



Production Control Units, Inc.

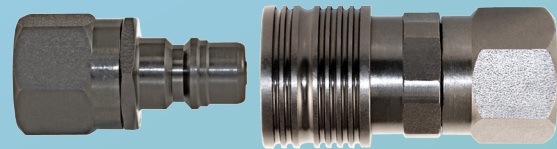
2280 West Dorothy Lane, Dayton, Ohio 45439-1892

Phone (937) 299-5594 FAX: (937) 299-4843

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SERVICE BULLETIN

for



Series 250 Two-Way Shutoff Valved Nipples and Couplers Models 76 and 77

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Production Control Units, Inc.-Coupler Products

2280 West Dorothy Lane, Dayton, Ohio 45439-1892 USA - Phone (937) 299-5594 - FAX: (937) 299-4843
PCU Web Site: www.pcuinc.com - E-mail: couplers@pcuinc.com

Coupler Application Data Inquiry

Company _____ Phone # _____

Contact _____ Fax # _____

Address _____ E-mail _____

City _____ State _____ Country _____ Zip _____

Type & brand name for current coupler _____

Customer product manufactured _____

Type of coupler required

Size and type of tube or port to be sealed _____

☐ Straight ☐ Swaged ☐ Expanded ☐ Other _____

Length of tube or port available for coupler _____

Quantity required _____

Delivery due date _____

How will the coupler be used?

Refrigerant processing

What type of refrigerant? (HFC-134a, HP62, R-22, etc.) _____

Oil processing

What type of oil (Mineral, Polyol Ester, PAG, etc.) _____ (Attach MSDS)

Leak Burst testing

Maximum pressure & type of test media? (Air, Helium, etc.) _____

Vacuum

What level of vacuum needs to be achieved? _____

What Oil be present during vacuum pump down? _____

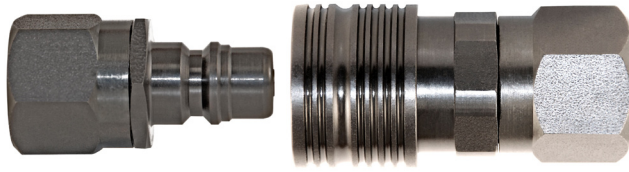
If "yes", what type of oil? _____

Additional process information

Along with your request for quote, please provide (1) copy of print showing area to be sealed, and (3) quality sample parts.

NOTE: The Data Inquiry form is available in pdf format on our web site at

www.PCUInc.com



GENERAL DESCRIPTION

Models 76 and 77 Series 250 is the same as Models 61 and 62 with the exception of the stem. Model 76 nipple stem is flush with the nipple body. Use Flush stem design to insure no loss of pressure by accidentally bumping stem during process. Any Series 250 Models 61 and 62 can be converted to Models 76 and 77 by just changing the stem (stem 77422 for coupler and stem 77424 for nipple).

These tough, compact, lightweight PCU couplers utilize heat-treated parts for interchangeability and long life oxide and nickel finishes resist corrosion. They provide a large, unrestricted flow rate for a variety of production uses while minimizing process material loss during coupling/uncoupling.

An eight (8) ball detent lock provides instant positive coupling. Simply pull back the grooved locking ring on the coupler, slide the coupler over the Nipple and push together until the lock ring snaps to it's "lock position".

Because of the unique design of the Series 250 Couplers and Nipple assemblies, they are able to be built using inexpensive O-ring seals which provide positive leak-tight shutoff. They will hold pressure from vacuum to 1000 psig.

COUPLER FEATURES & SPECIFICATIONS

SAFE: Positive ball-lock action prevents blow-off or premature loss of sealed connection.

STRONG: Holds pressures from 25 microns up to 1000 psig, minimum proof pressure 4000 psig.

MANY APPLICATIONS: Seal compounds can be easily changed for many uses with oils, refrigerants, water, air, and vacuum.

The standard Series 250 Coupler and Nipple assembly can be built with a variety of seal compounds to satisfy your application. Neoprene compound is generally used for R-22, R410, R404a and compressed air. Buna-N is generally used for HFC-134a with lubricants.

MAINTENANCE INSTRUCTIONS

Coupler life is dependent upon a regular scheduled maintenance program. The application and its risk potential should determine frequency. PCU cannot determine a maintenance schedule due to the many factors involved: temperature, proper size selection, fluid compatibility, pressure, mechanical loads, user responsibility. User must establish a maintenance program based on previous service life. There are several factors that must be included when setting up a maintenance program: visual inspection for cracked, defective parts and excessively worn components; dirt or particle buildup in seal and clamping areas; thorough cleaning and proper lubrication; replace worn out and defective seals.

