



DRIVEN BY POSSIBILITY™



# GATES QUICK-LOK™



FAST INSTALLATION FOR PEAK PERFORMANCE

# **RIGOROUS CRITERIA NEED A SOLID SOLUTION**

With machines becoming more compact and power intensive, designing and manufacturing hydraulic platforms for a worldwide market is a difficult challenge.

Manufacturers are demanding greater production line output without impacting key metrics like safety and leak-free connections. With existing threaded technology, meeting these rigorous criteria in an efficient way isn't easy. That's where Gates® Quick-Lok™ comes in.

A red tractor with a large front wheel and a smaller rear wheel is pulling a red plow through a field. The tractor is moving from left to right, and the plow is turning over dark soil. The background shows a sunset sky with orange and yellow light. The tractor has a blue stripe on its side and a red light on top.

**SAVE TIME, LOWER  
COSTS, AND REDUCE THE  
AMOUNT OF RE-WORK AND  
WARRANTY CLAIMS.**

# TABLE OF CONTENTS



THE BENEFITS OF GATES QUICK-LOK ..... 03

CONNECTORS: THREADLESS OR THREADED? ..... 04

A PROVEN TRACK RECORD ..... 06

ERGONOMIC ADVANTAGE AND INCREASED EFFICIENCY ..... 08

TWO CUSTOMIZED SOLUTIONS ..... 09

SOLUTION #1: QLH CONNECTORS ..... 10

QLH: HOW TO CONVERT - AND WHY ..... 11

QLH: HOW TO INSTALL ..... 12

QLH: PRODUCTS ..... 14

SOLUTION #2: QLL CONNECTORS ..... 17

QLL: HOW TO CONVERT - AND WHY ..... 17

QLL: HOW TO INSTALL ..... 18

QLL: PRODUCTS ..... 19

QLL: DISCONNECTION ..... 20

QUICK-LOK NOTES ..... 21

# THE BENEFITS OF GATES QUICK-LOK



Our family of threadless hydraulic couplings and adapters are designed to be leak-free and incorporate quick-to-connect technology. Gates Quick-Lok helps you save time, lower costs and reduce the amount of re-work and number of warranty claims.

## SECTORS



**CONSTRUCTION**



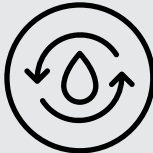
**AGRICULTURE**



**TRUCK AND BUS**



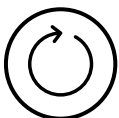
**FORESTRY**



**MANUFACTURING**

# CONNECTORS: THREADLESS OR THREADED?

## THREADED CONNECTIONS – BE AWARE OF THE LIMITATIONS...



Time it takes to assemble and torque a connection into place



Difficult to install multiple hose assemblies in a tight space



Lack of any visual indication that the correct amount of torque has been applied



Incorrect torque can cause manifold leaks or a damaged port

Threadless connections should be your first option to improve control over hydraulic assembly processes, reduce the probability of errors, and lower costly warranty claims.

## LEAK-FREE DESIGN



By examining the sealing interface between port, adaptor, and assembly to identify potential leak paths, Gates developed the Quick-Lok coupling family. Quick-Lok incorporates a patented, 100% leak-free design that's suited for a wide range of applications. Gates Quick-Lok uses tactile feedback or an audible click to eliminate the guesswork of connecting hose assemblies to ports.

## PEACE OF MIND COMES STANDARD



Quick-Lok eliminates loose or leaky connections caused by vibration or over-torquing. But the benefits don't end there...

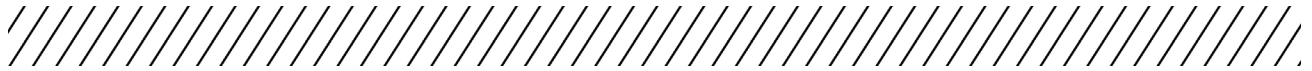
- Installation process is error-proof because it's easy to verify that a connection has been made
- Quick-Lok couplings are tamper-proof and cannot be connected by mistake with other quick-connect products
- Eliminates risks related specifically to threaded connections. Once in place, the assembly cannot be accidentally disconnected or released.





