Protocol of the gage capability R&R study

Variation B - Evaluation is based on total variation TV (variability of production process)

Gage user:	**MOJE FIRMA, s.r.o.**	
Gage title:	**Posuvné měřidlo digitální 0-150 mm**	
Gage registration number:	**2025**	
Upper tolerance limit:	**1.2**	USL
Lower tolerance limit:	**0.2**	LSL
Workers count:	**3**	
Repetition count:	**2**	
Parts count:	**10**	

	Worker 1		Worker 2		Worker 3	
Pcs	Measure 1	Measure 2	Measure 1	Measure 2	Measure 1	Measure 2
1	0.65	0.6	0.55	0.55	0.5	0.55
2	1	1	1.05	0.95	1.05	1
3	0.85	0.8	0.8	0.75	0.8	0.8
4	0.85	0.95	0.8	0.75	0.8	0.8
5	0.55	0.45	0.4	0.4	0.45	0.5
6	1	1	1	1.05	1	1.05
7	0.95	0.95	0.95	0.9	0.95	0.95
8	0.85	0.8	0.75	0.7	0.8	0.8
9	1	1	1	0.95	1.05	1.05
10	0.6	0.7	0.55	0.5	0.85	0.8

K1	0.8862	
K2	0.5231	
K3	0.3146	
Rbar	0.038333	
XbarDiff	0.060000	
Rp	0.558333	
Equipment Variation EV:	**0.03397**	EV = Rbar * K1
Appraiser Variation AV:	**0.03045**	AV = Sqrt((XbarDiff * K2)^2 - (EV^2)/10 * 2))
Repeatability and Reproducibility R&R:	**0.04562**	R&R = sqrt(EV^2 + AV^2)
Part Variation PV:	**0.17565**	PV = Rp * K3
Total Variation TV:	**0.18148**	TV = sqrt(R&R^2 + PV^2)

Equipment Variation EV[%]:	**18.72**	EV[%] = 100 * (EV / TV)
Appraiser Variation AV[%]:	**16.78**	AV[%] = 100 * (AV / TV)
Repeatability and Reproducibility R&R[%]:	**25.14**	R&R[%] = 100 * (R&R / TV)
Part Variation PV[%]:	**96.79**	PV[%] = 100 * (PV / TV)
Nnumber of distinct categories	**5.43**	ndc = 1.41 * (PV / R&R)

Final evaluation:	**Gage is conditionally suitable (R&R[%] value is inside (10 - 30) interval)! Gage system may be acceptable based on importance of application and costs.**
Comment:	Ověřeno na výrobku: PCW20251/CEP/D1 Pracovníci: 1 - Jaroslav Novák, 2 - Petr Votruba, 3 - Jindřich Nekola

Produced:	**Jan Novák**
Day:	**10.04.2008**

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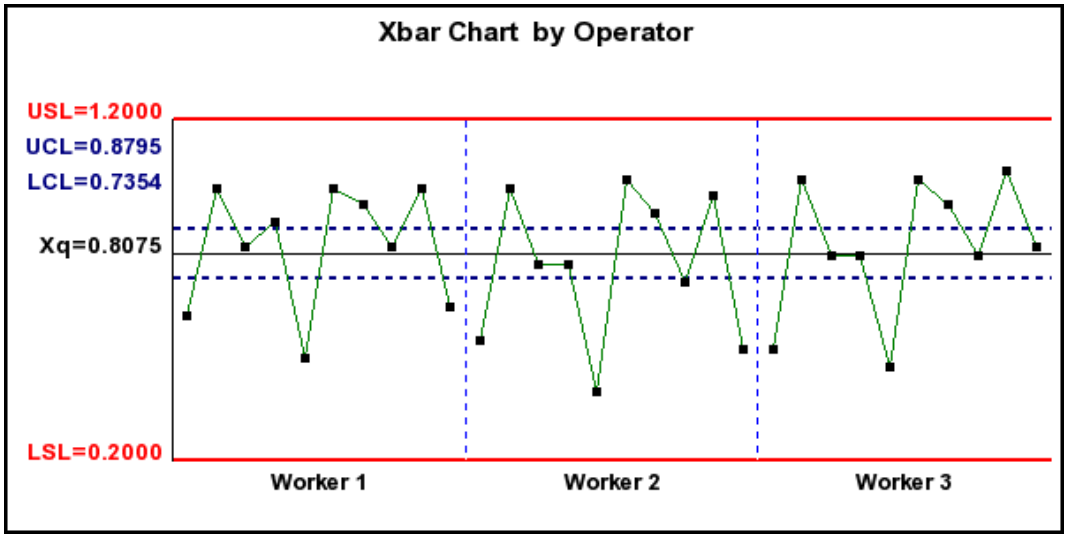

