

Part Name Speed Gear SR1		Customer Part Number 250.1.3636.70	
Shown on Drawing No. 250.1.3636.70		Organization Part # _____	
Engineering Change Level a 35670		Dated 31-lug-14	
Additional Engineering Changes _____		Dated _____	
Safety and/or Government Regulation <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Purchase Order No. _____ Weight (kg) 1,5160	
Checking Aid No. _____		Checking Aid Engineering Change Level _____ Dated _____	
ORGANIZATION MANUFACTURING INFORMATION		CUSTOMER SUBMITTAL INFORMATION	
GETRAG MODUGNO		RENAULT/FORD	
Organization Name & Supplier/Vendor Code VIA DEI CICLAMINI N°4		Customer Name/Division _____	
Street Address MODUGNO BARI 70026 ITALY		Buyer/Buyer Code TYP 250	
City	Region	Postal Code	Country
MODUGNO	BARI	70026	ITALY
MATERIALS REPORTING		Application _____	
Has customer-required Substances of Concern information been reported? Submitted by IMDS or other customer format:		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> n/a	
Are polymeric parts identified with appropriate ISO marking codes?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> n/a	
REASON FOR SUBMISSION (Check at least one)			
<input type="checkbox"/> Initial Submission		<input type="checkbox"/> Change to Optional Construction or Material	
<input checked="" type="checkbox"/> Engineering Change(s)		<input type="checkbox"/> Supplier or Material Source Change	
<input type="checkbox"/> Tooling: Transfer, Replacement, Refurbishment, or additional		<input type="checkbox"/> Change in Part Processing	
<input type="checkbox"/> Correction of Discrepancy		<input type="checkbox"/> Parts Produced at Additional Location	
<input type="checkbox"/> Tooling Inactive > than 1 year		<input checked="" type="checkbox"/> Other - please specify below	
REQUESTED SUBMISSION LEVEL (Check one)			
<input type="checkbox"/> Level 1 - Warrant only (and for designated appearance items, an Appearance Approval Report) submitted to customer.			
<input type="checkbox"/> Level 2 - Warrant with product samples and limited supporting data submitted to customer.			
<input checked="" type="checkbox"/> Level 3 - Warrant with product samples and complete supporting data submitted to customer.			
<input type="checkbox"/> Level 4 - Warrant and other requirements as defined by customer.			
<input type="checkbox"/> Level 5 - Warrant with product samples and complete supporting data reviewed at organization's manufacturing location.			
SUBMISSION RESULTS			
The results for <input checked="" type="checkbox"/> dimensional measurements <input checked="" type="checkbox"/> material and functional tests <input type="checkbox"/> appearance criteria <input checked="" type="checkbox"/> statistical process package			
These results meet all drawing and specification requirements: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> NO (if "NO" - Explanation Required)			
Mold / Cavity / Production Process _____			
DECLARATION			
I hereby affirm that the samples represented by this warrant are representative of our parts which were made by a process that meets all Production Part Approval Process Manual 4th Edition Requirements. I further affirm that these samples were produced at the production rate of _____ / _____ hours.			
I also certify that documented evidence of such compliance is on file and available for review. I have noted any deviations from this declaration below.			
EXPLANATION / COMMENTS: New documentation for first PPAP lost			

Is each Customer Tool properly tagged and numbered? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> n/a			
Organization Authorized Signature _____		Date 13 Jan 2015	
Print Name Pennacchia Vincenzo		Phone No. tel 390805858580 Fax No. _____	
Title GPS Leader		E-mail vincenzo.pennacchia@getrag.com	
FOR CUSTOMER USE ONLY (IF APPLICABLE)			
Part Warrant Disposition: <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Rejected <input type="checkbox"/> Other			
Customer Signature _____		Date 13.01.15	
Print Name _____		Customer Tracking Number (optional) _____	

STIRNRAD
GEAR
Toleranzen der Verzahnung (DIN 3961 vom Aug. 1978)
gütig für Werte am Einzelzahn
Tolerances of gearing (DIN 3961 of Aug. 1978)
valid for values at individual tooth

