RFTB P08501

QFD Matrix

PHASE I QFD *Roller Fuser Test Bed*

Correlation Codes	
+ +	Very Positive
+	Positive
-	Negative
- -	Very Negative

		Yes/No - Has kill switch	Yes/No - Can plug into wall outlet	Yes/No - Mechanical Model	Yes/No - Mathematical model	Real time data (5,000 Hz +/- 20%)	Cost (within Budget)	Yes/No - Set up and run Human Factors Experiment using LabVIEW Sample	Can use 220V if necessary	Pressure control accuracy (+/-5% of measured pressure)	Temperature control accuracy (+/- 3% of measured temperature)	Dwell time control accuracy (+/- 6% of measured time)	Pressure ranges (0-50 PSI)	Media Types (20, 24, 28, 31, 35, 50, 60 80, 100, 130 lb Ream Weight - Bond , Cover, Text, Writing)	Withstand Vibration Specs (3-4 G's for 10-30 min)	Withstand Temperature Specs (50-90 degrees Celsius)	Temperature range (Up to max roller heater output degrees Fahrenheit)	Dwell time range (hundreth to tenth of second)	Temperature measurement accuracy (1% of measured temperature)	Dwell time measurement accuracy (1% of measured time	Pressure measurement accuracy (+/- 1% of measured pressure)
	Customer Weights																				
Customer Requirements																					
1	Simulate Roller Based Fuser	9			10	10					3	3	3		3					1	1	1
2	Project Deadline (22 weeks)	3																				
3	Cost Factor	1			3			9														
4	Size Constraint (fits on bench top)	3			9																	
5	Safety	3	3		3				3							3						
6	Stamp/Roller comparison	1			3	9	3													1	1	1
7	Documentation	1			3	3			3													
8	Conveniently Powered	3			1	1		1		3												
9	Durability	1			3											9	3					
10	Control and Measurement of Speed	9			1	3			3				9						3		9	
11	Control and Measurement of Temperature	9			1	3			3			9						1		9		
12	Control and Measurement of Pressure	9			3	3			3		9			3								9
13	Modular Substrates	9			3										9							
15	Modular Toners	9			3																	
16	User Interface	3	3	1		9			9													
	Technical Targets		Yes/No - Has kill switch	110 VAC +/-10% @ 50/60 Hz	Yes/No - Mechanical Model	Yes/No - Mathematical model	5,000 Hz +/- 20%	Cost (within Budget)	Yes/No - Set up and run Human Factors Experiment using LabVIEW Sample	230 VAC +/-10% @ 50 Hz	Pressure control accuracy (+/-5% of measured pressure)	Temperature control accuracy (+/- 3% of measured temperature)	Dwell time control accuracy (+/- 6% of measured time)	Contact Pressure on Rollers to 50 PSI	Media Types (20, 24, 28, 31, 35, 50, 60 80, 100, 130 lb Ream Weight - Bond , Cover, Text, Writing)	3-4 G's for 10-30 min	50-90 degrees Celsius	Room Temperature to 230 deg C (471.6 F), controlled to +/-1 degree C	0.01 to .1 seconds	Temperature measurement accuracy (1% of measured temperature)	Dwell time measurement accuracy (1% of measured time	Pressure measurement accuracy (+/- 1% of measured pressure)
	Better 5													C								
	4						C							A				B,C	B			
Technical Benchmarking	3		A,B,C				A,B			A,B,C				B		A,B,C	A,B,C	A	C			
	2															A			A			
	Worse 1																					
	Raw score	18	3	240	213	3	12	120	9	108	108	108	27	108	18	3	9	27	91	91	91
	Relative Weight	1.28%	0.21%	17.06%	15.14%	0.21%	0.85%	8.53%	0.64%	7.68%	7.68%	7.68%	1.92%	7.68%	1.28%	0.21%	0.64%	1.92%	6.47%	6.47%	6.47%

Customer Perception

1 Worse
2
3
4
5 Better

A:	*HP*
B:	*QEA*
C:	*LFTB*