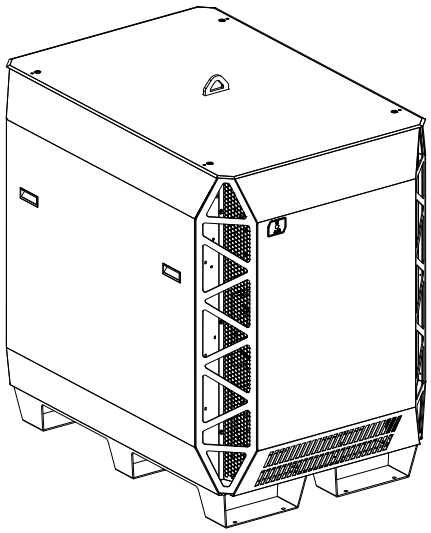
9 Parts List

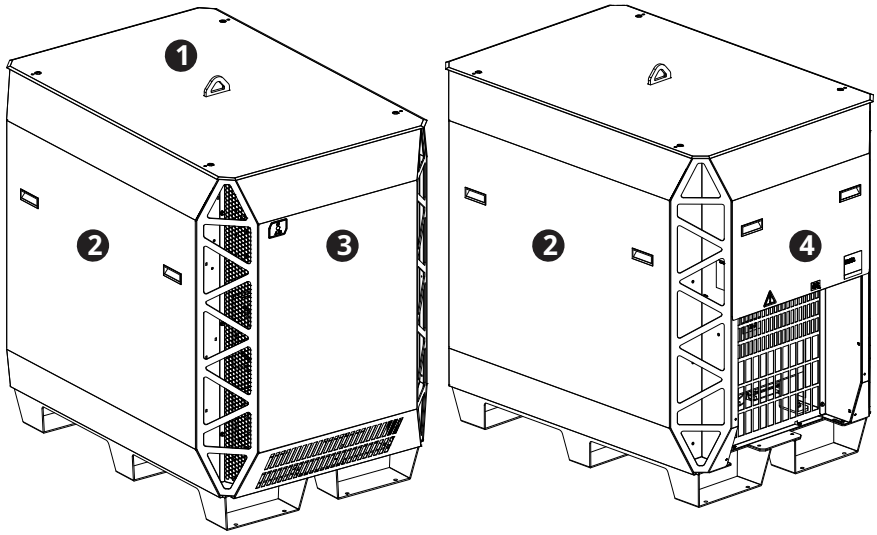
Plasma power supply parts



Part number	Voltage (VAC)
078650	200
078651	208
078652	220
078653	240
078654	380
078655	400
078656	415

Part number	Voltage (VAC)
078657	440
078658	480
078659	600

Outer panel parts

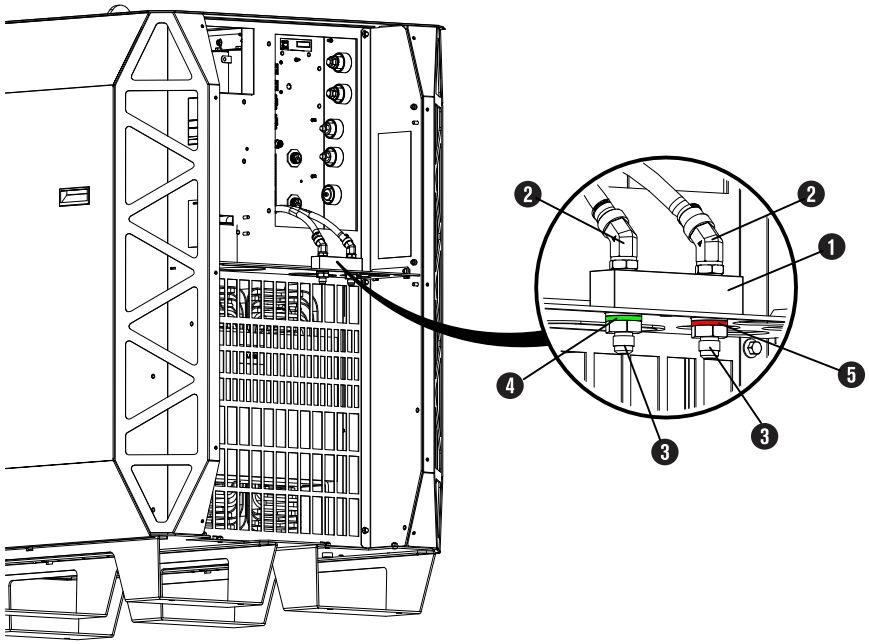


	Part number	Description	Quantity
1	10084227	Top panel with labels	1
2	10084228	Side panel with labels and handles	2
3	10084230	Front panel with "H" (not shown) and power-indicator LED label	1
4	10084229	Rear panel with label and handles	1

Fans

Part number	Description	Designator	Quantity
429002	Power-indicator LED	-	1
229821	Fan: 250 cfm, 48 VDC, 120 mm (4.72 inch) diameter	CAB FAN 1	1
229822	Fan: 890 cfm, 48 VDC, 254 mm (10 inch) diameter	MAGFAN 1, MAGFAN 2, MAGFAN 3	3
003266	Solid state relay	-	1
141384	Fan power distribution PCB	PCB6	1

Coolant adapters and manifold in the rear compartment

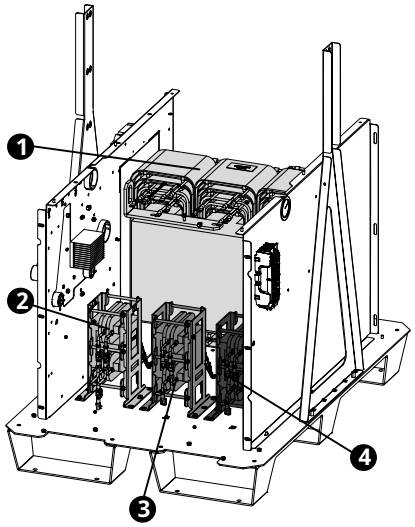


	Part number	Description	Quantity
	10082412	Coolant manifold assembly	1
1	204405	Coolant connections manifold	1
2	015938	Elbow adapter: 3/8 inch NPT X 1/2 inch tube, 45° swivel	2
3	10082222	Adapter: 3/8 inch NPT X #6 male BRS	2
4	10083877	Green ring: 0.70 inch inner diameter	1
5	10083878	Red ring: 0.70 inch inner diameter	1

Coolant adapters and manifolds in plasma power supply

Part number	Description	Location	Quantity
10082411	Chopper manifold assembly	on the back of the choppers	1
015663	Adapter: 1/4 inch NPT X 1/2 inch tube	on the manifold behind choppers	6
015664	Elbow adapter: 1/4 inch NPT X 1/2 inch tube	on the manifold behind choppers	2
015729	Green ring: 0.50 inch inner diameter	on the manifold behind choppers	1
015730	Red ring: 0.50 inch inner diameter	on the manifold behind choppers	1
104807	Nut for chopper fitting	on the back of the choppers	6
015815	Elbow fitting: 1/2 inch tube X 1/2 inch tube, 90°	on the back of the choppers	6
528123	Kit: Tubing for plasma power supply	-	1

Transformers and inductors



	Part number	Description	Designator	Quantity
1	-	Transformer, horizontal, 102.12 kW, 3-phase [1]	T2	1
2	10084075	Kit: Inductor 1A (top)/1B (bottom)	L1	1
3	10084076	Kit: Inductor 2A (top)/2B (bottom)	L2	1
4	10084077	Kit: Inductor 3A (top)/3B (bottom)	L3	1
	10084200	Kit: Thermistor for the main transformer	-	2

1 You cannot purchase this part. Shown for reference only.

Control parts - 1

Part number	Description	Designator	Quantity
10082976	Power source: 48 VDC with bracket	PS2	1
141577	Power distribution PCB	PCB7	1
108709	Fuse: 10 A, 250 VAC, time delay (on PCB7)	F3, F4, F5	3
Control transformer assembly, 3 kVA			
429142	200 V, 50 Hz - 60 Hz	T1	1
429143	208 V, 60 Hz		
429144	220 V, 50 Hz - 60 Hz		
429145	240 V, 60 Hz		
429146	380 V, 50 Hz		
429147	400 V, 50 Hz		
429148	415 V, 50 Hz		
429149	440 V, 50 Hz - 60 Hz		
429150	480 V, 60 Hz		
429151	600 V, 60 Hz		
10082243	Start circuit assembly	PCB4	1

Control parts - 2

Part number	Description	Designator	Quantity
229640	Power source: 88 VAC - 264 VAC to 24 VDC	PS1	1
10084334	Control PCB with wireless tag	PCB1	1
141592	Wireless module for control PCB	U83	1
141597	Plasma power supply expansion PCB	PCB9	1
208394	Fuse holder: 2P, 30 A, 600 V	-	1
208395	Fuse: 8 A, 600 V, Class R (used in 380 V, 400 V, 415 V, 440 V, 480 V, 600 V)	F1, F2	2
208397	Fuse: 15 A, 600 V, Class R (used in 200 V, 208 V, 220 V, 240 V)		
10085206	I/OPCB	PCB5	1
003277	Pilot arc relay: 24 VDC, coil, 60 A 28 VDC contacts	CR1	1
003277	Cooler power relay: 24 VDC, coil, 60 A 28 VDC contacts	-	1
101316	Relay cover (pilot arc relay and cooler power relay)	-	2
10085251	Chopper assembly	Chopper 1, Chopper 2, Chopper 3	3

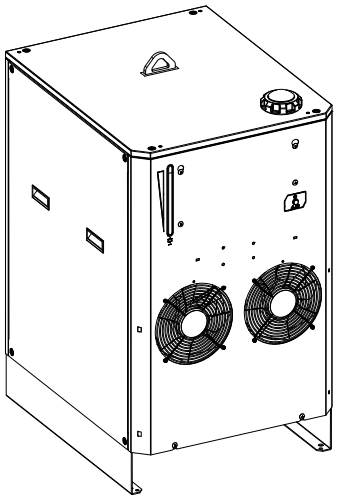
Wire harness and CAN cables in the plasma power supply

Part number	Description
429117	XPR460 wire harness
223399	CAN cable 0.5 m (1.6 ft) (Located between the choppers.)
223400	CAN cable 1 m (3.3 ft) (Located between the control PCB and chopper.)

