



Forging evolution.



# TOP-FORGING SOLUTIONS TO TRANSFORM OUR WORLD.

With more than **50 years** of experience, we are leaders in offering high-value forging solutions created in our state-of-the-art facilities to a wide range of industrial markets.



INDUSTRIAL  
MACHINERY



OIL AND GAS



AEROSPACE



POWER  
GENERATION



CONSTRUCTION  
AND MINING



WIND POWER



SEMICONDUCTORS

## SANTA CATARINA PLANT

Offers a diverse range of **seamless rolled rings** and **open-die forgings** in different sizes.

Rings starting from 10" OD  
Weight starting from 50 lb



Santa Catarina Nuevo León, México

## GARCIA PLANT

Produces large **seamless and contoured rings** in various steel and alloy grades.

Rings up to 315" OD  
Weight up to 55,000 lb



García, Nuevo León, México





## AEROSPACE PLANT

Specialized **titanium, aluminum and nickel-based rings** for the aerospace market.

**Rings up to 196" OD**  
**Weight up to 10,000 lb**

 Santa Catarina, Nuevo León, México



## FRISA STEEL

Top-quality steel ingot stock with a capacity of **350,000 tons of liquid steel** per year.

**Ingots from 10" to 80"**  
**Max. weight: 110,000 lb**


 García, Nuevo León, México



## OPEN-DIE PLANT

Best-in-class technology that produces larger, heavier, and more **complex open-die** forged products.

**Max. weight: 77,000 lb**  
**Max. length: 36 ft**


 García, Nuevo León, México



## FRISA METALS

**FRISA** manufactures high quality ingots, billets and forged bars in materials such as carbon, alloy, tool steels and martensitic/austenitic stainless steels.

**Sizes: 9" to 30.5"**

 Houston, Texas



OUR PRODUCTS



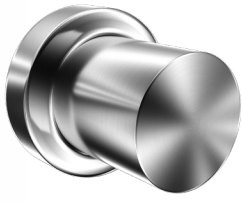
ROLLED RINGS



CONTOURED RINGS



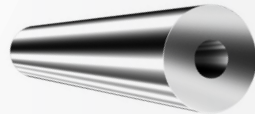
DISCS



POT-DIE FORGINGS



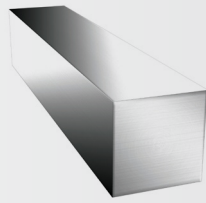
ROUND BARS



HOLLOWS BARS



STEP & FLANGE  
SHAFTS



BLOCKS  
& PLATES

Range

O.D. up to 315 in  
(8,000 mm)

Near net shape rings  
forged to customer  
drawing.

Weight up to  
55,000 lb

O.D. up to 132 in  
(3,300 mm)

Near net shapes forged  
to customer drawing  
with special tools.

Weight up to  
55,000 lb

Materials

Carbon Steel, Alloy Steel, Tool Steel, Stainless Steel, Superalloys, Titanium, and Aluminum.

Range

O.D. up to 45 in  
(1,150 mm)

Length up to 430 in  
(11,000 mm)

Weight up to 77,000 lb  
(35,000 kg)

O.D. up to 60 in  
(1,500 mm)

I.D. up to 30 in  
(760 mm)

Weight up to 55,000 lb  
(25,000 kg)

O.D. up to 45 in  
(1,150 mm)

Length up to 430 in  
(11,000 mm)

Weight up to 77,000 lb  
(35,000 kg)

Length up to 430 in  
(11,000 mm)

Weight up to 77,000 lb  
(35,000 kg)

Materials

Carbon Steel, Alloy Steel, Tool Steel, Stainless Steel, and Aluminum.



# INVENTORY STOCKING GRADES

We offer an extensive variety of materials to process your order immediately and provide you with the best delivery in the market.

