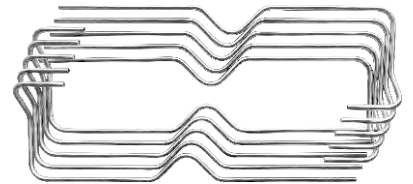
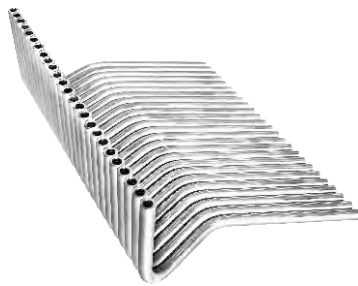
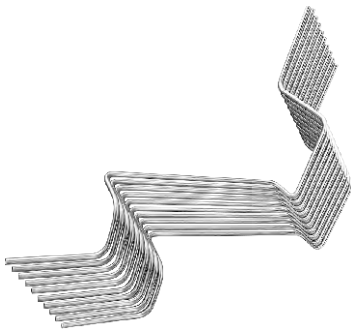
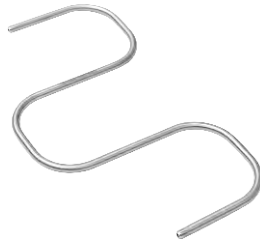
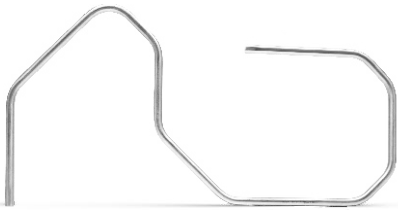


FITOK

Custom Tube Bending Services

**Specialized Products and Services
Meeting Your Diverse Custom Needs**

Products



Supply Range and Parameters

Instrumentation and High Purity Tube Bending

Fractional								
Material	Straight Tubing Series	O.D. (in.)	Wall Thickness (in.)	Standard Bend Radius (in.)	Minimal Bend Radius (in.)	Maximum Bend Angle	Maximum Straight Tubing Length (Prior to Bending) (ft)	Packaging and Cleaning Standard
316/316L SS, Enhanced 316/316L SS, Super Duplex SS, and Alloys	TMP, TBA	1/8	0.028, 0.035	0.38	1.5×O.D.	180°	9.1	FITOK Standard Cleaning and Packaging Process (FC-01), Special Cleaning and Packaging Process (FC-02) options
		3/16	0.028, 0.035, 0.049	0.56				
		1/4	0.035, 0.049, 0.065	0.56				
		3/8	0.049, 0.065, 0.083	0.81				
		1/2	0.049, 0.065, 0.083	1.00				
		5/8	0.065, 0.083, 0.095	1.25				
		3/4	0.065, 0.083, 0.095, 0.109	1.50				
		1	0.083, 0.095, 0.109, 0.12	2.00				
Metric								
Material	Straight Tubing Series	O.D. (mm)	Wall Thickness (mm)	Standard Bend Radius (mm)	Minimal Bend Radius (mm)	Maximum Bend Angle	Maximum Straight Tubing Length (Prior to Bending) (m)	Packaging and Cleaning Standard
316/316L SS, Enhanced 316/316L SS, Super Duplex SS, and Alloys	TMP, TBA	3	0.8, 1	10	1.5×O.D.	180°	2.8	FITOK Standard Cleaning and Packaging Process (FC-01), Special Cleaning and Packaging Process (FC-02) options
		6	1, 1.2, 1.5	15				
		8	1, 1.2, 1.5	20				
		10	1.2, 1.5, 2	20				
		12	1.5, 2, 2.5	25				
		14	1.5, 2, 2.5, 3	30				
		16	1.5, 2, 2.5, 3	30				
		18	1.5, 2, 2.5, 3	35				
		20	2, 2.5, 3	40				
		22	2, 2.5, 3, 4	45				
		25	2, 2.5, 3, 4	50				

Medium and High Pressure Tube Bending

Fractional								
Material	Straight Tubing Series	O.D. (in.)	I.D. (in.)	Standard Bend Radius (in.)	Max Working Pressure psig (bar)	Maximum Bend Angle	Maximum Straight Tubing Length (Prior to Bending) (ft)	Packaging and Cleaning Standard
316/316L SS, Enhanced 316/316L SS	T20D	1/4	0.120	1.25	19100 (1317)	180°	9.1	FITOK Standard Cleaning and Packaging Process (FC-01), Special Cleaning and Packaging Process (FC-02) options
		3/8	0.209	1.75	18750 (1293)			
		1/2	0.282	2.63	18750 (1293)			
		3/4	0.420	3.50	18750 (1293)			
		1	0.656	4.63	18700 (1290)			
	T20M	1/4	0.109	1.25	19100 (1317)			
		3/8	0.203	1.75	18750 (1293)			
		9/16	0.312	2.63	18750 (1293)			
		3/4	0.438	3.50	18750 (1293)			
		1	0.562	4.63	18700 (1290)			
	T60H	1/4	0.083	1.25	58400 (4028)			
		3/8	0.125	1.75	57750 (3983)			
		9/16	0.188	2.63	57750 (3983)			

Bend Radius

Standard Bend Radius is recommended. For products with other bend radii, please consult FITOK.

