

Integrated Solution Providers Software, Inc.



Quality System Solutions

Variable Gage R & R Study

Fill in all shaded cells (light green) before entering data.

Form No.:		Revision No.:			
No. of operators used in study:		No. of sample parts tested:		Data entered by:	
No. of trials per part by each operator:		Date of gage study:		Gage no.:	
Gage type:		Total Tolerance Spread:		Characteristic:	

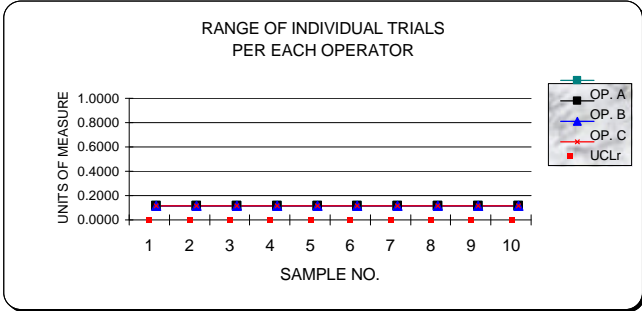
Operator "A"	Sample Part											
Trial #	1	2	3	4	5	6	7	8	9	10	Average	
1												#DIV/0!
2												#DIV/0!
3												#DIV/0!
Avg.	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	=Xa
Rng.	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	=Ra

Operator "B"												
Trial #	1	2	3	4	5	6	7	8	9	10	Average	
1												#DIV/0!
2												#DIV/0!
3												#DIV/0!
Avg.	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	=Xb
Rng.	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	=Rb

Operator "C"												
Trial #	1	2	3	4	5	6	7	8	9	10	Average	
1												#DIV/0!
2												#DIV/0!
3												#DIV/0!
Avg.	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	=Xc
Rng.	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	=Rc

Part Avg. (Xp)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	=Rp
Part Avg. (Xp)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	=Rp

UCL_r represents the limit of individual R's. Circle those that are beyond this limit. Identify the cause and correct. Repeat these readings using the same appraiser and unit as originally used or discard values and reaverage and recompute R and the limiting value from the remaining observations.



Measurement Unit Analysis: Repeatability - Equipment Variation (EV) EV = ERR		Measurement Unit Analysis: Repeatability & Reproducibility (R & R) GR & R = #VALUE!
Process variation: %TOL = 100[EV/TOL] = #VALUE!		Process variation: %TOL = 100[GRR/TOL] = #VALUE!
Process variation: %EV = 100[EV/TV] = #VALUE!		Process variation: %R & R = 100[R & R/TV] = #VALUE!

Measurement Unit Analysis: Reproducibility - Appraiser Variation (AV) AV = #VALUE!		Measurement Unit Analysis: Part Variation (PV) PV = ERR
Process variation %TOL = 100[AV/TOL] = #VALUE!		Process variation: %TOL = #VALUE!
Process variation: %AV = 100[AV/TV] = #VALUE!		Process variation: %PV = 100[PV/TV] = #VALUE!

Measurement Unit Analysis: Total Variation (TV) TV = #VALUE!	
Process variation: %TV = 100[TV] = #VALUE!	

Signal to noise ratio [PV/GRR], Ratings per AIAG categories: #VALUE! #VALUE! DISPOSITION: #VALUE!