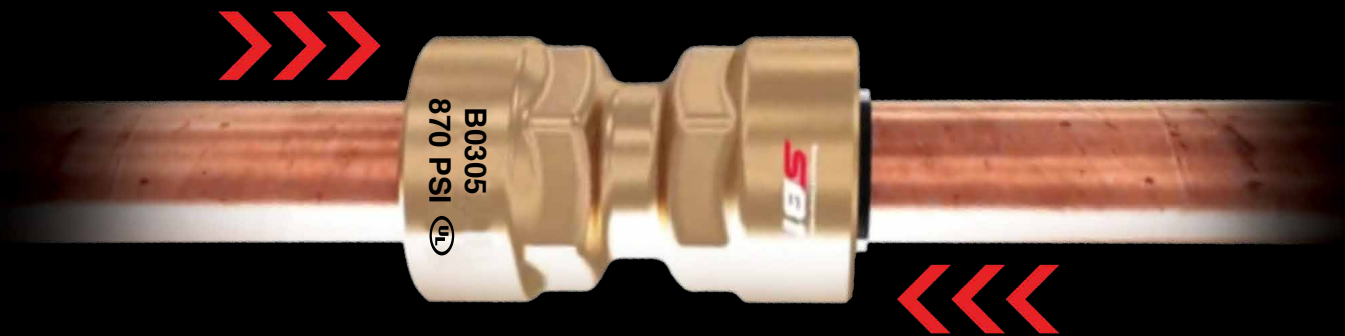


FLAME-FREE, TOOL-FREE, PROBLEM-FREE.

Quick Connect Refrigerant Fittings | 1/4" - 7/8" Sizes



- No Brazing
- No Tools
- No Nitrogen Purge
- No Hot Work Safety Concerns

JUST PUSH TO CONNECT!

Distributed by



Beyond Innovation



Applications

- Refrigerants
- Glycol
- Non-Potable Water

Product Parameters

- **Continuous Operating Temperature**
250° F / 121° C
- **O-Ring Temperature Rating**
- 40° F / 250° F
- 40° C / 121° C
- **Maximum Rated Pressure (MRP)**
870 PSI / 60 Bar
- **Minimum Burst Pressure**
3600 PSI / 250 Bar
- **Vacuum Pressure Capability**
30 Microns

Approved Refrigerants

- R134A
- R404A
- R290
- R407A
- R600A
- R507
- R22
- R410A
- R32
- R407C

Fitting Materials

- **Fitting Body**
C3771, PC (Polycarbonate)
- **O-Ring**
CR (Cholorprene Rubber)

Agency Approvals and Certifications

- **UL Listed**
207, SA #44910 SDTW(7)

Warranty

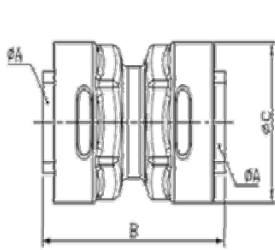
- **5 Year Limited, Contact SUPCO For Details**

Compatibility

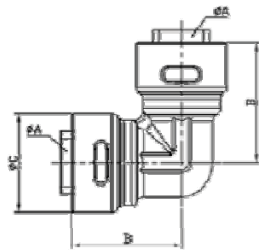
- **Tubing Tolerance**
ASTM B280, UNI EN 12735
- **Approved for Hard & Soft Copper:**
 - Hard Copper (Drawn)
1/4" - 7/8" Type ACR, M, L, K
 - Soft Copper (Annealed)
1/4" - 7/8" Type ACR, L, K

Technical Data

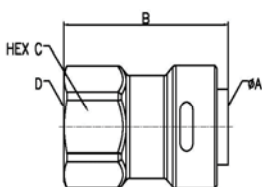
PARAMETERS	CAPABILITY
Maximum Rated Pressure (MRP)	870 PSI / 60 BAR
Burst Pressure Rating (Minimum)	3600 PSI / 250 BAR
Vacuum Capacity Rating	30 microns
Continuous Operating Temperature	250° F / 121° C
Vibration Resistance Rating	UL 1963