Working Pressure

For Instrumentation and High Purity tube bending products with bend radii greater than 1.5 times the tube O.D., the working pressure is the same as for straight tubing.

For Medium and High Pressure tube bending products with standard bend radii, find the working pressure from above table. Working pressure of the tube bending products with other bend radii, please consult FITOK.

FITOK

FITOK Incorporated

Material Certificate

In conformity with EN 10204: 2004-3:150 10474: 2013-3:18

Customer										File No.		
Contract No.										xxx	Project	QMS000001
Item	Product Name	FITOK Part No.	Steel	Standard	Label	Part	Heat No.	Size	Qty	Condition		
1	Fuel Supply Line	DI-15MM-15MM-1.5	A318M (A318)	Q345R	151518	151518	151518	10-1.5mm	1 pin	A		
2												
3												
Comprehensive Inspection, %												
Test Item	C	M	P	S	T	W	V	W	C	Fe	W	C
1	0.000	0.150	0.200	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2	0.000	0.150	0.200	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3	0.000	0.150	0.200	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Mechanical Properties and Other Tests												
Test Item	Tensile (MPa)	Yield (MPa)	Elongation (%)	Reduction of Area (%)	Bursting Test	Flange Test	Flange Test	Hydrotest	Eddy Current Test	Grain Size	Intergranular Corrosion Test	Intergranular Corrosion Test
1	570/630	330/355	20/25	40/45	/	/	/	/	/	/	/	/
2	570/630	330/355	20/25	40/45	/	/	/	/	/	/	/	/
3	570/630	330/355	20/25	40/45	/	/	/	/	/	/	/	/
Notes												
1. How we verify that the above-mentioned products conform to the specifications of the order and the standards.												
2. The material is conforming to PED 2010/25/EC Annex B, para 4.3.												
3. Non-inspection item is marked with "X".												

Conditions		Remarks	
A - Aluminized		1. How we verify that the above-mentioned products conform to the specifications of the order and the standards.	
B - Polishing		2. The material is conforming to PED 2010/25/EC Annex B, para 4.3.	
C - Solution Treated		3. Non-inspection item is marked with "X".	
D - Polished			
E - Cold Drawn			
F - Hot Drawn			
G - Single Annealed			
H - Double Annealed			
I - Electroplated			

Inspected by: J.W.

Date: xxx

EN 10204: 2004-3.1
Material Certificate

FITOK

3D Inspection Report

Date: xxx

Report No.: xxx

Product Name	Fuel Supply Line	Product No.	TMP-12MM-1.5-0.2-AM	Yast No.	HY2107-1615	Batch Qty.	1 PCS.
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3D Measurements

Item	Coordinate axis	Offset Value	Measured Value	Tolerance	Gap	Inspection
Station Cylinder A	Distance		0.000	±0.002	0.000	Pass
Station Cylinder C	0.1410 ± 0.002		0.000	±0.002	0.000	Pass
Point 1	X	0.000	-0.004	±0.000	-0.004	Pass
	Y	0.000	-0.004	±0.000	-0.004	Pass
	Z	-0.000	-0.000	±0.000	0.000	Pass
Point 2	X	0.000	-0.000	±0.000	0.000	Pass
	Y	0.000	-0.000	±0.000	0.000	Pass
	Z	100.000	100.000	±0.000	0.000	Pass
Point 3	X	-0.000	-0.003	±0.000	-0.003	Pass
	Y	-0.000	-0.000	±0.000	0.000	Pass
	Z	146.000	146.000	±0.000	0.000	Pass
Point 4	X	0.000	-0.000	±0.000	0.000	Pass
	Y	112.000	112.000	±0.000	0.000	Pass
	Z	112.000	146.000	±0.000	0.000	Pass
Dimension 1	Z Distance	50.000	50.000	±0.000	0.000	Pass
	Y Distance	112.000	112.000	±0.000	0.000	Pass
	X Distance	146.000	146.000	±0.000	0.000	Pass
Angle 1	Y/Z Angle	-90.000	-90.000	±0.000	0.000	Pass
	X/Z Angle	-172.000	-172.000	±0.000	-0.000	Pass
	X/Y Angle	-90.000	-90.000	±0.000	0.000	Pass
Station Phase B	0.1410 ± 0.002		0.000	±0.000	0.000	Pass
Station Phase C	0.1410 ± 0.002		0.000	±0.000	0.000	Pass

Final Judgment:	PASS
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Checked by: **H.W**

Reviewed by:

3D Dimensional Inspection Report

5

1. High quality, comprehensive range and fast delivery.

- Extensive experience of tubing manufacturing guarantees the best quality.
- Offering tubing in a variety of materials and sizes for diverse industries and applications.
- Maintaining more than 500,000 meters of tubing in stock for fast delivery.