**QUICK-LOK CONNECTORS  
ARE PRODUCED FROM  
HARDENED STEEL AND  
MACHINED TO EXTREMELY  
HIGH TOLERANCES.**

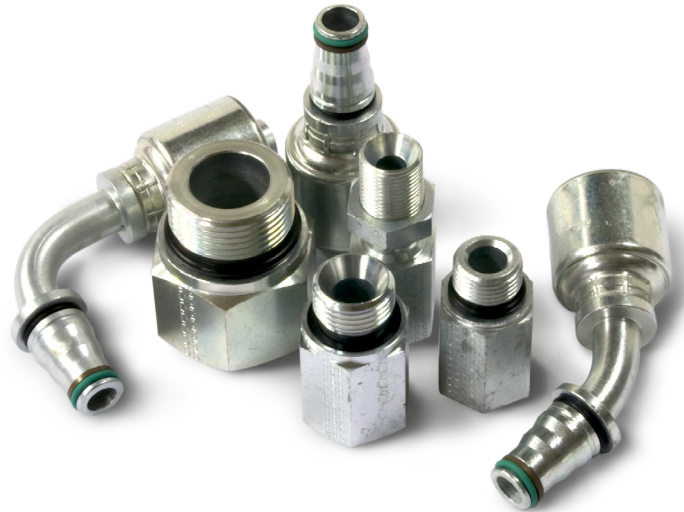
# A PROVEN TRACK RECORD



We manufacture connections to ensure the highest integrity in port-to-port solutions. How? Quick-Lok connectors are produced from hardened steel and machined to extremely high tolerances. They have undergone rigorous testing under actual and simulated field conditions to confirm their strength and sealing ability. The Quick-Lok coupling family is proven to stand up to impulse loads, side loads, flex conditions, vibration, temperature extremes and vacuum conditions.

## TESTED, PROTECTED, SELECTED

- Quick-Lok has been tested to ensure that the push-in force is high enough to provide positive feedback that a connection has been made, but low enough to allow easy assembly on the line.
- All Quick-Lok couplings and adaptors are protected with our chromium 6 free TuffCoat™ plating, showing a red corrosion resistance of at least 500 hours.
- That's why Quick-Lok couplings have been embraced by Original Equipment Manufacturers (OEM) around the world.



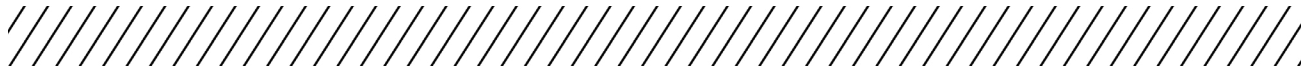
## LOWERING TOTAL COST OF OWNERSHIP

Threadless connectors have developed a reputation as niche products for limited applications. Gates has changed the industry with Quick-Lok assemblies that are able to replace threaded couplings in a wide range of applications. Our research has shown that by reducing installation and warranty costs, a Quick-Lok assembly solution can dramatically lower total OEM cost over a comparable threaded assembly.





# ERGONOMIC ADVANTAGE AND INCREASED EFFICIENCY



Quick-Lok couplings are threadless. With threading eliminated, checking torque settings for hose connections is no longer necessary. The easy installation process allows Quick-Lok to be used even in the most confined spaces often found in today's compact machines.

You also benefit from the cost-saving advantages that Quick-Lok delivers; for example, there is no need to invest in a vast range of expensive assembly tools or skilled assembly labor.

Quick-Lok eliminates installer-dependent variation in the connection process (reducing rework time and cost). The easy installation also improves ergonomics for making hose connections.

They simply push into place, reducing fatigue in manufacturing labor.

## WORK SMARTER, NOT HARDER

- **Faster:** Quicker assembly times lead to improved manufacturing productivity
- **Easier:** With Quick-Lok, couplings click into place to ensure positive engagement every time
- **Smarter:** The connection process is error-proof, providing positive tactile feedback that the connection has been made
- **Simpler:** Verification is simple, only requiring the operator to pull back gently on the hose after connection.