CARBON AND LOW ALLOY STEELS	
Grade	UNS Number
A105	K03504
1010	G10100
1018	G10180
1020	G10200
1035	G10350
1045	G10450
1050	G10500
1080	G10800
1552	G15520
A350 Grade LF6	G13300
A350 Grade LF2	G10330
A694	
S355NL	K02003

ALLOY STEELS	
Grade	UNS Number
4130	G41300
4140	G41400
4145	G41450
4320	G43200
4330	
4340	G43400
52100	G15116
8620	G86200
8630	G86300
A182 Grade F5	K41545
A 182 Grade F11	K11597
A 182 Grade F22	K21590
A707 Grade L5	K20934
A707 Grade 3W	

TOOL STEELS	
Grade	UNS Number
H13	T20813
P20	T51620
L6	T61206
D2	T30402
ALUMINUM	
1100	
2014	A92014
2219	A92219
2618	
3003	
6061	A96061
7050	A97050
7075	A97075
TITANIUM	
Ti-6-4	R56400
Ti 6-2-4-2	R54620
Ti 21s	R58210
Ti 834	
Ti-407	

STAINLESS STEELS	
Grade	UNS Number
A182 F44	S31254
A182 F51	S31803
A182 F53	S32750
A182 F60	S32205
A182 F91	K90901
15-5 PH	S15500
17-4 PH	S17400
304	S30400
304L	S30403
310	S31000
316	S31600
316L	S31603
317	S31700
321	S32100
347	S34700
410	S41000
420	S42000
422	S42200
431	S43100
F6NM	S41500

SUPERALLOYS	
Grade	UNS Number
Alloy 718	N07718
Alloy 718 Plus	
Waspaloy	N07001
Alloy 909	N19909
Alloy 907	N19907
Alloy 625	N06625
Alloy 600	N06600
Alloy 617	N06617
Alloy X	N06002
Alloy H230	N06230
Alloy 188	R30188
Alloy H242	N10242
Alloy HR120	N08120
Nimonic 80	N07080
Alloy 825	N08825
Alloy 800 H	N08800/N08810
Alloy C276	N10276
Monel 400	N04400
Alloy C263	N07263
	S66286
	N07041
Thermo Span	

Other material grades are available upon request.

Our certifications: AS 9100 D, ISO 9001, ISO 14001, ISO/IEC 17025, ABS Marine applications, CE Marking, DNV, NQA-1, PED, Nadcap Forging, Nadcap Heat Treatment, Nadcap NDT.



## VALUE-ADDED SERVICES

High-value solutions to meet your requirements.



## HEAT TREATMENT

Fully automated and digitally controlled equipment to monitor each part of the process to ensure adherence to customer specifications.

**Our heat-treating solutions include** annealing, normalizing, quenching, tempering, spheroidizing, and more.

## LAB & NON-DESTRUCTIVE TESTING

Three in-house labs fully equipped with state-of-the-art technology to conduct mechanical, chemical, and metallographic testing. Our technicians are certified by ASNT up to level III.



## MACHINING

We have the latest CNC technology for rough and complex machining. Our staff provides cost-effective solutions with high quality standards.

## WORLDWIDE DELIVERY

From a single ring to a full container, we offer door-to-door shipments at the most competitive rates.