SERIES 250 TWO-WAY SHUTOFF VALVED COUPLERS AND NIPPLES

The basic Series 250 Two-Way Shutoff Valved coupler, less end cap adapter, consists of thirteen parts and the basic Series 250 Two-way Shutoff Valved Nipple, less end cap adapter, consists of eight parts, both of which must be assembled in correct order to assure proper functioning of the unit. Although all units are tested in our plant at 1000 psig air and less than 50 microns vacuum, Production Control Units, Inc. cannot be responsible for any malfunction of the Series 250 Coupler or Nipple due to faulty servicing of the unit in the field by people other than PCU field engineers.

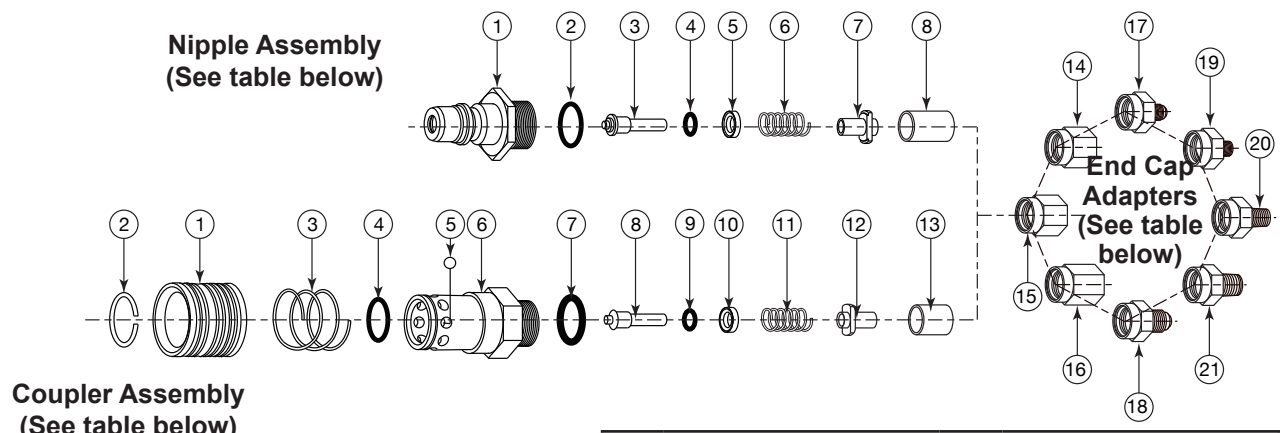
NEOPRENE SEALS

NIPPLE
ASSEMBLY

76111	76211	76311	76131	76231	76331	76221	76321
1/8" FPT ADAPTER	1/4" FPT ADAPTER	3/8" FPT ADAPTER	1/8" MPT ADAPTER	1/4" MPT ADAPTER	3/8" MPT ADAPTER	1/4" SAE FL ADAPTER	3/8" SAE FL ADAPTER

COUPLER
ASSEMBLY

77111	77211	77311	77131	77231	77331	77221	77321
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End Cap Adapters			
1.	61876 - 1/8" FPT	5.	61821 - 3/8" SAE FL
2.	61830 - 1/4" FPT	6.	61868 - 1/8" MPT
3.	61869 - 3/8" FPT	7.	61845 - 1/4" MPT
4.	61829 - 1/4" SAE FL	8.	61870 - 3/8" MPT

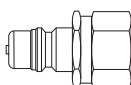
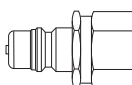
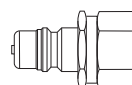
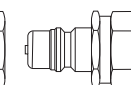
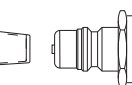
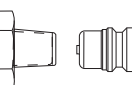
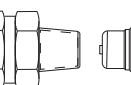
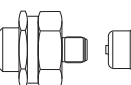
REPLACEMENT PARTS LIST

Nipple Assembly NEOPRENE SEALS		
1.	Nipple Body	61839
2.	End Cap O-Ring	61822
3.	Nipple Valve Stem	77424
4.	Valve O-Ring	61843
5.	O-Ring Retainer	61840
6.	Nipple Valve Spring	61804
7.	Perch	61825
8.	Nipple Spacer	61824

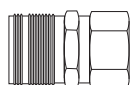
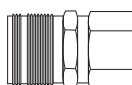
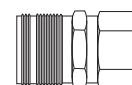
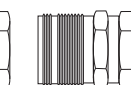
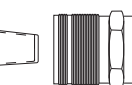
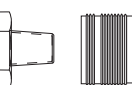
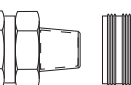

Coupler Assembly NEOPRENE SEALS		
1.	Coupler Sleeve	61831
2.	Retaining Ring	61832
3.	Coupler Sleeve Spring	61801
4.	O-Ring	61834
5.	Ball (8) Req'd	61833
6.	Coupler Body	61835
7.	End Cap O-Ring	61822
8.	Coupler Valve Stem	77422
9.	Valve O-Ring	61843
10.	O-Ring Retainer	61840
11.	Coupler Valve Spring	61802
12.	Perch	61825
13.	Coupler Spacer	61837