With your installation and check-up time reduced, your production output is optimized. In addition, no assembly time is lost because of the need to re-work improperly torqued connections – all of which improves your business' bottom line.

---

**FIELD TESTS HAVE SHOWN THAT QUICK-LOK CONNECTIONS WERE  
MADE 10X FASTER THAN STANDARD THREADED CONNECTIONS.**

# TWO CUSTOMIZED SOLUTIONS



To fully accommodate customer needs, Gates has invested in two quick-connect solutions to customer connection problems. Whether your activities are in the hydraulic aftermarket or the hydraulic OEM business, we have a quick-connection that meets your needs – and exceeds your expectations.

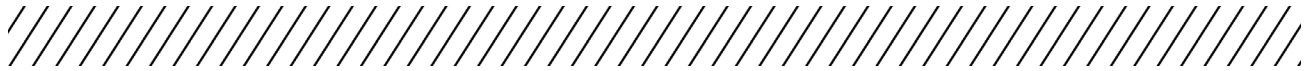
## **SOLUTION #1:** **QUICK-LOK HIGH (QLH)**

A quick-connect solution using a QLH adapter to establish a threadless port-to-port connection. QLH assemblies can be replaced either with threaded components or QLH threadless technology.

## **SOLUTION #2:** **QUICK-LOK LOW (QLL)**

A low pressure quick-to-connect solution connecting directly into the port without the need for an adapter. When used with an adapter, QLL can be replaced either with threaded components or QLL threadless technology. When used without adapters QLL can only be replaced by QLL assemblies.

# SOLUTION #1: QLH CONNECTORS



Quick-Lok High connectors are designed to be used in combination with 1-wire and 2-wire braid construction hoses. As a result, they are suitable to replace threaded connections in approximately 70% of current hydraulic applications.

## HIGH PRESSURE, HIGH PERFORMANCE

QLH couplings are part of the Gates MegaCrimp™ product family, with proven expertise thanks to innovative design features: a MegaCrimp coupling with bite-the-wire tooth profile and patented C-insert ensuring a leak-free, concentric and full-length crimp that withstands impulse testing to 600,000 cycles, in combination with Gates Megasyss™ wire-braid hoses.

System pressure for a QLH assembly is defined by the QLH termination size.

↔			⌚			⚡		
D			Working Pressure			Burst Pressure		
-size	DN	inches	psi	bar	MPa	psi	bar	MPa
4	6	1/4	5,000	350	35	20,000	1,400	140
6	10	3/8	5,000	350	35	20,000	1,400	140
8	12	1/2	5,000	350	35	20,000	1,400	140
10	16	5/8	4,000	280	28	16,000	1,120	112
12	20	3/4	6,000*	420*	42*	24,000	1,680	168
16	25	1	3,000	210	21	12,000	840	84

\*This is for machined stem & 36mm hex machined adapter only. 28MPa working pressure rating shall apply to all other configurations (i.e. 32mm hex adapter, brazed stem or brazed adapter).



# QLH: HOW TO CONVERT - AND WHY



Changing over from threaded connections to QLH couplings for assembly production is as simple as replacing your current adapter with the QLH adapter.



Equipment ports don't require modifications to accept Quick-Lok adapters because the adapters are available in most common international termination types.



Once installed, the adapter is ready to receive the QLH assembly.



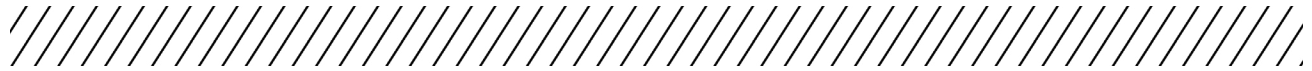
The unique Quick-Lok concept also reduces the need for a large component inventory and allows you to cover all of your product needs with fewer configurations.



For total flexibility and convenience, QLH assemblies are suitable for a wide application range including high pressure hydraulic applications up to 350 bar.



# QLH: HOW TO INSTALL



## PRE-ASSEMBLY

The QLH coupling is supplied with the necessary pre-installed seals and is protected by a disposable, protective cap. The QLH adaptor, also supplied with a protective cap and plug, can be pre-installed into the port of the equipment to save time on the assembly line.



