



## SEA-BIRD ELECTRONICS, INC.

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SBE P/N 90151

DATE	SYM	REVISION RECORD	AUTH	DR	CHK
01.99	A	Reformatted, added bitmap	MJ		
09.99	B	Added additional Lubricant Info	MJ	DC	
06.03	C	Added part number 30579	CB	KLP	
10.16	D	Updated 23698 to 23698.01	DB	DB	

### SBE Installed TC Duct Kit – Vertical Mount

SBE P/N	Manufacturer P/N	Primary SBE Application	QTY
23226	Thermistor Duct, No. 2	Conductivity Duct	1
23337	Pump Air Release Plug	Air release for Y-Fitting	1
23698.01	Low Viscous T-Duct	Temperature Duct	1
30364	Mach screw, 2-56 x 1/4 PH NY	Secures T-Duct to Temp Probe Guard	2
30382	Tygon Tube, 1/4 ID, 1/32 wall	Connect T-Duct and C-Duct to each other	1/2"
30383	Tygon Tube 1/4" ID, 1/8" wall	Spare C-Duct fitting tube	2.5"
30384	Tygon tube, 7/16 ID, 1/16 wall	Soaker Hose for Conductivity cell	7.25"
30387	Tube, 1/2" Y-Fitting	Air Bleed assembly for Sensor Plumbing	1
30388	Vinyl Tube, 3/4" x 1/2"	Main Sensor Plumbing Material	4 ft
30389	Cable tie, 4"	Secures Plumbing to Y-Fitting	12
30579	Tygon Tube, 3/8" ID 1/2" OD	For DO Sensor	6"
30814	Morrison Seal, .026 hole	T-Duct Morrison seal, installed in T-Duct	1

#### APPLICATIONS:

##### Top Air Bleed Valve

SBE P/N	Part Description	Primary SBE Application	QTY
23337	Pump Air Release Plug	Air Bleed for Y-Fitting	1
30387	Tube, 1/2" Y-Fitting	Top connection for plumbing	1
30388	Vinyl tubing, 3/4" x 1/2"	Main Plumbing tube	≈ 3"

1. Air release (23337) installs into the single end of the Y-fitting (30387) such that flat side of air bleed faces out, and concave side faces the "Y".
2. Slide about a 3-4" length of heavy tubing (30388) over the air bleed side. This will be the top of your plumbing arrangement.

##### Conductivity cell Duct Assembly

SBE P/N	Part Description	Primary SBE Application	QTY
23226	Thermistor Duct, No. 2	Conductivity Duct	1
30382	Tygon Tube, 1/4 ID x 1/32 wall	Spare Temp/Cond Connector tubing	1 piece
30383	Tygon Tube, 1/4 ID x 1/8 wall	Spare C-Duct fitting tube	1 piece
30384	Tygon Tubing, 3/4" x 1/2"	Used with C-Duct fitting tube	≈ 1"

1. Use ≈ 3/16" length of thicker tubing (30383) as a base for the C-Duct fitting.
2. Lube inside of one end with alcohol.
3. Quickly install ≈ 1-1/2" length of conductivity cell tubing (30384) onto this piece. When alcohol dries, it acts like glue.
4. Install assembly onto c-duct on the side with the ledge. Push it all the way down.
5. C-Duct installs into bottom end of cell with this seal assembly.
6. Slip ≈ 1" length of the thinnest tubing (30382) over other end of C-Duct.
7. This will allow a good seal between the C-duct and the T-duct.

SBE DRAWING: 67027

TITLE: TC Duct Kit Assembly

### Sea-Bird Electronics Procedure

PROCEDURE NUMBER: 67027

TITLE: 90151 SBE Installed TC Duct Kit

REVISION: D

EFFECTIVE DATE: 10.26.2016

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### *Thermistor Duct Assembly*

SBE P/N	Part Description	Primary SBE Application	QTY
23698.01	Low Viscous T-Duct	Temperature Duct	1
30364	Mach screw, 2-56 x 1/4 PH NY	Secures T-Duct to Temp Probe Guard	2
30814	Morrison Seal, .026 hole	T-Duct Morrison seal, installed in T-Duct	1

1. Lubricate Morrison seal and seal channel on duct with a silicon-based lubricant, such as "Parker Super-O."
2. Press Morrison seal all the way into barbed end of T-Duct (23698.01).
3. There is an open hole only on one side of the Morrison seal. Insert seal this end first.
4. It must go all the way in, past the side holes.

### **Temperature and Conductivity Flow Duct Installation**

1. Carefully remove Temperature Probe Guard from SBE 3.
2. Fit Temperature Probe Duct assembly into probe guard such that the screw holes in the duct base line up with the holes on the guard.
3. Use a touch of DC-4 in the T-Duct screw holes, and secure to probe guard with 2 nylon screws (30364).
4. Very carefully slide whole assembly over temperature probe, and screw it back tight.
5. Fit side opening of probe duct assembly onto 23226 duct with the tubing (30382) on the duct.
6. Carefully line up Temperature and Conductivity sensors into their mount bracket, and slide conductivity sensor down onto its duct.
  - a. Make sure you don't let the duct bend as you press cell into it.
  - b. It is easy to crack a cell if the duct is not properly aligned.

### *Replacement sensor plumbing*

SBE P/N	Part Description	Primary SBE Application	QTY
30388	Vinyl tubing, 3/4" x 1/2"	Main Plumbing tube	4 ft
30389	Cable tie, 4"	Secure plumbing to fittings	12
30579	Tygon Tube, 3/8" ID 1/2" OD	Goes on hose barb of DO Sensor	0.5 ft

1. If applicable cover the DO hose barb with a 0.5" piece of 30579.
2. Use the 30388 heavy tubing to form a flowing path through each sensor ducting system.
3. Use the small cable ties (30389) to make a good connection at tubing/sensor interface points.
4. Refer to the included diagram for an idea of how to plumb a standard CTD.
5. Please note that we do not generally use any pump flow exhaust tubing.

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