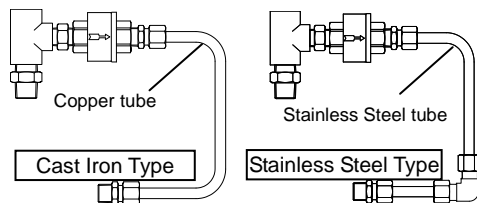




# Installation Manual

## PowerTrap GT5C

### Steam Trap Set for Motive Line



Note: Connection thread type is Rc(PT).

### Safety Considerations

- Read this section carefully before use and be sure to follow the instructions.
- Installation, inspection, maintenance, repairs, disassembly, adjustment and valve opening/closing should be carried out only by trained maintenance personnel.
- The precautions listed in this manual are designed to ensure safety and prevent equipment damage and personal injury.
- The cautionary items are very important for safety: be sure to observe all of them as they relate to installation, use, maintenance, and repair. Furthermore, TLV accepts no responsibility for any accidents or damage occurring as a result of failure to observe these precautions.

**Symbol** Indicates that there is a possibility of injury or equipment / product damage

	<p><b>Install properly and DO NOT use this product outside the recommended operating pressure, temperature and other specification ranges.</b> Improper use may result in such hazards as damage to the product or malfunctions that may lead to serious accidents. Local regulations may restrict the use of this product to below the conditions quoted.</p>
	<p><b>Take measures to prevent people from coming into direct contact with product outlets.</b> Failure to do so may result in burns or other injury from the discharge of fluids.</p>
	<p><b>When disassembling or removing the product, wait until the internal pressure equals atmospheric pressure and the surface of the product has cooled to room temperature.</b> Disassembling or removing the product when it is hot or under pressure may lead to discharge of fluids, causing burns, other injuries or damage.</p>
	<p><b>NEVER attempt to modify the product in any way. (Replacement parts are not supplied individually. Replace as a set.)</b> Failure to observe these precautions may result in damage to the product and burns or other injury due to malfunction or the discharge of fluids.</p>

### Specifications

Steam Trap	TLV 10 mm (3/8 in) LV21-C (X-element: C22 type)
Maximum Allowable Pressure (PMA)*	1.0 MPaG (150 psig)
Maximum Allowable Temperature (TMA)*	220 °C (428 °F)
Maximum Operating Pressure (PMO)	0.5 MPaG (75 psig)
Maximum Operating Temperature (TMO)	185 °C (365 °F)
Applicable Fluids	Saturated Steam

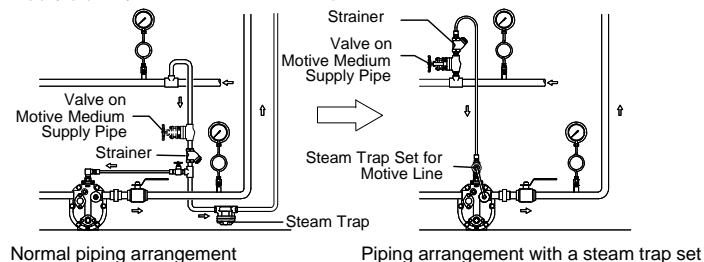
(1 MPa ≈ 10.197 kg/cm<sup>2</sup>)

The same specifications apply to both cast iron and stainless steel types.

\* Maximum Allowable Pressure (PMA) and Maximum Allowable Temperature (TMA) are PRESSURE SHELL DESIGN CONDITIONS, **NOT** OPERATING CONDITIONS.

### General Description

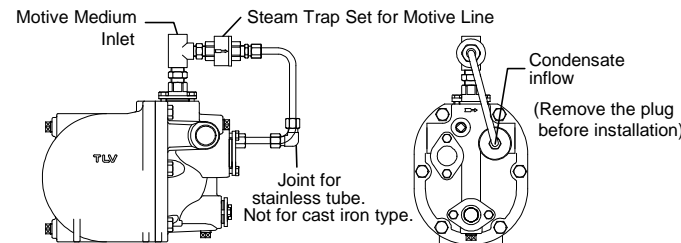
This product is a steam trap set designed to ease installation of the motive medium supply pipe for the GT5C. Stable operation of the GT5C can be obtained due to smooth condensate removal from the motive medium supply pipe by the LV21-C steam trap.