## PARTIAL ASSEMBLY

The QLH coupling is partially inserted into the QLH adaptor, engaging the O-rings.



## FULL ASSEMBLY

The coupling is fully inserted into the adaptor, creating a leak-free connection. For safety reasons (and to ensure a leak-free connection), once the QLH coupling is fully inserted, the connection is permanently locked in place.



## EASY TO SERVICE

For service in the field, removing a QLH assembly is simple and intuitive. Unlike other threadless designs, no special tools are needed. The only tool required is a common wrench to remove the adaptor from the port.

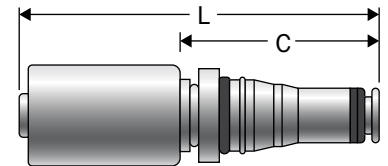
**When replacing a QLH assembly, you must also replace the QLH adaptor to guarantee the overall quality of the connection.**






# QLH: PRODUCTS

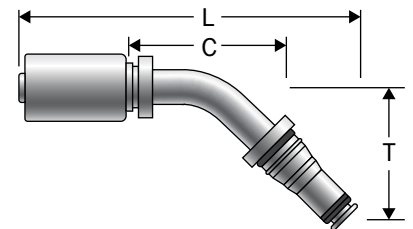





## MALE QUICK-LOK HIGH



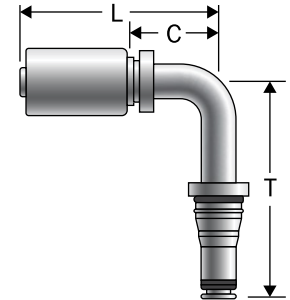
QLH								
REF.	REF.	D			L		C	
DESC.	PROD. NO.	-size	inches	mm	inches	mm	inches	mm
4G-4MQLH	7209-32005	4	1/4	6.4	2.64	67.0	1.61	41.0
6G-6MQLH	7209-32025	6	3/8	9.5	2.72	69.0	1.62	41.1
8G-8MQLH	7209-32055	8	1/2	12.7	3.11	79.0	1.63	41.5
10G-10MQLH	7209-32085	10	5/8	15.9	3.11	79.0	1.63	41.5
12G-12MQLH	7209-32105	12	3/4	19.1	3.66	93.0	1.65	42.0
16G-16MQLH	7209-32125	16	1	25.4	3.98	101.0	1.74	44.2

## MALE QUICK-LOK HIGH - 45° BENT TUBE



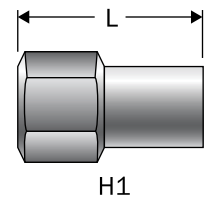
QLH										
REF.	REF.	D			T		L		C	
DESC.	PROD. NO.	-size	inches	mm	inches	mm	inches	mm	inches	mm
4G-4MQLH45S-008	7209-33005	4	1/4	6.4	0.30	7.5	2.96	75.1	1.93	49.1
6G-6MQLH45S-008	7209-33015	6	3/8	9.5	0.33	8.4	3.21	81.6	2.11	53.7
8G-8MQLH45S-010	7209-33025	8	1/2	12.7	0.41	10.4	3.77	95.7	2.29	58.2
10G-10MQLH45S-013	7209-33045	10	5/8	15.9	0.50	12.7	0.50	104.6	2.64	67.1
12G-12MQLH45S-014	7209-33055	12	3/4	19.1	0.56	14.2	0.56	124	2.87	73
16G-16MQLH45S-017	7209-33065	16	1	25.4	0.66	16.8	0.66	139.5	3.26	82.7