BUNA-N (NITRILE) SEALS

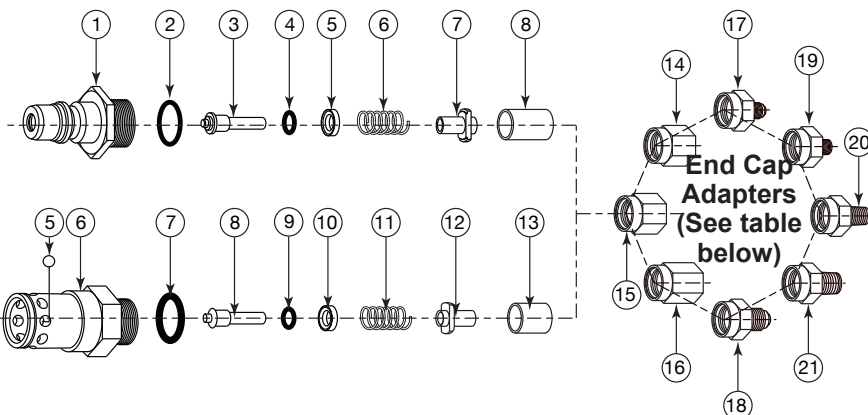
NIPPLE
ASSEMBLY

76112	76212	76312	76132	76232	76332	76222	76322
							
1/8" FPT ADAPTER	1/4" FPT ADAPTER	3/8" FPT ADAPTER	1/8" MPT ADAPTER	1/4" MPT ADAPTER	3/8" MPT ADAPTER	1/4" SAE FL ADAPTER	3/8" SAE FL ADAPTER

COUPLER
ASSEMBLY

77112	77212	77312	77132	77232	77332	77222	77322
							

Nipple Assembly
(See table below)



Coupler Assembly
(See table below)

End Cap Adapters

1. 61876 - 1/8" FPT	5. 61821 - 3/8" SAE FL
2. 61830 - 1/4" FPT	6. 61868 - 1/8" MPT
3. 61869 - 3/8" FPT	7. 61845 - 1/4" MPT
4. 61829 - 1/4" SAE FL	8. 61870 - 3/8" MPT

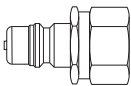
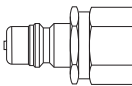
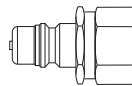
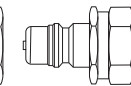
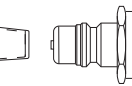
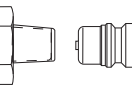
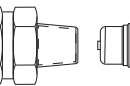
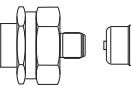
REPLACEMENT PARTS LIST

Nipple Assembly BUNA-N (NITRILE) SEALS		
1.	Nipple Body	61839
2.	End Cap O-Ring	61846
3.	Nipple Valve Stem	77424
4.	Valve O-Ring	61847
5.	O-Ring Retainer	61840
6.	Nipple Valve Spring	61804
7.	Perch	61825
8.	Nipple Spacer	61824

Coupler Assembly BUNA-N (NITRILE) SEALS		
1.	Coupler Sleeve	61831
2.	Retaining Ring	61832
3.	Coupler Sleeve Spring	61801
4.	O-Ring	61848
5.	Ball (8) Req'd	61833
6.	Coupler Body	61835
7.	End Cap O-Ring	61846
8.	Coupler Valve Stem	77422
9.	Valve O-Ring	61847
10.	O-Ring Retainer	61840
11.	Coupler Valve Spring	61802
12.	Perch	61825
13.	Coupler Spacer	61837