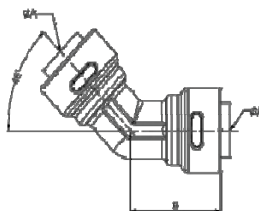
UNION TYPE



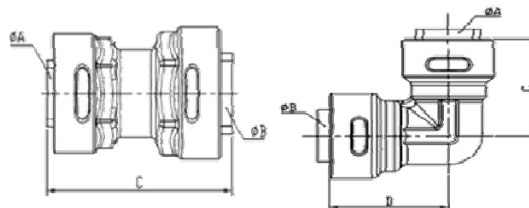
ELBOW TYPE



SOCKET FLARE TYPE



45° ELBOW



REDUCE UNION, ELBOW

1/4" - 7/8" Couplers • Flares • Elbows • Reducers

MODEL NAME		CONNECTION		LENGTH	OUTER DIAMETER	CONNECTION
		CONNECTION PIPE			(HEX)	THREAD
		ØA (INCH)	B (INCH)	ØC (INCH)	D (INCH)	
COUPLINGS						
SBC14	1/4"	0.250	1.890	0.787	NONE	
SBC38	3/8"	0.375	1.969	0.945		
SBC12	1/2"	0.500	2.126	1.063		
SBC58	5/8"	0.625	2.244	1.181		
SBC34	3/4"	0.750	2.579	1.457		
SBC78	7/8"	0.875	2.618	1.575		
90° ELBOWS						
SBE14	1/4"	0.250	1.161	0.787	NONE	
SBE38	3/8"	0.375	1.260	0.945		
SBE12	1/2"	0.500	1.417	1.063		
SBE58	5/8"	0.625	1.535	1.181		
SBE34	3/4"	0.750	1.732	1.457		
SBE78	7/8"	0.875	1.772	1.575		
45° ELBOWS						
SBE4514	1/4"	0.250	1.024	-	7/16-20 UNF	
SBE4538	3/8"	0.375	1.181	-	5/8-18 UNF	
SBE4512	1/2"	0.500	1.339	-	3/4-16 UNF	
SBE4558	5/8"	0.625	1.398	-	7/8-14 UNF	
FLARES						
SBF14	1/4"	0.250	1.516	0.669	7/16-20 UNF	
SBF38	3/8"	0.375	1.634	0.866	5/8-18 UNF	
SBF12	1/2"	0.500	1.831	0.945	3/4-16 UNF	
SBF58	5/8"	0.625	2.087	1.063	7/8-14 UNF	
MODEL NAME		CONNECTION PIPE			LENGTH	
		ØA (INCH)	B (INCH)	ØC (INCH)	D (INCH)	
REDUCER COUPLINGS						
SBCR3814	1/4"x3/8"	0.250	0.375	1.969	-	
SBCR1238	3/8"x1/2"	0.375	0.500	2.165	-	
SBCR5812	1/2"x5/8"	0.500	0.625	2.362	-	
REDUCER ELBOWS						
SBER3814	1/4"x3/8"	0.250	0.375	1.024	1.181	
SBER1238	3/8"x1/2"	0.375	0.500	1.181	1.339	
SBER5812	1/2"x5/8"	0.500	0.625	1.339	1.398	