### Installation & Operational Consideration

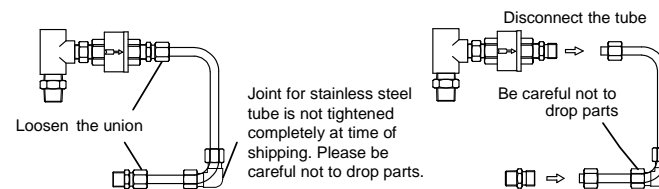
	<p><b>Before installing the product, blow out the piping to remove any piping scraps, dirt, oil and scale.</b> Failure to do so may lead to early clogging due to an initial heavy load of foreign material in the piping.</p>
	<p><b>Do not remove the product from its box or protective covering until just prior to installation.</b> The protective covers keep damage causing foreign material out of the product.</p>

- After the product is installed, it will look like the figure shown below. Installation, removal, or disassembly should be carried out by trained personnel.  
**The product is available for cast iron or stainless steel types depending on the material used for the PowerTrap GT5C. The joint for lower part of the tube is not available for the cast iron type.**



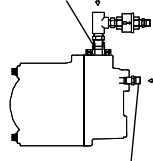
### Installation procedure

1. Some parts for this product are not tightened completely at the time of shipment in order to avoid damage to the product during transportation. **Spread a work cloth or a sheet on the floor before installation in order to prevent dropping and losing parts.** Then remove the product from the package and loosen the union joint for the tube to disconnect the tube.

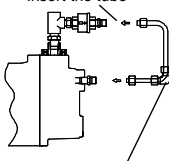


- After the tube is removed, install the rest of the parts on to the GT5C. Once the installation is done, connect the tube again. **When you cannot insert the tube smoothly, try starting over again from the beginning instead of forcing the tube.** Over tightening threads may result in damage to the joint union. Wrap threads with sealing tape or apply sealing compound.

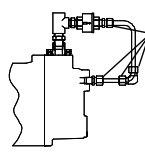
Connect to the motive medium inlet  
Tightening torque: 30 N·m



Insert the tube



Tighten the union  
Tightening torque:  
20 N·m (cast iron type)  
40 N·m (stainless steel type)



Connect to the condensate inflow port  
Tightening torque:  
20 N·m (cast iron type)  
40 N·m (stainless steel type)

Joint for stainless steel tube is not tightened completely at time of shipping  
Please be careful not to drop parts.

(1 N·m ≈ 10 kg·cm)



**Using appropriate tools, make sure that the union joint has been tightened properly.**  
Improper tightening may lead to steam leakage, resulting in burns or other injury.

- Double check to make sure that the union joints for tubes are firmly tightened.  
**If the union is not firmly tightened, there is a chance that the tube may come off, resulting steam blow. Make sure to check the tightening with a suitable tool.**

#### Other precautions

After the product is installed on the GT5C, carry out the installation for the motive medium supply line and other pipes by following the instruction manual for the GT5C.

In places where people have a chance of coming into direct contact with the GT5C or its tubes, equipment should be insulated or guarded by a fence or other such barrier.

Test operation or steam supply testing should be carried out by trained personnel.

The LV21-C steam trap is the only moving part of the product; however repair or replacement is only available for the product as a set.

If the customer disassembles or cleans the LV21-C only, the product will no longer be covered by the warranty. In such a case, please contact TLV for the LV21-C instruction manual.

#### Removal procedure

When you remove or disassemble the product, perform the reverse process of the installation procedure. Shut off all inlet and outlet valves for the GT5C including the motive medium supply line in order to reduce the internal pressure. Make sure that the piping and the GT5C have cooled down completely before you carry out the work.

In addition, make sure to loosen any connection parts, plugs, etc. slowly (to avoid sudden internal pressure blow due to remaining pressure).

## TLV EXPRESS LIMITED WARRANTY

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#### Exceptions to Warranty

This warranty does not cover defects or failures caused by:

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- dirt, scale or rust, etc.; or
- improper disassembly and reassembly, or inadequate inspection and maintenance by persons other than TLV or TLV group company personnel, or service representatives authorized by TLV; or

- disasters or forces of nature or Acts of God; or
- abuse, abnormal use, accidents or any other cause beyond the control of TLV, TII or TLV group companies; or
- improper storage, maintenance or repair; or
- operation of the Products not in accordance with instructions issued with the Products or with accepted industry practices; or
- use for a purpose or in a manner for which the Products were not intended; or
- use of the Products in a manner inconsistent with the Specifications; or
- use of the Products with Hazardous Fluids (fluids other than steam, air, water, nitrogen, carbon dioxide and inert gases (helium, neon, argon, krypton, xenon and radon)); or
- failure to follow the instructions contained in the TLV Instruction Manual for the Product.

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This warranty is effective for a period of one (1) year after delivery of Products to the first end user. Notwithstanding the foregoing, asserting a claim under this warranty must be brought within three (3) years after the date of delivery to the initial buyer if not sold initially to the first end user.

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## Service

For Service or Technical Assistance: Contact your TLV representative or your regional TLV office.  
See [tlv.com](http://tlv.com) for full contact information for TLV offices and distributors.

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