

**\*\* TO ORDER PARTS CONTACT SYSTEMS TEAM**

Team	System	Component	Subsystem	Quantity	Units	System level?	Owner (who is responsible for this part)	Supplier	Specs & Brand	Model Number	Cost	Leadtime	Make/Buy	Expedite Cost and Lead time	* Purpose is to increase commonality to reduce cost
	System	Professional Services	Professional services for high voltage electric			no									
		Build Assist	Metal Transfer carts	3		no							Outsource mfg		
long leadtime			Main roller cylinder	2	ea.	yes							Outsource mfg		
accurate on CAD			Roller end caps	4		yes							Outsource mfg		
			Adapter Plate Inboard	2		yes							Outsource mfg		
			Adapter Plate Outboard	2		yes							Outsource mfg		
			Threaded cap	2		yes							buy		
			Pins (cylinder & end cap)	16?		yes		McMaster Carr					buy		
			Pins (end cap & adapter)	16?		yes		McMaster Carr					buy		
			Insert (to hold cap side moveable parts to frame)	2		yes							Outsource mfg		
			Bearing Insert Bolts	8		yes							buy		
			Roller Bearings	4	ea.	yes		SKF					buy		
			Threaded Tension Rod	2	ea.	yes							Outsource mfg		
			Shaft Motor Coupling	2	ea.	yes		McMaster Carr					buy		
			Plexiglass Panels	6	ea.	no							buy		
			Hinges	8	ea.	no		McMaster Carr					buy		
			Handles	4	ea.	no		McMaster Carr					buy		
			Gusset Plates	8	ea.	yes		McMaster Carr					buy		
			Base Plate (Steel Stock)	1		yes							Outsource mfg		
			Side Panel - Outboard (Steel Stock)	1		yes							Outsource mfg		
			Side Panel - Inboard (Steel Stock)	1		yes							Outsource mfg		
			Square Stock	30	ft.	yes							buy		
			Metal Sheeting			yes							buy		
			Bolts for frame			yes		McMaster Carr					buy		
			Bolts for motor			yes		McMaster Carr					buy		
	P16601		Type K Thermocouple Sensors	6	ea.	No							buy		
			Encoders (come on motors)	2	ea.	No							buy		
			Mechanical Safety Interlocks	10	ea.	Yes							buy		
			16 awg wire (1 conductor)	500	ft.	Yes							buy		
			18 awg wire (3 conductor)	100	ft.	Yes							buy		
			12 awg wire (1 conductor)	500	ft.	Yes							buy		
			Standard Terminals	50	ea.	Yes							buy		
			Wire Crimps/Connectors	50	ea.	Yes							buy		
			GuideRoller Motor (1)	2	ea.	Yes							buy		
			VFD	2	ea.	No							buy		
			Main PLC Module	1	ea.	Yes							buy		
			Digital Output Module	2	ea.	Yes							buy		
			Thermocouple Module	1	ea.	No							buy		
			Digital Input Module	2	ea.	Yes							buy		
			Analog Input Module	1	ea.	Yes							buy		
			Analog Output Module	1	ea.	Yes							buy		
			Power Supply Module	1	ea.	Yes							buy		
			Digital Modules Connector	4	ea.	Yes							buy		
			Analog Modules Connector	2	ea.	Yes							buy		
			Enclosure Design	1	ea.	Yes							buy		
			Backplate	1	ea.	Yes							buy		
			Din Rail	8	ft.	Yes							buy		
			Wire Duct	16	ft.	Yes							buy		
			24 V Power Supply	1	ea.	Yes							buy		
			Circuit Breakers	6	ea.	Yes							buy		

