SEC99A UltraCap Armored Capillary

Application

CAUTION: Risk of Equipment Damage. Ammonia or other refrigerants that corrode brass or copper can damage the UltraCap armored capillary. Do not use the UltraCap armored capillary in applications with such refrigerants.

The SEC99A UltraCap Armored Capillary provides pressure connection in refrigeration and air-conditioning applications. The small-orifice capillary tube minimizes pressure pulsation, and the brass armor sleeve provides improved resistance to abrasion caused by vibration. The copper capillary inside the armored sleeve allows no effusion of refrigerant to the environment.

The UltraCap armored capillary uses 1/4 in. SAE female flare fitting connectors, which fit the 1/4 in. SAE male flare connectors used on Johnson Controls/PENN® lines of pressure-actuated controls. Integral Schrader® valve depressors have a break-away fitting.

The UltraCap armored capillary works with all common noncorrosive refrigerants. Several models and styles are available. See

Table 1

Installation

Follow the instructions below to install the UltraCap armored capillary:

1. Uncoil the capillary as needed.
2. Hand-start the flare nuts to avoid stripping the connection threads.

Note: If the connector does not tighten, it may be necessary to remove the Schrader valve depressor. See *Removing the Break-Away Schrader Valve Depressor*.

3. Use a 5/8 in. wrench to tighten the flare nuts. Do not apply more than 10 lb·ft (13.6 N·m) of torque.
4. Perform a leak check on all fittings and connections before placing the system into operation.

Removing the Break-Away Schrader Valve Depressor

If the fitting of the UltraCap armored capillary does not connect properly to a 1/4 in. SAE male fitting, remove the snap-off Schrader valve depressor.

1. Insert the tip of a pair of needle-nose pliers as shown in Figure 1.
2. Apply firm pressure to snap off the Schrader valve depressor.

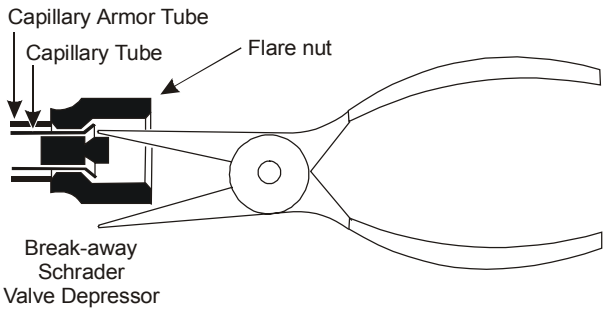

Figure 1: Removing the Break-Away Schrader Valve Depressor

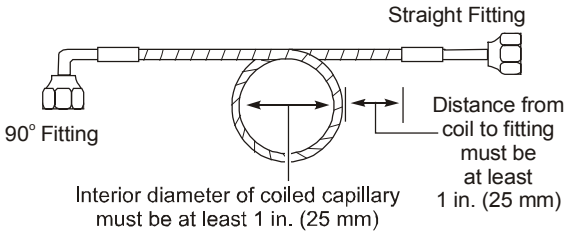

Figure 2: Capillary Coils

Dimensions

Dimensions of the UltraCap armored capillary vary according to the model selected. See Table 1.

Mounting

Follow the guidelines below to mount the UltraCap armored capillary:

- **Avoid damage caused by excessive vibration.**

Provide enough slack to eliminate kinks in the capillary and stress on the flare fittings. Under severe vibration conditions, inspect the UltraCap armored capillary during routine equipment maintenance and replace it as necessary.

- **Coil and secure excess capillary tubing.**

Carefully loop excess capillary into coils of at least 1 in. (25 mm) in diameter. (See Figure 2.) Secure excess capillary to minimize vibration.

Table 1: Capillary Length and Fitting Styles

Length	Two Straight Fittings, Schrader Depressor in One End	One Straight and One 90° Fitting, Schrader Depressor in Both Ends
24 in. (610 mm)	SEC99AA-24C	SEC99AB-24C
36 in. (914 mm)	SEC99AA-36C	SEC99AB-36C
48 in. (1219 mm)	SEC99AA-48C	SEC99AB-48C
60 in. (1524 mm)	SEC99AA-60C	SEC99AB-60C

Repairs and Replacement

Do not attempt to repair a damaged UltraCap armored capillary. Contact the nearest Johnson Controls/Penn representative to obtain a replacement.

Technical Specifications

Product		SEC99A UltraCap Armored Capillary
Fittings	**Materials**	Forged brass nut with copper stem
	Style	1/4 in. SAE female flare connector with break-away Schrader valve depressor
	Shape	Straight or 90° elbow
Capillary Diameter	**Outside**	0.125 in. (3 mm)
	Inside	0.062 in. (1.5 mm)
Ambient Operating Conditions		-50 to 350°F (-46 to 177°C), 95% RH
Maximum Working Pressure		600 psig (41387 kPa)
Burst Pressure		3000 psig (20,685 kPa)
Suggested Torque to Seal		8 to 10 lb·ft (10.9 to 13.6 N·m)
Agency Listings		UL Recognized: File SA9457, CCN SFCS2 UL Recognized for Canada: SA9457, CCN SFCS8

The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications, consult Johnson Controls/PENN Application Engineering at 1-800-275-7656. Johnson Controls, Inc. shall not be liable for damages resulting from misapplication or misuse of its products.

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