Rear compartment of the plasma power supply

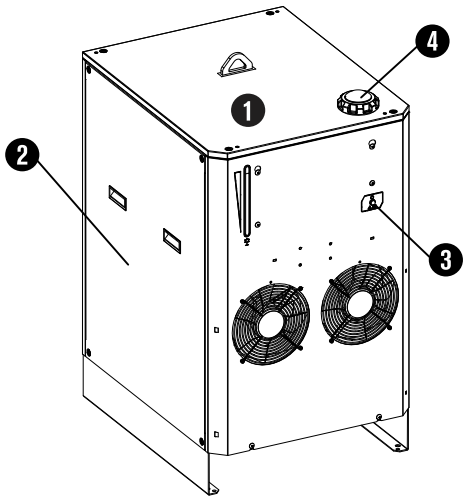
Part number	Description	Designator	Quantity
003297	Inrush contactor: 80 A, IEC AC-3, 3-phase, 120 VAC	IR_CON	1
209274	Inrush resistor assembly, 2 Ω X 3	-	1
229033	Terminal block 600 V, 200 A (380 V, 400 V, 415 V, 440 V, 480 V, 600 V)	TB1	1
10084059	Terminal block 600 V, 410 A (200 V, 208 V, 220 V, 240 V)		
10084340	Main contactor (200 V, 208 V, 220 V, 240 V)	M_CON	1
10084339	Main contactor assembly (380 V, 400 V, 415 V, 440 V, 480 V, 600 V)		
10083630	Strain relief (380 V, 400 V, 415 V, 440 V, 480 V, 600 V)	-	1

Cooler parts



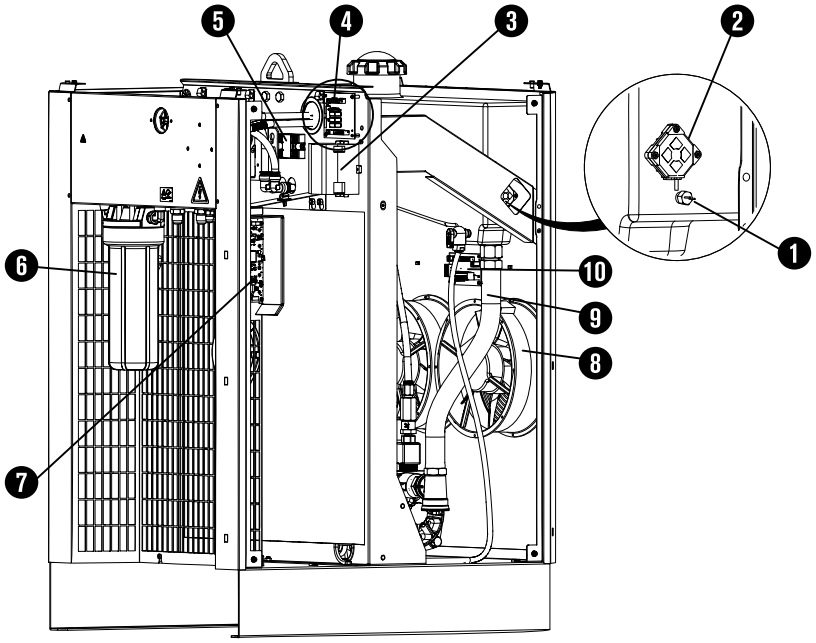
Part number	Description
078660	Cooler

Cooler outer parts



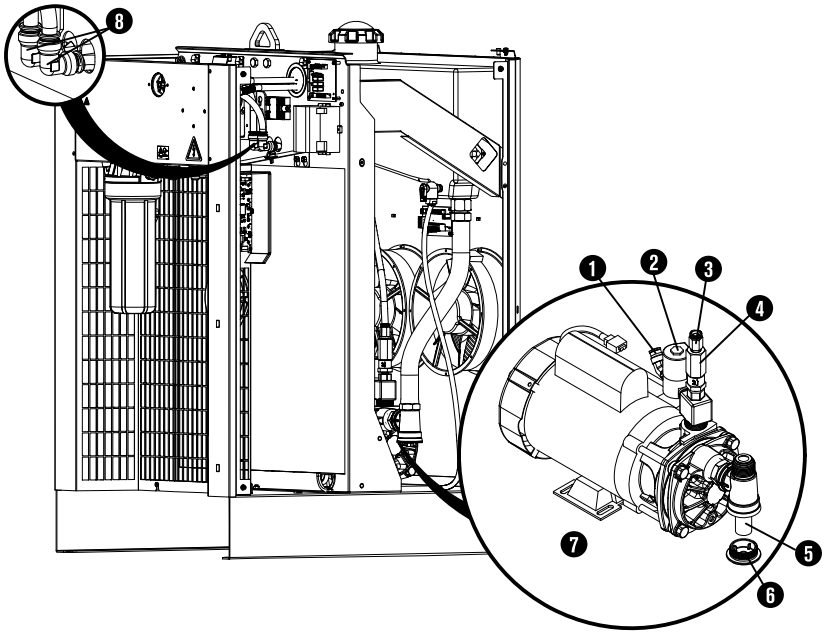
	Part Number	Description	Quantity
1	10084232	Cooler top panel	1
2	10084231	Cooler side panel	2
3	229825	Power-indicator LED	1
4	127014	Coolant reservoir cap	1

Cooler interior parts - view 1



	Part number	Description	Designator	Quantity
1	229224	Coolant thermistor	-	1
2	229775	Coolant level sensor	-	1
3	229640	Power source: 88 VAC – 264 VAC to 24 VDC	PS1	1
4	141573	Cooler power distribution PCB	PCB1	1
5	003266	Solid state relay	-	1
6	127344	Coolant filter housing	-	1
	027005	Coolant filter (fine)	-	1
	10078822	Wrench for coolant filter housing	-	1
7	141524	Cooler control PCB	PCB2	1
8	229822	Fan: 890 cfm, 48 VDC, 254 mm (10 inch) diameter	HXFAN 1, HXFAN 2	2
9	10082471	Coolant hose (1 inch)	-	1
10	141384	Fan power distribution PCB	PCB3	1

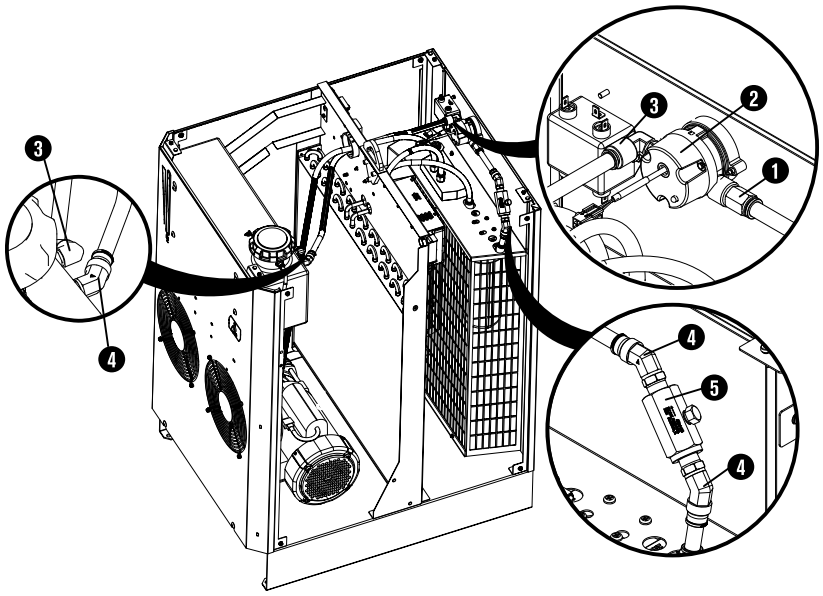
Cooler interior parts - view 2



	Part Number	Description	Designator	Quantity
1	015938	Elbow adapter: 3/8 inch NPT X 1/2 inch tube, 45° swivel	-	1 [1]
2	229721	Coolant solenoid valve assembly	-	1
3	015663	Adapter: 1/4 inch NPT X 1/2 inch tube	-	1 [1]
4	006132	Coolant bypass check valve	-	1
5	127559	Coolant pump screen (coarse)	-	1
6	229843	Plug and O-ring	-	1
	044554	O-ring, on plug		
7	428729	Coolant pump and motor assembly: ▪ Adapter: 1-5/8 inch X 1 inch NPT X #16 JIC ▪ Plug with O-ring ▪ Coolant pump screen (coarse) ▪ Pump and motor ▪ Adapter: 1 inch MNPT X 1 inch MNPT hexagonal collar ▪ Adapter: 1 inch MNPT X 3/8 inch FNPT X 1/4 inch FNPT ▪ Adapter: 3/8 inch hexagonal ▪ Coolant solenoid valve assembly	-	1
8	015815	Elbow fitting: 1/2 inch tube X 1/2 inch tube, 90°		2

1 Refer to Cooler interior parts - view 3 on page 402 for other locations.

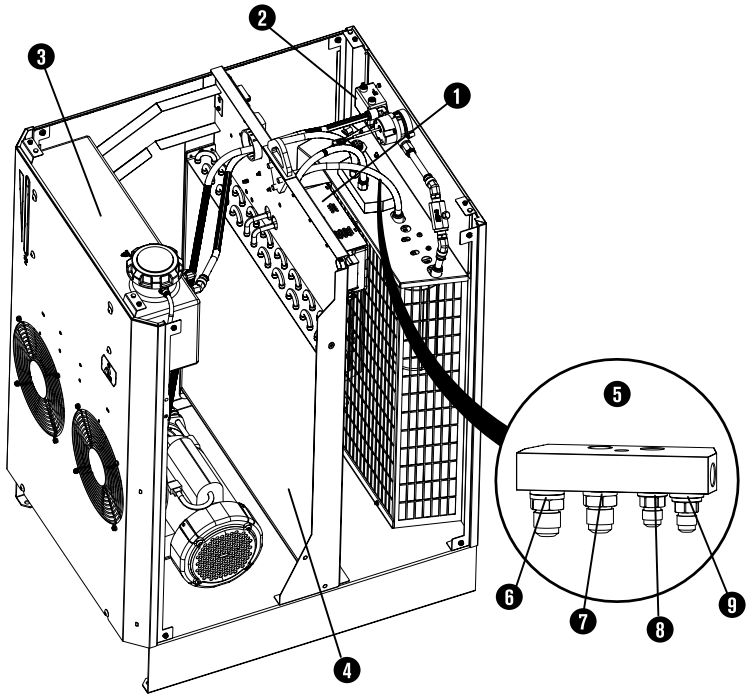
Cooler interior parts - view 3



	Part Number	Description	Designator	Quantity
1	015663	Adapter: 1/4 inch NPT X 1/2 inch tube	-	1 [1]
2	229741	Coolant flow meter	-	1
3	015664	Elbow adapter: 1/4 inch NPT X 1/2 inch tube		2
4	015938	Elbow adapter: 3/8 inch NPT X 1/2 inch tube, 45° swivel		3 [1]
5	006113	Coolant check valve	-	1
	528082	Kit: Tubing (1 inch hose not included)	-	1
	429114	Cooler wire harness	-	1

1 Refer to Cooler interior parts - view 2 on page 401 for other locations.

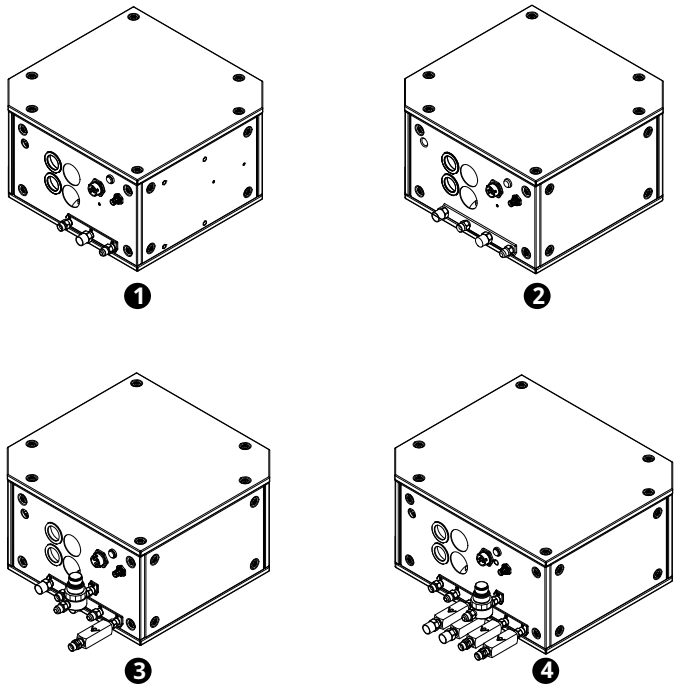
Cooler interior parts - view 4



	Part Number	Description	Designator	Quantity
1	10082976	Power source: 48 VDC with bracket	PS2	1
2	209643	EMI filter	-	1
3	10082942	Coolant reservoir	-	1
4	127853	Cooler heat exchanger	-	1

