






KOIL-KIT™ Coil Pack – Series 799, Series 79V with ATC Valve, Series 79B with Bypass, and Series 79A with Bypass and ATC Valve

⚠ WARNING

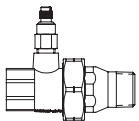
- Read and understand all instructions before attempting to install any Victaulic products.
- Always verify that the piping system has been completely depressurized and drained immediately prior to installation, removal, adjustment, or maintenance of any Victaulic products.
- Confirm that any equipment, branch lines, or sections of piping that may have been isolated for/during testing or due to valve closures/positioning are identified, depressurized, and drained immediately prior to installation, removal, adjustment, or maintenance of any Victaulic products.
- Wear safety glasses, hardhat, and foot protection.

Failure to follow these instructions could result in death or serious personal injury and property damage.

RECEIVING THE SHIPMENT

Victaulic® KOIL-KIT™ Coil Packs are a pre-packaged and labeled system designed to improve efficiency of hooking up HVAC coils. Upon receipt of the shipment, verify that the kit is the correct one for the coil being installed. If any components are damaged or missing, contact Victaulic.

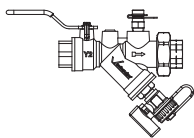
Union Port Fitting with Air Vent



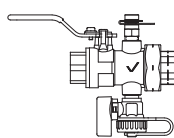
The Series 78U Union Port Fitting with Air Vent can be supplied to accommodate up to a three-size reduction. Connections can be configured, as listed below:

- Sweat x Sweat Union (Two Size Reductions)
- Sweat x Female Thread Union (Two Size Reductions)
- Sweat x Male Thread Union (Three Size Reductions)
- Female Thread x Sweat Union (Two Size Reductions)
- Female Thread x Female Thread Union (Two Size Reductions)
- Female Thread x Male Thread Union (Three Size Reductions)
- QuickVic™ SD x Female Thread Union (Two Size Reductions)
- QuickVic™ SD x Sweat Union (Two Size Reductions)
- QuickVic™ SD x Male Thread Union (Three Size Reductions)

“Y” Strainer/Ball Valve Combination or “T” Ball Valve



SERIES 78Y

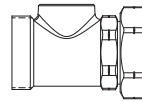


SERIES 78T

The Series 78Y Strainer/Ball Valve Combination or Series 78T Ball Valve can accommodate up to a two-size reduction from inlet to outlet. Connections can be configured, as listed below:

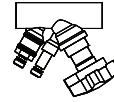
- Sweat x Sweat Union (Two Size Reductions)
- Sweat x Female Thread Union (Two Size Reductions)
- Sweat x Male Thread Union (Three Size Reductions)
- Female Thread x Sweat Union (Two Size Reductions)
- Female Thread x Female Thread Union (Two Size Reductions)
- Female Thread x Male Thread Union (Three Size Reductions)
- QuickVic™ SD x Female Thread Union (Two Size Reductions)
- QuickVic™ SD x Sweat Union (Two Size Reductions)
- QuickVic™ SD x Male Thread Union (Three Size Reductions)

Bypass Tee Option

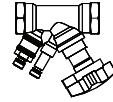


The Bypass Tee option connects to the Series 78Y Strainer/Ball Valve Combination or Series 78T Ball Valve for hookup of the Series 79B KOIL-KIT™ Coil Pack with Bypass or Series 79A KOIL-KIT™ Coil Pack with Bypass and ATC Valve.