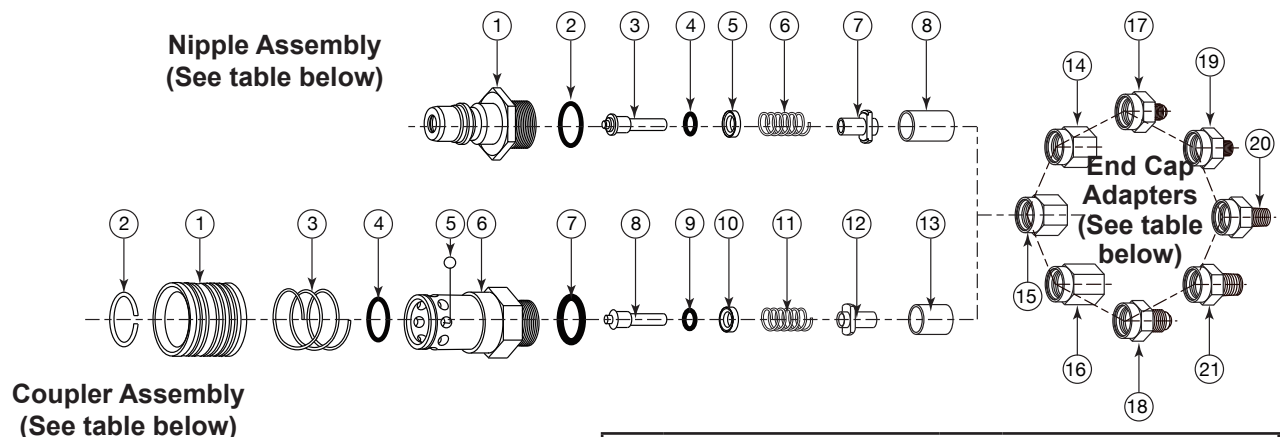
FLUOROCARBON SEALS

NIPPLE
ASSEMBLY

76113	76213	76313	76133	76233	76333	76223	76323
							
1/8" FPT ADAPTER	1/4" FPT ADAPTER	3/8" FPT ADAPTER	1/8" MPT ADAPTER	1/4" MPT ADAPTER	3/8" MPT ADAPTER	1/4" SAE FL ADAPTER	3/8" SAE FL ADAPTER

COUPLER
ASSEMBLY

77113	77213	77313	77133	77233	77333	77223	77323
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End Cap Adapters			
1.	61876 - 1/8" FPT	5.	61821 - 3/8" SAE FL
2.	61830 - 1/4" FPT	6.	61868 - 1/8" MPT
3.	61869 - 3/8" FPT	7.	61845 - 1/4" MPT
4.	61829 - 1/4" SAE FL	8.	61870 - 3/8" MPT

REPLACEMENT PARTS LIST

Nipple Assembly FLUOROCARBON SEALS		
1.	Nipple Body	61839
2.	End Cap O-Ring	61852
3.	Nipple Valve Stem	77424
4.	Valve O-Ring	61853
5.	O-Ring Retainer	61840
6.	Nipple Valve Spring	61804
7.	Perch	61825
8.	Nipple Spacer	61824

Coupler Assembly FLUOROCARBON SEALS		
1.	Coupler Sleeve	61831
2.	Retaining Ring	61832
3.	Coupler Sleeve Spring	61801
4.	O-Ring	61854
5.	Ball (8) Req'd	61833
6.	Coupler Body	61835
7.	End Cap O-Ring	61852
8.	Coupler Valve Stem	77422
9.	Valve O-Ring	61853
10.	O-Ring Retainer	61840
11.	Coupler Valve Spring	61802
12.	Perch	61825
13.	Coupler Spacer	61837

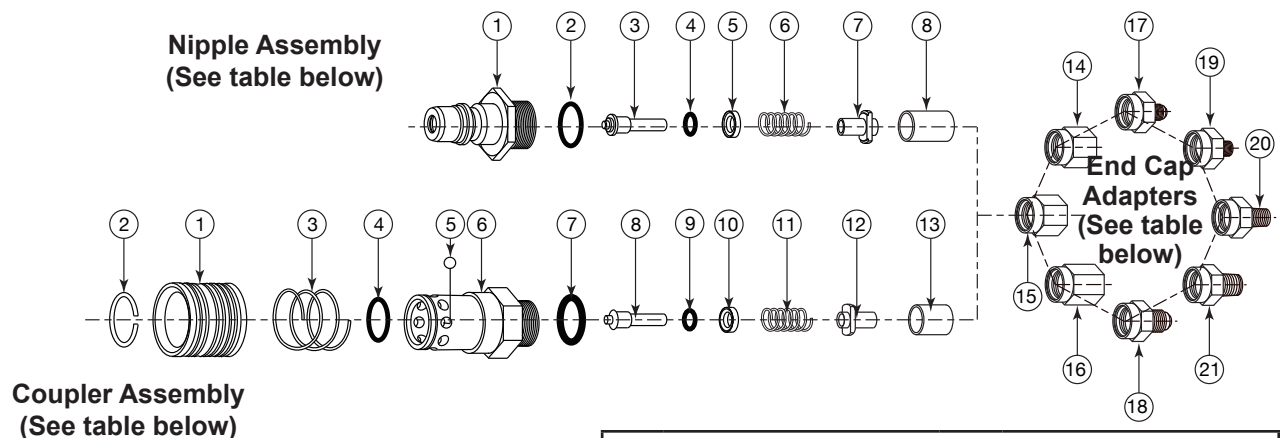
R410a (NEOPRENE) SEALS

NIPPLE
ASSEMBLY

76115	76215	76315	76135	76235	76335	76225	76325
1/8" FPT ADAPTER	1/4" FPT ADAPTER	3/8" FPT ADAPTER	1/8" MPT ADAPTER	1/4" MPT ADAPTER	3/8" MPT ADAPTER	1/4" SAE FL ADAPTER	3/8" SAE FL ADAPTER

