

Tweco® Robotics Nozzle-Sensing Torch Body and Cable Assembly

Tweco Robotics nozzle-sensing torch body and cable assembly (series QRAS, QRWS and QRWAS) incorporates all of the features of our other “standard” assemblies (series QRA, QRW, and QRWA) while adding low-voltage (DC) sensing capabilities for locating the weld joint position.

An insulated, spring-loaded switch assembly - incorporated into the torch block - is used to carry a low (DC) voltage charge. This charge is transferred from the welding robot control system to the conductor tube and nozzle via the torch and cable assembly. A insulated sensing tip extends from the conductor tube outer jacket assembly into the stainless steel rear plug. When the conductor tube is inserted into the torch body, the sensing tip presses against the spring loaded switch pin and activates the nozzle sensing circuit.

The QRA-S, QRW-S, and QRWA-S torch body and cable assemblies are furnished with the standard 1-5/8" (41,28mm) Ø cartridge - Part No. QRAS-1BC, (Stock No. 3045-1195), QRWS-1BC, (Stock No. 3045-1342) and QRWAS-1BC, (Stock No. 3045-1295) - to fit the Tweco Robotics RDM series mount arms. The torch block and sleeve combination - referred to as the “cartridge kit” - is available in three (3) additional sleeve diameters to fit other robotic manufacturers mounting arms. The component parts making up the QRAS, QRWS and QRWAS cartridges are assembled individually, positioned and pinned in place to ensure repeatability and accuracy of torch body/conductor tube combination when mounted to the robot arm.

QRAS series cartridge kits

- Part No. QRAS-2BC (Stock No. 3045-1196) QRAS cartridge kit for 1-1/2" (38,10mm) Ø Mount (Melton®)
- Part No. QRAS-3BC (Stock No. 3045-1197) QRAS cartridge kit for 1-3/8" (34,93mm) Ø Mount (Tregaskiss®)
- Part No. QRAS-4BC (Stock No. 3045-1198) QRAS cartridge kit for 36mm Ø Mount (Binzel®)

QRWS series cartridge kits

- Part No. QRWS-2BC (Stock No. 3045-1343) QRWS cartridge kit for 1-1/2" (38,10mm) Ø Mount (Melton)
- Part No. QRWS-3BC (Stock No. 3045-1344) QRWS cartridge kit for 1-3/8" (34,93mm) Ø Mount (Tregaskiss)
- Part No. QRWS-4BC (Stock No. 3045-1345) QRWS cartridge kit for 36mm Ø Mount (Binzel)

QRWAS series cartridge kits

- Part No. QRWAS-2BC (Stock No. 3045-1296) QRWAS cartridge kit for 1-1/2" (38,10mm) Ø Mount (Melton)
- Part No. QRWAS-3BC (Stock No. 3045-1297) QRWAS cartridge kit for 1-3/8" (34,93mm) Ø Mount (Tregaskiss)
- Part No. QRWAS-4BC (Stock No. 3045-1298) QRWAS cartridge kit for 36mm Ø Mount (Binzel)

(Note: The above cartridge kits are sold separately)

IMPORTANT: A separate E-stop Jumper Cable must be ordered to allow the use of the Inch Switch and E-Stop features. The assembly connects the Control Cable extending out from the end of the torch to the robot control. There are four (4) different E-stop Jumper Cable Assemblies available:

Part No. QRJC-010 (Stock No. 3045-1241) - E-stop Jumper Cable Assy. without Connector (Generic) - 3ft. long (91cm)

Part No. QRJC-020 (Stock No. 3045-1242) - E-stop Jumper Cable Assy. with Burndy Connector (ABB®) - 3ft. long (91cm)

Part No. QRJC-030 (Stock No. 3045-1243) - E-stop Jumper Cable Assy. with 4-pin Amp Connector (Motoman®) - 3ft. long (91cm)

Part No. QRJC-040 (Stock No. 3045-1244) - E-stop Jumper Cable Assy. with 5-pin DDK Connector (Fanuc®) - 3ft. long (91cm)

Part No. QRJC-050 (Stock No. 3045-1245) - E-Stop Jumper Cable Assy. with 5-pin DDK Connector (Panasonic®) - 3ft. long (91cm)

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QRAS Series 600 Amp Air-cooled Nozzle Sensing Torch Body and Cable Assembly

