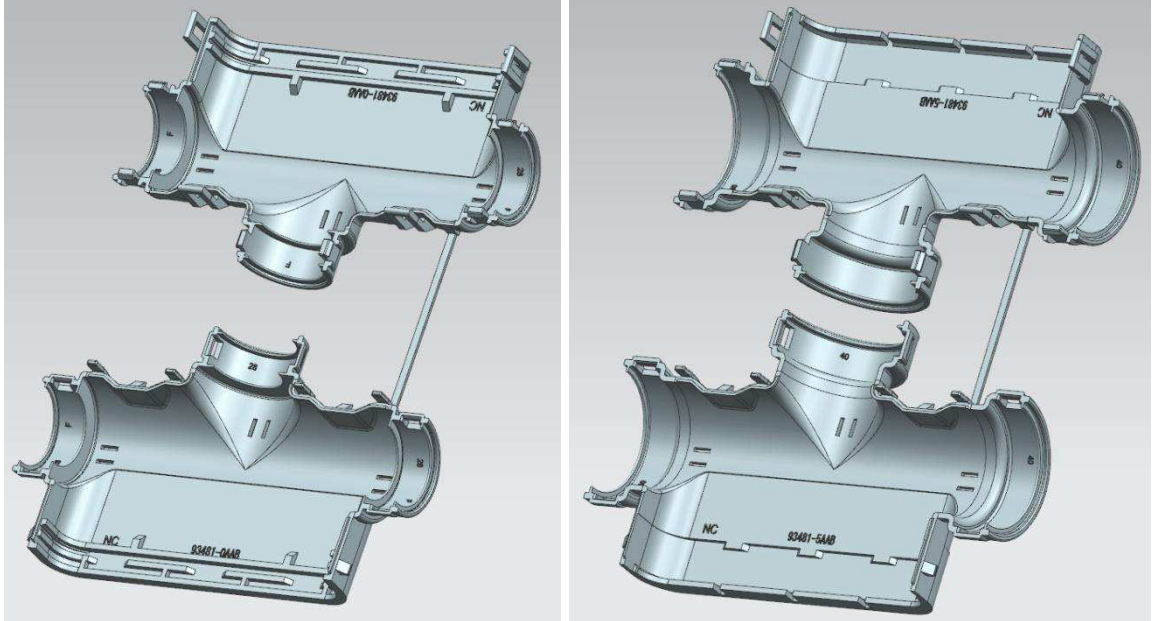


SRC MALE AND FEMALE CONDUIT INTERFACE



1.0 SCOPE

This Product Specification relates to the Male and Female Conduit Interfaces to be used in conjunction with the SRC connector assemblies.

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME AND PART NUMBER(S)

SRC Male Conduit Interface

X-2500035-X

SRC Female Conduit Interface

X-2500034-X

2.2 DIMENSIONS, MATERIALS AND MARKINGS

Polyamide 6/6 (PA66) Unfilled

Reference the Sales Drawings X-2500034-X & X-2500035-X for all dimensions, port sizes, option configurations and ID locations.

2.3 SAFETY AGENCY APPROVALS

UL File Number:

Not Applicable

CSA File Number:

Not Applicable

TÜV File Number:

Not Applicable

IMDS

Available on request

Environmental Compliance

Available on request

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

X-2500034-X	SRC Female Conduit Interface Sales Drawing
X-2500035-X	SRC Male Conduit Interface Sales Drawing
107-160003-04	SRC Male and Female Conduit Interface Packaging Specification

Sales Drawings of mating SRC Male and Female Connector Assemblies:

25000**-1	SRC Female 84 Pin Sales Drawing
25000**-1	SRC Male 84 Pin Sales Drawing
25000**-1	SRC Male Power Sales Drawing
25000**-1	SRC Female Power Sales Drawing
25000**-1	SRC Mixed Signal & Power Male

Application Specifications for SRC Male and Female Connector Assemblies:

TEC-114-160015	SRC Male and Female Assembly Application Specification
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4.0 RATINGS