außenverzahnt external		(7)	
Zähnezahl Number of teeth	z	linke Fl. left flank	rechte Fl. right flank
Modul Normal module	m_n	#0,005	
Eingriffswinkel Normal pressure angle	α_n		0,011
Schrägungswinkel Helix angle	β		0,011
Steigungsrichtung Hand of helix	LEFT		
Profilverschlebungsfaktor Addendum modification coeff.	x	0,000 $\pm 0,007$	0,000 $\pm 0,007$
Teilkreisdurchmesser Pitch diameter	d	0,022 $\pm 0,008$	0,005 $\pm 0,008$
Kopfkreisdurchmesser Outside diameter	d_o	0,011	0,011
Kopftzirkelrad. theo. max. d_{ho} Tip diam. usable theo.		#0,005	
Kopfnutzkreis. theo. min. d_{Na} Tip diam. usable theo.		0,045	
Kopfnutzkreis. theo. min. d_{Na} Tip diam. usable theo.			0,036
Fußkreisdurchmesser Root diameter	d_f		0,016
Fußnutzkreisdurchmesser Root diameter usable	d_{fN}		18,62
Grundkreisradius Base circle radius	r_b		
Grundkreisdurchmesser Base diameter	d_b		21,00
Normalzahnstärke max. s_n Normal tooth thickness			
Normalzahnstärke min. s_n Normal tooth thickness			
Meßzähnezahl Number of teeth spanned	k		
Zahnweite max. W_k Base tangent length			
Zahnweite min. W_k Base tangent length			
Meßkugeldurchmesser Ball diameter	D_M		
Diam. Zweikugelmäß max. M_{gk} Measurement o. balls			
Diam. Zweikugelmäß min. M_{gk} Measurement o. balls			
Verdrehflankenpiel Circumferential backlash			

Der Verlauf der Profil- und Flankenlinie muss über den Messbereich stetig sein (ein- oder mehrfache Richtungsänderungen sind nicht zulässig)
 # The form of the profile and helix has to be continuous (one or more changes of directions are not allowed)
 Für f_p max. zwei Wellen zulässig
 For f_p max. two waves allowed

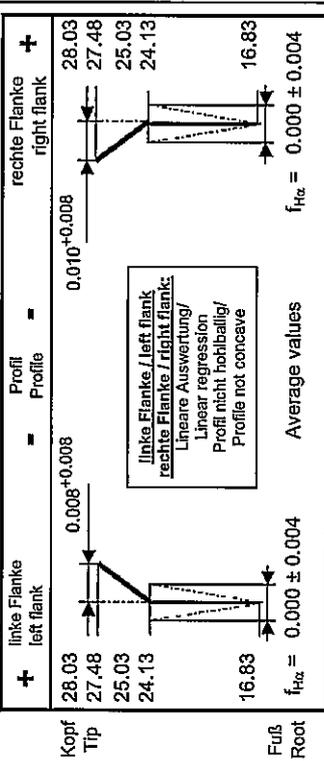
3.5 Measurement plane for MOB

Bezugsprofil-Schleifscheibe
 Grinding tool data
 Schleifscheibenkopfhöhe h_{sp} = 2,800
 Grinding wheel tip height
 Schleifscheibenkopfradius r_{sp} = 1,292
 Grinding wheel tip radius
 Schleifdurchmesser = 121,00 -0,30 \approx 13,60
 grinding diameter
 Honddurchmesser = 121,00 -0,30 \approx 13,60
 honing diameter

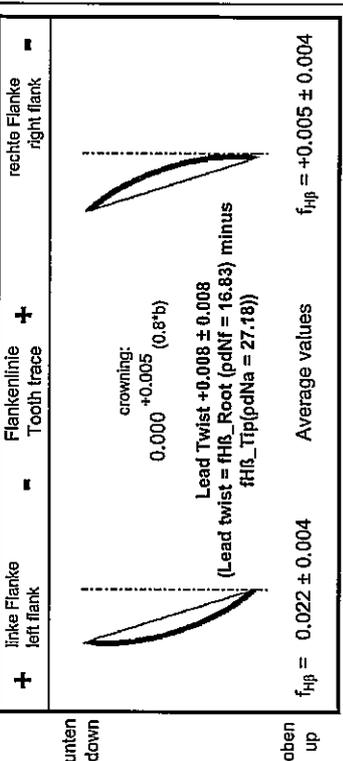
außenverzahnt external		(7)	
Zähnezahl Number of teeth	z	linke Fl. left flank	rechte Fl. right flank
Modul Normal module	m_n	#0,005	
Eingriffswinkel Normal pressure angle	α_n		0,011
Schrägungswinkel Helix angle	β		0,011
Steigungsrichtung Hand of helix	LEFT		
Profilverschlebungsfaktor Addendum modification coeff.	x	0,000 $\pm 0,007$	0,000 $\pm 0,007$
Teilkreisdurchmesser Pitch diameter	d	0,022 $\pm 0,008$	0,005 $\pm 0,008$
Kopfkreisdurchmesser Outside diameter	d_o	0,011	0,011
Kopftzirkelrad. theo. max. d_{ho} Tip diam. usable theo.		#0,005	
Kopfnutzkreis. theo. min. d_{Na} Tip diam. usable theo.		0,045	
Kopfnutzkreis. theo. min. d_{Na} Tip diam. usable theo.			0,036
Fußkreisdurchmesser Root diameter	d_f		0,016
Fußnutzkreisdurchmesser Root diameter usable	d_{fN}		18,62
Grundkreisradius Base circle radius	r_b		
Grundkreisdurchmesser Base diameter	d_b		21,00
Normalzahnstärke max. s_n Normal tooth thickness			
Normalzahnstärke min. s_n Normal tooth thickness			
Meßzähnezahl Number of teeth spanned	k		
Zahnweite max. W_k Base tangent length			
Zahnweite min. W_k Base tangent length			
Meßkugeldurchmesser Ball diameter	D_M		
Diam. Zweikugelmäß max. M_{gk} Measurement o. balls			
Diam. Zweikugelmäß min. M_{gk} Measurement o. balls			
Verdrehflankenpiel Circumferential backlash			