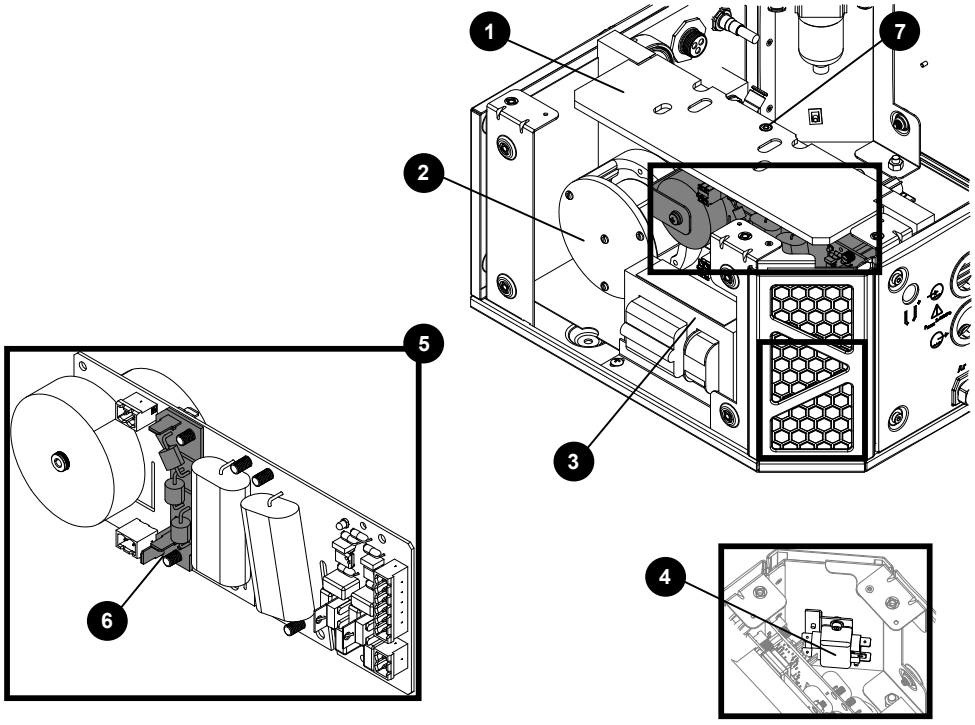
	Part Number	Description	Designator	Quantity
5	10082413	Coolant hose manifold assembly	-	1
6	10083877	Green ring: 0.70 inch inner diameter	-	1
7	10083878	Red ring: 0.70 inch inner diameter	-	1
8	015729	Green ring: 0.50 inch inner diameter	-	1
9	015730	Red ring: 0.50 inch inner diameter	-	1

Gas connect console parts



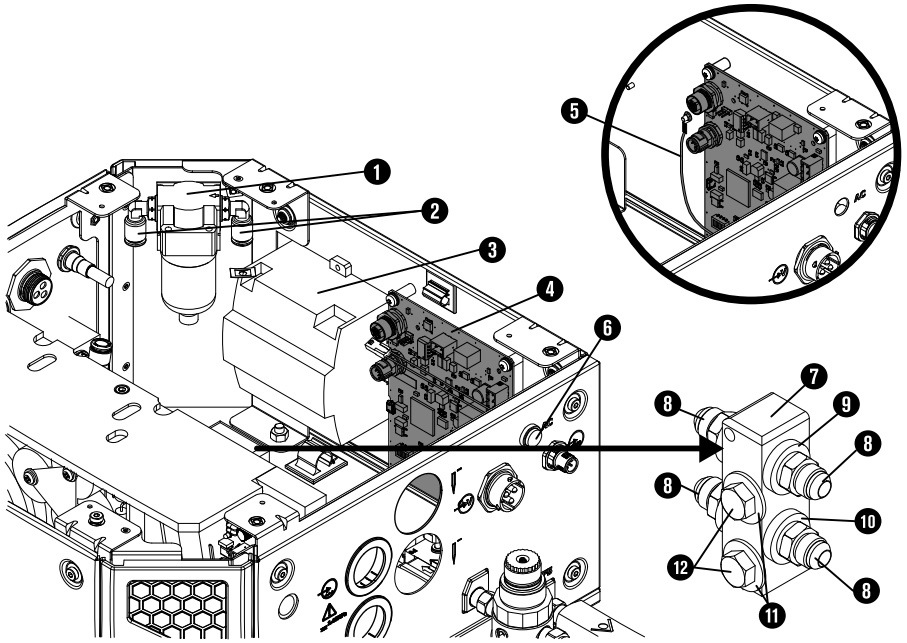
	Part number	Description
1	078631	Core gas connect console
2	078662	CorePlus gas connect console
3	078632	VWI gas connect console
4	078633	OptiMix gas connect console

Gas connect console high-voltage side parts



	Part number	Description	Console	Designator	Quantity
1	002570	Insulator	Core, CorePlus, VWI, OptiMix	–	1
2	10079807	Coil assembly	Core, CorePlus, VWI, OptiMix	T2	1
3	229838	High-frequency, high-voltage transformer	Core, CorePlus, VWI, OptiMix	T1	1
4	009045	EMI filter	Core, CorePlus, VWI, OptiMix	–	1
5	141563	High-frequency, high-voltage ignition PCB	Core, CorePlus, VWI, OptiMix	PCB2	1
6	141595	Spark gap PCB	Core, CorePlus, VWI, OptiMix	–	1
7	075678	Socket head cap screw: M5 - 0.8 X 10 mm hexagonal	Core, CorePlus, VWI, OptiMix	–	1

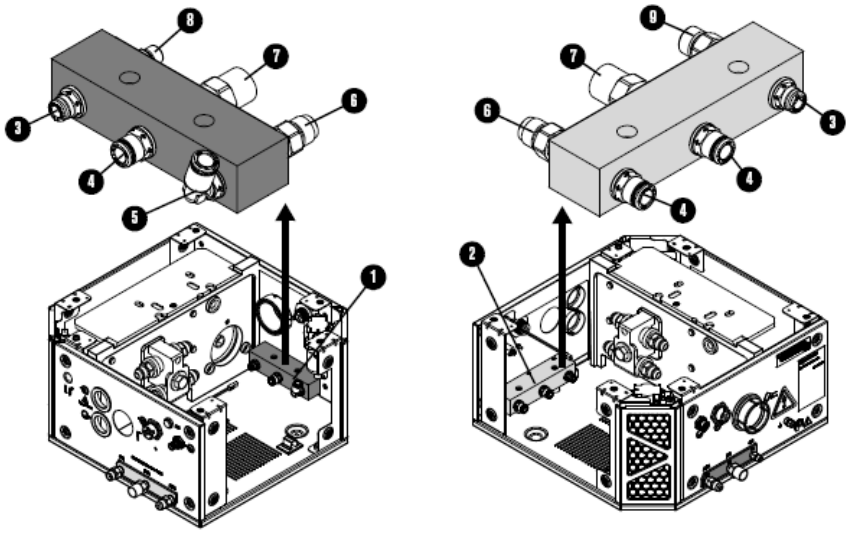
Gas connect console manifold side parts



	Part number	Description	Console	Designator	Quantity
1	011151	Air filter assembly	Core, CorePlus, VWI, OptiMix	–	1
	011110	Air filter element	Core, CorePlus, VWI, OptiMix	–	1
2	015853	Male elbow adapter: 1/4 inch NPT X 5/16 inch tube	Core, CorePlus, VWI, OptiMix	–	2
3	229640	Power source: 88 VAC - 264 VAC to 24 VDC	VWI, OptiMix only	–	1
4	141375	Control PCB	Core, CorePlus, VWI, OptiMix	PCB1	1
5	429205	Wire harness for control PCB This is not a ground wire, and it is not included with the 141375 control PCB.	CorePlus only	–	1
6	229825	Green power-indicator LED assembly	Core, CorePlus, VWI, OptiMix	–	1
7	104757	Coolant manifold	Core, CorePlus, VWI, OptiMix	–	1

	Part number	Description	Console	Designator	Quantity
8	015029	Adapter: 1/2 inch NPT X #8 male	Core, CorePlus, VWI, OptiMix	–	4
9	015898	Green ring: 0.87 inches inner diameter	Core, CorePlus, VWI, OptiMix	–	2
10	015899	Red ring: 0.87 inches inner diameter	Core, CorePlus, VWI, OptiMix	–	2
11	075218	Washer	Core, CorePlus, VWI, OptiMix	–	2
12	075140	Bolt	Core, CorePlus, VWI, OptiMix	–	2

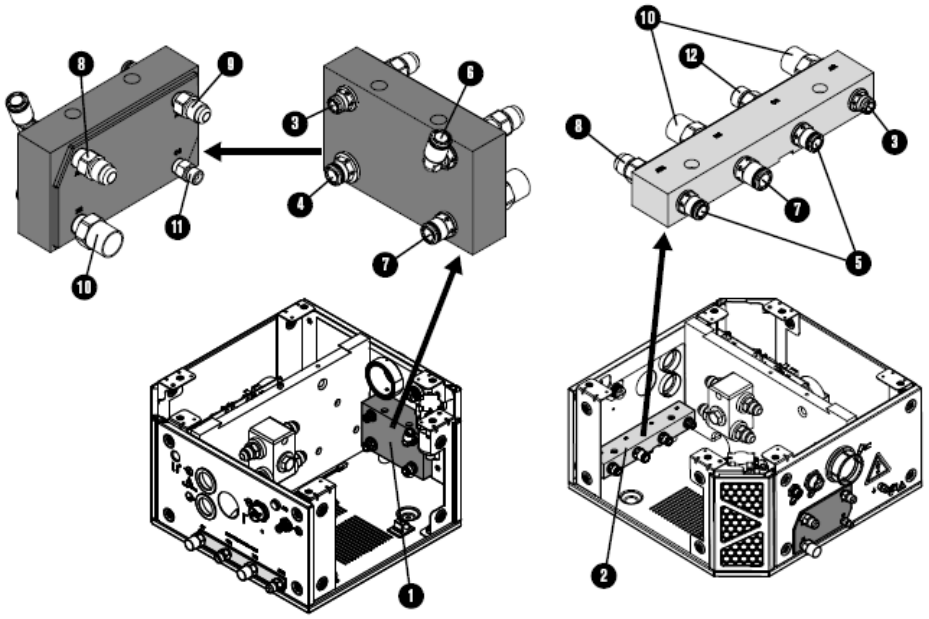
Core gas connect console manifolds and adapters



	Part number	Description	Quantity
1	104806	Manifold: Gas output (no adapters)	1
2	104802	Manifold: Gas input (no adapters)	1
Push-to-connect adapters			
3	015876	1/4 inch NPT X 1/4 inch tube	2
4	015811	1/4 inch NPT X 8 mm tube	3
5	015853	Male elbow: 1/4 inch NPT X 5/16 inch tube	1