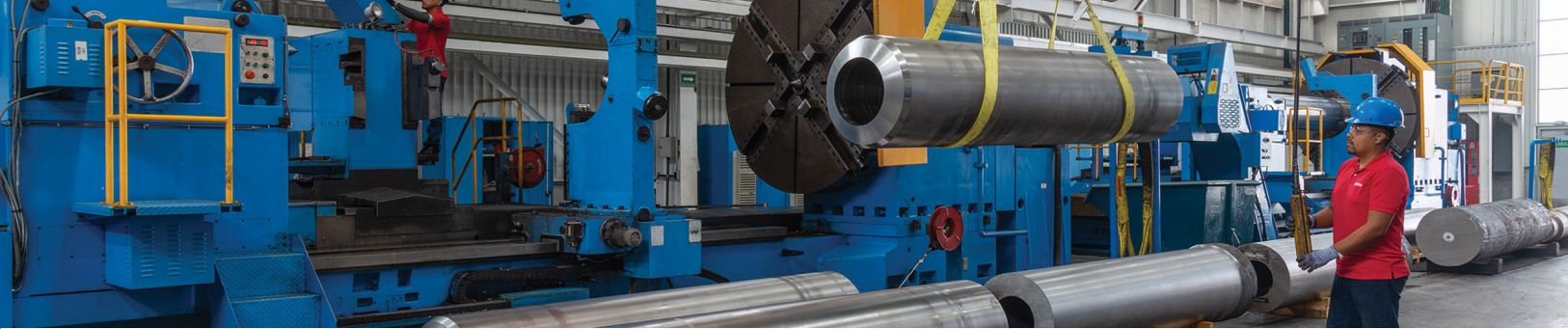






# MACHINE SHOP CAPABILITIES

Full range of in-house  
rough and complex machining.



	MAXIMUM OUTSIDE DIAMETER		MAXIMUM HEIGHT/LENGTH		MAXIMUM WIDTH		MAXIMUM WEIGHT		MINIMUM SURFACE FINISH	
	in	mm	in	mm	in	mm	lb	kg	RMS	µm
Vertical Turning	315	8,000	157	4,000	—	—	55,000	25,000	63	1.6
Horizontal Turning	79	2,000	315	8,000	—	—	88,000	40,000	63	1.6
Flange Drilling	220	5,600	15	380	—	—	22,000	10,000	125	3.2
Milling	197	5,000	100	2,540	100	2,540	110,000	50,000	125	3.2

## COMPLEX MACHINING

	MAXIMUM OUTSIDE DIAMETER		MAXIMUM HEIGHT/LENGTH		MAXIMUM WEIGHT		MINIMUM SURFACE FINISH		
	in	mm	in	mm	lb	kg	RMS	µm	
Vertical Turning	126	3,200	70	1,800	11,000	5,000	32	0.8	▪ Turning up to 130" (3.3 m)
Horizontal Turning	40	1,000	40	1,000	4,000	1,800	32	0.8	▪ 3/4/5 Axis milling up to 78" (2 m)
C Axis Milling	126	3,200	70	1,800	11,000	5,000	64	1.6	▪ Tolerances +/- .001" (.0254 mm)
5 Axis Milling	47	1,200	23	590	660	300	32	0.8	▪ Manual assembly



# DELIVERING EXCELLENCE TO OUR CUSTOMERS

Our world-class standards, commitment to quality, customer service, and technical expertise have positioned **FRISA** as a leading global manufacturer.



## Customer service

Our customer-centric structure enables us to interpret our customers' needs and transform them into high-value forging solutions. Our sales team is fully committed to develop the best solutions for any given requirement.



## Quality

Our Quality, Safety & Environmental System is regularly updated through certifications, customer recognitions, and audits to ensure the highest standards are maintained and improved on.



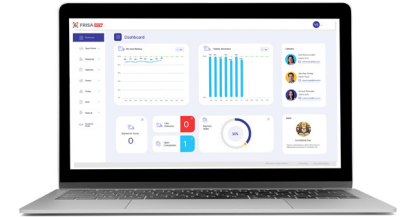
## Traceability

Our cutting-edge information systems guarantee effective process control, long-term document preservation and full traceability of our products.



## Product development

Our experts in metallurgy, modeling, machining, and manufacturing work together with our customers' engineers to develop geometries, required properties, and specifications for general and critical parts. Additionally, we record real-time data for process control and cost reduction.



Check your account status anywhere, anytime at **FRISA NOW**, our customized portal that ensures an outstanding service.



## OUR GLOBAL NETWORK

### **Manufacturing Facilities Nuevo León, México**

FRISA Aerospace  
FRISA Forge  
FRISA Precision  
FRISA Steel

### **Global Sales Offices**

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CONTACT US NOW



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