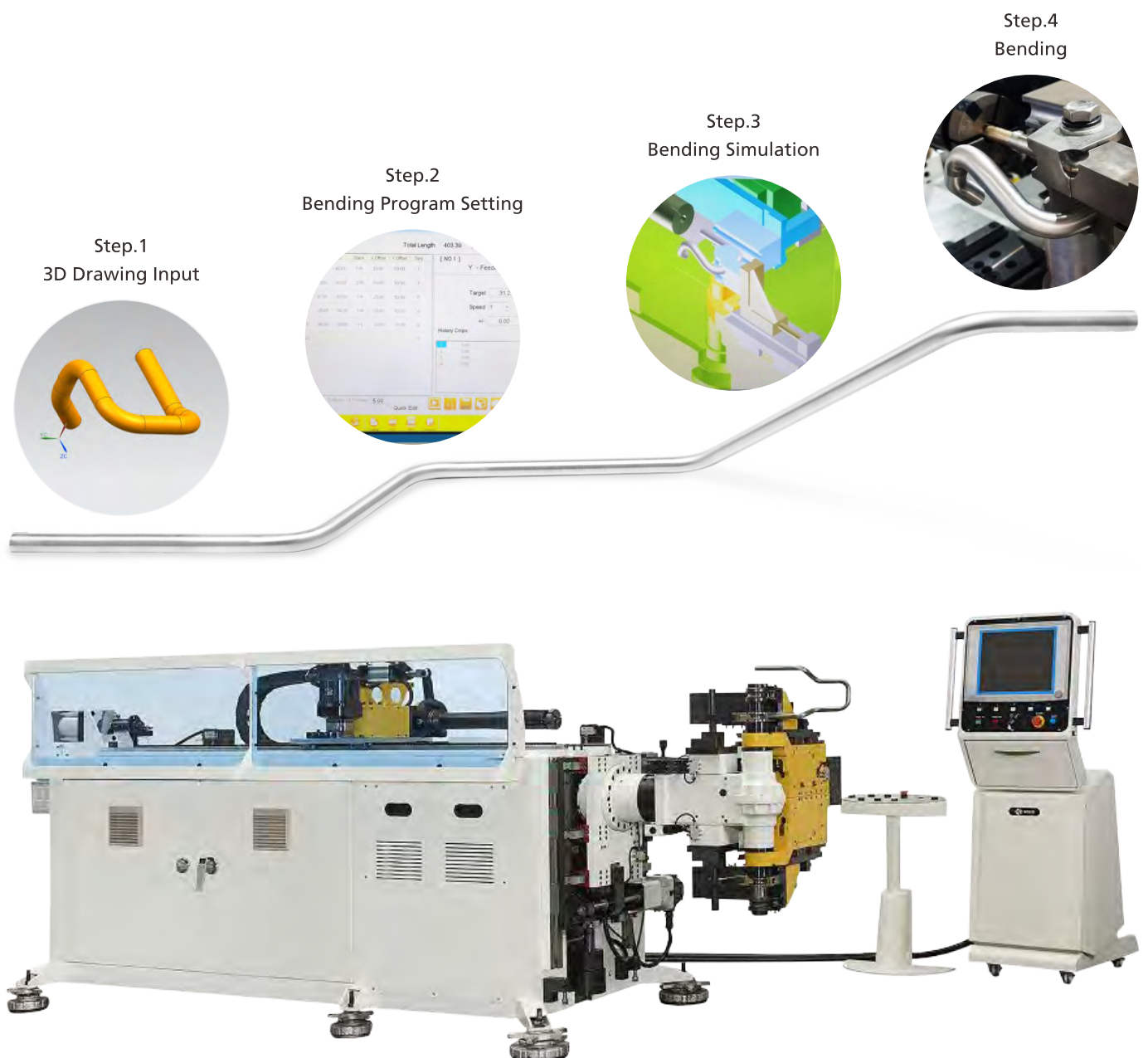


2. Efficient communication and enhanced customer experience.

- Expert team with extensive product and business knowledge can accurately understand customer needs and concerns, providing efficient communication and effective solutions.