4.1 IP

IP3X

4.2 TEMPERATURE

Operating temperature range:	- 40°C to + 125°C
Non-operating temperature range:	- 40°C to + 125°C

5.0 PERFORMANCE

Note: in the following tables “Conduit Interface Assembly” describes the conduit interface when mounted on the appropriate connector

5.1 GENERAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	Visual Examination	Parts checked for: Identification, workmanship finish, cosmetic issues/Tool marks, etc.	No evidence of damage, cracks, deformities, etc. that could affect functionality
2	Conduit Interface Cycling	Completely mate and un-mate the conduit interface pair 5 times. Re-mate the conduit interface onto the appropriate SRC connector	Parts still attach correctly to connector with all latches functional

5.2 MECHANICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
3	Axial Pull Force on Port Exit	Each port size, in the side and top port locations, shall be pull tested at a constant rate of 25 ± 5 mm/minute. Each assembly shall have either the top port <u>or</u> a side port open on the Conduit Interface assembly. Parts will be pull tested using a metal gauge. See Appendix A for pull force directions. Application of this test on a top port type part will also test the connector mating interface	<p style="text-align: center;">50N MINIMUM</p> without Conduit interface cracking. Test to failure and document failure method (Failure mode may be the conduit port, the connector mating interface or the connector itself)
4	Normal Pull Force on Port Exit	Each port size, in the side and top port locations, shall be pull tested at a constant rate of 25 ± 5 mm/minute. Each assembly shall have either the top port or a side port open on the Conduit Interface assembly. Parts will be pull tested using a metal gauge. See Appendix B for pull force directions.	<p style="text-align: center;">50N MINIMUM</p> without Conduit interface cracking. Test to failure and document failure method (Failure mode may be the conduit port, the connector mating interface or the connector itself) Complete tests in all directions for first port option and determine direction at which lowest force to failure occurs. Apply force in this direction only to all other port sizes
5	Drop Test SAE J2030, 6.17 (Swing Test)	Drop the Conduit Interface assembly (male & female separately) from a height of 750 mm, 8 times, rotating the test piece in increments of 45° each time. (Note: this is a pendulum type test)	Visual Inspection

5.3 ENVIROMENTAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
6	Thermal Shock SAE/USCAR-2, 5.6.1	Mate connectors; expose to 100 cycles of: <u>Temperature (°C)</u> T3 category (- 40 °C to + 125 °C) <u>Duration (1 cycle)</u> 30 minutes at low temperature, with 30 second transition time to high temperature for 30 minutes.	Verify conformance per subsequent sections identified in the test sequence
7	Fluid Immersion SAE J2030, 6.14	Submerge Conduit Interface assembly in each fluid for 5 minutes and then allow it to dry for 24 hours; this is one cycle. The assembly will be subject to 5 cycles. A new Conduit Interface assembly will be used for each of the different fluids.	Visual Inspection
8	IP Rating IEC 60529	IP3X – Protection against items larger than 2.5 mm (only applicable when appropriate conduit and cable ties are used in conjunction with the Conduit Interface)	2.5 mm Probe cannot enter the Conduit Interface assembly

6.0 QUALIFICATION TEST GROUPS AND SEQUENCES

Table 1: Test Sequences – 1st Option

No.	Item	Test Group				
		A	B	C	D	E
	Sample Size	6 ⁽¹⁾	Table 3 ^(1,2)	4	3	3
1	Visual Inspection	1, 5	1, 5	1, 4	1, 4	1, 4
2	Conduit Interface Cycling	2	2	2	2	2
3	Axial Pull-Force on Port Exit/ Connector Mating Interface	4 ⁽³⁾				
4	Normal Pull-Force on Port Exit		4 ⁽⁴⁾			
5	Drop Test			3		
6	Thermal Shock	3 ⁽¹⁾	3 ^(1,2)			
7	Fluid Immersion				3	
8	IP Rating					3