	Part number	Description	Quantity
Threaded adapters with thread sealant applied			
6	015012	1/4 inch NPT X #6 male (air output and input)	2
7	015103	1/4 inch NPT X RH ‘B’ inert female (nitrogen output and input)	2
8	015116	1/8 inch NPT X RH ‘A’ male (oxygen output)	1
9	015009	1/4 inch NPT X RH ‘B’ male (oxygen input)	1

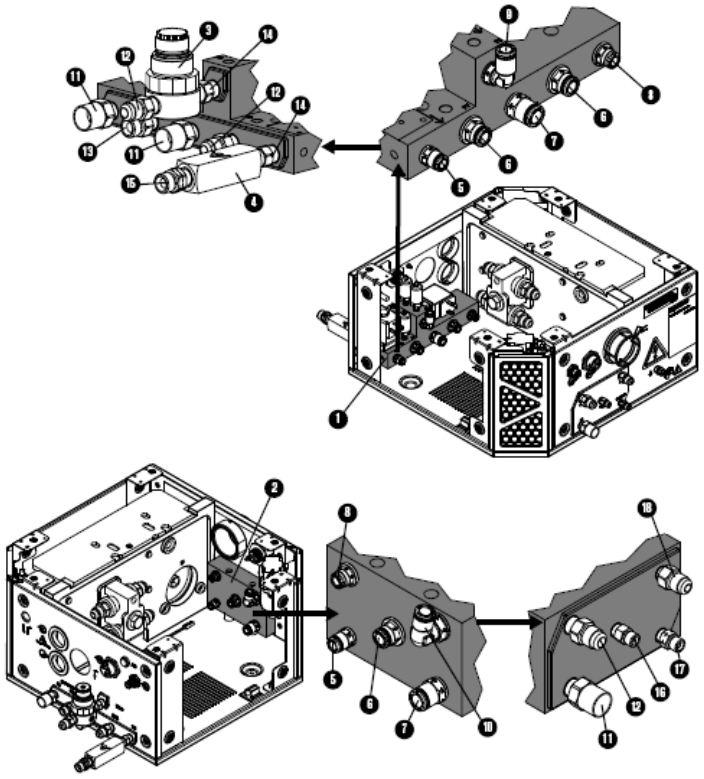
CorePlus gas connect console manifolds and adapters



	Part number	Description	Quantity
1	10078917	Manifold: Gas output (no adapters)	1
2	10078916	Manifold: Gas input (no adapters)	1
Push-to-connect adapters			
3	015876	1/4 inch NPT X 1/4 inch tube	2
4	015910	3/8 inch NPT X 5/16 inch tube	1
5	015811	1/4 inch NPT X 8 mm tube	3
6	015909	Male elbow: 1/4 inch NPT X 5/16 inch tube	1
7	015907	1/4 inch NPT X 3/8 inch tube	1
Threaded adapters with thread sealant applied			

	Part number	Description	Quantity
8	015012	1/4 inch NPT X #6 male (air output and input)	2
9	015197	Adapter: 1/8 inch NPT X #5 male (argon outlet)	1
10	015103	1/4 inch NPT X RH ‘B’ inert female (nitrogen output and input)	3
11	015116	1/8 inch NPT X RH ‘A’ male (oxygen output)	1
12	015009	1/4 inch NPT X RH ‘B’ male (oxygen input)	1

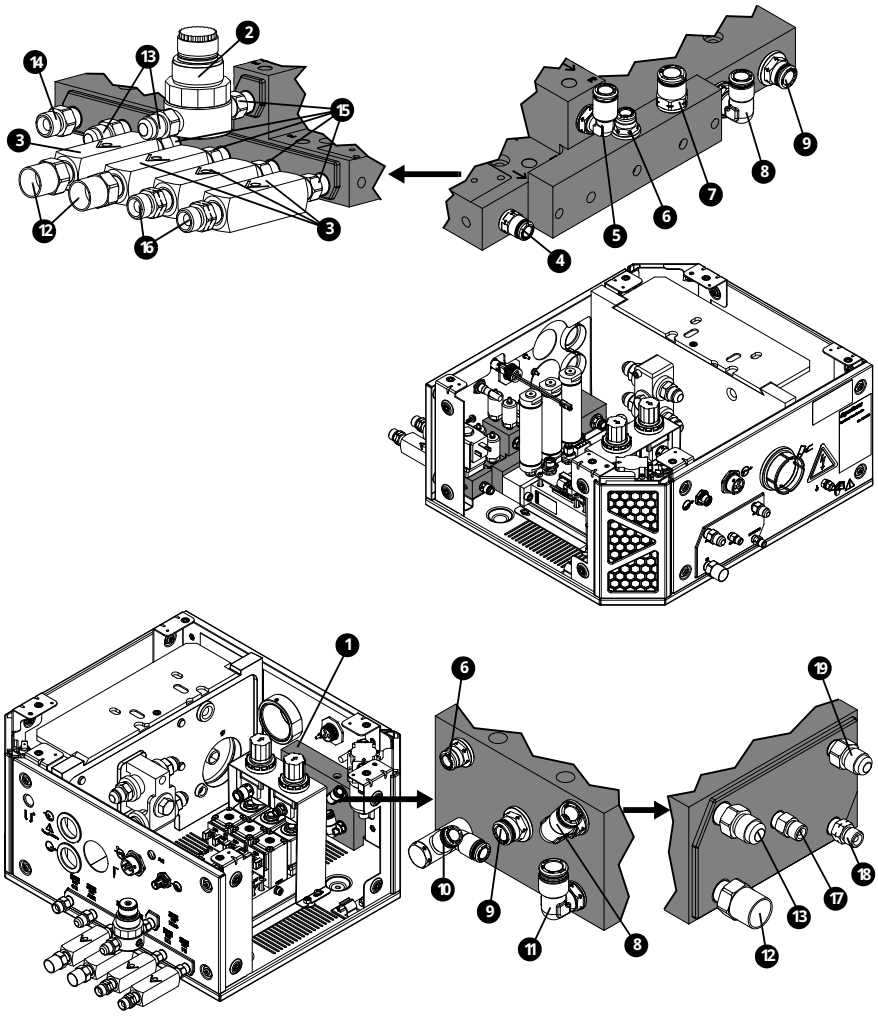
VWI gas connect console input and output manifolds and adapters



	Part number	Description	Quantity
1	229898	Manifold: Gas input (with adapters)	1
2	104843	Manifold: Gas output (no adapters)	1
3	229844	Water regulator	1
4	006157	Check valve	1
Push-to-connect adapters			

	Part number	Description	Quantity
5	015905	1/8 inch NPT X 1/4 inch tube	2
6	015910	3/8 inch NPT X 5/16 inch tube	2
7	015907	1/4 inch NPT X 3/8 inch tube	1
8	015876	1/4 inch NPT X 1/4 inch tube	1
9	015853	Elbow: 1/4 inch NPT X 5/16 inch tube, 90°	1
10	015909	Elbow: 3/8 inch NPT X 5/16 inch tube, 90°	-
Threaded adapters with thread sealant applied			
11	015103	1/4 inch NPT X RH 'B' inert female	3
12	015012	1/4 inch NPT X #6 male	3
13	015009	1/4 inch NPT X RH 'B' male	1
14	015922	1/4 inch X hexagonal collar	2
15	015230	1/4 inch NPT X LH 'B'	1
16	015116	Adapter: 1/8 inch NPT X RH 'A' (oxygen outlet)	1
17	015210	Adapter: 1/8 inch NPT X LH 'A' male (hydrogen mix outlet)	1
18	015197	Adapter: 1/8 inch NPT X #5 male (argon outlet)	1

OptiMix gas connect console input and output manifolds and adapters

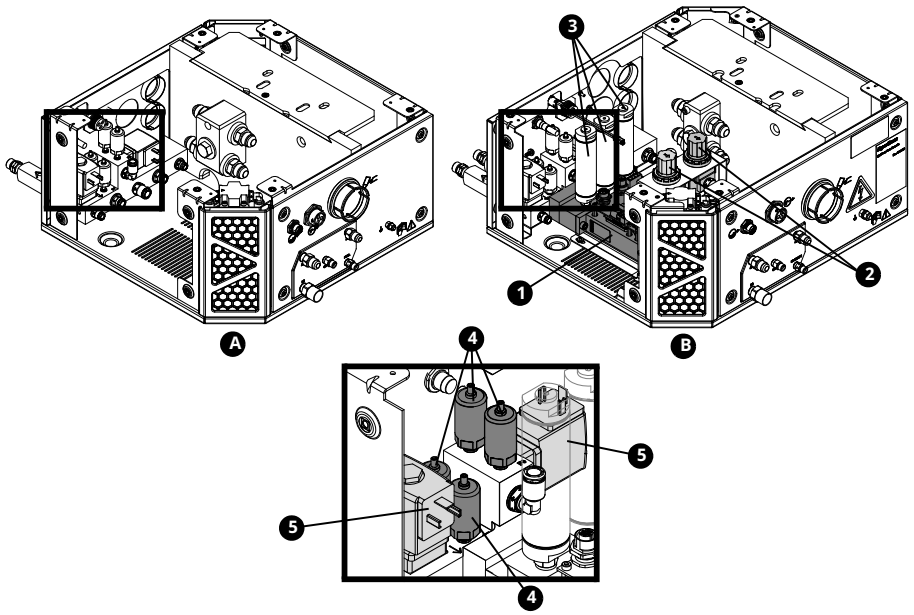


	Part number	Description	Quantity
1	104843	Manifold: Gas output (no adapters)	1
2	229844	Water regulator	1
3	006157	Check valve	4
Push-to-connect adapters			
4	015905	1/8 inch NPT X 1/4 inch tube	1
5	015853	Elbow: 1/4 inch NPT X 5/16 inch tube	1
6	015876	1/4 inch NPT X 1/4 inch tube	1
7	015907	1/4 inch NPT X 3/8 inch tube	1

	Part number	Description	Quantity
8	015909	Elbow: 3/8 inch NPT X 5/16 inch tube	1
9	015910	3/8 inch NPT X 5/16 inch tube	1
10	015906	Dual connection: 1/8 inch NPT X 1/4 inch tube	1
11	015908	Elbow: 1/4 inch NPT X 3/8 inch tube	1
Threaded adapters with thread sealant applied			
12	015103	1/4 inch NPT X RH 'B' inert female	3
13	015012	1/4 inch NPT X #6 male	3
14	015009	1/4 inch NPT X RH 'B' male	1
15	015922	1/4 inch X hexagonal collar	5
16	015230	1/4 inch NPT X LH 'B'	1
17	015116	1/8 inch NPT X RH 'A'	1
18	015210	1/8 inch NPT X LH 'A'	1
19	015197	1/8 inch NPT X #5	1

To replace the gas input manifold with adapters in an OptiMix gas connect console, contact your cutting machine supplier or regional Hypertherm Customer Service representative.