## MALE QUICK-LOK HIGH - 90° BENT TUBE



QLH	REF.	D			T		L		C	
		-size	inches	mm	inches	mm	inches	mm	inches	mm
4G-4MQLH90S-018	7209-34005	4	1/4	6.4	0.71	18.0	2.19	55.6	1.17	29.6
4G-4MQLH90L-039	7209-34015	4	1/4	6.4	1.54	39.0	2.19	55.6	1.17	29.6
6G-6MQLH90S-020	7209-34045	6	3/8	9.5	0.79	20.1	2.47	62.8	1.37	34.8
6G-6MQLH90L-046	7209-34055	6	3/8	9.5	1.79	45.5	2.40	60.9	1.30	32.9
8G-8MQLH90S-026	7209-34085	8	1/2	12.7	1.01	25.6	3.16	80.3	1.69	42.9
8G-8MQLH90L-057	7209-34095	8	1/2	12.7	2.22	56.5	3.04	77.1	1.56	39.7
10G-10MQLH90S-033	7209-34115	10	5/8	15.9	1.29	32.8	3.55	90.1	2.07	52.6
10G-10MQLH90L-065	7209-34125	10	5/8	15.9	2.56	65.0	3.72	94.4	2.24	57.0
12G-12MQLH90S-037	7209-34155	12	3/4	19.1	1.45	36.8	4.33	110.1	2.33	59.1
12G-12MQLH90L-075	7209-34165	12	3/4	19.1	2.93	74.5	4.20	106.7	2.19	55.7
16G-16MQLH90S-044	7209-34195	16	1	25.4	1.72	43.8	5.48	139.1	3.24	82.3
16G-16MQLH90L-103	7209-34215	16	1	25.4	4.06	103.0	4.87	123.7	2.63	66.9

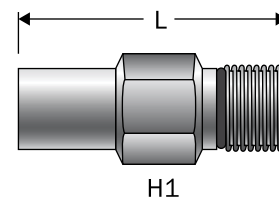
## FEMALE QUICK-LOK HIGH TO FEMALE FLAT-FACE



QLH	REF.	D			inches	H1	L	
		-size	inches	mm			inches	mm
6FQLH-6FFOR	7209-07695	6	3/8	9.5	11/16-16	22	1.60	40.6
8FQLH-8FFOR	7209-07705	8	1/2	12.7	13/16-16	24	1.66	42.2
10FQLH-10FFOR	7209-07715	10	5/8	15.9	1-14	30	1.71	43.4
12FQLH-12FFOR	7209-07725	12	3/4	19.1	13/16-12	36	1.77	45.0

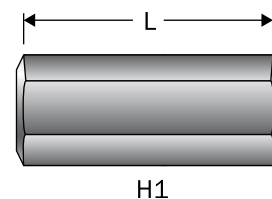


## FEMALE QUICK-LOK HIGH TO MALE O-RING BOSS ADAPTER



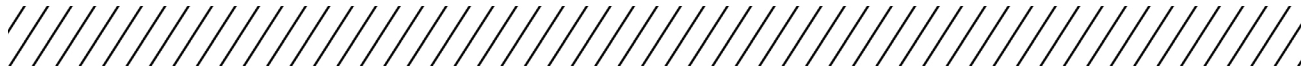
QLH								
REF.	REF.	D			H1	L		
DESC.	PROD. NO.	-size	inches	mm	inches	mm	inches	mm
4FQLH-4MB	7209-05025	4	1/4	6.4	7/16/-20	19	1.65	42
4FQLH-6MB	7209-05035	4	1/4	6.4	9/16-18	19	1.65	42
6FQLH-4MB	7209-05075	6	3/8	9.5	7/16/-20	22	1.65	42
6FQLH-6MB	7209-05085	6	3/8	9.5	9/16-18	22	1.69	43
6FQLH-8MB	7209-05095	6	3/8	9.5	3/4-16	24	1.69	43
8FQLH-6MB	7209-05135	8	1/2	12.7	9/16-18	24	1.71	43.5
8FQLH-8MB	7209-05145	8	1/2	12.7	3/4-16	24	1.75	44.5
8FQLH-10MB	7209-05155	8	1/2	12.7	7/8-14	27	1.81	46
10FQLH-8MB	7209-05195	10	5/8	15.9	3/4-16	27	1.85	47
10FQLH-10MB	7209-05205	10	5/8	15.9	7/8-14	27	1.85	47
10FQLH-12M8	7209-05215	10	5/8	15.9	1 1/16-12	32	1.89	48
12FQLH-10M8	7209-05255	12	3/4	19.1	7/8-14	32	1.89	48
12FQLH-12M8	7209-05265	12	3/4	19.1	1 1/16-12	32	1.97	50
12FQLH-16M8	7209-05275	12	3/4	19.1	1 5/16-12	41	1.97	50
16FQLH-12M8	7209-05315	16	1	25.4	1 1/16-12	41	2.09	53
16FQLH-16MB	7209-05325	16	1	25.4	1 5/16-12	41	1.97	50