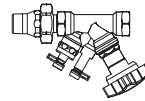
Balancing Valves



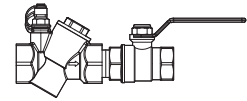
Series 786H Balancing Valve
(Victaulic Publication 08.16)



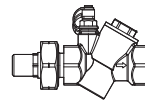
Series 787H Balancing Valve
(Victaulic Publication 08.16)



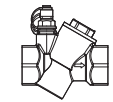
Series 78KH Balancing Valve
(Victaulic Publication 08.16)



Series 76B Automatic Balancing Valve
(Victaulic Publication 08.34)



Series 76K Automatic Balancing Valve
(Victaulic Publication 08.34)



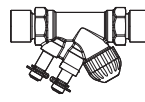
Series 76T Automatic Balancing Valve
(Victaulic Publication 08.34)



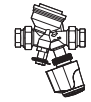
Series 76V Automatic Balancing Valve
(Victaulic Publication 08.34)



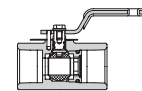
Series 7FP Pressure-Independent Combined
Balancing and Control Valve with Independent
EQM (Equal Percentage Value) Characteristics
(Victaulic Publication 08.53)



Series TC/TCM TBV Terminal Balancing
and Control Valves
(Victaulic Publication 08.38)



Series 7CP/7MP Pressure Independent
Balancing and Control Valves
(Victaulic Publications 08.37 and 08.55)



TA Series 78BL Balancing Ball Valve
(Victaulic Publication 08.64)

Manual or Automatic Air Bleed Valve

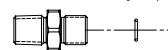
The manual or automatic air bleed valve is rated to 250 psi/17 Bar and provides a means of bleeding off trapped air when used with the Series 78U Union Port Fitting, Series 78Y Strainer/Ball Valve Combination, Series 78T Ball Valve, or Series 78K Balancing Valve.

Coil Hoses

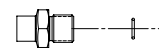
Coil hoses are available in 1-foot/0.3-meter, 2-foot/0.6-meter, or 3-foot/0.9-meter lengths for connecting to the inlet and outlet of the coil and are available with the following union ends:



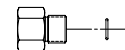
Fixed Male x Female Union End. (One of these adapters will be provided for each hose assembly depending on customer requirements.)



Fixed Male x Male Union End Adapter
with O-Ring



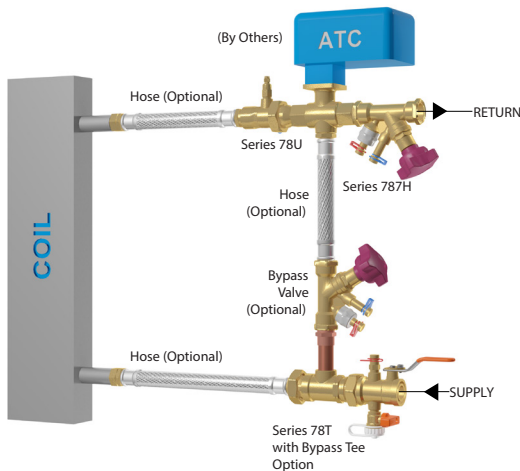
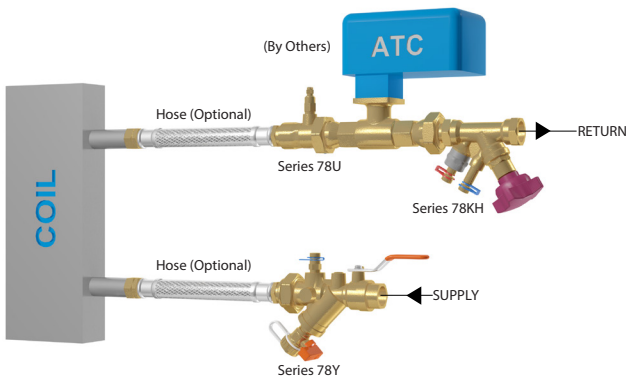
Fixed Male x Sweat Adapter
with O-Ring




Fixed Male x Female Union End with Adapter
with O-Ring

EXAMPLE COIL COMPONENT ASSEMBLY DRAWING

NOTE: THE FIGURES SHOWN BELOW ARE FOR REFERENCE ONLY AND ILLUSTRATE TYPICAL 2-WAY AND 3-WAY CONFIGURATIONS.