Vorbearbeitungsdaten siehe Verzahnungsblatt Vorbearbeitung gleicher Nr.
 For pre-machining dimensions, see gear data sheet same number

Wkz-Profil siehe Werkzeugdatenblatt Nr.
 For Tooth profile, see tool data sheet number



* Schreibbeginn $\varnothing = 121.10 -0.30 \approx 13.82$
 * Start of checking



unten down
 oben up

* f_{foc} (zwischen dNF und dem Schreibbeginn ds) max $f_{foc}/2$, jedoch 0.003 zulässig
 * f_{foc} (between dNF and start of checking ds) max $f_{foc}/2$, 0.003 allowable.

Profil- und Flankenlinienprüfung nach VD/VD 2612
 Tabellenwerte für F_p und f_{Hb} sind auf die gesamte Radbreite im Meßkreis d_M bezogen
 Flankenlinienprüfbereich $L\beta = 0.8^b$ hochgerechnet auf 1.0^b
 Begriffe für Stirnräder nach DIN 868, 3960, 3998

Profile and helix checking according to VD/VD 2612
 Listed tolerance data for F_p and f_{Hb} refers to the total face width in the meas. dia. d_M
 Tooth trace testing area $L\beta = 0.8^b$ calculated to 1.0^b
 Terms of the tooth system according to DIN (German Industrial Standards) No. 868, 3960, 3998

Verteiler:	
Erstverwendung bei Getriebezeuge:	250.0.000X.XX
Erstverwendung bei Getriebezeuge:	250.0.000X.XX
Buch.	Änd.Nr.
Anz.	
Abbildungen sind unmaßstäblich. Diagrams not to scale.	
Datum	Name
08.05.2014	Critical, Fabrizio
gepr.	gepr.
Ersatz für	
250.1.3637.74	
Verzahnungsblatt Endkontrolle Final Check Gear Data	
Zeichnungsnummer: Drawing number:	
250.1.3637.74	

Istruzioni di controllo



PP Produzione GPS

Materiale: 2501363670

Indice del disegno finito:

Descrizione: Ruota libera 1M.com

05.11.2014 / Vito Fiore

Operazione: 0230 Rettifica denti

Data emissione:

09.01.2015 / Rocco Tanzella

Centro di lavoro: SLW14050 RETTIFICA DENTI SG1

Data aggiornamento:

GN3010	Caratteristica	Misura nomin.	LTI	LTS	Strumento di controllo	Quantità	Frequenza RK1:	Quantità	Frequenza RK2:	Quantità	Frequenza Sala di misura	Gambito Ut	Metodi di gestione / Documentazione
0004	Controllo 1° pz secondo Gear data 250.1.3637.7X				MVZ-400249 EVOLVENTIMETRO					1	1° pz 2.3.1.1-R 2		CR1: controllo primo pezzo Misu: controllo primo pezzo
0010	DIAMETRO A SFERE Mk	132,360 mm	132,320	132,401	MOA-416121 RUGOSIMETRO TIPO PRK MZA-401071 CALCOLATORE DI MISURA E9086 MARPOSS					1	1° pz 2.3.1.1-R 2		
0020	DIAGRAMMA DI DENTATURA CON SVERGOLAMENTO DA GEAR TESTING				MVZ-400249 EVOLVENTIMETRO	3	pz ogni 100 per macchina			1	pz ogni 100 per macchina		Misu: calcolatore di misura Misu: diagramma di dentatura
0022	Svergolamento evolventi				MVZ-400249 EVOLVENTIMETRO					1	Ultimo PZ. prima ravvivatura		Misu: diagramma di dentatura
0030	SOMMA DI PASSO Fp	mm		0,045	MVZ-400249 EVOLVENTIMETRO					1	pz. p. turno		Misu: diagramma di dentatura
0040	OSCILLAZIONE RADIALE Ft	mm		0,032	MVZ-400249 EVOLVENTIMETRO					1	pz. p. turno		Misu: diagramma di dentatura
0050	RUGOSITA' Rz	0,0 µm	0,0	4,0	MOA-416121 RUGOSIMETRO TIPO PRK					1	1° pz 2.3.1.1-R 2		Misu: controllo primo pezzo
0060	RUGOSITA' Rmax	0,0 µm	0,0	6,3	MOA-416121 RUGOSIMETRO TIPO PRK					1	1° pz 2.3.1.1-R 2		Misu: controllo primo pezzo
0070	Controllo chimico bruciature secondo procedura WTL 3.4.10.01					1	pz cambio mola rettifica						CR1: controllo primo pezzo
0080	CONTROLLO VISIVO RETTIFICA INCOMPLETE					3	pz ogni 100 per macchina						CR1: no documentazione