## FEMALE QUICK-LOK HIGH TO FEMALE JIC 37° FLARE



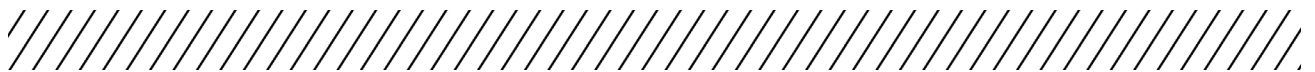
QLH								
REF.	REF.	D			H1	L		
DESC.	PROD. NO.	-size	inches	mm	inches	mm	inches	mm
4FQLH-4FJ	7209-07505	4	1/4	6.4	7/16-20	19	1.69	42.9
6FQLH-6FJ	7209-07535	6	3/8	9.5	9/16-18	22	1.69	42.9
8FQLH-8FJ	7209-07565	8	1/2	12.7	3/4-16	24	1.81	46.0
10FQLH-10FJ	7209-07595	10	5/8	15.9	7/8-14	27	1.93	49.0
16FQLH-16FJ	7209-07655	16	1	25.4	1 1/16-12	41	2.11	53.6

## **SOLUTION #2:** **QLL CONNECTORS**



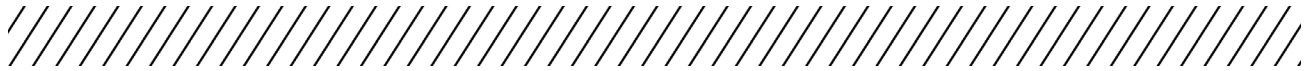
QLL connections are an innovative solution originally designed for transmission oil cooler applications operating at a maximum working pressure of 3.4 MPa (500 psi). QLL is a low-pressure termination designed for use in **non-impulse applications**. The fluorocarbon O-ring allows it to be used with fluid temperatures between -40°C and +149°C.