COUPLER
ASSEMBLY

77115	77215	77315	77135	77235	77335	77225	77325
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End Cap Adapters

1. 61876 - 1/8" FPT	5. 61821 - 3/8" SAE FL
2. 61830 - 1/4" FPT	6. 61868 - 1/8" MPT
3. 61869 - 3/8" FPT	7. 61845 - 1/4" MPT
4. 61829 - 1/4" SAE FL	8. 61870 - 3/8" MPT

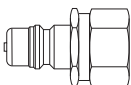
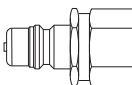
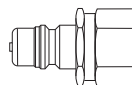
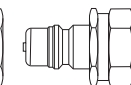
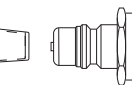
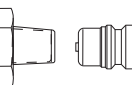
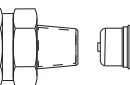
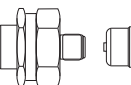
REPLACEMENT PARTS LIST

Nipple Assembly NEOPRENE SEALS		
1.	Nipple Body	61839
2.	End Cap O-Ring	61822
3.	Nipple Valve Stem	77424
4.	Valve O-Ring	OR010-C1278
5.	O-Ring Retainer	61840
6.	Nipple Valve Spring	61804
7.	Perch	61825
8.	Nipple Spacer	61824

Coupler Assembly NEOPRENE SEALS		
1.	Coupler Sleeve	61831
2.	Retaining Ring	61832
3.	Coupler Sleeve Spring	61801
4.	O-Ring	OR113-C1278
5.	Ball (8) Req'd	61833
6.	Coupler Body	61835
7.	End Cap O-Ring	61822
8.	Coupler Valve Stem	77422
9.	Valve O-Ring	OR010-C1278
10.	O-Ring Retainer	61840
11.	Coupler Valve Spring	61802
12.	Perch	61825
13.	Coupler Spacer	61837

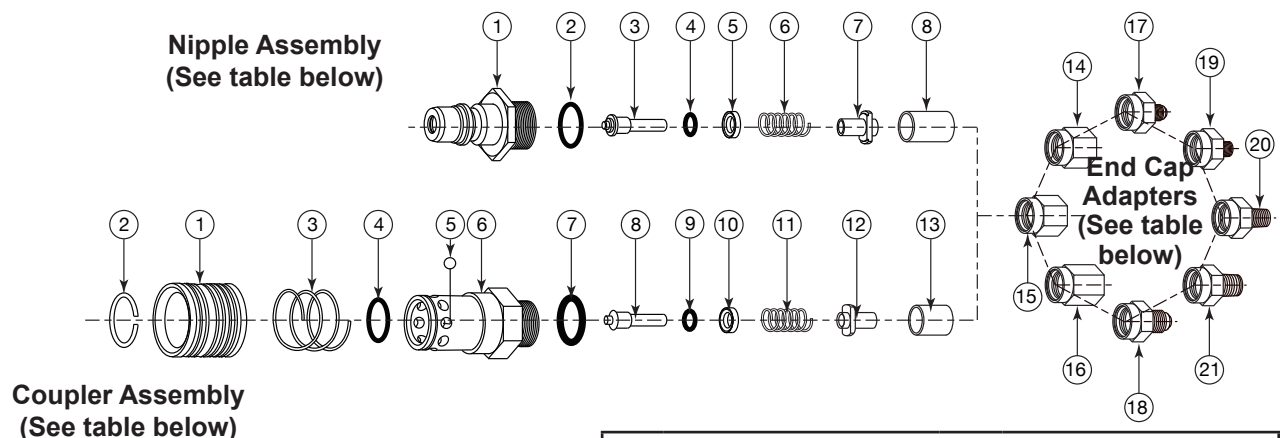
EPDM SEALS

NIPPLE
ASSEMBLY

76116	76216	76316	76136	76236	76336	76226	76326
							
1/8" FPT ADAPTER	1/4" FPT ADAPTER	3/8" FPT ADAPTER	1/8" MPT ADAPTER	1/4" MPT ADAPTER	3/8" MPT ADAPTER	1/4" SAE FL ADAPTER	3/8" SAE FL ADAPTER

COUPLER
ASSEMBLY

77116	77216	77316	77136	77236	77336	77226	77326
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End Cap Adapters			
1.	61876 - 1/8" FPT	5.	61821 - 3/8" SAE FL
2.	61830 - 1/4" FPT	6.	61868 - 1/8" MPT
3.	61869 - 3/8" FPT	7.	61845 - 1/4" MPT
4.	61829 - 1/4" SAE FL	8.	61870 - 3/8" MPT

