

NRC

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HARMS+WENDE QST GmbH QualitätsSicherungsTechnologien

NG | SOLDERING ASSURANCE INLINE QUALITI ARC WELDIN





POWER



EFFICIENCY



CONTROL









The team for Process & Quality Management







CONTROL







EFFICIENCY CONTROL POWER

> top 10 for your production process The 🖬



Sustainable quality & process management

significantly reduces the product liability risk and customer complaints



 \checkmark

 \checkmark



Permanent availability of all the important process and quality-related information, enabling fast reaction times in the event of an error occurrina



High cost savings and rapid amortisation thanks to a considerable reduction in testing intervals during production



Faster and more secure process capabilities with new production start-ups than in the past



Outstanding error detection thanks to the unique Q-save technology, even under difficult conditions





Comprehensive process analysis & visualisation enables secure identification of any potential for optimisation





for hassle-free integration into new devices or integration into practically all the standard control and joining systems



Can be used for many welding and joining processes (spot welding, projection welding, clinching, gas-shielded welding and soldering, stud welding)



Comprehensive and competent support on-site by an experienced team of experts



Many references from renowned car suppliers and manufacturers















Your savings

"Not with inventions but with improvements makes you a fortune."













QUALITY

Effective 6-years cycle Cost comparison





EXAMPLES OF ERRORS RELIABLY DETECTED WITH PQS



Significantly fewer defective products in your production!







PROCESS MANAGEMENT





optimization procedures





Hardware





JADRIGOMASTER

The data specialist that has no fear of large data quantities. Manages your data reliably and offers sufficient performance reserves and safety too.





All information at a glance. Easy, quick user interface Our monitoring software packed in an elegant slimline design.

for your joining processes.

Modular, rugged and intelligent.



HIGHLIGHTS of PQS-ARC-software

 Expenditures amortize within short time thanks to reduction of unit and operating costs compatible to any welding control on the market -o clear and simple user guidance -• fast and safe process optimization for MAG-welding, MIG-welding and soldering -• Q-Save-Quality Assurancestechnology







CONTROL























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EFFICIENCY CONTROL POWER QUALITY



PROCESS ANALYSIS AND OPTIMIZATION











PROCESS ANALYSIS









in the ascertainment of correct welding parameters,





QUALITY ASSESSMENT







discharged.



INLINE MONITORING





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QUALITY

The standard cost-intensive sampling inspection as a verification is now planned to be replaced by an automated, verifiable

High-value monitoring solution with a maximum error re-





INLINE-DOCUMENTATION







PQS permanently monitors all analog process data such as e.g. current, voltage, force and distance as signal curves as well. Moreover, all production data and monitoring and test

This provides for the prerequisite for an auditable proof of





Your task

Achieving quality requirements with a minimum of personnel and material costs.

Model calculation

Product and process safeguarding of gas-shielded weld-seams at a complex component.

	lexample)	
Number of connections per component	150	
3-SchThree-shift operation capacity per year	210.000	
Daily capacity	800	
Efficiency per year in days	263	
Plant operators per shift	2	
Joint positions to be tested per year	31.500.000	
Joint positons to be tested over six years	189.000.000	
Number of robots and welding stations	14	



Income Statement









QUALITY



The application of PQS does not only offer you the benefit of comprehensive information, documentation and complete monitoring, but astonishing cost advantages as well.





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INCOME STATEMENT

Model calculation		Model calculation PQS	
		Verification	
Personnel costs		Personnel costs	
Testing period in hours per component for 150 weld seams incl. result documentation	5	Testing period in hours per component for 150 weld seams incl. result documentation	5
Number of test parts per day in three-shift operation six days per week	3 pcs.	Number of test parts per day in three-shift operation six days per week	1 pc.
Number of testing hours per day	15	Number of testing hours per week	5
Costs per testing hour	35,00 €	Costs per testing hour	35,00€
Personnel costs destructive test per day	525,00 €	Personnel costs destructive test per day	175,00€
Personnel costs destructive test per year	138.075,00 €	Personnel costs destructive test per year	7.700,00€
Personnel costs destructive test over 6 years	828,450,00 €	Personnel costs destructive test over 6 years 46	200.00 €
Testing scrap	0201-100,00 C		.200,00 C
Number of test parts per day in three shift operation	3 nos	Number of test parts per day in three shift exerction	1 nc
Costo por component	5 pcs.	Costs par component	1 pc.
	15,00€	T to be a filled and the second	15,00€
Total quantity test parts per year	789 pcs.	I lotal quantity test parts per year	44 pcs.
lesting scrap destructive test per year	11.835,00€	lesting scrap destructive test per year	660€
Testing scrap destructive test over 6 years	71.010,00 €	TZ Testing scrap costs over 6 years 3	960,00 €
Total costs destructive test per year	149.910,00 €	Total costs destructive test per year	8.360,00 €
Total costs destructive test over 6 years	899.460,00 €	Total costs testing scrap 50	.160,00 €
	- model calculation -	- mod	del calculation -
	300	Model calculation PQS	
		Investment + Integration	
		+ Qualifications	
		Investment costs POS system technology for 14 measuring points	98 000 €
		14 pieces QUADRIGO MM1000 TYP IF4 Interbus optical	50.000 C
		1 piece QUADRIGO-MASTER M1600	
		Use of PC systems provided by customer, switch cabinet installation	
		Integration costs PQS system technology fieldbus connection, Ethernet, supply	7.000€
destruct	tive InlinePQS	Initial equipment, database, system configuration,	5.000€
Number of tested connections in pieces 70	8.750 189.000.000	Total costs PQS system costs up to handing-over ready for operation	110.000 €
Over six years		Qualification costs POS system / process consultant	5 920 €
Number of tested connections 0,00	100 %	Number of system consultants incl. 1 substitute = 4 persons	1
Number of documented connections 0,00	37 % 100 %	Total qualification costs in three-shift operation and	5 920 €
Costs per tested connection 1,	266 € 0.0011 €	four system consultants	0.520 C
	and the said of the said	Total invest incl. qualification of system consultant	115.920 €
Savings per year thanks to PQS	0,00 € 113.567,00 €	Process support costs per shift caused by maintenance / person in charge of process	
Savings over six years thanks to PQS	0,00 € 681.405.00 €	Number of support hours per shift	0.20
		Number of shifts	3.00
		Number of support hours per day	3,00
AMORTISATION 1.3	28 years	Costs per support hours	0,00
		Costs per support nour	55,00€
		Personnei costs system support per day	33,00€
	- model calculation -	Personnei costs system support per year	8.662,50€
		Personnel costs system support over 6 years	51.975€
		Total costs PQS-System per year	27.982,50 €
		Total costs PQS-System over 6 years	167.895€
		- moc	del calculation

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Number of connections tested

PQS-Inline-Quality Assurance

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	upport required	





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Notes-



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Handed over by:

Disclaimer:

Calculations stated in this prospect, particularly information in the model calculations regarding investment and support costs are independent of local circumstances and a variety of individual factors, which for this reason are required to be individually ascertained for every single use case.

Should you be interested in a corresponding offer, please do not hesitate to contact your HWH QST system analyst.

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