Point	Caracteristic	Tolerance	Part 1	Part 2	Part 3	Part 4	Part 5
4	MDK	132,401/132,320	132,355	132,352	132,361	132,359	132,353

Manual measures by Marposs

SR1 2501 3636 70

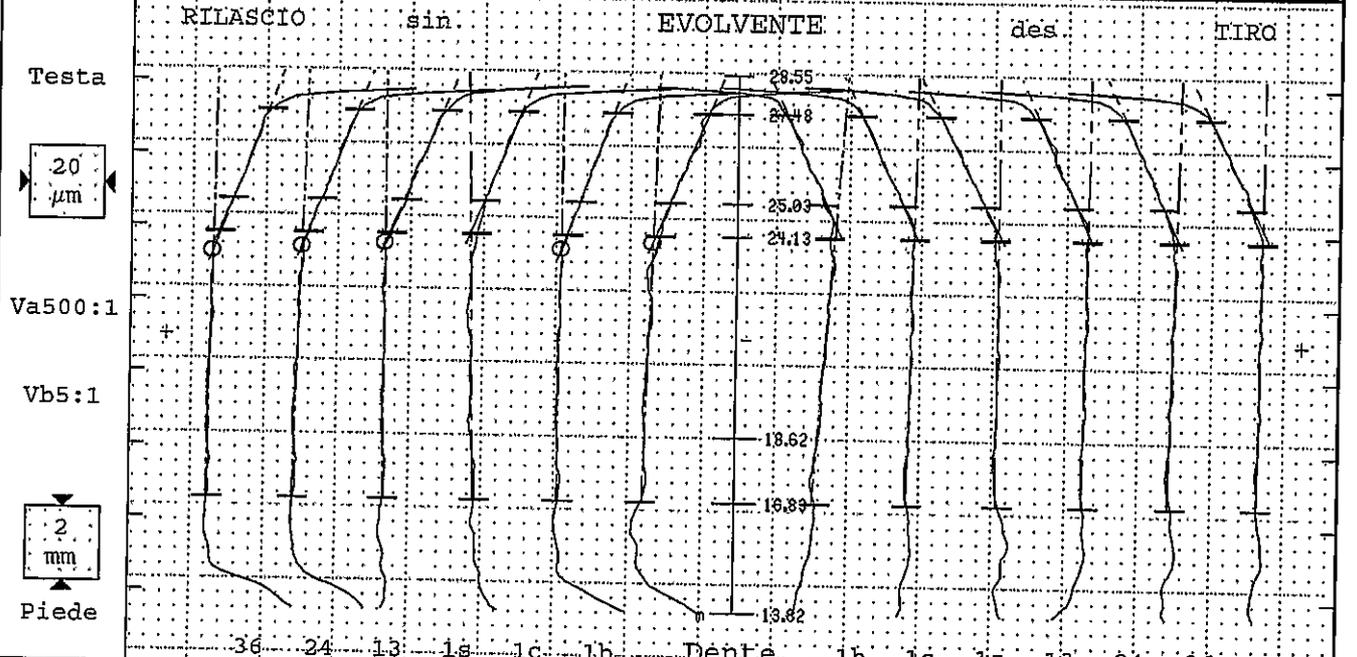
12,Jan,2015

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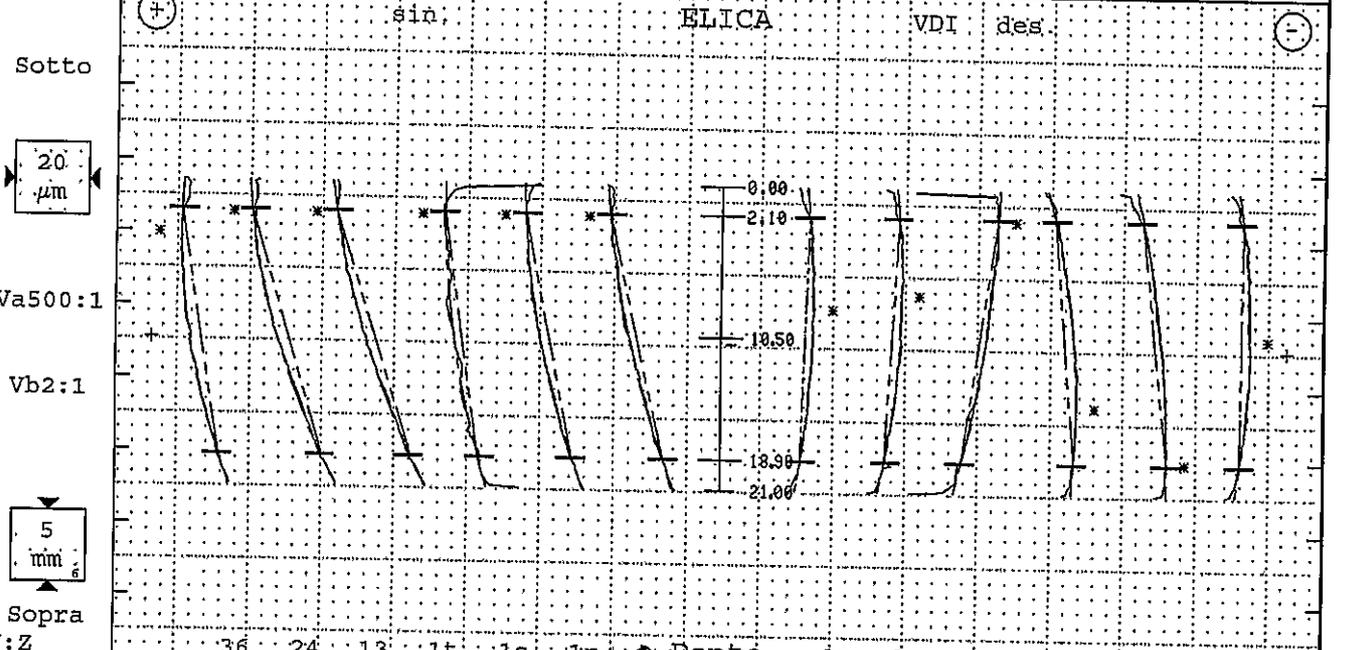
Ruota cilindrica Evolvente/Elica



Nr. prog.:	STI041005 0	PNC35 B4784	Controllore:	TURNO C	Data:	12.01.2015 07:01
Denominazione:	SR1		Numero denti z	47	Largh.fasc.dent. b	21mm
Numero disegno:	250.1.3637.77-IF		Modulo m	2.45mm	Tratto evolv. La	7.3mm
Comessa/serie nr.:	PPAP 1		Angolo pressione	20°	Tratto elica Lb	16.8mm
Masch.Nr.:	M001	Spindel: Formu	Angolo elica	-25°	Inizio elab. MI	16.83mm
Untersuchungszweck:	Laufende Messung		Ø Base db	117.9016mm	Palpatore Ø	(#1)1mm