Connecting Fitting



Installation Instructions



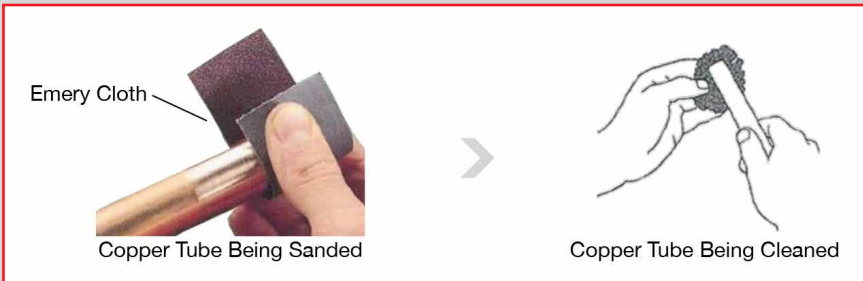
1. Cut the Tube



2. De-burr the Tube

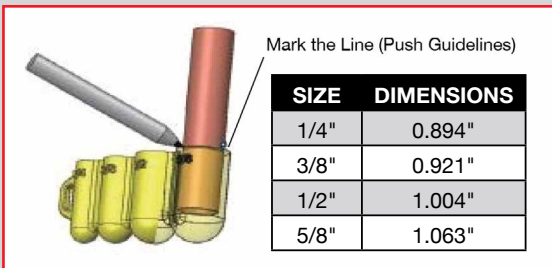


3. Sanding/Cleaning the Tube



Install Caution

4. Mark the Insertion Depth

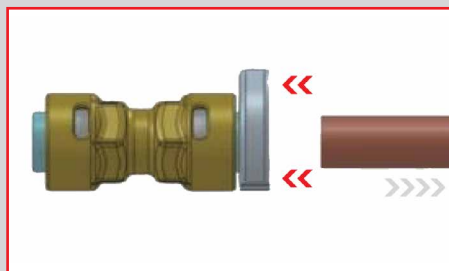
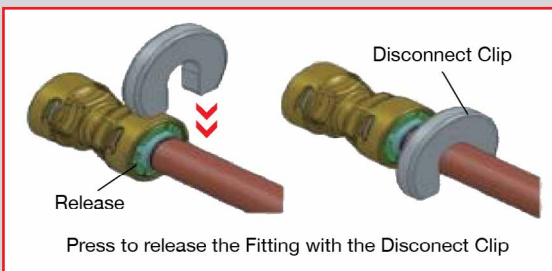


5. Push Into Fitting



Insure the tube is clean and not out of round. It must be free of any defects: dirt, burrs, scratches, etc.

Disconnecting Fitting



CAUTION: Do not insert fingers into the grip ring inside the fitting. Immediate emergency medical attention may be required for removal.

SBLM1458



Line Marker 1/4"-5/8"

SBDC1458



Disconnect Clips 1/4"-5/8"

SBLMDC3478



Line Marker/Disconnect Clips 3/4"-7/8"



SBI Flow/Pressure Loss Coefficient

Inch	Size inside Dia (mm)	SBI 90° Elbow			SBI 45° Elbow			SBI Reduce Elbow			SBI Reduce Union			SBI Socket			SBI Union			
		Flow Drop (kPa)	Cv	Equivalent Length (Ft)	Flow Drop (kPa)	Cv	Equivalent Length (Ft)	Flow Drop (kPa)	Cv	Equivalent Length (Ft)	Flow Drop (kPa)	Cv	Equivalent Length (Ft)	Flow Drop (kPa)	Cv	Equivalent Length (Ft)	Flow Drop (kPa)	Cv	Equivalent Length (Ft)	
1/4"	8.00	0.76		0.39	0.50		0.26	1.39		0.71	0.25		0.13		0.06	0.13		0.13		0.06
3/8"	10.92	0.56		0.53	0.37		0.35	1.02		0.97	0.19		0.18		0.09	0.09		0.09		0.09
1/2"	13.84	0.44		0.67	0.29		0.44	0.81		1.22	0.15		0.22		0.11	0.07		0.07		0.11
5/8"	16.91	0.36	0.94	0.82	0.24		0.54	0.66	0.89	1.50	0.12	0.98	0.27		0.14	0.06		0.06		0.14
3/4"	19.94	0.31		0.96	0.20		0.64	0.56		1.76	0.10		0.32		0.16	0.05		0.05		0.16
7/8"	26.04	0.24		1.26	0.16		0.84	0.43		2.30	0.08		0.42		0.21	0.04		0.04		0.21

