



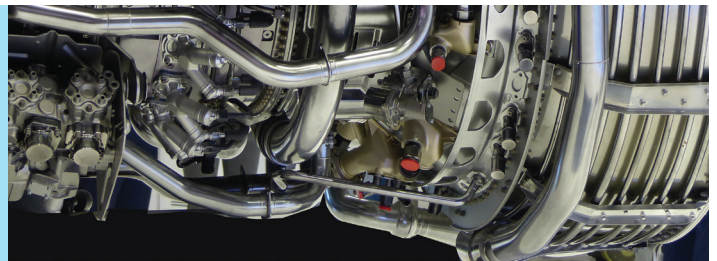
# AEROSPACE

With global, integrated manufacturing we bring our Aerospace customers the best of service, cost competitiveness combined with technological leadership and innovation.

Our dimensional range from 1.6 mm (1/16") to 280 mm (11.02") OD enables diverse Aerospace product applications including landing gear structural parts to hydraulic, actuation and instrumentation systems.

## Products & Applications

**Engine fuel systems, air bleed, heat exchangers and hydraulic controls.**  
 Austenitic and Nickel superalloys (Ni-Cr, Ni-Co) for high temperature creep and oxidation resistance.



**Hydraulic & pneumatic system tubes & components.** High strength-to-weight austenitic and age-hardenable martensitic alloys.



**Structural, mechanical tube & components** for landing gear and actuation systems. Austenitic and age-hardenable martensitic alloys.



## Dimensional Range

Nominal Dimensional Range	Cold Finished		Hot Finished	
	mm	inch	mm	inch
Outside Diameter	mm	inch	mm	inch
min	1.6	0.063	32	1.260
max	244.5	9.626	280	11.024
Wall thickness	mm	inch	mm	inch
min	0.1	0.004	2.8	0.110
max	40	1.575	60	2.362

# Aerospace Grades

Grade	DMV designation	Typical Specification	Nearest equivalent standard		Typical chemical composition <sup>1)</sup>						Density		Min. mechanical prop. at RT				
			UNS	EN	C <sub>max</sub>	Cr	Ni	Mo	Cu	Others	g/cm <sup>3</sup>	lb/in <sup>3</sup>	Rp0.2 Yield Strength	Rm Tensile Strength	MPa	ksi	MPa
Stainless Austenitic & Martensitic																	
304L	DMV 304L	AMS5564	S30403	1.4306	0.03	19.0	11.0	-	-	-	7.9	0.29	170	25	485	70	
321	DMV 321	AMS5570	S32100	1.4541	0.08	18.5	10.5	-	-	5 x C < Ti < 0.6	7.9	0.29	170	25	485	70	
347	DMV 347	AMS5571	S34700	1.4550	0.08	18.5	11.0	-	-	10 x C < Nb < 1.0	7.9	0.29	205	30	515	75	
316L	DMV 316L	AMS5573	S31603	1.4404	0.03	17.0	12.0	2.25	-	-	8.0	0.29	170	25	485	70	
21-6-9	DMV 2169	AMS 5561	S21900		0.08	19.0	5.5	-		Mn 8.0	7.9	0.29	330	48	655	95	
17 4 PH	DMV 174	AMS 5643	S17400	1.4542	0.07	17.0	4.0			4.0 Mn 8.0	7.9	0.29	1140	165	1170	170	
Nickel Alloys																	
600	DMV 600L	AMS5580	N06600	2.4816	0.025	16.0	76.0	-	-	Fe 8.0	8.4	0.30	180	26	550	80	
625	DMV 625	AMS5581	N06625	2.4856	0.025	22.0	63.0	9.0	-	Nb 3.5 Grade 1	8.5	0.31	414	60	827	120	
C263	DMV C263		N07263	2.4650	0.08	20.0	49.0	5.6			8.4	0.30	585	85	1004	145	
718	DMV 718	AMS5589	N07718	2.4668	0.08	17.0	50.0	2.80			8.1	0.29	1100	160	1375	199	
Alloy 188	DMV 188		R30188	2.4683	0.015	22.0	22.0	-	-	Co 39.0; W 14.0; Fe < 3.0	9.1	0.33	379	55	862	125	
Alloy 230	DMV 230		N06230	2.4733	0.1	22.0	57.0	2.0	-	W 14.0; Co < 5.0; Fe < 3.0	9.0	0.32	310	45	758	110	
Pure Nickel																	
Ni 200	DMV 200	ASTM B161	N02200	2.4066	0.05	-	99.4	-	-	-	8.9	0.32	103	15	379	55	
Ni 201	DMV 201	ASTM B161	N02201	2.4068	0.02	-	99.4	-	-	-	8.9	0.32	83	12	345	50	

<sup>1)</sup>All figures in weight percentage. Mechanical properties are indicative only.

## Flexibility

Combining the scale of our integrated facilities with the flexibility of our precision tube plants in France and the USA. Supporting the demands of our customers from 1m/1ft to global deliveries.

## Quality

We operate a global management system with an extensive customer approval reference list. EN ISO 9001, EN ISO 14001, EN 9100 AS 9100 (depending on manufacturing location). NADCAP in process.

## Profiles & Components: Adding Value, Adding Service

Precision cutting  
End Preparation  
Machining  
Bending

## Global Manufacturing, Local Service

Bringing together our manufacturing facilities in Germany, France, Italy and USA, our global sales team is at your service, ensuring we provide the optimum solution to your requirements.