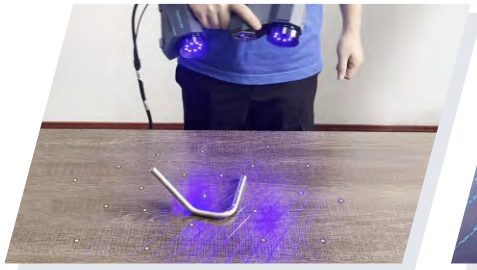
3. Automated bending machines ensure efficient production and excellent consistency.

- Bidirectional bending and continuous bending are available, ensuring high-quality production.
- 3D simulation identifies potential interference between tubing and machines, helping optimize production efficiency.
- One tubing supports six different bend radii and 50 bends in total.

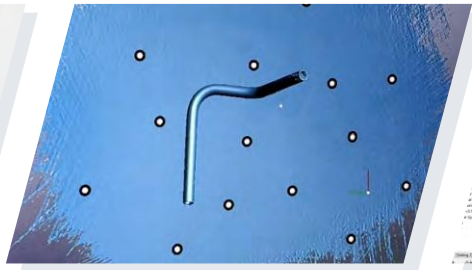


4. High accuracy measuring machines ensure product quality.

- ◎ Parameters such as profile, position, angle, roundness, cylindricity, verticality, length and bend radius can be measured.
- ◎ Measurement accuracy reaches 0.02 mm, with certified metrological-grade accuracy.
- ◎ Measurement speed reaches 2.1 million measurements per second, report can be generated automatically.



Step 1. Scanning of the Product



Step 2. 3D Model Generating



Step 3. Measuring Result Output



5. Economic and reliable packaging and shipping.

- ⦿ Delivering over 1 million meters of tubing annually has provided us with extensive packaging experience.
- ⦿ Standard short-length tubing helps reduce costs significantly by lowering both packaging and transportation expenses.
- ⦿ Optimized packaging methods ensure product quality during transit while minimizing costs.



6. FITOK fittings and valves available for quick one-stop procurement.

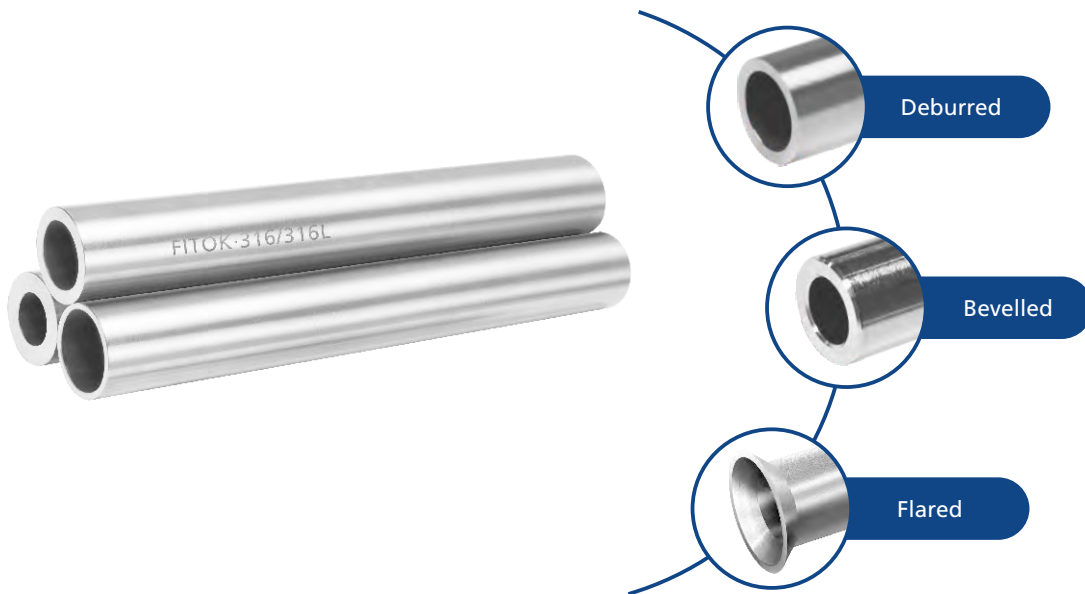
- ⦿ 20+ years of experience in valve and fitting manufacturing, with products used globally and widely in diverse industries.
- ⦿ Stringent validation testing ensures reliable connections among FITOK tubing, fittings and valves, eliminating mismatches or leaks when using components from different manufacturers.



Other Services

Custom length straight tubing with well treated ends (including deburring, beveling, and flaring), as well as cone and thread processing and ferrule presetting, are available.

Custom-Length Straight Tubing with Well Treated Ends



Cone and Thread Processing



Ferrule Presetting



Welded Assemblies