VWI and OptiMix gas connect console mixer, resonators, transducers, and valves



A VWI

B OptiMix

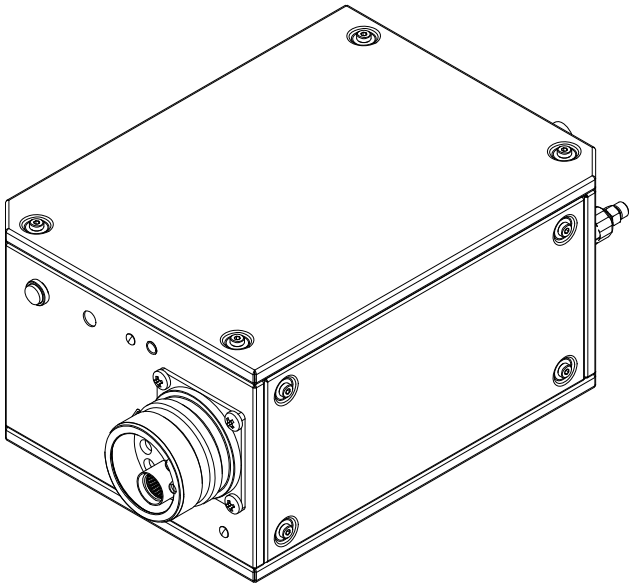
	Part number	Description	Console	Designator	Quantity
1	229703	Mixer module	OptiMix	-	1
	528057	Kit: Mixer module and cable ties	OptiMix	-	1
2	011101	Regulator	OptiMix	-	2
3	10082792	Resonator	OptiMix	-	3
4	223398	Pressure transducer	VWI and OptiMix	P6 - P9	4
5	006167	Proportional valve	VWI and OptiMix	B4, B5	2

Gas connect console wire harness, hose kit, and CAN cables

Part number	Description	Console	Quantity
229718	Wire harness	Core, CorePlus	1
229719	Wire harness	VWI	
229720	Wire harness	OptiMix	

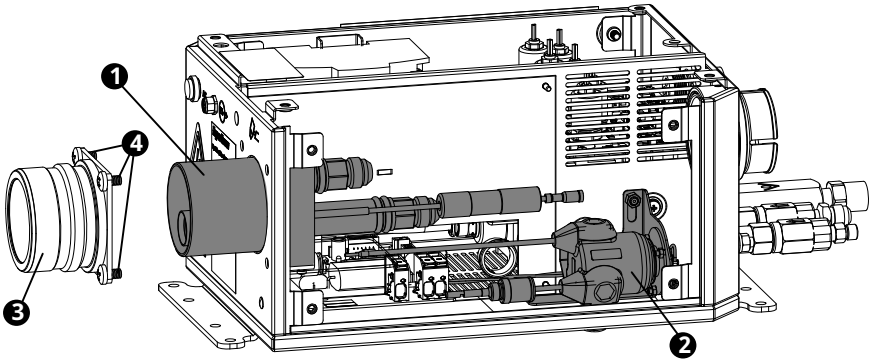
Part number	Description	Console	Quantity
428490	Kit: Tubing	Core	1
10078918	Kit: Tubing	CorePlus	
428491	Kit: Tubing	VWI	
428492	Kit: Tubing	OptiMix	
223709	CAN cable 0.38 m (1.2 ft) to external connector	Core, CorePlus, VWI, OptiMix	1
223710	CAN cable 0.48 m (1.6 ft) male-female	Core, CorePlus, VWI	1
223711	CAN cable 0.5 m (1.6 ft) male-female	OptiMix	1
223712	CAN cable 0.39 m (1.3 ft) male-female	OptiMix	1

TorchConnect console parts



Part number	Description
078618	TorchConnect console

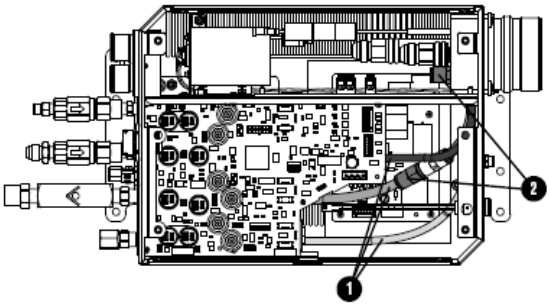
TorchConnect console EasyConnect side



	Part number	Description	Designator	Quantity
1	428730	Torch receptacle block	-	1
2	229882 [1]	Ohmic relay and bracket	-	1
3	420376	Torch lead connector	-	1
4	075544	Machine screw: M6 X 10 mm Phillips, pan head	-	4 (3 shown)

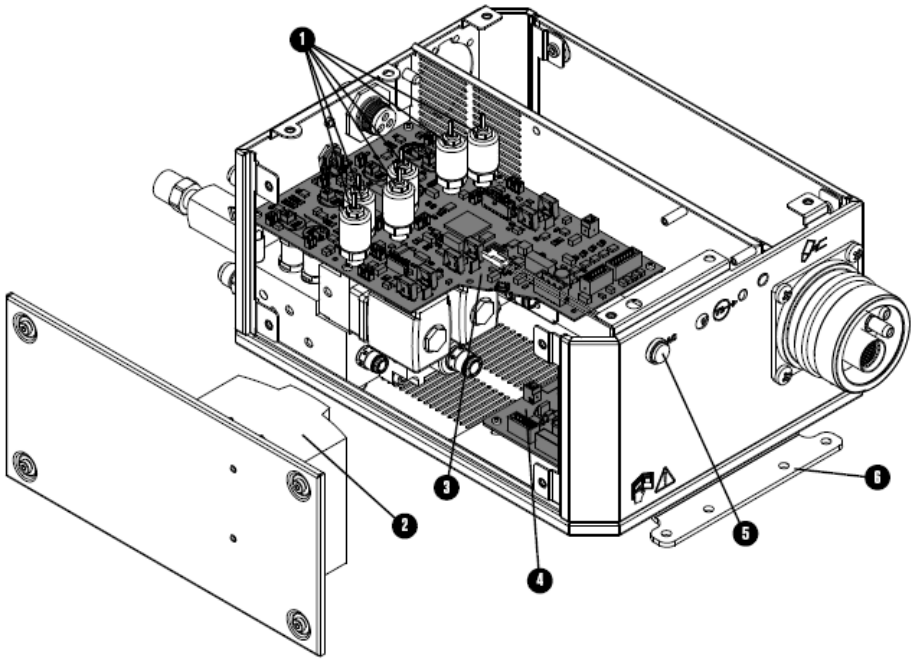
1 Includes the ohmic contact PCB (141368).

TorchConnect console – top



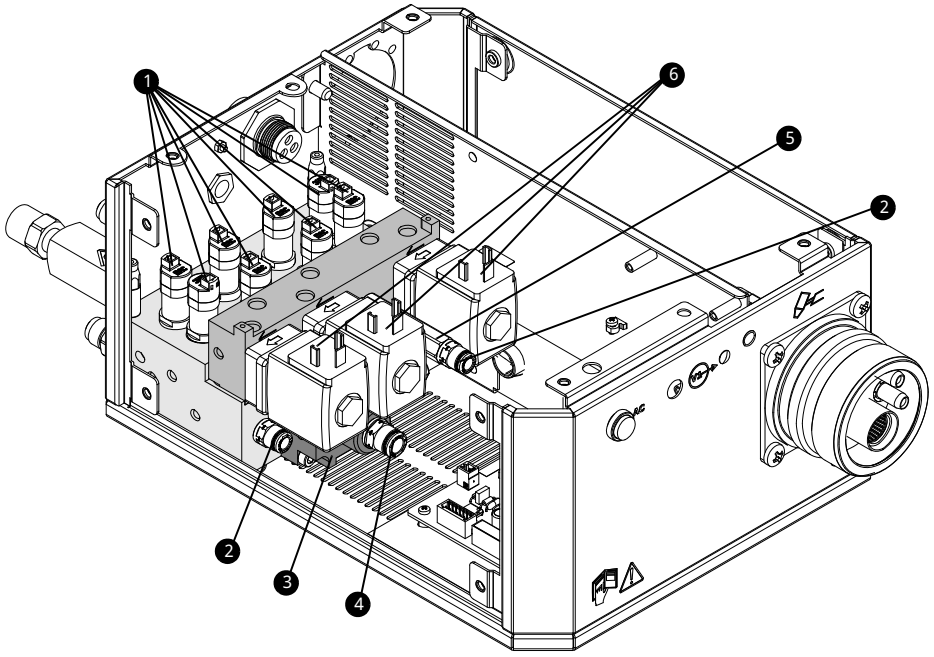
	Part number	Description	Designator	Quantity
1	428338	Kit: Tubing	-	1
2	006152	Check valve	-	2

TorchConnect console manifold side – view 1



	Part number	Description	Designator	Quantity
1	223477	Pressure transducer with wire and connector	P1 - P5, P14	6
2	229640	Power source: 88 VAC - 264 VAC to 24 VDC	PS1	1
3	141334	Control PCB	PCB1	1
4	141368	Ohmic contact PCB	PCB2	1
5	229825	Green power-indicator LED assembly	-	1
6	101366	Bracket	-	2 (1 shown)
	229780	Valve cable 40 mm (1.6 inches)	-	8
	229800	Valve cable 279.4 mm (11 inches)	-	1
	229655	Wire harness	-	1

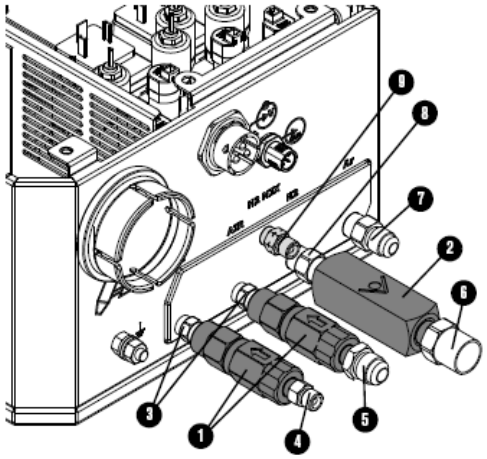
TorchConnect console manifold side – view 2



	Part number	Description	Designator	Quantity
	229895	Manifold assembly: ▪ Solenoid valves ▪ Proportional valves ▪ All manifolds ▪ All fittings	-	1
1	229965	Solenoid valve	V4 - V12	9 (8 shown)
	229917	Solenoid valve (229965) tool [1]	-	
2	015905	Adapter: 1/8 inch NPT O-ring seal X 1/4 inch tube	-	2
3	428756	Bottom manifold assembly: ▪ Bottom manifold ▪ Adapter ▪ Critical orifice ▪ Solenoid valve	-	1
4	015811	Adapter: 1/4 inch NPT O-ring seal X 8 mm tube	-	1
5	104406	Adapter: 1/8 inch FPT X1/8 inch NPT X1-5/8 inch	-	1
6	006167	Proportional valve	B1 - B3	3
	044508	O-ring		7

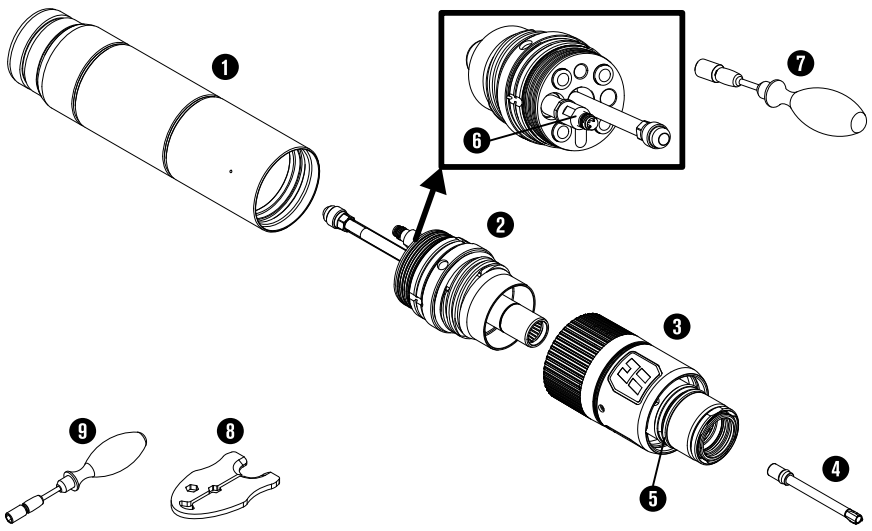
1 Use this tool to remove the solenoid valve without removing the control PCB or the pressure transducers.