Table 2: Test Sequences - 2nd & Subsequent Options

No.	Item	Test Group				
		A	B	C	D	E
	Sample Size	6 ⁽¹⁾	Single Port - 4 ⁽¹⁾ Multiple port - 8 ⁽¹⁾	0	0	0
1	Visual Inspection	1, 5	1, 5			
2	Conduit Interface Cycling	2	2			
3	Axial Pull-Force on Port Exit/ Connector Mating Interface	4 ⁽³⁾				
4	Normal Pull-Force on Port Exit		4 ⁽⁴⁾			
5	Drop Test					
6	Thermal Shock	3 ⁽¹⁾	3 ^(1,2)			
7	Fluid Immersion					
8	IP Rating					

Notes:

- Half the samples will be conditioned by Thermal Shock prior to testing. Sample size is for each port size to be tested; Test 5 (Drop Test) & test 7 (Fluid Immersion) are only required to be tested on the first option tested. Tests 5 & 7 do not need to be repeated for every port option. Sample size applies when testing either male or female connector interface options.
- See Table 3 for quantities required for Test Group B – 1st Option
- See Appendix A for test directions
- See Appendix B for test directions

APPENDIX A

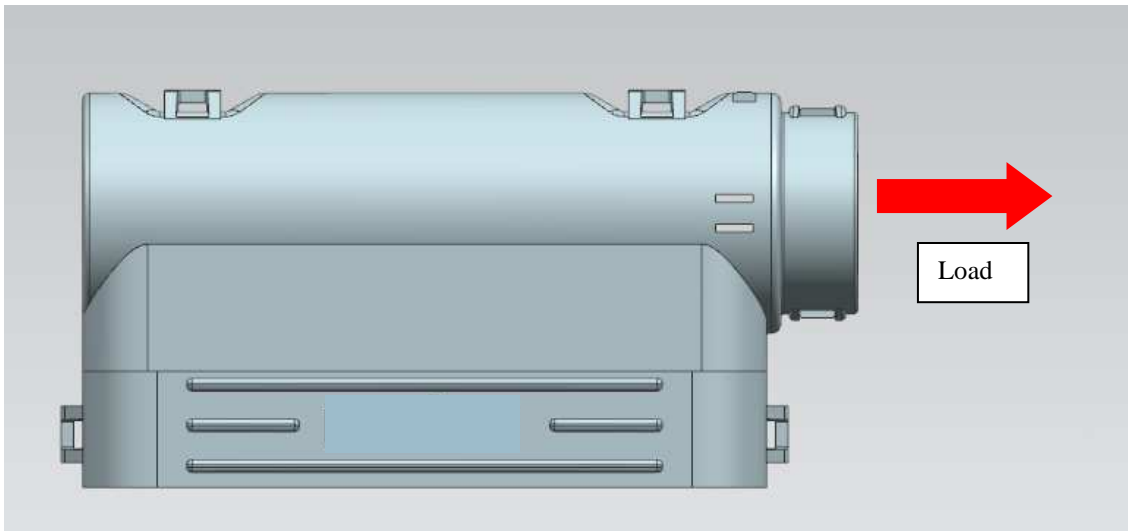


Figure 1: Pull Test Loading Conditions along Port Axis (Side Exit)