Werkzeug:	Charge:		Ang. Base	-23.399°	Fat.scor.pr. x	-.696



Tolerance	Medio	Val. misur [µm]							Qual	Tolerance	Val. misur [µm]							Medio	Qual		
fHm	±4	-1	Var 2								±4	Var 1							2		
fHα	±7	-1	-1	-2	0	1	-1	-2		±7	6	2	0	1	2	1	2				
Fα		3	3	4	2	3	3	5			6	2	2	2	3	2	2				
ffα	5	2	2	2	2	3	2	3		5	2	1	2	1	2	1	1				
fKα	-16/-8	-15	-14	-14	-16	-14	-14	-14		-18/-10	-16	-15	-16	-14	-15	-15	-15				
P/T-φ[mm]		117.543	[117.25/117.7]									130.836	[130.7/131]								



fHm	22±4	20	Var 13								5±4	Var 13							3
fHb	22±8	20	14	25	26	12	16	18		5±8	-3	-3	-12	7	8	-1	3		
Fb	11	6	8	4	4	9	6	4		11	7	8	14	4	4	6	6		
ffb	5	1	1	2	1	2	1	1		5	1	1	1	1	1	1	1		
CB	0/5	3	3	3	3	2	2	2		0/5	2	3	2	3	2	2	3		
Bd	8±8	6								8±8							9		

