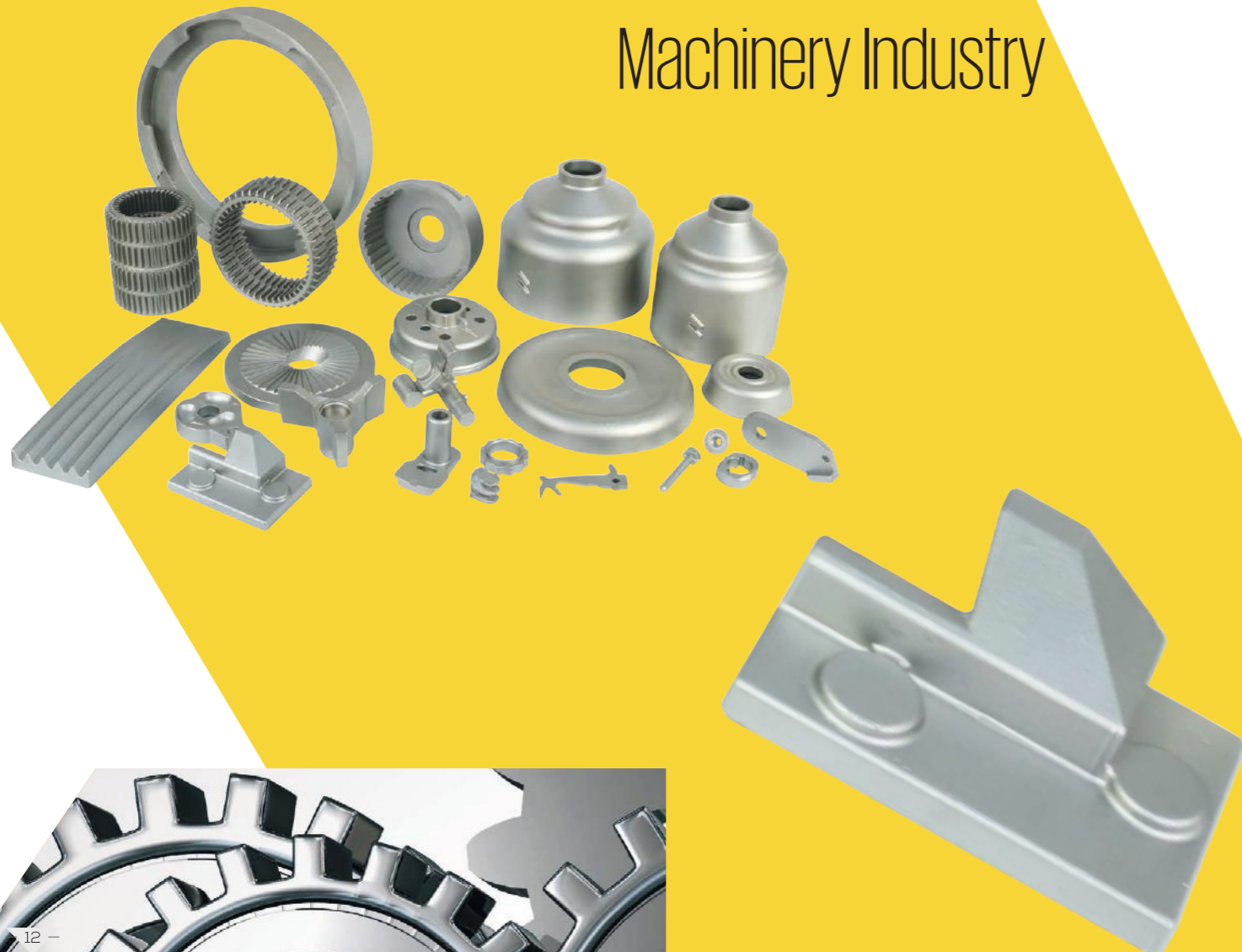
# Textile Industry



# Industrial Kitchen Industry



# Machinery Industry

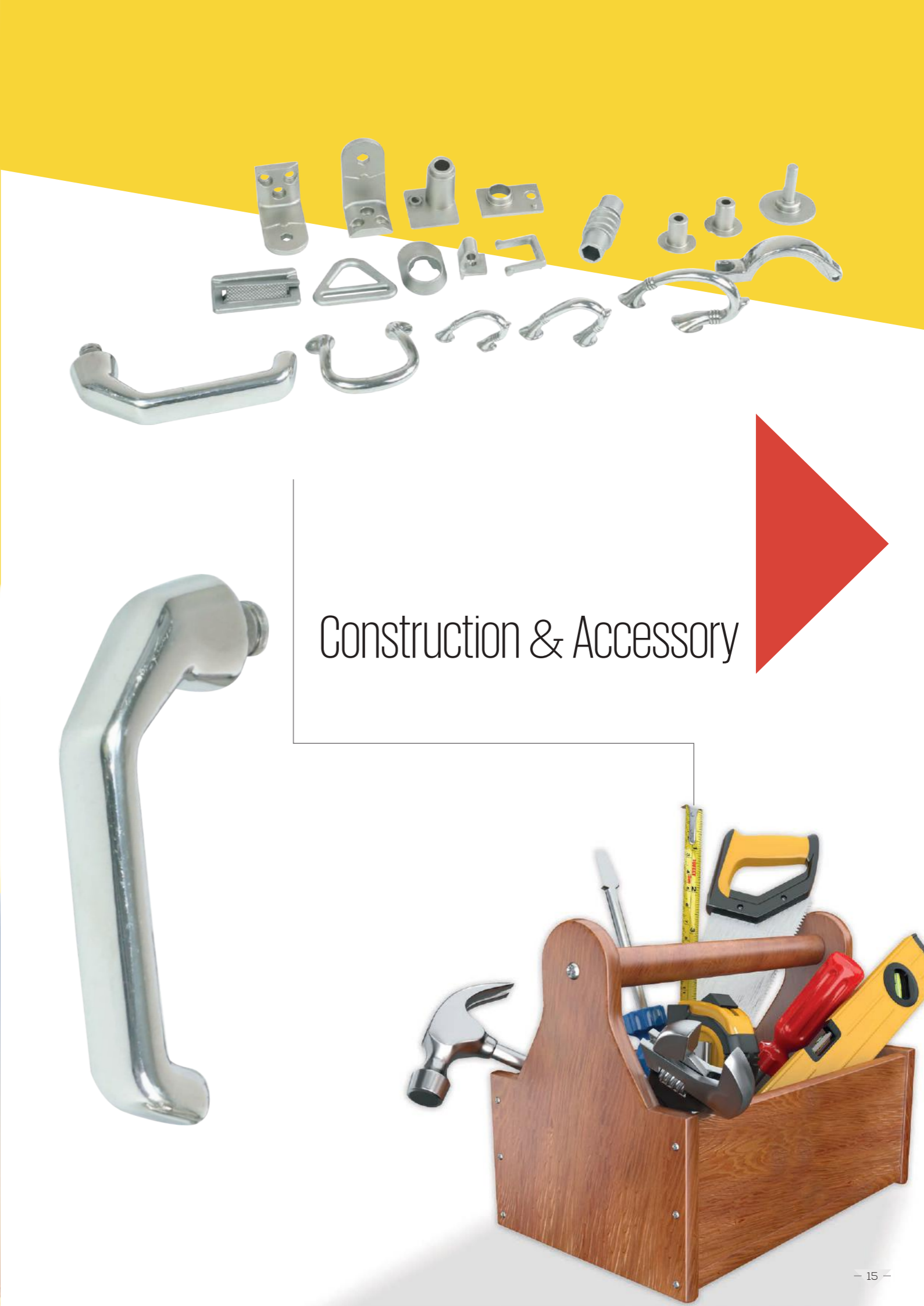


# Pump & Valve Industry



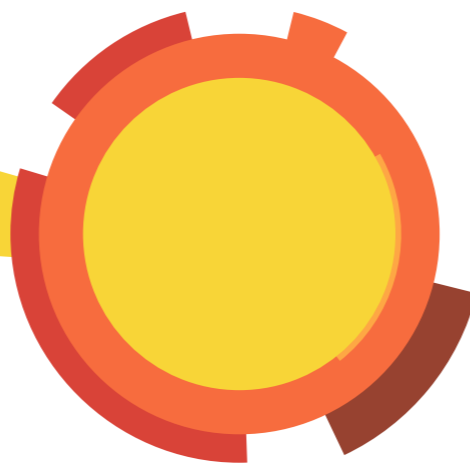


Aviation Industry



Construction & Accessory





**GENERAL TOLERANCE TABLE  
DIMENSIONAL TOLERANCES**

Dimension Range ( mm )		Length	Width	Height
		D1 (+/-)	D2 (+/-)	D3 (+/-)
0	6	0,10	0,08	0,06
6	10	0,12	0,10	0,60
10	14	0,15	0,12	0,09
14	18	0,20	0,14	0,09
18	24	0,25	0,17	0,12
24	30	0,30	0,20	0,14
30	40	0,37	0,25	0,17
40	50	0,44	0,30	0,20
50	65	0,52	0,38	0,23
65	80	0,60	0,46	0,27
80	100	0,68	0,53	0,30
100	120	0,76	0,60	0,33
120	140	0,84	0,65	0,36
140	160	0,92	0,72	0,38
160	180	1,02	0,80	0,42
180	200	1,12	0,88	0,43
200	225	1,28	0,95	0,47
225	250	1,44	1,05	0,51
250	280	1,64	1,15	0,56
280	315	1,84	1,25	0,63
315	355	2,10	1,40	0,71
355	400	2,40	1,60	0,80
400	450	2,70	1,80	0,90
450	500	3,00	2,00	1,00

According to VDG P 690  
**D1: General (extensive) Tolerances**  
**D2: Tolerances to be procured (normal)**  
**D3: Narrowest Tolerances**