SWEAT CONNECTIONS

**CAUTION**

- Valves shall be in the fully-open position before attempting to solder the ends.

Soldering a valve in the closed or partially-open position may cause damage to internal components, resulting in valve leakage and property damage.

Verify that the valve is installed in the correct direction of flow (refer to applicable flow direction arrow on the valve body) and that the valve is in the fully-open position before attempting to solder the ends. Connections shall be soft soldered with 95/5 (95% tin, 5% antimony) type solder. The valve body shall be heat sunked with a wet cloth or putty at the closest joint to protect internal components, and the flame shall be directed away from the center of the valve body. DO NOT exceed the temperature rating of the valve (250°F/121°C). Valve bodies shall be allowed to cool to room temperature before attempting operation. For sweat union tailpieces and sweat coil hose adapters, remove from valve body/coil hose assembly before soldering to minimize any potential damage.

THREADED CONNECTIONS

Verify that all threaded connections are clean and free of any burrs. Apply PTFE thread sealant tape or pipe dope to the external threads of all threaded pipe connections. DO NOT get any tape, dope, or other foreign material into the flow path. For threaded connections to coil hoses, refer to the “Coil Hose Installation” section on the following page.

UNION-TYPE ADAPTERS/CONNECTIONS

The o-rings in union-type adapters/connections shall be lubricated with a compatible lubricant to help prevent the o-ring from pinching or tearing during installation. Refer to the “Lubricant Compatibility for Gaskets” table below. Tighten union-type adapters/connections hand-tight, then apply an additional quarter turn. DO NOT over-tighten the connection.

Lubricant Compatibility for Gaskets

The following recommendations are for the gasket materials listed. Commercial lubricants may contain multiple ingredients. Always refer to the lubricant manufacturer’s recommendations for material compatibility.

| | Victaulic Lubricant | Soap- Based Solutions | Glycerin | Silicone Grease | Silicone Spray | Corn Oil | Soybean Oil | Hydrocarbon- Based Oils | Petroleum- Based Greases |
|-------------------------------------|------------------------|-----------------------------|----------|--------------------|--------------------|--------------------|--------------------|-------------------------------|--------------------------------|
| Compatible with EPDM Gaskets? | Yes | Yes | Yes | Yes | Not Recommended | Not Recommended | Not Recommended | Not Recommended | Not Recommended |

COIL COMPONENT INSTALLATION

1. Connect the supply side of the Series 78Y Strainer/Ball Valve Combination or Series 78T Ball Valve to the supply pipe via standard threading or sweating practices, as described previously. Verify that the applicable flow direction arrow on the valve body is facing the direction of flow and that the valve body is rotated to the desired position.
NOTE: For effective operation, air vents shall be positioned at the highest possible location and shall point upward.

- When installing a Victaulic® QuickVic™ SD connection, refer to the I-P100 Field Installation Handbook for Style P07 Coupling installation instructions. The I-P100 can be downloaded by scanning this QR code.



2. If using coil hoses, attach the provided adapter to the coil first. Connect the coil hose to the Series 78Y or Series 78T outlet union joint. Verify that the o-ring is in place on the Series 78Y or Series 78T body. Apply a thin coat of Victaulic Lubricant or silicone to the o-ring. Refer to the “Coil Hose Installation” section for details on bend radius specifications and additional installation requirements.

3. Connect the outlet of the balancing valve to the return pipe via standard threading or sweating practices. **NOTE:** In order to obtain accurate differential pressure measurements, straight pipe lengths shall be installed before and after measurement points. Refer to the installation instructions supplied with the applicable valve.

