



Tube Fitting Patent Helps Eliminate Leaks

Rarely does a simple solution solve a very big problem, however, there is a new compression/ tube fitting on the market that does just that. Since tube fittings were first patented in 1959, there have been issues with connecting tubing to fittings without incurring leaks or experiencing safety issues. Many have worked on a solution to this problem without success...until now.

Tube and fittings are used in oil and gas refineries, food and beverage plants, aerospace, mining, ship building, pharmaceutical, power plants, transportation/CNG and more.

The tubing and fitting market is massive, with these products being used everywhere in production processes and equipment applications. The larger markets include, oil and gas refineries, food and beverage processing, aerospace, mining, ship building, pharmaceutical, power plants and transportation/ CNG. The main benefits of tubing include its visual appeal and the ability to bend and route it from point "A" to point "B". Traditional fittings used to connect tubing offer a relatively quick and accurate assembly and disassembly. When installed correctly, the tube/compression fittings can hold thousands of pounds of pressure. Because of the wide variety of applications and unique benefits, tubing and fittings are an industry standard, but have seen little change in over 50 years.



Superlok Creates Industry Solution: "I-Fitting"
Stainless tubing installed with tube fittings connected to pressurized equipment.

A significant number of leaking fittings in the market prompted a tube fitting manufacturer, Superlok, to review the cause and search for a solution. Testing proved that tube fittings work very well at sealing properly. This is largely true for many of the main manufacturer's fitting products, if the

installation instructions are followed. Top manufacturers have been producing great tube fittings, but the connection success rate has been inhibited by mistakes made during installation.

Superlok focused on this fact and knew that most leaks were the result of human error in the connection process, not inferior fittings and manufacturer defects. A solution could only come if the human error potential was minimized.

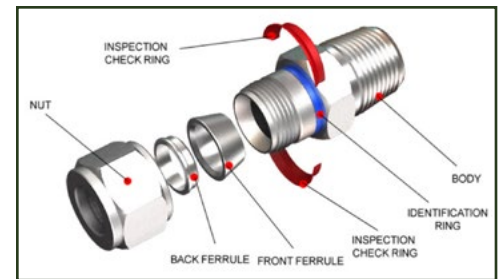
To further understand this problem, we have to look at the installation process. All stainless steel tube fittings have the same installation procedure. After the stainless steel tubing has been measured, cut and routed, an installer will insert the tubing into the tube fitting. The fitting nut is then hand tightened. From that point, the nut is further tightened by a wrench 1/4 turns. To complete the process, the fitting connection should be verified with a manufacturer's gap gauge to ensure the fitting gap is exact. This gap is the distance between the body of the fitting and the nut. If everything was done correctly, the connection will not slip or leak within the specified pressure ranges.

The industry knows that the results of a poor installation can be costly and dangerous. Some installers simply do not know there is a procedure to tighten the fittings. They can be inexperienced or may have not been trained on the correct installation process. Other experienced installers believe the myth that one can "feel" when a fitting has been tightened to the correct torque. This is a big misconception because fittings are not secured by torque. Proper installation is a result of the gap measurement between the tightened nut and fitting body.

A special gap gauge is made to verify that a tube fitting has been tightened correctly. This has been the only way to have confidence that the connection has been made up properly. These gap gauges are rarely sold by suppliers and generally have not become a part of an installer's tool kit in the industry. This tool is very effective, but only if it is being used.

Superlok studied each of these issues and created an amazing solution... a built-in gap gauge they named the "I-Fitting". Each of their fittings incorpo-

rates a two piece snap-inspection ring installed in the gap between the nut and fitting body. As an installer tightens the nut to the correct depth, the rings are engineered to break apart at exactly the right time. When the rings pop, it signals the installer to stop, confirming that the fitting has been tightened to the right depth. The installer can now see, hear and feel this new technology work to make a safe and precise connection.