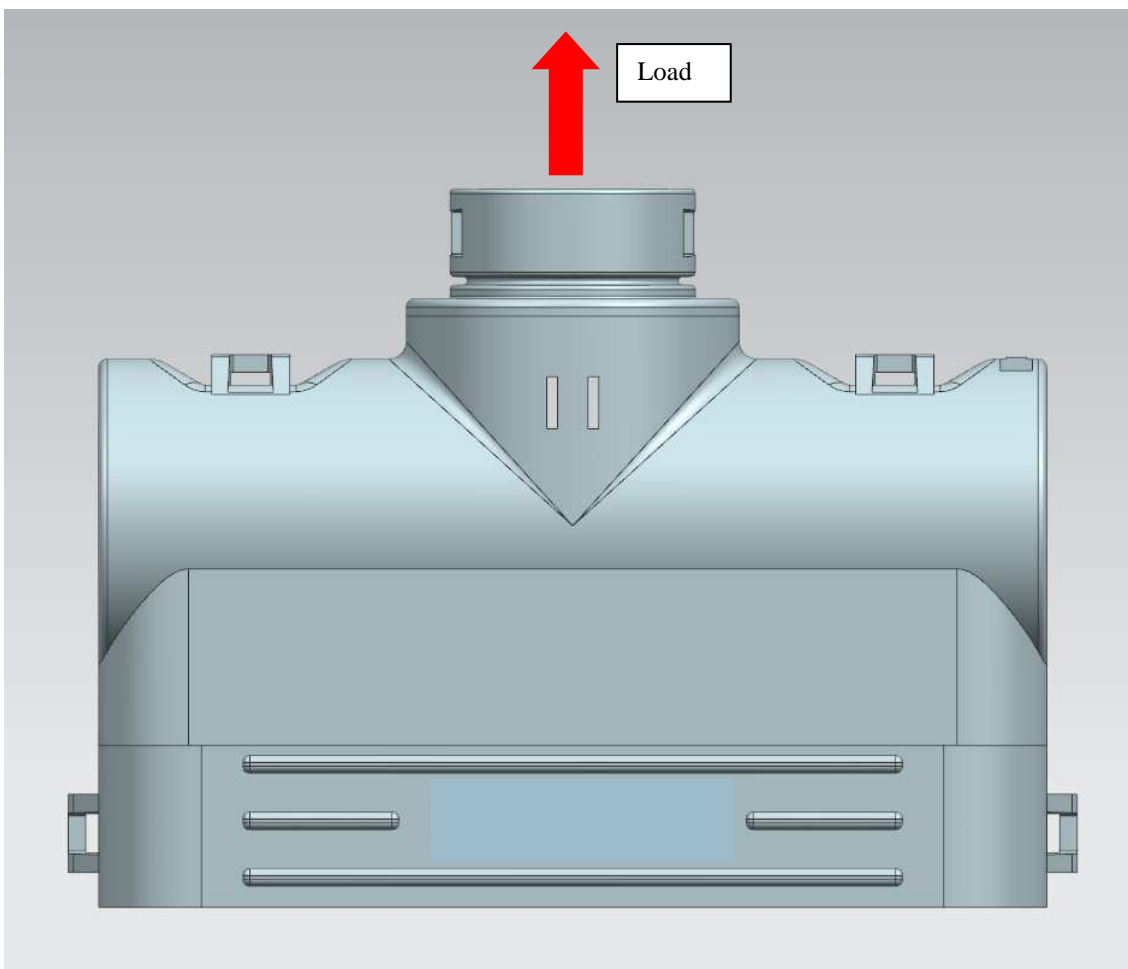


Figure 2: Pull Test Loading Conditions along Port Axis (Top Exit)