TorchConnect console front adapters and valves



	Part number	Description	Designator	Quantity
1	006077	Check valve: 1/8 inch FPT	-	2
2	006157	Check valve: 1/4 inch NPT female	-	1
	Threaded adapters with thread sealant applied			
3	015517	1/8 inch hexagonal collar	-	2
4	015116	1/8 inch NPT X RH 'A'	-	1
5	015226	1/8 inch NPT X #6 male	-	1
6	015103	1/4 inch NPT X RH 'B' inert female	-	1
7	015007	1/4 inch NPT X #5 male	-	1
8	015922	1/4 inch hexagonal collar	-	1
9	015210	1/8 inch NPT X LH 'A' male	-	1

Torch assembly



	Part number	Description
1	420500	Torch mount sleeve assembly: Standard
	420501	Torch mount sleeve assembly: Short
	420502	Torch mount sleeve assembly: Extended
2	420220	Quick-disconnect/torch receptacle
3	420221	Quick-disconnect torch
4	420368	Water tube
5	044028	O-ring for quick-disconnect torch (refer to Preventive maintenance kits on page 434)
6	006155	Torch solenoid valve (V1)
7	229918	Torch solenoid valve (V1) tool
8	10080574	XPR consumable tool
9	429013	XPR electrode torque tool
	10083906	Torch assembly, 460 A mild steel consumables
	104879	2.25 inch spanner wrench

Torch bracket

Part number	Description
428646	Torch lifter bracket: 2.25 inch diameter sleeve

Consumable starter kits

Refer to Example configurations for consumables on page 236 or the *XPR Cut Charts Instruction Manual (809830)* for specific applications.

Mild steel consumable starter kit (10083904)

Part number	Description	Quantity
420231	Electrode: 50 A	1
420234	Nozzle: 50 A	1
420237	Shield: 50 A	1
420233	Swirl ring: 50 A	1
420240	Electrode: 80 A	2
420243	Nozzle: 80 A	2
420246	Shield: 80 A	2
420242	Swirl ring: 80 A - 130 A	2
420249	Electrode: 130 A	3
420252	Nozzle: 130 A	3
420255	Shield: 130 A	2
420261	Nozzle: 170 A	3
420258	Electrode: 170 A	3
420513	Shield: 170 A	2
420260	Swirl ring: 170 A	1
420276	Electrode: 220 A / 300 A	4
420270	Nozzle: 220 A	1
420273	Shield: 220 A	1
420406	Swirl ring: 220 A / 300 A	2
420276	Electrode: 300 A	3
420279	Nozzle: 300 A	3
420491	Shield: 300 A	2
420406	Swirl ring: 300 A	1
420834	Electrode: 460 A	3

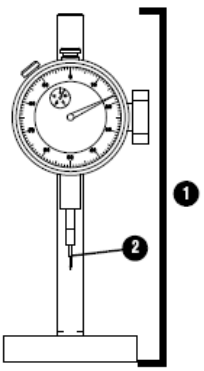
Part number	Description	Quantity
520001	Nozzle: 460 A	3
520002	Shield: 460 A	2
420819	Swirl ring: 460 A	1
420368	Water tube	1
420200	Shield retaining cap	1
420365	Nozzle retaining cap	1
104879	2.25 inch spanner wrench	1
10080574	XPR consumable tool	1
027055	Silicone lubricant, 1/4 ounce	1

Mild steel consumable starter kit with torch (10083905)

Part number	Description	Quantity
420221	Quick-disconnect torch head	1
420231	Electrode: 50 A	1
420234	Nozzle: 50 A	1
420237	Shield: 50 A	1
420233	Swirl ring: 50 A	1
420240	Electrode: 80 A	2
420243	Nozzle: 80 A	2
420246	Shield: 80 A	2
420242	Swirl ring: 80 A - 130 A	2
420249	Electrode: 130 A	3
420252	Nozzle: 130 A	3
420255	Shield: 130 A	2
420261	Nozzle: 170 A	3
420258	Electrode: 170 A	3
420513	Shield: 170 A	2
420260	Swirl ring: 170 A	1
420276	Electrode: 220 A / 300 A	4

Part number	Description	Quantity
420270	Nozzle: 220 A	1
420273	Shield: 220 A	1
420279	Nozzle: 300 A	3
420491	Shield: 300 A	2
420406	Swirl ring: 220 A / 300 A	2
420834	Electrode: 460 A	3
520001	Nozzle: 460 A	3
520002	Shield: 460 A	2
420819	Swirl ring: 460 A	1
420368	Water tube	2
420200	Shield retaining cap	2
420365	Nozzle retaining cap	2
104879	2.25 inch spanner wrench	1
10080574	XPR consumable tool	1
027055	Silicone lubricant, 1/4 ounce	1

Other consumable and torch parts



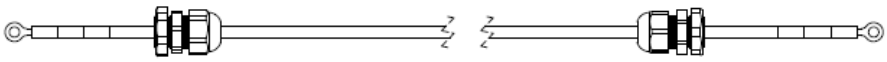
	Part number	Description
1	004630	Pit depth gauge
2	004629	Gauge point
	027055	Silicone lubricant, 1/4 ounce

	Part number	Description
	10080574	XPR consumable tool
	428764	XPR robotic torch teach accessory
	429013	XPR electrode torque tool

Cable, hose, and lead parts

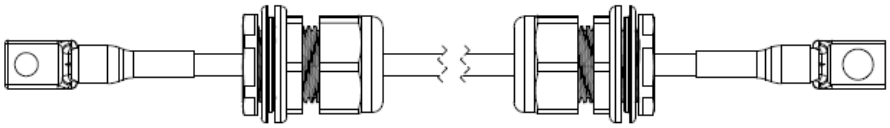
Use the following cables, hoses, and leads to connect cutting system components.

Pilot-arc cables with strain relief



Part number	Length	Part number	Length
223529	3 m (9.8 feet)	223535	25 m (82 feet)
223530	4.5 m (14.8 feet)	223536	35 m (114.8 feet)
223531	7.5 m (24.6 feet)	223537	45 m (147.6 feet)
223532	10 m (32.8 feet)	223538	60 m (196.9 feet)
223533	15 m (49.2 feet)	223539	75 m (246.1 feet)
223534	20 m (65.6 feet)	-	-

Negative cables with strain relief



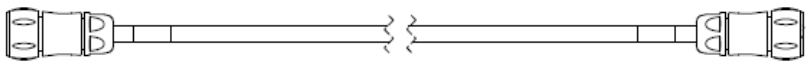
Part number	Type	Length	Part number	Type	Length
10083785	2/0	3 m (9.8 feet)	10082635	3/0	60 m (196.9 feet)
10083786	2/0	4.5 m (14.8 feet)	10082636	3/0	75 m (246.1 feet)
10083787	2/0	7.5 m (24.6 feet)	10084183 [1]	2/0	3 m (9.8 feet)
10083788	2/0	10 m (32.8 feet)	10084184 [1]	2/0	4.5 m (14.8 feet)

Part number	Type	Length	Part number	Type	Length
10083789	2/0	15 m (49.2 feet)	10084185 [1]	2/0	7.5 m (24.6 feet)
10083790	2/0	20 m (65.6 feet)	10084186 [1]	2/0	10 m (32.8 feet)
10083791	2/0	25 m (82 feet)	10084187 [1]	2/0	15 m (49.2 feet)
10082631	3/0	35 m (114.8 feet)	10084188 [1]	2/0	20 m (65.6 feet)
10082634	3/0	45 m (147.6 feet)	10084189 [1]	2/0	25 m (82 feet)

1 Leads labeled with CCC mark only. CCC is defined in Safety and EMC symbols and marks on page 38.

Power cable, 120 VAC

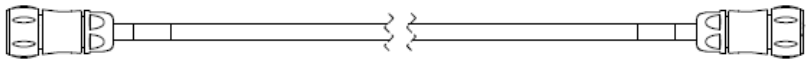
These power cables are 3-position, male-female, 120 VAC cables.



Part number	Length	Part number	Length
223436	3 m (9.8 feet)	223446	25 m (82 feet)
223437	4.5 m (14.8 feet)	223447	35 m (114.8 feet)
223439	7.5 m (24.6 feet)	223448	45 m (147.6 feet)
223441	10 m (32.8 feet)	223449	60 m (196.9 feet)
223444	15 m (49.2 feet)	223450	75 m (246.1 feet)
223445	20 m (65.6 feet)	-	-

Power cables, 220 VAC

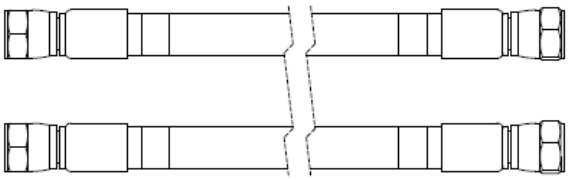
These power cables are 7-position, male-female, 220 VAC cables.



Part number	Length	Part number	Length
10083764	3.05 m (10 feet)	10083765	4.57 m (15 feet)

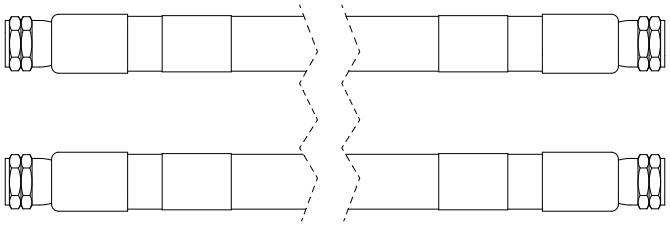
Coolant-hose assemblies (cooler to gas connect console)

This hose assembly has an internal diameter of 1.27 cm (0.50 inch).



Part number	Length	Part number	Length
428475	3 m (9.8 feet)	428481	25 m (82 feet)
428476	4.5 m (14.8 feet)	428482	35 m (114.8 feet)
428477	7.5 m (24.6 feet)	428483	45 m (147.6 feet)
428478	10 m (32.8 feet)	428484	60 m (196.9 feet)
428479	15 m (49.2 feet)	428485	75 m (246.1 feet)
428480	20 m (65.6 feet)	-	-

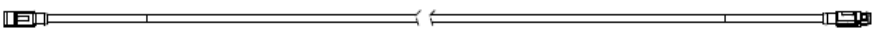
Coolant-hose assemblies (cooler to plasma power supply)



Part number	Length	Part number	Length
10083243	3 m (9.8 feet)	10083794	4.5 m (14.8 feet)

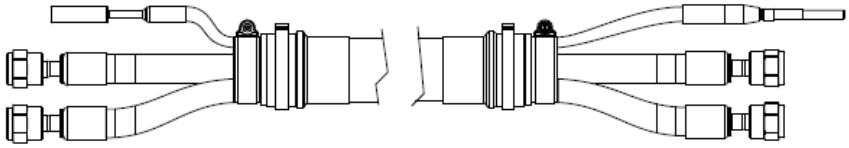
CAN cables

CAN cables are 5-position, male-female. Two CAN cables are necessary.