4. Connect the coil hose (if applicable) to the inlet of the Series 78U Union Port Fitting.

NOTICE

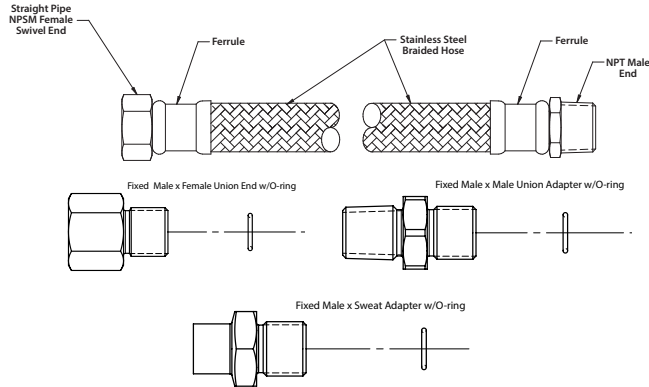
- Generally, between the male union outlet of the Series 78U and the inlet of the balancing valve, there is a customer-specified Automatic Temperature Control (ATC) Valve.
- Verify that the ATC valve covers the correct inlet and outlet sizes. Cutout lengths, etc. will need to be determined on a case-by-case basis, depending on the type of ATC valve being installed.
- If ATC valves are sent to Victaulic for inclusion in kits, verify that the appropriate ATC valve is installed for the particular hook-up to ensure proper design flows and performance.
- Refer to the instructions supplied with the ATC valve for complete installation and maintenance requirements.

COIL HOSE INSTALLATION

CAUTION

- DO NOT introduce chemicals into the system without verifying compatibility with the EPDM material of the coil hoses.

Failure to follow this instruction could cause damage to the coil hose, resulting in property damage.

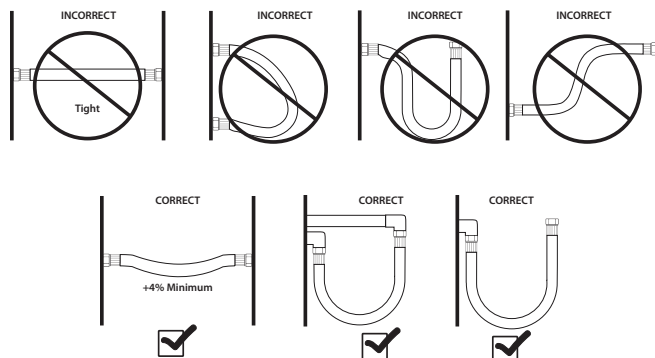


| Size Nominal ID inches | Inlet Options – inches | | Minimum Bend Radius inches/mm | Maximum Working Pressure psi/Bar |
|------------------------------|------------------------|--------------------------------|--|---|
| | Male End Thread | Female NPSM Swivel Union | | |
| 1/2 | x 1/2 NPT | 1/2 | 2 5/8 67 | 375 26 |
| 3/4 | x 3/4 NPT | 3/4 | 4 1/2 114 | 300 21 |
| 1 | x 1 NPT | 1 | 5 1/2 140 | 300 21 |
| 1 1/4 | x 1 1/4 NPT | 1 1/4 | 6 3/4 172 | 225 16 |
| 1 1/2 | x 1 1/2 NPT | 1 1/2 | 8 3/8 213 | 150 10 |
| 2 | x 2 NPT | 2 | 11 1/4 286 | 150 10 |

Coil hoses are intended for liquid applications only. DO NOT attempt to use coil hoses in gas/air applications.

Coil hoses can change in length approximately 4% when pressurized. Allowance shall be given to accommodate for this change in length; therefore, coil hoses shall not be stretched tightly between the coil and mating component.

Refer to the following graphics for examples of correct and incorrect bend configurations. If the minimum bend radius, specified in the table above, falls below the dimension listed for the applicable coil hose size, an angle adapter shall be used to avoid sharp bends.