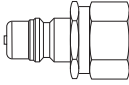
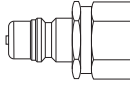
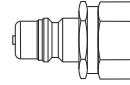
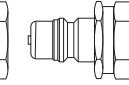
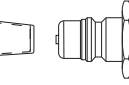
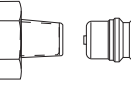
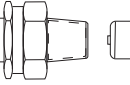
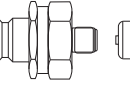
REPLACEMENT PARTS LIST

Nipple Assembly EPDM SEALS		
1.	Nipple Body	61839
2.	End Cap O-Ring	61871
3.	Nipple Valve Stem	77424
4.	Valve O-Ring	61873
5.	O-Ring Retainer	61840
6.	Nipple Valve Spring	61804
7.	Perch	61825
8.	Nipple Spacer	61824

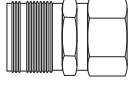
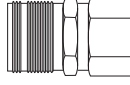
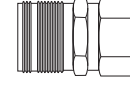
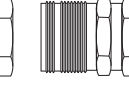
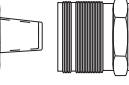
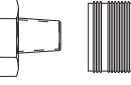
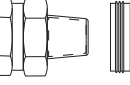
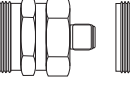
Coupler Assembly EPDM SEALS		
1.	Coupler Sleeve	61831
2.	Retaining Ring	61832
3.	Coupler Sleeve Spring	61801
4.	O-Ring	61874
5.	Ball (8) Req'd	61833
6.	Coupler Body	61835
7.	End Cap O-Ring	61871
8.	Coupler Valve Stem	77422
9.	Valve O-Ring	61873
10.	O-Ring Retainer	61840
11.	Coupler Valve Spring	61802
12.	Perch	61825
13.	Coupler Spacer	61837

HFC-134a REFRIGERANT SEALS

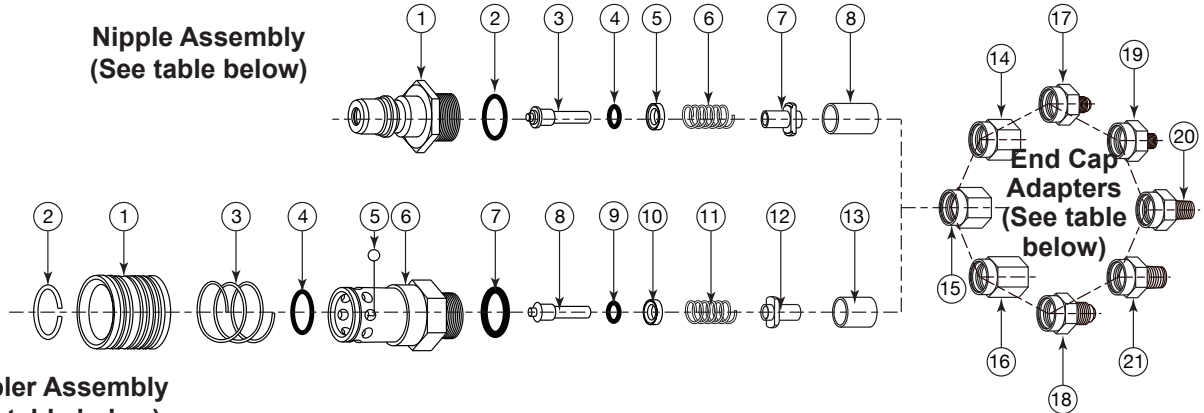
NIPPLE
ASSEMBLY

76117	76217	76317	76137	76237	76337	76227	76327
							
1/8" FPT ADAPTER	1/4" FPT ADAPTER	3/8" FPT ADAPTER	1/8" MPT ADAPTER	1/4" MPT ADAPTER	3/8" MPT ADAPTER	1/4" SAE FL ADAPTER	3/8" SAE FL ADAPTER

COUPLER
ASSEMBLY

							
77117	77217	77317	77137	77237	77337	77227	77327

Nipple Assembly
(See table below)



Coupler Assembly
(See table below)

End Cap Adapters

1. 61876 - 1/8" FPT	5. 61821 - 3/8" SAE FL
2. 61830 - 1/4" FPT	6. 61868 - 1/8" MPT
3. 61869 - 3/8" FPT	7. 61845 - 1/4" MPT
4. 61829 - 1/4" SAE FL	8. 61870 - 3/8" MPT

REPLACEMENT PARTS LIST

Nipple Assembly HFC-134a REFRIGERANT SEALS		
1.	Nipple Body	61839
2.	End Cap O-Ring	61879
3.	Nipple Valve Stem	77424
4.	Valve O-Ring	61880
5.	O-Ring Retainer	61840
6.	Nipple Valve Spring	61804
7.	Perch	61825
8.	Nipple Spacer	61824