APPENDIX B

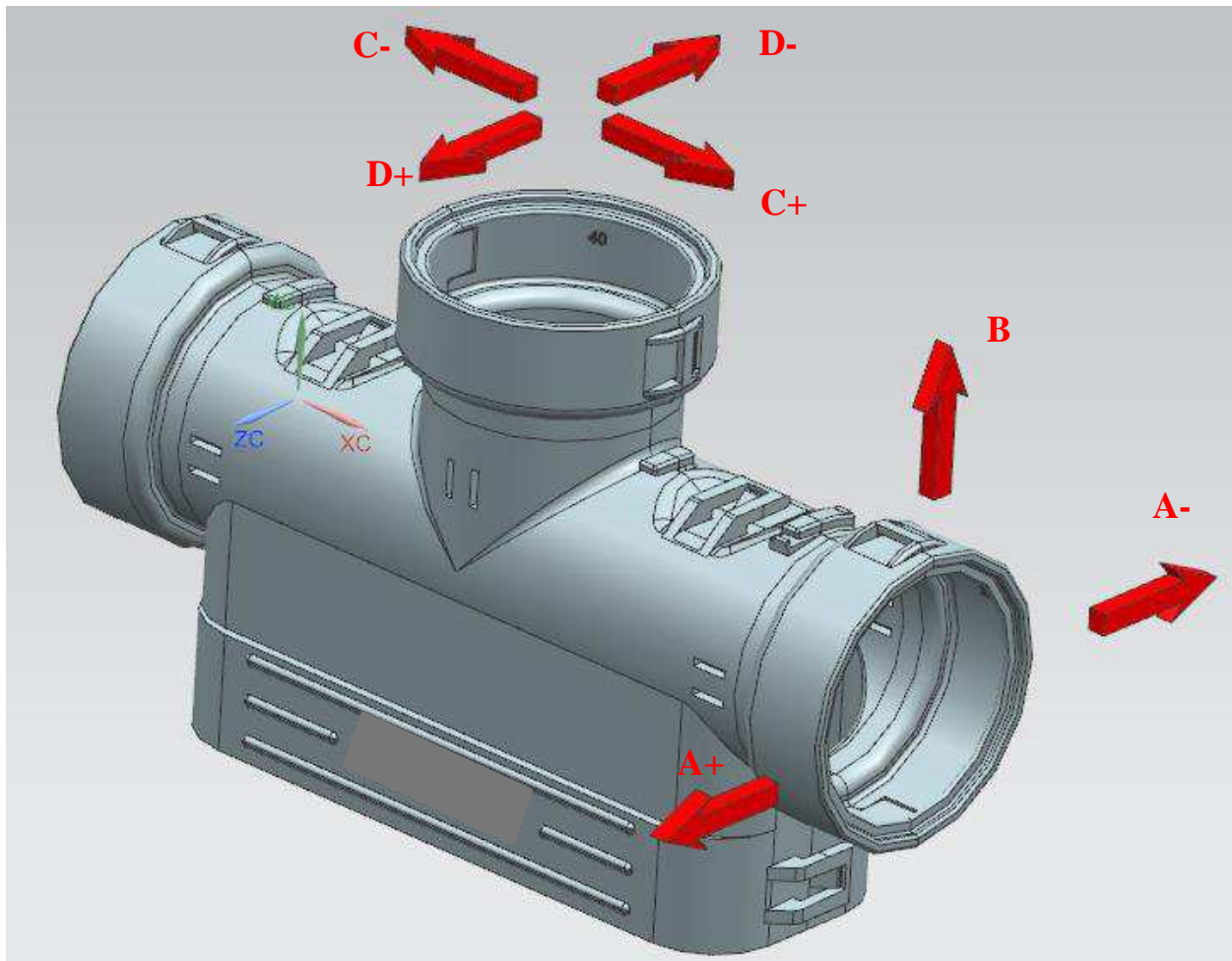


Figure 3: Loading directions for Normal Pull-Force Tests

Notes:

1. Directions A+ & A- work the latches in the opposite way to each other and apply to side ports only.
2. Directions D+ & D- work the latches in the opposite way to each other and apply to top ports only.
3. It is sufficient to test top ports in either direction C+ or C- (as well as D+ & D-)
4. Half of the total quantity of samples to be conditioned per Test 6 (Thermal Shock) prior to testing.
5. On first option of top port or side port to be tested, test in all applicable directions specified in Table 3 to determine the direction of the lowest retention force. For all successive part options, test in this direction only with a reduced part quantity requirement (quantities as per Table 2).
6. For parts with 3 ports it is sufficient to test 2 of the 3 ports.
7. Further testing of additional products should refer back to original test report for product to determine worst case directions for force applications and requisite quantities.
8. Figure 3 implies directions of load application only. Position of load application will always be as defined in Figure 4 (see next page).