NOTE: Failure to follow the minimum bend radius requirements can cause increased pressure drop and damage to the coil hose. If coil hoses are stored or installed at temperatures of 40°F/4°C or lower, the bend radius shall be increased by 50%. Use caution to prevent the coil hose from collapsing. The following table contains the minimum distance requirement from each ferrule to the start of the bend. This table shall be referenced to prevent the coil hose from being bent too close to the ferrules.

| Size Nominal ID inches | Minimum Distance from Each Ferrule to Start of Bend inches/mm |
|---------------------------|--|
| 1/2 | 1 25 |
| 3/4 | 1 1/2 38 |
| 1 | 2 51 |
| 1 1/4 | 2 1/2 64 |
| 1 1/2 | 3 76 |
| 2 | 4 102 |

Replacement Hose Adapters and O-Rings

| Size inches | Male Adapter Part Codes | Female Adapter Part Codes | Sweat Adapter Part Codes | O-Ring Part Codes* |
|----------------|-------------------------------|---------------------------------|--------------------------------|-----------------------|
| 1/2 | P004799MOR | P004799FOR | P004799SOR | K004799HOR |
| 3/4 | P006799MOR | P006799FOR | P006799SOR | K006799HOR |
| 1 | P010799MOR | P010799FOR | P010799SOR | K010799HOR |
| 1 1/4 | P012799MOR | P012799FOR | P012799SOR | K012799HOR |
| 1 1/2 | P014799MOR | P014799FOR | P014799SOR | K014799HOR |
| 2 | P020799MOR | P020799FOR | P020799SOR | K020799HOR |

* Sold in bags of 10

FOR COIL HOSE ASSEMBLIES WITH MALE OR FEMALE ADAPTERS:

Apply PTFE thread sealant tape or pipe dope to the male threads of the adapter or to the male threads going into the female adapter. DO NOT get any tape, dope, or other foreign material into the flow path.

FOR CONNECTING TO FEMALE NPSM SWIVEL UNIONS OF COIL HOSES:

DO NOT use PTFE thread sealant tape or pipe dope on any male threads connecting into the female NPSM swivel union. Tape or dope may prevent proper tightening of the threaded connection, resulting in reduced seal compression. Always verify that the O-Ring seal in the adapter is in place and is in good condition before attempting to make the connection.

FOR COIL HOSE ASSEMBLIES USING THE SWEAT ADAPTER:

Unthread the coil hose prior to soldering.

To prevent damage to the connections, torque during assembly shall not exceed hand-tight plus a quarter turn. The wrench shall engage only the hex portion of the coil hose ends. **NOTE:** Over-tightening of threaded connections may result in leakage.

After the system is pressurized, check the coil hoses on the stainless steel braided section or connections for leaks or any discoloration caused by dried leaks. If leaks are present, replace the affected coil hose(s). DO NOT attempt to repair coil hoses.

MAINTENANCE

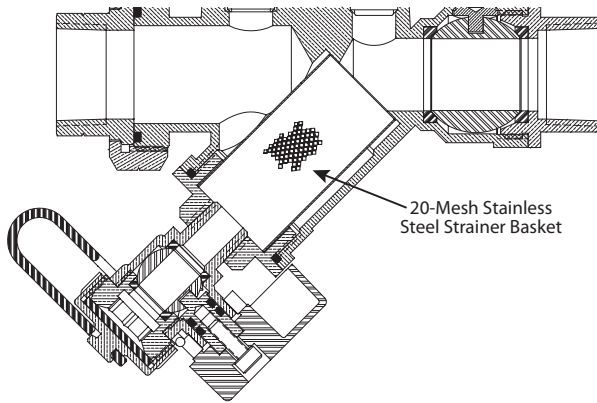
WARNING



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A 20-mesh stainless steel strainer basket is included in the body of the Series 78Y Strainer/Ball Valve Combination and shall be inspected and cleaned after system startup.

Victaulic recommends blowing down the valve every 6 months. If there is an increase in pressure drop, the 20-mesh stainless steel strainer basket may need to be cleaned. To access the strainer basket, remove the drain valve adapter from the valve body. Clean out the strainer basket and reinstall it into the valve body in the same orientation. Replace the strainer basket or o-ring of the drain valve adapter with new, Victaulic-supplied components if damage is present.