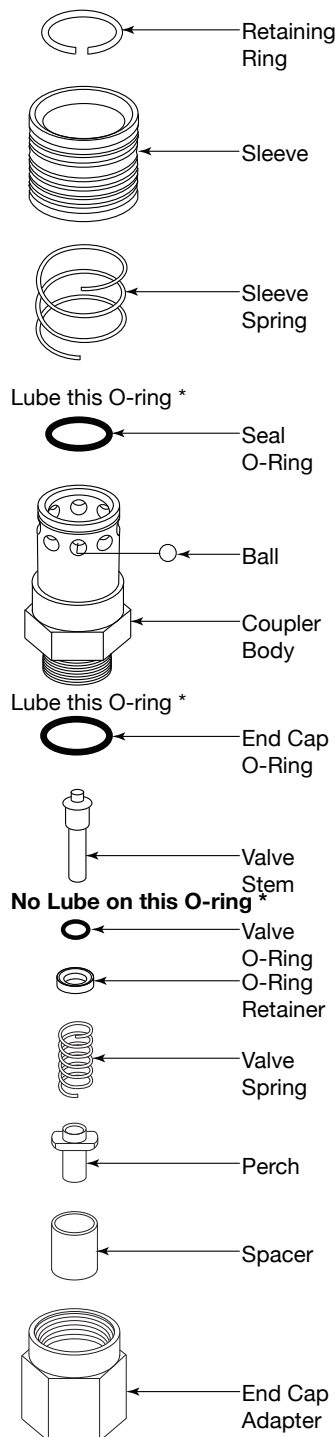
Coupler Assembly HFC-134a REFRIGERANT SEALS		
1.	Coupler Sleeve	61831
2.	Retaining Ring	61832
3.	Coupler Sleeve Spring	61801
4.	O-Ring	61881
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6.	Coupler Body	61835
7.	End Cap O-Ring	61879
8.	Coupler Valve Stem	77422
9.	Valve O-Ring	61880
10.	O-Ring Retainer	61840
11.	Coupler Valve Spring	61802
12.	Perch	61825
13.	Coupler Spacer	61837



SERIES 250 COUPLER ASSEMBLY

DISASSEMBLY - COUPLER

Holding the coupler assembly in one hand, pull the sleeve back with thumb and forefinger of same hand to expose the end of the coupler body. Using retaining ring pliers (PCU Part # A-21599) or a pointed tool, pry the retaining ring from the groove on the coupler body. Set aside. Insert Ball Assembly Tool (PCU Part # A-21587) to hold balls in place while removing coupler sleeve and sleeve spring. If you don't have a Ball Assembly Tool, carefully remove coupler sleeve and spring over a shop rag or towel to keep balls from rolling away. Remove balls and set aside. Place coupler body in a vise clamping on the hex. Use a 1" open-end wrench (or equivalent) on end cap adapter. Loosen until the end cap adapter can be removed by hand. Remove the coupler assembly from the vise. Holding the coupler body with its related parts threaded end up, remove the spacer and set aside. Tilt the coupler body down and slide out the valve assembly. (Note: Tap valve assembly loose if stuck.) Check and remove perch, spring, O-ring retainer, and valve O-ring from valve stem. Discard all O-rings. With a pointed tool, pry seal O-ring from inside coupler body, being careful not to scratch O-ring groove.



* Use PCU O-ring lubricant 490-00134

REASSEMBLY - COUPLER

Lubricate O-ring with PCU Lubricant #490-00134 before inserting seal O-ring in groove inside coupler body. Press firmly against inner diameter to ensure proper placement of seal. After parts have all been inspected, pick up valve stem and slide new valve O-ring over stem and upon shouldered portion of the valve stem. **(Do not lube this O-ring.)** Next, position the O-ring retainer behind the O-ring, making certain the cupped portion of the O-ring retainer is next to the O-ring. Slide the valve spring over the valve stem until it comes in contact with the flat side of the O-ring retainer. Slide the perch onto the valve stem, short end first, pushing it under the spring. Pick up the coupler body, holding it threaded end down, and slide the valve assembly up into the coupler body, valve stem first. Tilt the coupler body until the threaded end is pointing up, allowing the valve assembly to drop into place. Ensure that the valve assembly remained intact, then insert spacer into the coupler body until it comes in contact with the shoulders of the perch. Pick up the end cap adapter and screw the adapter to the coupler assembly. Set torque wrench, using approximately 35 to 40 foot lbs. torque. Turn assembly over. Using the Ball Assembly Tool (PCU Part # A-21587), insert the balls (8) into the holes in the coupler body. If the Ball Assembly Tool is not available, use O-ring grease or petroleum jelly in ball holes to hold balls in place. Slide sleeve spring over end of coupler body; place sleeve over spring, large diameter first. Push retaining ring into groove in coupler body using fingers or you may use the small diameter of the Ball Assembly Tool and push down on the retaining ring until the retaining ring snaps into the groove on the coupler body. Remove assembly tool, if used; this completes assembly.