Darcy Friction Factor	f	1 - Cv
Density (p)	p	1000
Flow Speed (m/s)	V	2
Pipe Length (m)	L	50
$\Delta p = f \frac{L}{D} \frac{\rho V^2}{2}$		

Flow Coefficient	Hf	1 - Cv
Pre-Loss Coefficient	λ	0.02
Gravity acceleration (m/s²)	g	9.8
$H_f = \lambda \cdot \frac{l}{D} \cdot \frac{v^2}{2g} [m]$		

Note:

- This calculation is made in consideration of the general situation.
 - It may vary depending on your environment and conditions.
 - The System Detail value for the formula is assumed
- General values are applied as physical values, and the formula includes tolerance values.
 - As mentioned on the Neutrium page, errors may occur due to definitions such as diameter, internal friction, and fluid viscosity.
- The calculation used two physical formulas.
 - Darcy-Weisbach equation
 - DEFINITION https://neutrium.net/fluid_flow/pressure-loss-in-pipe/

ESSENTECH Quality Assurance Team (2020/03/05)



SCAN FOR ACCESS
INSTALLATION VIDEO



1. WHAT REFRIGERANTS ARE APPROVED FOR USE WITH SB1 FITTINGS?

- R410A
- R290
- R600A
- R134A
- R407A
- R22
- R507
- R32
- R404A
- R407C

2. WHAT IS THE MAXIMUM WORKING PRESSURE (MWP)?

- 870 PSI (60 Bar) – Couplers/Elbows/Flares/Reducers
- 670 PSI (45 Bar) - Tees

3. WHAT IS THE VACUUM CAPACITY RATING ON THE FITTINGS?

30 Microns

4. WHAT ARE THE SB1 TEMPERATURE RATINGS?

-40° F / 250° F

5. WHAT TYPES OF COPPER CAN BE USED WITH SB1s?

- Hard Copper (Drawn) ¼” – 7/8” Type ACR, M, L & K
- Soft Copper (Annealed) ¼” – 7/8” Type ACR, L & K

6. CAN SB1s BE USED WITH ALUMINUM, STEEL OR STAINLESS STEEL TUBING?

No, only copper to copper connections.

7. WHAT MATERIAL ARE THE SB1'S O-RINGS?

Super Neoprene for long-term compression set/refrigerant/lubricant resistant for long seal life.

8. WHAT IS THE SHELF LIFE OF THE FITTINGS?

The manufacturer sets the shelf life @ 30+ years.

9. DO THE FITTINGS NEED TO BE INSULATED AFTER AN INSTALL?

Yes, just as you would with any other fitting where it would be subject to condensation.

10. WHAT IS THE #1 CAUSE OF PROBLEMS WITH THE SB1 FITTINGS?

Not reading/following the installation instructions.

11. THE SBLM1458 DEPTH GAUGE ONLY GOES UP TO 5/8” SO HOW DO I MARK 3/4” & 7/8” TUBING?

Part number SBLMDC3478 is a combo tool, combining both a depth gauge and a disconnect tool.

12. DO SB1s NEED TO BE REPLACED WHEN RETROFITTING TO A LOWER GWP REFRIGERANT?

Yes. The compression set of the super neoprene o-rings may be compromised when transitioning from one refrigerant to another. Always install new fittings.

13. CAN THE FITTINGS BE REMOVED AND REINSTALLED ON THE SAME SPOT OF TUBING?

The fitting can be installed onto the same spot if the tube is properly sanded and cleaned, removing any etch marks, or replace onto a clean section of tubing.

14. WILL OTHER SB1 COMPONENTS BE AVAILABLE?

Yes, numerous other products currently in design- including but not limited to - long radius elbows, tees, ball valves, sight glasses, filter driers

15. WHAT IS THE WARRANTY ON SB1 FITTINGS?

A 5-year limited warranty policy which is available from SUPCO upon request.

Beyond Innovation

SB1



**RETAIL-READY
PACKAGING >**



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