**\*\* TO ORDER PARTS CONTACT SYSTEMS TEAM**

Team	System	Component	Subsystem	Quantity	Units	System level?	Owner (who is responsible for this part)	Supplier	Specs & Brand	Model Number	Cost	Leadtime	Make/Buy	Expedite Cost and Lead time	
		Disconnect Breaker	Misc. Electrical	1	ea.	Yes							buy		
		Fuses	Misc. Electrical	20	ea.	Yes								buy	
		Disconnect Switch Package	Misc. Electrical	1	ea.	Yes								buy	
		24 VDC Indicator Lights	Misc. Electrical	5	ea.	Yes								buy	
		Emergency Switch	Misc. Electrical	3	ea.	Yes								buy	
		Pushbuttons/Selector Switches	Misc. Electrical	5	ea.	Yes								buy	
P16602	Electrical	HMI	Misc. Electrical	1	ea.	Yes							buy		
		Spin Supply Spool	Motor	1										buy	
		Spin Takeup Spool	Motor	1										buy	
		Move spooling pulleys	Motor	2										buy	
		Control system	PLC	1										buy	
		Supply power	Transformer	1										buy	
		Graphical user interface	PanelView Plus	1										buy	
		Power supply for plc	24V Power Sup	1										buy	
		Software	Software Licens	1										buy	
		Motor Driver for spool motors	Motor Driver	2										buy	
		Motor Driver for pulley motors	Motor Driver	1										buy	
		Connect I/O of sensors and PLC	Wire	-										buy	
		Connect High voltage of Motors to transformer	Wire	-										buy	
		Contain power transformers	Cabinet	1										buy	
	Measure wire velocity on pulley	Shaft encoder	2										buy		
	Measure wire velocity on pulley	IR Sensor	2										buy		
	Emergency stop	button	-										buy		
	Detect case open/closed	Safety Door Inte	1										buy		
	Safety Control	Safety Controller											buy		
	Mechanical	Protect pulleys	Nylon insert		6									buy	
		Moving dancer pulleys	Pneumatic Cylin		2									buy	
		Control dancer puller pressure	Pressure regula		2									buy	
		Hold wire	Take-up spool		1									mfg cast/make	
		Hold wire	supply spool		1									buy	
		Support components	Frame		1									buy/make	
		Provide guarding	Acrylic case		1									buy/make	
		Guide wire path	Pulley		6									make	
support spool (connections to motor)		shaft											buy		
transmit torque to spools		coupling											buy		
support spool		bearing											buy		
Measure tension		Load cell		2									buy		
Fasteners		Bolts		?									buy		
Supply air for dancer system	Compressor											buy			
P16603	Electrical	Digital I/O Modules	PLC												
		Safety Module	PLC												
		Analog I/O Modules	PLC												
		Velocity/Distance Sensor/Encoder	Sensors												
		Temperature sensors	Sensors												
		Overtravel Switch	Sensors		2										
		Wires for I/O Terminals	Wire												
	Wires for power supply	Wire													
	Mechanical	"Legs"	structure												
		"Body"	structure												
Guide Rail		Movement		3											
		Guide Rail Mount		6											

\* Purpose is to increase commonality to reduce cost

**\*\* TO ORDER PARTS CONTACT SYSTEMS TEAM**

Team	System	Component	Subsystem	Quantity	Units	System level?	Owner (who is responsible for this part)	Supplier	Specs & Brand	Model Number	Cost	Leadtime	Make/Buy	Expedite Cost and Lead time	* Purpose is to increase commonality to reduce cost
		Linear Bearings			3										
		Metal "studs" (for lower bearing mounting)			3										
		Stud Square Brackets			3										
		Bolts for actuator	Movement					McMaster Carr?					buy		
		Bolts for actuator bracket	Movement					McMaster Carr?					buy		
		Washers for actuator bracket	Movement					McMaster Carr?					buy		
		Dovetail	Mounting		1								Outsource mfg(RIT)		
		Mounting Plate	Mounting		1								Outsource mfg(RIT)		
		Bolts for mounting plate (M12x1.5?)	Mounting		8			McMaster Carr?					buy		
		Washers for mounting plate	Mounting		8			McMaster Carr?					buy		
		Fixture Mount	Mounting		1								Outsource mfg(RIT)		
		Tool for cutting fixture mount			1	no							buy		
		Sacrificial Glass	Mounting		1								--		
		Workpiece	Mounting		1								--		
		Epoxy 1	Mounting		1								--		
		Epoxy 2	Mounting		1								--		
		Locking Actuator	Locking		2								buy		
		Locking Rail	Locking		1								Outsource mfg(RIT)		
		Threaded Rod			2								Outsource mfg(RIT)		
		Locking Plate			1								Outsource mfg(RIT)		
		Sheet Metal Box			1								Buy		
		Square Brackets			8 - 12								Buy		
		Feed Actuator. Mount			1								Outsource mfg(RIT)		
		Feed Actuator			1								Buy		
		Bolts for locking actuator	Locking					McMaster Carr?					buy		