What does this do for the industry? The Superlok I-Fitting assures companies that their employees are making safe connections. Employers have been able to reduce the time and money spent on repairing leaks. Installations are now faster and worker safety concerns are greatly reduced. Because this simple idea takes much of the human error out of the equation, it has quickly become a real solution for companies all over the world. Superlok has been able to add this I-Fitting technology to all of their tube/compression products, including ball valves, needle valves and check valves. This is innovation that really works and is fast becoming an industry changing product.

To find out more about this award winning patented line of instrumentation and control products, contact Bob Herbert & Associates

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**BOB HERBERT
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MANUFACTURERS' REPRESENTATIVE



Certifications: Superlok, BMT Co. & Mako Products

SUPERLOK QUALITY CERTIFICATIONS

Divison	Products	Cert No.	Certifying Agency
Fittings & Valves	Bite Type Fittings for DIN2353	16/4001(E2)	Lloyd's Register CoT Approval
	Superlok Tube Fittings	P-15269	DNV Cert. of Type Approval
	Bite Type Fittings for DIN2353	P15188	DNV Cert. of Type Approval
	SAE 37° Flared Tube Fittings	TAP00000FH	DNV Cert. of Type Approval
	Superlok & Bite Type (JIS & KS)	TA12682M	NK Cert. of Type Approval
	Superlok & Bite Type (JIS & B2351)	15/40079	Lloyd's Register CoT Approval
	Superlok SAE J518 Flanged BV	15/40088	Lloyd's Register COT Approval
	Superlok Tube Fittings	KR110-B0-102116	TUV NORD Cert. of Conformity
	Superlok Tube Fittings & Valves	CRN# 0C11456.2	ABSA / Canadian Registration #s
	Superlok Tube Fittings	e4*79/2009*406?2010*0001*00	RDW (EC Type-Approval Cert)
	Superlok Trunnion Ball Valve	E4-110R-000308-00	TUV NORD Approval
	Superlok High Pressure Ball Valve	E4-110R-000307-00	TUV NORD Approval
	Superlok HP Check Valve	E4-110R-000309-00	TUV NORD Approval
	Superlok Micron Tee Filter	E4-110R-000311-00	TUV NORD Approval
	Superlok Tube Fittings	K051-A0-0109-1	TUV NORD Inspection Report
	Superlok DBB Valve	B-50/2016-003/0009-1	SGS Fire Test Certificate
	Superlok Tube Fittings	18-HS1727522-PDA	ABS Cert. of Design Assessment
	Superlok Tube Fittings & Valves	RDWC-A1B-03	RDW Compliance Statement
Superlok Tube & Bite Type Fittings	20040/CO BV	Bureau Veritas Type Approval Cert	

SUPERLOK MANUFACTURING CERTIFICATIONS

TYPE	Issuing Body	Scope	Cert No.
ISO 9001	HSB	Design & Mfg. of Valves & Fittings	Q 379
ISO 1400	International Technology Quality Assurance	Design & Mfg. of Valves & Fittings	17-E-072-01
OHSAS 18001	International Technology Quality Assurance	Design & Mfg. of Valves & Fittings	1-OH-0027-01
KEPIC-MN	KEPIC	Purchase, Const., Fab. & Mfg.	MN-288
API-6D	API	Using Official API Monogram	6D-0699
PED MODULE H	HSB	Design & MFG. of Valves & Fittings	HSB UK-16-06-019
ASME-N	ASME	Class 1, 2, 3 & MC Fabrication	N-3409
ASME-NPT	ASME	Class 1, 2, 3 & MC Fabrication	N-3410
ASME-NS	ASME	Class 1, 2, 3 & MC Fabrication	N-3411
BV MODE II SCHEME	BV	Recognition for BV Mode II Scheme	SMS.W.II/69625/C.0
2007/35/EC	RDW	Conformity of Production	RDWC-A1B-02
AEO	KCS	Authorized Economic Operator	KRAE03115093