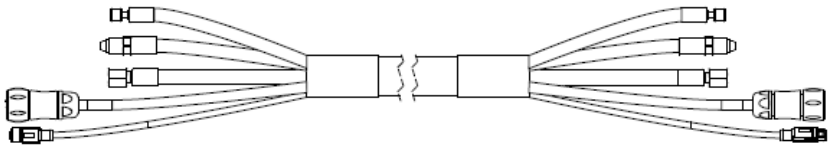
Part number	Length	Part number	Length
223417	3 m (9.8 feet)	223427	25 m (82 feet)
223418	4.5 m (14.8 feet)	223428	35 m (114.8 feet)
223420	7.5 m (24.6 feet)	223429	45 m (147.6 feet)
223422	10 m (32.8 feet)	223430	60 m (196.9 feet)
223425	15 m (49.2 feet)	223431	75 m (246.1 feet)
223426	20 m (65.6 feet)	-	-

Pilot-arc and coolant assemblies (Core, CorePlus)



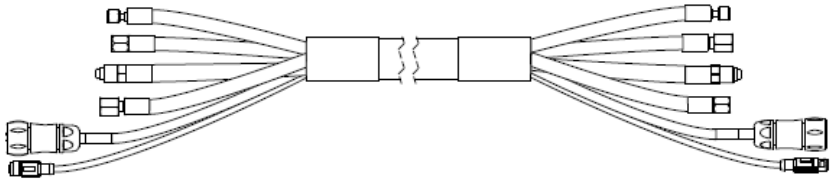
Part number	Length	Part number	Length
428454	3 m (9.8 feet)	428458	10 m (32.8 feet)
428455	4.5 m (14.8 feet)	428459	15 m (49.2 feet)
428456	6 m (19.7 feet)	-	-
428457	7.5 m (24.6 feet)	-	-

Power, CAN, and 3-gas assemblies (Core)



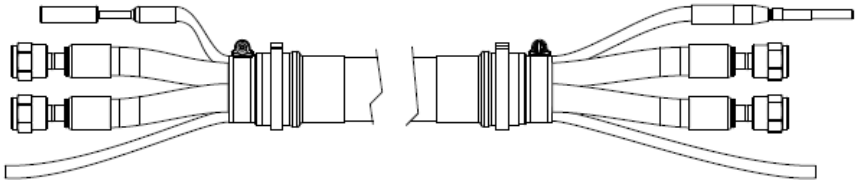
Part number	Length	Part number	Length
428464	3 m (9.8 feet)	428468	10 m (32.8 feet)
428465	4.5 m (14.8 feet)	428469	15 m (49.2 feet)
428466	6 m (19.7 feet)	-	-
428467	7.5 m (24.6 feet)	-	-

Power, CAN, and 4-gas assemblies (CorePlus)



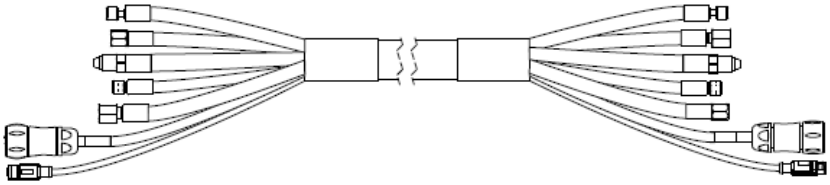
Part number	Length	Part number	Length
10079381	3 m (9.8 feet)	10079385	10 m (32.8 feet)
10079382	4.5 m (14.8 feet)	10079386	15 m (49.2 feet)
10079383	6 m (19.7 feet)	-	-
10079384	7.5 m (24.6 feet)	-	-

Pilot-arc, coolant, and shield-water assemblies (VWI, OptiMix)



Part number	Length	Part number	Length
428353	3 m (9.8 feet)	428357	10 m (32.8 feet)
428354	4.5 m (14.8 feet)	428358	15 m (49.2 feet)
428355	6 m (19.7 feet)	-	-
428356	7.5 m (24.6 feet)	-	-

Power, CAN, and 5-gas assemblies (VWI, OptiMix)

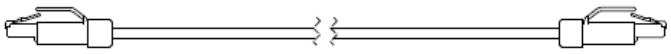


Part number	Length	Part number	Length
428363	3 m (9.8 feet)	428367	10 m (32.8 feet)
428364	4.5 m (14.8 feet)	428368	15 m (49.2 feet)
428365	6 m (19.7 feet)	-	-
428366	7.5 m (24.6 feet)	-	-

EtherCAT CNC interface cables

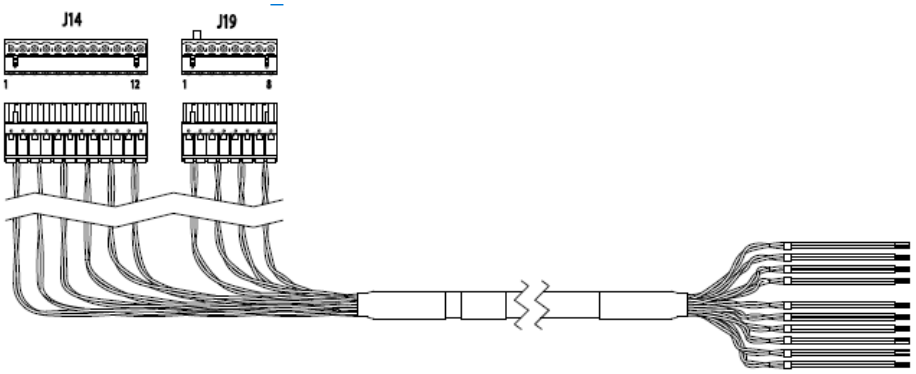
The EtherCAT CNC interface cable has the following characteristics: RJ-45 connector, male-male, SF/UTP shield, 2 twisted pairs, 22 AWG.

For more information on EtherCAT cable specifications, refer to EtherCAT cable specifications on page 156.



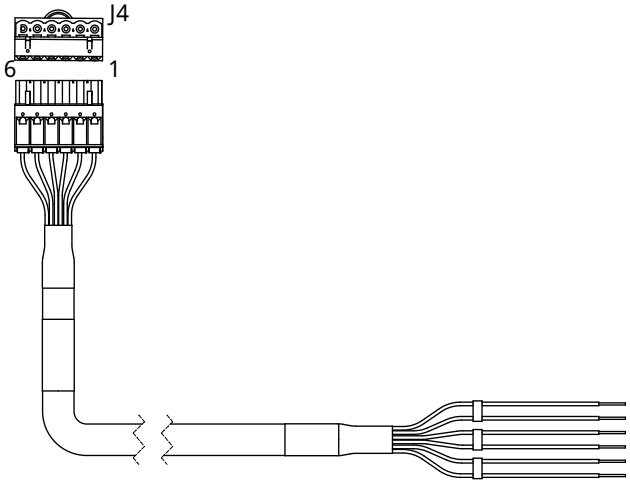
Part number	Length	Part number	Length
223506	0.3 m (1 foot)	223512	10 m (32.8 feet)
223507	0.6 m (2 feet)	223513	15 m (49.2 feet)
223508	1.5 m (4.9 feet)	223514	22.5 m (73.8 feet)
223672	2.5 m (8.2 feet)	223515	30 m (98.4 feet)
223509	3 m (9.8 feet)	223516	45 m (147.6 feet)
223510	6 m (19.7 feet)	223517	60 m (196.9 feet)
223511	7.5 m (24.6 feet)	223714	75 m (246.1 feet)

Discrete CNC interface cables



Part number	Length	Part number	Length
223691	3 m (9.8 feet)	223700	20 m (65.6 feet)
223692	4.5 m (14.8 feet)	223701	22.5 m (73.8 feet)
223693	6 m (19.7 feet)	223702	25 m (82 feet)
223694	7.5 m (24.6 feet)	223703	30 m (98.4 feet)
223695	10 m (32.8 feet)	223704	35 m (114.8 feet)
223696	12 m (39.4 feet)	223705	37.5 m (123 feet)
223697	13.5 m (44.3 feet)	223706	45 m (147.6 feet)
223698	15 m (49.2 feet)	223707	60 m (196.9 feet)
223699	16.5 m (54.1 feet)	223708	75 m (246.1 feet)

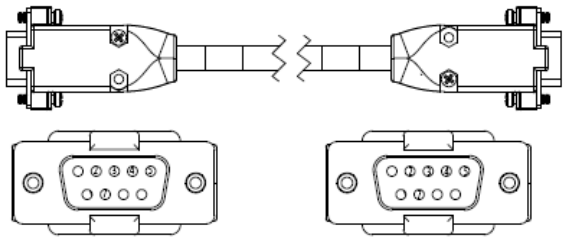
Discrete cables for the expansion PCB



Part number	Length	Part number	Length
10083813	3 m (9.8 feet)	10083823	20 m (65.6 feet)
10083814	4.5 m (14.8 feet)	10083824	22.5 m (73.8 feet)
10083815	6 m (19.7 feet)	10083825	25 m (82 feet)
10083816	7.5 m (24.6 feet)	10083826	30 m (98.4 feet)
10083817	10 m (32.8 feet)	10083827	35 m (114.8 feet)
10083818	12 m (39.4 feet)	10083828	37.5 m (123 feet)
10083819	13.5 m (44.3 feet)	10083829	45 m (147.6 feet)
10083820	15 m (49.2 feet)	10083830	60 m (196.9 feet)
10083822	16.5 m (54.1 feet)	10083831	75 m (246.1 feet)

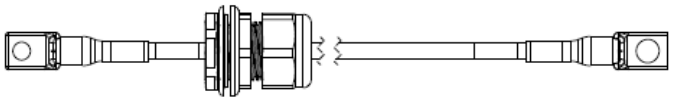
Serial CNC interface cables

The serial CNC interface cables have the following characteristics: 9-position, D-subminiature (D-sub) connector, male-male, RS-422.



Part number	Length	Part number	Length
223673	3 m (9.8 feet)	223682	20 m (65.6 feet)
223674	4.5 m (14.8 feet)	223683	22.5 m (73.8 feet)
223675	6 m (19.7 feet)	223684	25 m (82.0 feet)
223676	7.5 m (24.6 feet)	223685	30 m (98.4 feet)
223677	10 m (32.8 feet)	223686	35 m (114.8 feet)
223678	12 m (39.4 feet)	223687	37.5 m (123 feet)
223679	13.5 m (44.3 feet)	223688	45 m (147.6 feet)
223680	15 m (49.2 feet)	223689	60 m (196.9 feet)
223681	16.5 m (54.1 feet)	223690	75 m (246.1 feet)

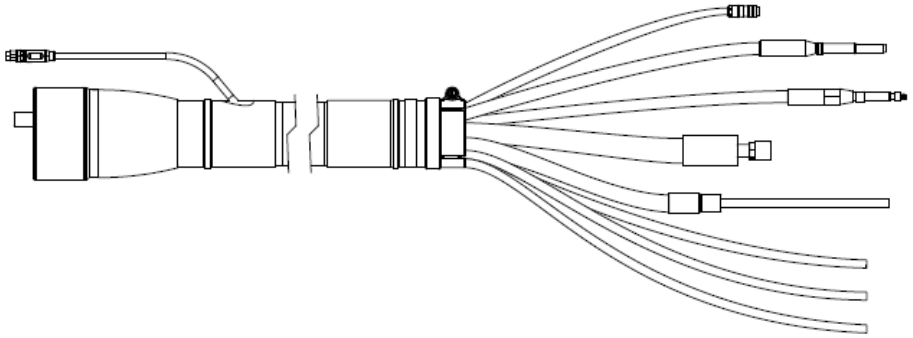
Work cables



Part number	Type	Length	Part number	Type	Length
223628	2/0	3 m (9.8 feet)	10082639	3/0	60 m (196.9 feet)
223629	2/0	4.5 m (14.8 feet)	10082640	3/0	75 m (246.1 feet)
223630	2/0	7.5 m (24.6 feet)	223661 [1]	2/0	3 m (9.8 feet)
223631	2/0	10 m (32.8 feet)	223662 [1]	2/0	4.5 m (14.8 feet)
223632	2/0	15 m (49.2 feet)	223663 [1]	2/0	7.5 m (24.6 feet)
223633	2/0	20 m (65.6 feet)	223664 [1]	2/0	10 m (32.8 feet)
223634	2/0	25 m (82 feet)	223665 [1]	2/0	15 m (49.2 feet)
10082637	3/0	35 m (114.8 feet)	223666 [1]	2/0	20 m (65.6 feet)
10082638	3/0	45 m (147.6 feet)	223667 [1]	2/0	25 m (82 feet)