Table 3: Part Quantities & Directions for Test 4 for first port option

	Connector Interface Type	Direction A+	Direction A-	Direction B	Direction C+ or C-	Direction D+	Direction D-	Total
Side Port Only	Female	4	4	4	N/A	N/A	N/A	12
	Male	4	4	4	N/A	N/A	N/A	12
Top Port Only	Female	N/A	N/A	N/A	4	4	4	12
	Male	N/A	N/A	N/A	4	4	4	12
Multiple Ports [‡]	Female	4	4	4	4	4	4	24
	Male	4	4	4	4	4	4	24

‡: Dual side ports may be treated as single side port option – no requirement to test both ends

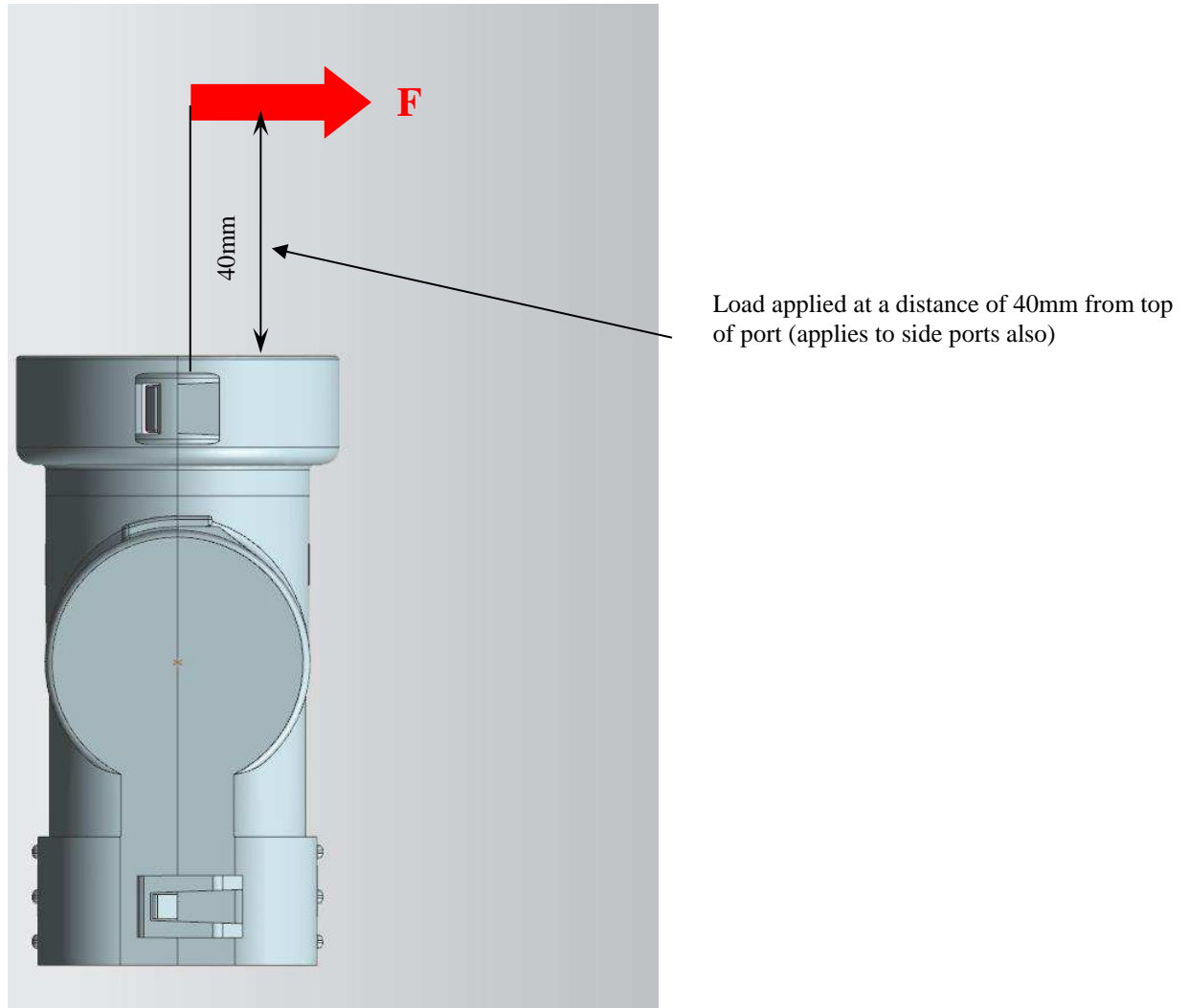


Figure 4: Loading Directions for Normal Pull-Force Tests