**CASTABLE HOLE LENGTHS**

Diameter (d) mm	Length (mm)	
	Through	Blind
2 - 4	1 x d	0,5 x d
4 - 6	2 x d	1 x d
6 - 10	3 x d	1,6 x d
10	4 x d	2 x d

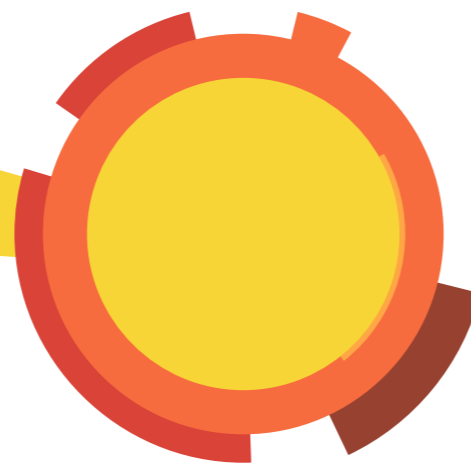
**CASTABLE CHANNEL LENGTHS**

Diameter (d) mm	Length (mm)	
	Open	Close
2 - 4	1 x d	1,0 x d
4 - 6	2 x d	
6 - 10	3 x d	1,6 x d
10	4 x d	2 x d

**GEOMETRIC TOLERANCES**

Dimension (mm)		D1 (+/-)	D2 (+/-)	
...	Range			
...	50	0,25	0,10	FLATNESS
50	130	0,50	0,30	
130	255	1,00	0,50	
255	380	1,56	0,90	LINEARITY
...	50	0,25	0,13	
50	130	0,75	0,25	PERPENDICULARITY
130	255	1,25	0,50	
255	380	2,00	0,90	
		1°	0,5°	ANGLE
Dimension tolerance table values				PROFILE
Dimension tolerance table values				HOLE

D1 : Normal tolerances ( mm )  
D2 : Narrow tolerances ( mm )



## MACHINING ALLOWANCES

Range (mm)		Standard margins (mm)
...	18	0,5
18	50	
50	80	1,0
80	120	1,0 - 2,0

## SURFACE QUALITY

		CLA (μinch)	Ra (μm)	Rz (μm)
Machining	N1	1	0,025	0,022 - 0,30
	N2	2	0,050	0,45 - 0,60
	N3	4	0,1	0,8 - 1,1
	N4	8	0,2	1,0 - 1,8
	N5	16	0,4	1,6 - 2,8
	N6	32	0,8	3,0 - 4,8
Investment Casting	N7	63	1,6	5,9 - 8,0
	N8	125	3,2	12 - 16
	N9	250	6,3	23 - 32

## MATERIALS

	Standart No	DIN	AISI
Carbon Steels	1.0528	C30	1030
	1.0511	C40	1040
	1.0540	C50	1050
	1.0601	C60	1060
Heat Treatable Steels	1.7218	25CrMo4	4130
	1.7225	42CrMo4	4140
	1.6511	36CrNiMo4	4340
Case Hardening Steels	1.5919	15CrNi6	3115
	1.6523	21NiCrMo2	8620
	1.7131	16MnCr5	5115
	1.7147	20MnCr5	5120
Tool Steels	1.2003	75Cr1	
	1.2067	100Cr6	L1
	1.2080	X210Cr12	D3
	1.2241	51CrV4	
	1.2343	X38CrMoV 5-1	H11
	1.2344	X40CrMov 5-1	H13
	1.2379	X155CrVMo 12-1	D2
	1.2436	X210CrV12	
	1.2713	55NiCrMoV6	L6
	1.2714	56NiCrMoV7	
	1.2842	90MnCrV8	O2
High Speed Steels	1.3343	s 6-5-2	M 2
	1.3344	s 6-5-3	M 3 Class 2
300-Serie Stainless Steels	1.4305	X 10 CrNiS 18 9	303
	1.4301	X 5 CrNi 18 10	304
	1.4306	X 2 CrNi 19-11	304 L
	1.4841	X 15 Cr NiSi 25-20	310
	1.4401	X 5 CrNiMo 17 12 2	316
	1.4404	X 2 CrNiMo 17 13 2	316 L
400-Serie Stainless Steels	1.4006	X10Cr13	410 - CA 15
	1.4021	X20Cr13	420
	1.4016	X6Cr17	430
Heat-Resisting Stainless Steels	1.4729	GX40CrSi13	
	1.4840	GX15CrNi25-20	

	Standart No	DIN	AISI
Alluminium Alloys	3.2374	G-AlSi7Mg0,3	A 356
	3.2384	G-AlSi7Mg0,6	A 357

	Standart No	DIN
Copper Alloys	2.0692	G-CuAl8Mn
	2.0975	G-CuAl10Ni
	2.1096	G-CuSn5ZnPb

	Standart No	DIN	ALLOY
Cobalt Alloys	2.4723	G-CoCr29Mo	ASTM F-75
	2.4964	CoCr20W 15 Ni	Stellite 25
	2.4989	CoCr 20 Ni 20 W	Stellite 21



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