1 Leads labeled with CCC mark only. CCC is defined in Safety and EMC symbols and marks on page 38.

Torch leads



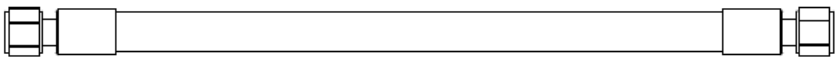
Part number	Length	Part number	Length
428383	2 m (6.6 feet)	428386	3.5 m (11.5 feet)
428384	2.5 m (8.2 feet)	428824	4 m (13.1 feet)
428385	3 m (9.8 feet)	428387	4.5 m (14.8 feet)

Bevel torch leads

Part number	Lead length	Strain relief length	Part number	Lead length	Strain relief length
428825	2 m (6.6 feet)	0.5 m (20 inches)	428831	2 m (6.6 feet)	1.2 m (48 inches)
428826	2.5 m (8.2 feet)		428832	2.5 m (8.2 feet)	
428827	3 m (9.8 feet)		428833	3 m (9.8 feet)	
428828	3.5 m (11.5 feet)		428834	3.5 m (11.5 feet)	
428829	4 m (13.1 feet)		428835	4 m (13.1 feet)	
428830	4.5 m (14.8 feet)		428836	4.5 m (14.8 feet)	

Oxygen hoses (blue)

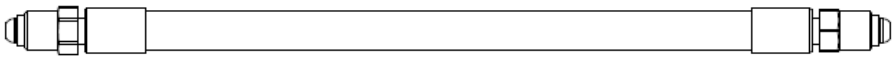
The oxygen hose has RH type "B" female fittings.



Part number	Length	Part number	Length
124003	3 m (9.8 feet)	124009	25 m (82 feet)
124004	4.5 m (14.8 feet)	124107	30 m (98.4 feet)
124005	7.5 m (24.6 feet)	124010	35 m (114.8 feet)
124006	10 m (32.8 feet)	124011	45 m (147.6 feet)
124007	15 m (49.2 feet)	124012	60 m (196.9 feet)
124008	20 m (65.6 feet)	124013	75 m (246.1 feet)

Nitrogen or Argon hoses (black)

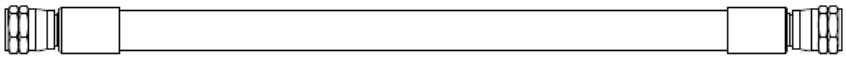
The nitrogen or argon hose has RH type "B" male fittings.



Part number	Length	Part number	Length
124014	3 m (9.8 feet)	124020	25 m (82 feet)
124015	4.5 m (14.8 feet)	124108	30 m (98.4 feet)
124016	7.5 m (24.6 feet)	124021	35 m (114.8 feet)
124017	10 m (32.8 feet)	124022	45 m (147.6 feet)
124018	15 m (49.2 feet)	124023	60 m (196.9 feet)
124019	20 m (65.6 feet)	124024	75 m (246.1 feet)

Air hoses (black)

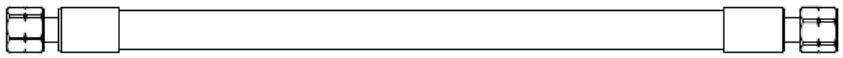
The air hose has JIC-6 female fittings.



Part number	Length	Part number	Length
124025	3 m (9.8 feet)	124031	25 m (82 feet)
124026	4.5 m (14.8 feet)	124109	30 m (98.4 feet)
124027	7.5 m (24.6 feet)	124032	35 m (114.8 feet)
124028	10 m (32.8 feet)	124033	45 m (147.6 feet)
124029	15 m (49.2 feet)	124034	60 m (196.9 feet)
124030	20 m (65.6 feet)	124035	75 m (246.1 feet)

Hydrogen or nitrogen-hydrogen (F5) hoses (red)

The hydrogen or nitrogen-hydrogen (F5) hose has LH type "B" female fittings.

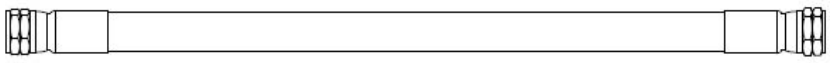


Part number	Length	Part number	Length
124036	3 m (9.8 feet)	124042	25 m (82 feet)
124037	4.5 m (14.8 feet)	124110	30 m (98.4 feet)
124038	7.5 m (24.6 feet)	124043	35 m (114.8 feet)

Part number	Length	Part number	Length
124039	10 m (32.8 feet)	124044	45 m (147.6 feet)
124040	15 m (49.2 feet)	124045	60 m (196.9 feet)
124041	20 m (65.6 feet)	124046	75 m (246.1 feet)

Water (optional shield fluid) hoses (blue)

The water hose has JIC-6 female fittings.



Part number	Length	Part number	Length
124047	3 m (9.8 feet)	124053	25 m (82 feet)
124048	4.5 m (14.8 feet)	124111	30 m (98.4 feet)
124049	7.5 m (24.6 feet)	124054	35 m (114.8 feet)
124050	10 m (32.8 feet)	124055	45 m (147.6 feet)
124051	15 m (49.2 feet)	124056	60 m (196.9 feet)
124052	20 m (65.6 feet)	124057	75 m (246.1 feet)

Preventive maintenance kits

Part number	Description
428639	Kit: Filter, torch rebuild without coolant
428640	Kit: Filter, torch rebuild with coolant
428920	Kit: Shield-fluid treatment
10083902	Kit: Electronics (200 V - 240 V)
10083903	Kit: Electronics (380 V - 600 V)

Tools

Part number	Description
229917	TorchConnect console solenoid valve tool
229918	Torch solenoid valve tool
104879	2.25 inch spanner wrench
004630	Pit depth gauge
004629	Gauge point
10080745	XPR consumable tool
429013	XPR electrode torque tool
1-13897 (Hypertherm Waterjet part number)	TDS meter

Recommended spare parts

Plasma power supply – recommended spare parts

Hypertherm recommends that you keep these parts available for the plasma power supply.

Part number	Description	Designator	Quantity
428810	Shield-fluid treatment filter	-	1
229640	Power source: 88 VAC - 264 VAC to 24 VDC	PS1	1
10082976	Power source: 48 VDC with bracket	PS2	1
10085251	Chopper assembly	Chopper 1, Chopper 2, Chopper 3	1
10084334	Control PCB	PCB1	1
10085206	I/OPCB	PCB5	1
141384	Fan power distribution PCB	PCB6	1
141577	Power distribution PCB	PCB7	1
108709	Fuse:10 A, 250 VAC, time delay (on PCB7)	F3, F4, F5	2

Part number	Description	Designator	Quantity
208397	Fuse: 15 A, 600 V, Class R (used in 200 V, 208 V, 220 V, 240 V)	F1, F2	2
208395	Fuse: 8 A, 600 V, Class R (used in 380 V, 400 V, 415 V, 440 V, 480 V, 600 V)		2
003277	Pilot arc relay: 24 VDC, coil, 60 A 28 VDC contacts	CR1	1
003297	Inrush contactor: 80 A, IEC AC-3, 3-phase, 120 VAC	IR_CON	1
10084340	Main contactor (200 V, 208 V, 220 V, 240 V)	M_CON	1
10084339	Main contactor assembly (380 V, 400 V, 415 V, 440 V, 480 V, 600 V)		1

Cooler – recommended spare parts

Hypertherm recommends that you keep these parts available for the cooler.

Part number	Description	Designator	Quantity
027005	Coolant filter (fine)	-	1
006113	Coolant check valve	-	1
141384	Fan power distribution PCB	PCB3	1
141524	Cooler control PCB	PCB2	1
028872	Coolant	-	_ [1]

1 Refer to Calculations for total coolant volume estimates on page 263.

Gas connect consoles – recommended spare parts

Hypertherm recommends that you keep these parts available for the gas connect consoles.

Part number	Description	Designator	Quantity
011110	Air filter element	-	1
223398	Pressure transducer (VWI and OptiMix only)	P6 - P9	1
006167	Proportional valve (VWI and OptiMix only)	B4 - B5	1
141563	High-frequency, high-voltage ignition PCB	PCB2	1
141595	Spark gap PCB for ignition PCB	-	1

TorchConnect console – recommended spare parts

Hypertherm recommends that you keep these parts available for the TorchConnect console.

Part number	Description	Designator	Quantity
141368	Ohmic contact PCB	PCB2	1
223477	Pressure transducer with wire and connector	P1 - P5, P14	1
006167	Proportional valve	B1 - B3	1
229965	Solenoid valve	V4 - V12	1

Torch – recommended spare parts

Hypertherm recommends that you keep these parts available for the torch.

Part number	Description	Designator	Quantity
420220	Quick-disconnect/torch receptacle	-	1
420221	Quick-disconnect torch	-	1
420368	Water tube	-	1
006155	Torch solenoid valve	-	1
428639	Kit: Filter, torch rebuild without coolant	-	1
428640	Kit: Filter, torch rebuild with coolant	-	1

Descriptions of warning label icons

This warning label is affixed to some plasma power supplies. It is important that the operator and maintenance technician understand the intent of these warning symbols as described.

The numbered text in the table corresponds to the numbered boxes on the label.



1.	Cutting sparks can cause explosion or fire.
1.1	Do not cut near flammables.
1.2	Have a fire extinguisher nearby and ready to use.
1.3	Do not use a drum or other closed container as a cutting table.
2.	Plasma arc can injure and burn; point the nozzle away from yourself. Arc starts instantly when triggered.
2.1	Turn off power before disassembling torch.
2.2	Do not grip the workpiece near the cutting path.
2.3	Wear complete body protection.
3.	Hazardous voltage. Risk of electric shock or burn.
3.1	Wear insulating gloves. Replace gloves when wet or damaged.
3.2	Protect from shock by insulating yourself from work and ground.
3.3	Disconnect power before servicing. Do not touch live parts.
4.	Plasma fumes can be hazardous.
4.1	Do not inhale fumes.
4.2	Use forced ventilation or local exhaust to remove the fumes.
4.3	Do not operate in closed spaces. Remove fumes with ventilation.
5.	Arc rays can burn eyes and injure skin.
5.1	Wear correct and appropriate protective equipment to protect head, eyes, ears, hands, and body. Button shirt collar. Protect ears from noise. Use welding helmet with the correct shade of filter.
6.	Become trained. Only qualified personnel should operate this equipment. Use torches specified in the manual. Keep nonqualified personnel and children away.
7.	Do not remove, destroy, or cover this label. Replace if it is missing, damaged, or worn.