Replacement Strainer Baskets

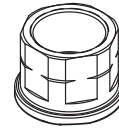
| Valve Size Inches | Series 78Y Strainer Basket Part Codes |
|-------------------|---------------------------------------|
| 1/2 | P00478YSTN |
| 3/4 - 1 | P00678YSTN |
| 1 1/4 - 1 1/2 | P01278YSTN |
| 2 | P02078YSTN |

Replacement O-Rings

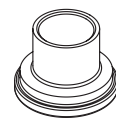
| Valve Size Inches | Series 78Y, 78T, 78U, 78KH, and 76V End-Face O-Ring Part Codes* | Series 78Y Strainer O-Ring Part Codes* |
|-------------------|---|--|
| 1/2 | P004799ORG | G00478YGSK |
| 3/4 - 1 | P006799ORG | G00678YGSK |
| 1 1/4 - 1 1/2 | P012799ORG | G01278YGSK |
| 2 | P020799ORG | G02078YGSK |

* Sold in bags of 10

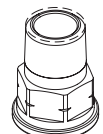
Optional Tailpieces



Female Tailpiece



Sweat Tailpiece




Male Tailpiece

| Nominal Size Inches | Female Tailpiece Part Code | Sweat Tailpiece Part Code | Male Tailpiece Part Code |
|---------------------|----------------------------|---------------------------|--------------------------|
| 1/2 x 1/2 | P-004-78Y-304 | P-004-78Y-504 | P-004-78U-404 |
| 3/4 x 1/2 | P-006-78Y-304 | P-006-78Y-504 | P-006-78U-404 |
| | 3/4 | P-006-78Y-506 | P-006-78U-406 |
| 1 x 1/2 | P-006-78Y-304 | P-006-78Y-504 | P-006-78U-404 |
| | 3/4 | P-006-78Y-506 | P-006-78U-406 |
| | 1 | P-006-78Y-510 | P-006-78U-410 |
| 1 1/4 x 1/2 | - | - | P-012-78U-404 |
| | 3/4 | P-012-78Y-506 | P-012-78U-406 |
| | 1 | P-012-78Y-510 | P-012-78U-410 |
| | 1 1/4 | P-012-78Y-512 | P-012-78U-412 |
| 1 1/2 x 1/2 | - | - | P-012-78U-404 |
| | 3/4 | P-012-78Y-506 | P-012-78U-406 |
| | 1 | P-012-78Y-510 | P-012-78U-410 |
| | 1 1/4 | P-012-78Y-512 | P-012-78U-412 |
| | 1 1/2 | P-012-78Y-514 | P-012-78U-414 |
| 2 x 1 | - | - | P-012-78U-410 |
| | 1 1/4 | P-020-78Y-512 | P-020-78U-412 |
| | 1 1/2 | P-020-78Y-514 | P-020-78U-414 |
| | 2 | P-020-78Y-520 | P-020-78U-420 |

PRE-SETTING, BALANCING, AND MEASURING

Refer to the applicable installation and setting instructions for the valve supplied with the KOIL-KIT™ Coil Pack.

REPLACEMENT PART INFORMATION

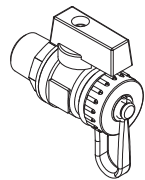


WARNING

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- Confirm that any equipment, branch lines, or sections of piping that may have been isolated for/during testing or due to valve closures/positioning are identified, depressurized, and drained immediately prior to installation, removal, adjustment, or maintenance of any Victaulic products.

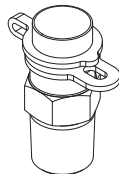
Failure to follow this instruction could result in death or serious personal injury and property damage.

The following parts are sold separately through Victaulic for KOIL-KIT™ Coil Packs. Contact Victaulic with any order requests or questions regarding these parts.