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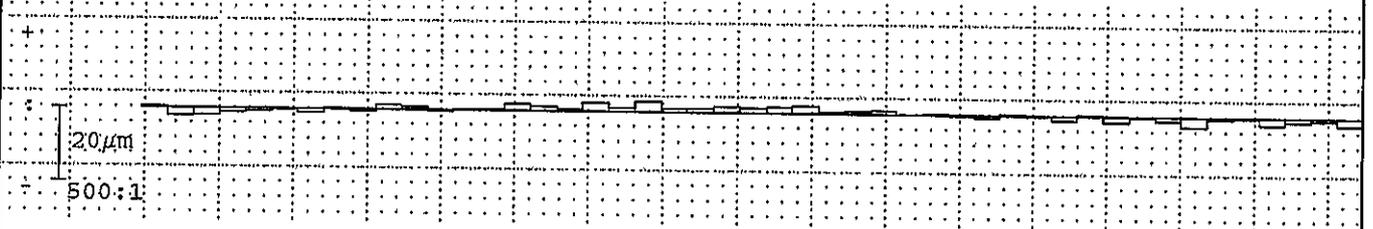
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Ruota cilindrica Divisione

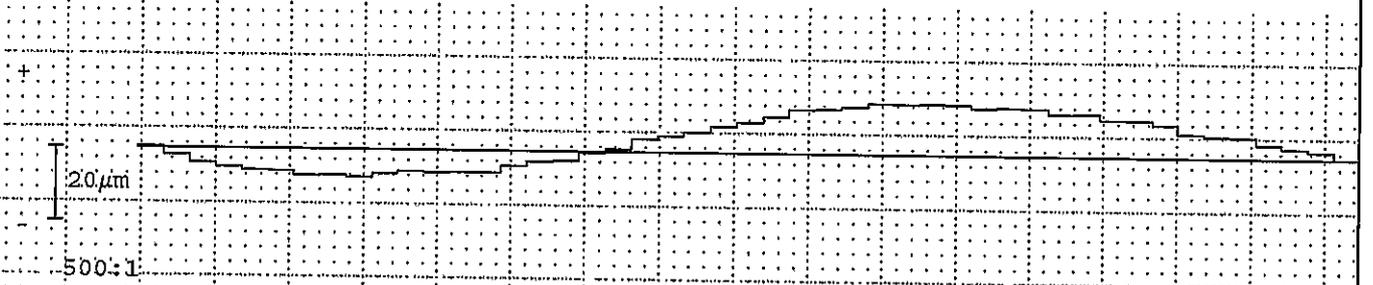


Nr. prog.: STI0410005 0	PNC35 B4784	Controllore: TURNO C	Data: 12.01.2015 07:01
Denominazione: SR1		Numero denti z 47	Angolo pressione 20°
Numero disegno: 250.1.3637.77-IF		Modulo m 2.45mm	Angolo elicita -25°
Comessa/serie nr.: PPAP 1		Untersuchungszweck: Laufende Messung	
Masch.Nr.: M001	Spindel: FORMER	Getrag:	Charge:

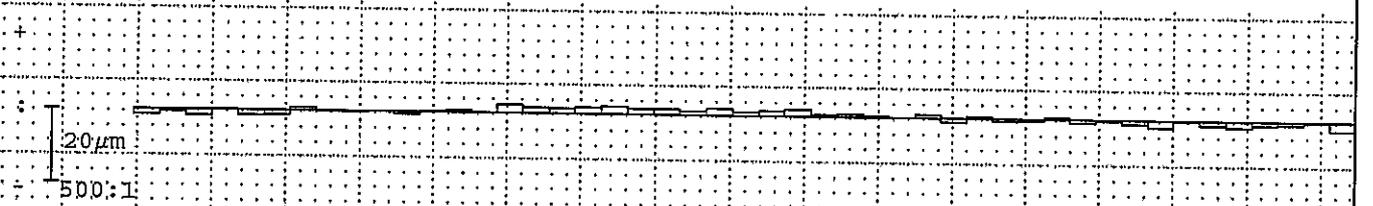
Errori singoli di divisione fp fianco sinistro



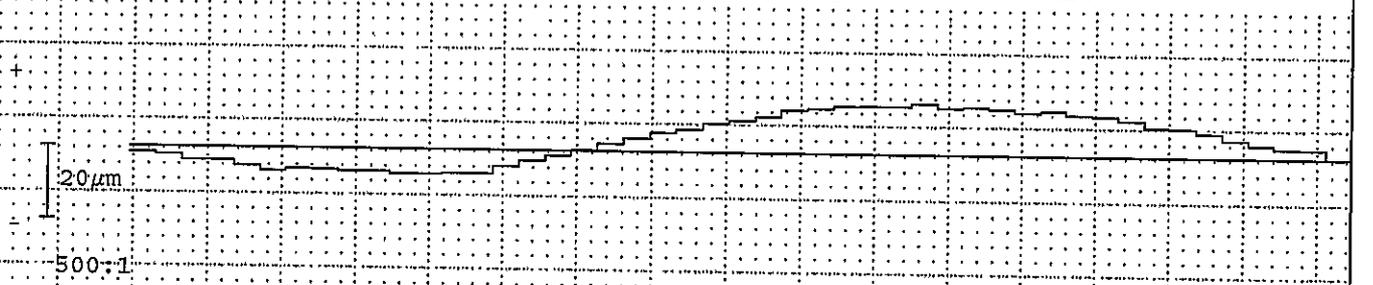
Errore somma di divisione Fp fianco sinistro