Standard Torch Body	Part No.	Stock No.	w/ Euro-Kwik Part No.	Stock No.
With 3 ft. / 91cm Cable Assembly	QRA603S	3045-1013	XQRA603S	3045-1038
With 3.5 ft. / 1,07m Cable Assembly	QRA6035S	3045-1014	XQRA6035S	3045-1039
With 4 ft. / 1,22m Cable Assembly	QRA604S	3045-1015	XQRA604S	3045-1040
With 4.5 ft. / 1,37m Cable Assembly	QRA6045S	3045-1016	XQRA6045S	3045-1041
With 5 ft. / 1,52m Cable Assembly	QRA605S	3045-1017	XQRA605S	3045-1042
With 5.5 ft. / 1,68m Cable Assembly	QRA6055S	3045-1018	XQRA6055S	3045-1043
With 6 ft. / 1,83m Cable Assembly	QRA606S	3045-1019	XQRA606S	3045-1044
With 7 ft. / 2,13m Cable Assembly	QRA607S	3045-1020	XQRA607S	3045-1045
With 8 ft. / 2,44m Cable Assembly	QRA608S	3045-1021	XQRA608S	3045-1046
With 10 ft. / 3m Cable Assembly	QRA610S	3045-1022	XQRA610S	3045-1047
With 12 ft. / 4m Cable Assembly	QRA612S	3045-1023	XQRA612S	3045-1048
With 15 ft. / 5m Cable Assembly	QRA615S	3045-1024	XQRA615S	3045-1049

QRWS Series 600 Amp Water-cooled Nozzle Sensing Torch Body and Cable Assembly

Standard Torch Body	Part No.	Stock No.	w/ Euro-Kwik Part No.	Stock No.
With 3 ft. / 91cm Cable Assembly	QRW603S	3045-1063	XQRW603S	3045-1088
With 3.5 ft. / 1,07m Cable Assembly	QRW6035S	3045-1064	XQRW6035S	3045-1089
With 4 ft. / 1,22m Cable Assembly	QRW604S	3045-1065	XQRW604S	3045-1090
With 4.5 ft. / 1,37m Cable Assembly	QRW6045S	3045-1066	XQRW6045S	3045-1091
With 5 ft. / 1,52m Cable Assembly	QRW605S	3045-1067	XQRW605S	3045-1092
With 5.5 ft. / 1,68m Cable Assembly	QRW6055S	3045-1068	XQRW6055S	3045-1093
With 6 ft. / 1,83m Cable Assembly	QRW606S	3045-1069	XQRW606S	3045-1094
With 7 ft. / 2,13m Cable Assembly	QRW607S	3045-1070	XQRW607S	3045-1095
With 8 ft. / 2,44m Cable Assembly	QRW608S	3045-1071	XQRW608S	3045-1096
With 10 ft. / 3m Cable Assembly	QRW610S	3045-1072	XQRW610S	3045-1097
With 12 ft. / 4m Cable Assembly	QRW612S	3045-1073	XQRW612S	3045-1098
With 15 ft. / 5m Cable Assembly	QRW615S	3045-1074	XQRW615S	3045-1099

QRWAS Series 600 Amp Water/Air-cooled Nozzle Sensing Torch Body and Cable Assembly

Standard Torch Body	Part No.	Stock No.	w/ Euro-Kwik Part No.	Stock No.
With 3 ft. / 91cm Cable Assembly	QRWA603S	3045-1113	XQRWA603S	3045-1138
With 3.5 ft. / 1,07m Cable Assembly	QRWA6035S	3045-1114	XQRWA6035S	3045-1139
With 4 ft. / 1,22m Cable Assembly	QRWA604S	3045-1115	XQRWA604S	3045-1140
With 4.5 ft. / 1,37m Cable Assembly	QRWA6045S	3045-1116	XQRWA6045S	3045-1141
With 5 ft. / 1,52m Cable Assembly	QRWA605S	3045-1117	XQRWA605S	3045-1142
With 5.5 ft. / 1,68m Cable Assembly	QRWA6055S	3045-1118	XQRWA6055S	3045-1143
With 6 ft. / 1,83m Cable Assembly	QRWA606S	3045-1119	XQRWA606S	3045-1144
With 7 ft. / 2,13m Cable Assembly	QRWA607S	3045-1120	XQRWA607S	3045-1145
With 8 ft. / 2,44m Cable Assembly	QRWA608S	3045-1121	XQRWA608S	3045-1146
With 10 ft. / 3m Cable Assembly	QRWA610S	3045-1122	XQRWA610S	3045-1147
With 12 ft. / 4m Cable Assembly	QRWA612S	3045-1123	XQRWA612S	3045-1148
With 15 ft. / 5m Cable Assembly	QRWA615S	3045-1124	XQRWA615S	3045-1149