## **QLL:** **HOW TO CONVERT - AND WHY**



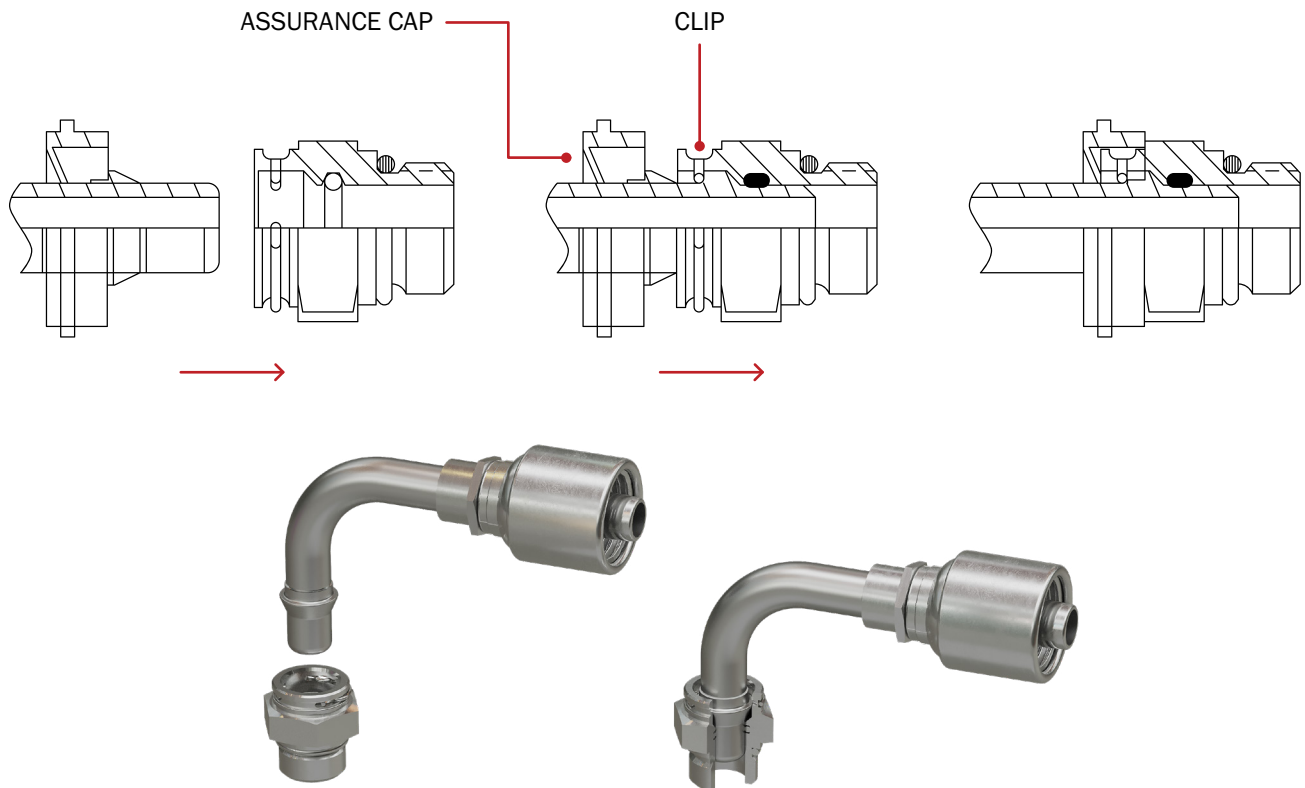
- Gates has been working in close partnership with leading OEM suppliers to develop QLL solutions – eliminating the use of adaptors
- Reduce costs and increase time savings to your assembly line - QLL technology can be installed in one-tenth of the time of a threaded coupling
- Even where ports still have threaded connections, changing to QLL just takes a click
- Simply replace your current adaptor with a QLL adaptor – there is no need to modify component ports and QLL connectors can be used in a wide range of applications
- In the long run, QLL connectors reduce downtime on the assembly line related to rework of improperly torqued threaded connections

# QLL: HOW TO INSTALL

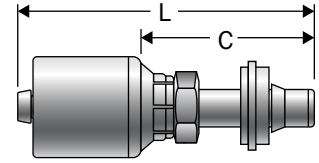


## QLL: INSTALLATION

- To make the connection, the male QLL coupling is inserted into the female QLL port
- An O-ring provides the seal and a clip holds the connection together
- An assurance cap is used to verify that the male QLL coupling is fully inserted and that the clip is seated
- Pull the assurance cap back and push the male QLL coupling into the female QLL port as far as it will go. You will hear and feel the “click” connection when properly installed
- Pull back on the fitting to verify it is connected, then slide the assurance cap into place, seating it against the quick connector hex.

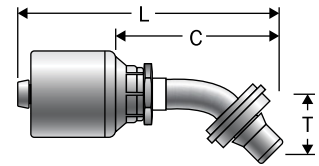


## MALE QUICK-LOK LOW



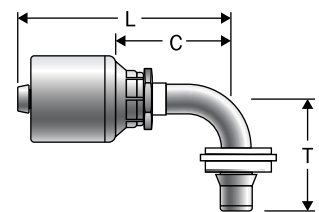
QLL								
REF.	REF.	D			L		C	
DESC.	PROD. NO.	-size	inches	mm	inches	mm	inches	mm
4G-6MQLL	7101-21225	4	1/4	6.4	2.68	68.0	1.65	42.0
6G-6MQLL	7101-51015	6	3/8	9.5	2.76	70.0	1.66	42.1
8G-8MQLL	7101-50745	8	1/2	12.7	3.43	87.0	1.95	49.5
12G-12MQLL	7101-51595	12	3/4	19.1	4.06	103.0	2.05	52.0
16G-16MQLL	7101-51515	16	1	25.4	4.53	115.0	2.29	58.2