Errori singoli di divisione fp fianco destro



Errore somma di divisione Fp fianco destro

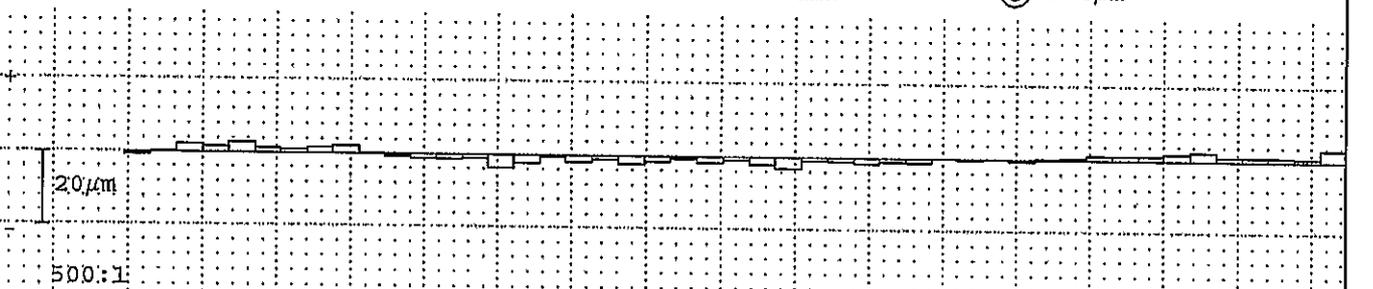


Corsa per misura divis.: 123.643 z=10.5mm

	fianco sinistro / RILASCIO				fianco destro / TIRO			
	Val. misur	Qual.	Val. amm	Qual.	Val. misur	Qual.	Val. amm	Qual.
Gr. err. singoli divisione fp max	3		11		2		11	
Gr. salto di passo fu max	2		14		2		14	
Scarto di divisione Rp	6				4			
Err. globale di divisione fp	21		45		21		45	
Err. cordale di divisione fpz/8	10				10			

Centricità Fr (Ø-sfera = 4.25mm)

⊙ : 4µm



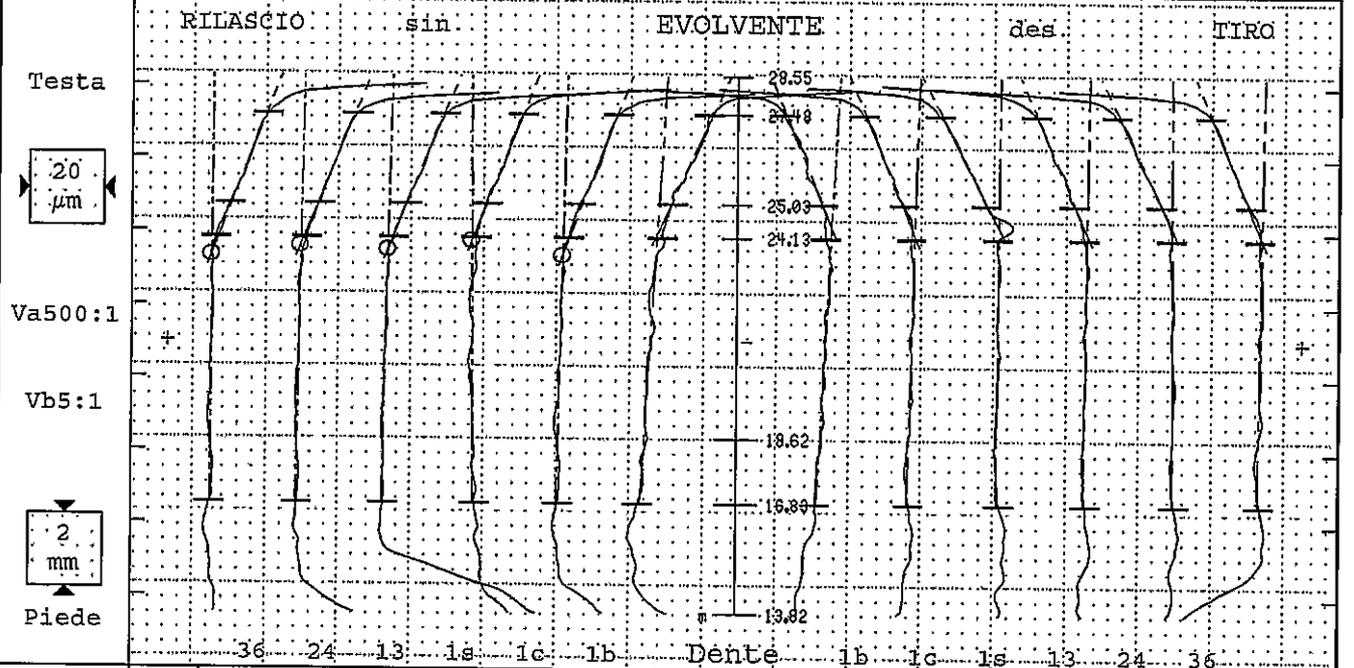
Err. di concentricità Fr	7	32	
Variaz. spessore dente Rs			