250 Coupler Service Tool Kit #460-00250

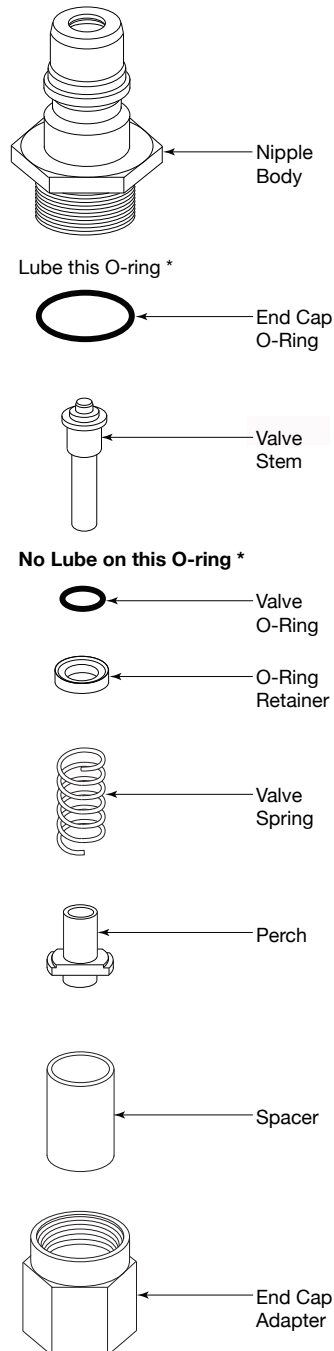
625-00810	O-Ring Insertion Tool
21587	Magnetized Ball Assembly Tool
21599	Retaining Ring Pliers



SERIES 250 NIPPLE ASSEMBLY

DISASSEMBLY - NIPPLE

To disassemble the nipple assembly, place nipple body in a vise, clamping on the 1" hex. Use a 1" open-end wrench (or equivalent) on end cap adapter. Loosen until the end cap adapter can be removed by hand. Set end cap adapter aside. Remove nipple assembly from vise. Holding the nipple body with its related parts threaded end up, remove the spacer and set aside. Tilt nipple body down and slide out valve assembly (NOTE: Tap valve assembly loose if stock.) Check and remove perch, spring, O-ring retainer, and valve O-ring from valve stem. Discard O-rings.



* Use PCU O-ring lubricant 490-00134

REASSEMBLY - NIPPLE

After parts have been inspected, pick up valve stem in one hand and slide valve O-ring (No Lubrication) over stem and upon shouldered portion of the valve stem. Next, position the O-ring retainer behind the O-ring, making certain that the cupped portion of the O-ring retainer is next to the O-ring. Slide the valve spring over the valve stem until it comes in contact with the O-ring retainer. Slide the perch onto the valve stem, with its long end over the stem. Pick up the nipple body, holding it with the threaded end down, and slide the valve assembly up into the nipple body, valve stem first. As the valve assembly is slid into the nipple body, tilt the nipple body until the threaded end is pointing up to allow the valve assembly to drop into place. Holding the nipple body in that position, pick up spacer and slide it down into the nipple body until it comes in contact with the shoulders of the perch. Lubricate end cap O-ring with PCU Lubricant #490-00134 and slide over nipple body threads until it drops into groove. Screw the end cap adapter to the nipple body. Set torque wrench, using approximately 35 to 40 foot lbs. torque. Reassembly of the Series 250 Nipple is now complete.



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Series 25



Series 86



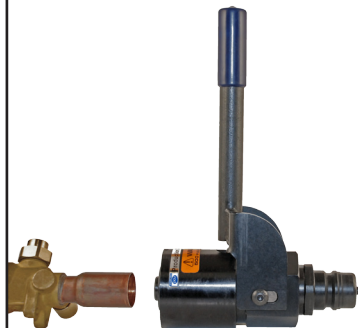
Series 87



Series 91



Series 93



Series 98



Series 100 & 101



Series 109



Series 250



Series 410



Series 500



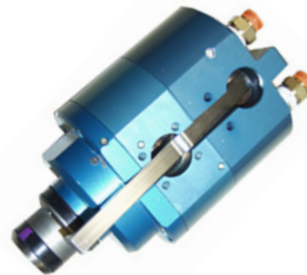
Series 250 Evac & Charge



Series 13000



Series 104



Series 106



Series 106 Adapter

Call our Coupler & Specialty Tooling Team for more information.

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