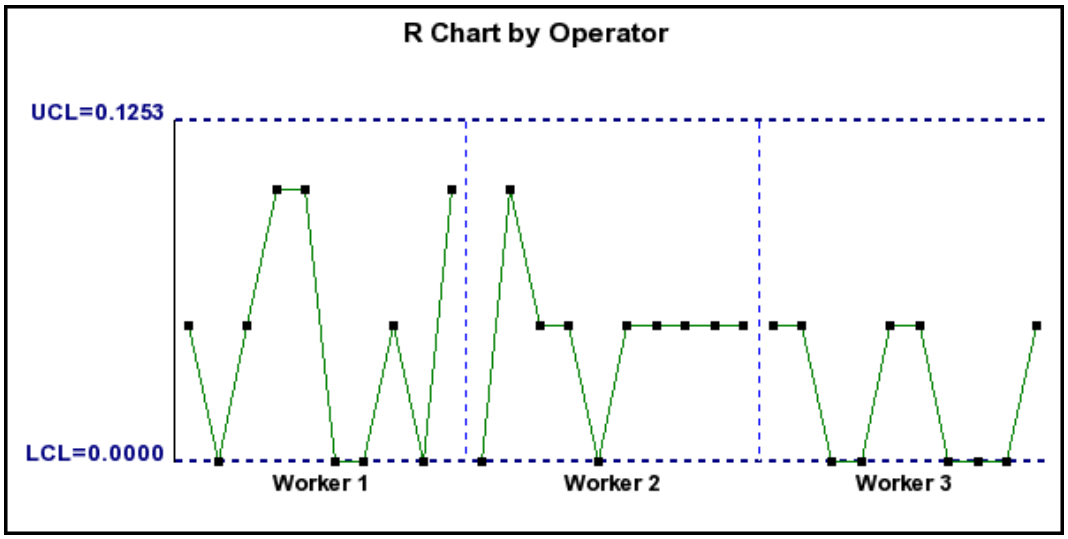

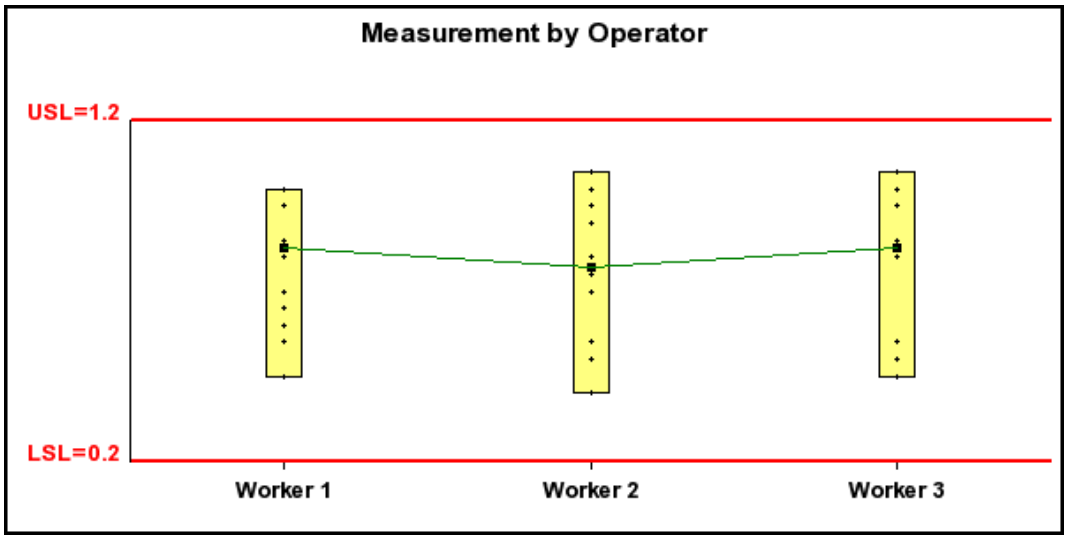

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