## MALE QUICK-LOK LOW - 45° BENT TUBE



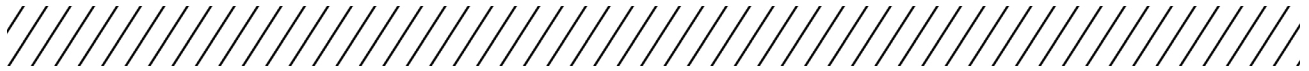
QLL										
REF.	REF.	D			T		L		C	
DESC.	PROD. NO.	-size	inches	mm	inches	mm	inches	mm	inches	mm
4G-6MQLL45-026	7101-51235	4	1/4	6.4	1.02	26.0	2.85	72.5	1.83	46.5
8G-8MQLL45-033	7101-50765	8	1/2	12.7	1.30	33.0	3.94	100.0	2.46	62.5
12G-12MQLL45-030	7101-51605	12	3/4	19.1	1.18	30.0	5.04	128.0	3.03	77.0
12G-12MQLL45-038	7101-52325	12	3/4	19.1	1.50	38.1	5.35	135.9	3.35	85.1

## MALE QUICK-LOK LOW - 90° BENT TUBE



QLL										
REF.	REF.	D			T		L		C	
DESC.	PROD. NO.	-size	inches	mm	inches	mm	inches	mm	inches	mm
4G-6MQLL90-037	7101-51245	4	1/4	6.4	1.46	37.0	2.26	57.3	1.23	31.3
6G-6MQLL90-051	7101-52265	6	3/8	9.5	2.01	51.0	2.60	66.0	1.50	38.0
6G-6MQLL90-117	7101-51935	6	3/8	9.5	4.61	117.0	2.60	66.0	1.50	38.1
6G-6MQLL90-168	7101-51775	6	3/8	9.5	7.09	180.0	2.60	66.0	1.50	38.1
8G-8MQLL90-050	7101-51475	8	1/2	12.7	1.97	50.0	3.35	85.0	1.87	47.5
12G-12MQLL90-061	7101-51615	12	3/4	19.1	2.40	61.0	4.25	108.0	2.24	57.0

# QLL: DISCONNECTION



## QLL RELEASE TOOL

RELEASE TOOL FOR QLL COUPLINGS.



PRODUCT NUMBER	MATERIAL
QLL RELEASE TOOL	STEEL
QLL RELEASE TOOL	POLYPROPYLENE

To disconnect, we recommend using the QLL release tool, which is available in both a premium (steel) and economic (polypropylene) version. If the seal requires replacement, the entire adaptor must be replaced. **No Quick-Lok (QLH or QLL) termination must ever be used as a live swivel.** Rotation is only allowed when not under pressure and on an infrequent basis.

## QUICK-LOK:

- Reduces the need for line side tooling
- Eliminates thread and torque requirements
- Provides a leak-free connection
- Offers ergonomic advantages
- Increases overall productivity
- Lowers total cost of ownership
- Ensures correct connections every time
- Reduces/eliminates re-working requirements from production lines
- Reduces/eliminates warranty claims
- Reduces connection times

QUICK-LOK	HOSE STEM	HOSE SIZE	CONFIGURATIONS	MAX WORKING PRESSURE (MPa)	DIRECT-TO-PORT CONNECTION	CONNECTION BY ADAPTER	RELEASE TOOL NEEDED
QLH	MegaCrimp	-4 up to -16	straight, 45° & 90°	35.0	NO	YES	NO
QLL	MegaCrimp	-4 up to -12	straight, 45° & 90°	3.4	YES	OPTIONAL	YES

## SAVE TIME, MONEY AND MORE WITH GATES QUICK-LOK. STAY CONNECTED

Change the way you connect. Invest in what really counts. Get in touch with our application engineering team today to find out more about Quick-Lok and for advice about your optimum, business-focused connectivity solution.







**SEE [GATES.COM](https://www.gates.com) FOR ADDITIONAL  
PRODUCTS FROM GATES**

**GATES CORPORATION**  
1144 15TH STREET, SUITE 1400  
DENVER, CO 80202  
(303) 744-5070

---

THE MANUFACTURER RESERVES THE RIGHT TO AMEND DETAILS WHERE NECESSARY.  
© GATES 2024

**GATES.COM**