Hose-End Drain Assembly for Series 78Y Strainer/Ball Valve Combination or Series 78T Ball Valve (Part Number P-002-78Y-DRN for 1/4-inch NPT or P-004-78Y-DRN for 1/2-inch NPT)

The hose-end drain assembly is field-replaceable. Remove the existing hose-end drain assembly from the drain valve adapter, and thread the new assembly into the adapter. Use PTFE thread sealant tape or pipe dope on the male threads that connect to the Series 78Y or 78T.



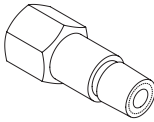
PT Ports for Series 78Y Strainer/Ball Valve Combination, Series 78T Ball Valve, Series 78U Union Port Fitting with Air Bleed, or Series 786/787/78K Balancing Valves (Part Number P-002-78Y-PTP for 78Y/78T/78U or K-000-740-003 for 786/787/78K)

The PT ports are field-replaceable. Remove the existing PT port(s), and thread the new port(s) into the valve body. For Series 78Y/78T/78U: Use PTFE thread sealant tape or pipe dope on the threads. For Series 786/787/78K: DO NOT use PTFE thread sealant tape or pipe dope on the threads.



Air Vent for Series 78Y Strainer/Ball Valve Combination, Series 78T Ball Valve, Series 78U Union Port Fitting with Air Bleed (Part Number P-002-78U-MAV)

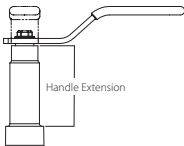
The air vents are field-replaceable. Remove the existing air vent, and thread the new air vent into the valve body. Use PTFE thread sealant tape or pipe dope on the threads.



Port Extender for Series 78Y Strainer/Ball Valve Combination, Series 78T Ball Valve, or Series 78U Union Port Fitting with Air Bleed

2-inch/51-mm Length (Part Number P-012-78Y-2XT)
4-inch/102-mm Length (Part Number P-043-78Y-4XT)

In applications where KOIL-KIT™ Coil Pack components will be insulated, port extenders are available to extend the PT ports of the Series 78Y or 78T or the air vent of the Series 78U to provide clearance for 2 inches/51 mm or 4 inches/102 mm of insulation. Thread the port extender into the existing PT ports or the existing air vent. Use PTFE thread sealant tape or pipe dope on the threads. **NOTE:** Depending on the configuration ordered, some KOIL-KIT™ Coil Packs may be supplied with this option factory installed.



Handle Extension for Series 78Y Strainer/Ball Valve Combination or Series 78T Ball Valve

| | Valve Inlet Size inches | Part Code for 2-inch/51-mm Handle Extension | Part Code for 4-inch/102-mm Handle Extension |
|-----|-------------------------|---|--|
| 78Y | 1/2 - 1 | P-004-78Y-2HL | P-004-78Y-4HL |
| | 1 1/4 - 1 1/2 | P-012-78Y-2HL | P-012-78Y-4HL |
| | 2 | P-020-78Y-2HL | P-020-78Y-4HL |
| 78T | 1/2 - 3/4 | P-004-78Y-2HL | P-004-78Y-4HL |
| | 1 - 1 1/2 | P-012-78Y-2HL | P-012-78Y-4HL |
| | 2 | P-020-78Y-2HL | P-020-78Y-4HL |

In applications where KOIL-KIT™ Coil Pack components will be insulated, the handle extension is available to extend the handle of the Series 78Y or Series 78T valves to provide clearance for 2 inches/51 mm or 4 inches/102 mm of insulation. Remove the hex washer-head screw from the handle assembly. Remove the handle assembly and install the handle extension. Re-install the handle assembly onto the handle extension by using the hex washer-head screw. **NOTE:** Depending on the configuration ordered, some KOIL-KIT™ Coil Packs may be supplied with this option factory-installed.

**KOIL-KIT™ Coil Pack – Series 799, Series 79V with ATC Valve,
Series 79B with Bypass, and Series 79A with Bypass and ATC Valve**

For complete contact information, visit victaulic.com

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