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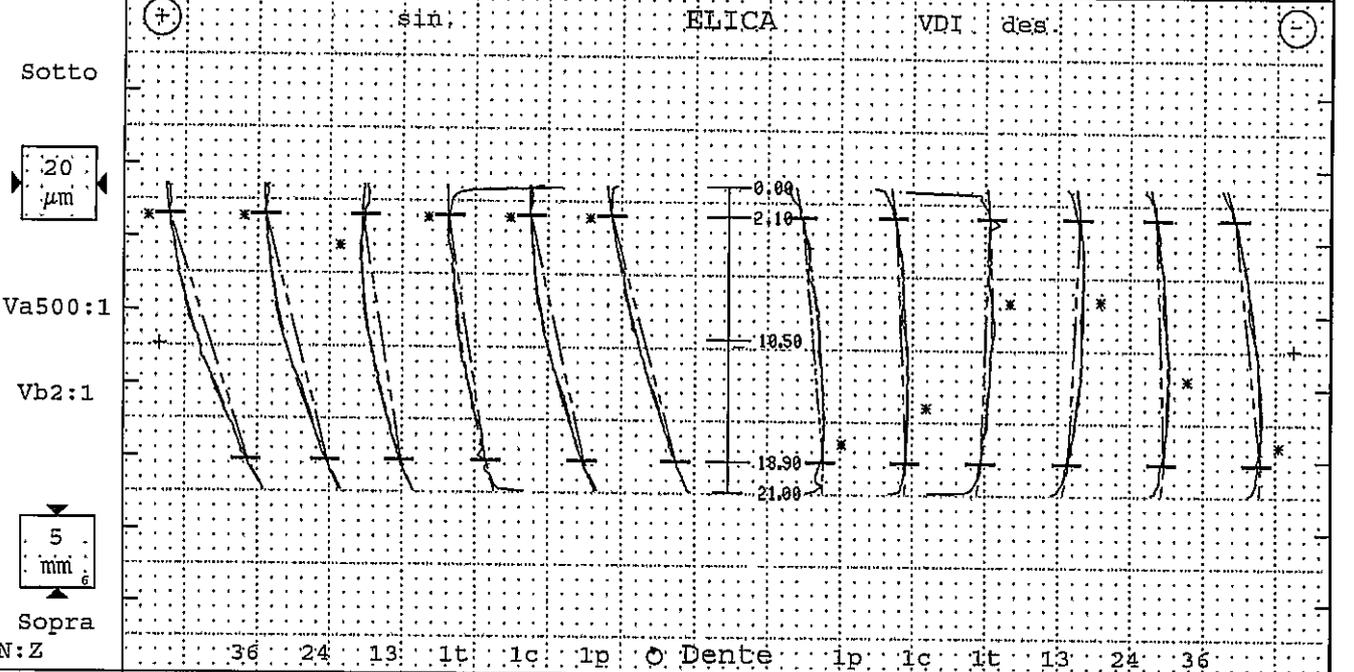
Ruota cilindrica Evolvente/Elica



Nr. prog.:	STI0410o05 0	PNC35 B4784	Controllore:	TURNO C	Data:	12.01.2015 07:07
Denominazione:	SRI		Numero denti z	47	Largh.fasc.dent. b	21mm
Numero disegno.:	250.1.3637.77-IF		Modulo m	2.45mm	Tratto evolv. La	7.3mm
Comessa/serie nr.:	PPAP 2		Angolo pressione	20°	Tratto elica Ls	16.8mm
Masch.Nr.:	M001	spindel: FORM	Angolo elica	-25°	Inizio elab. Ml	16.83mm
Untersuchungszweck:	Laufende Messung		Ø Base db	117.9016mm	Palpatore Ø	(#1)1mm
Werkzeug:	Charge:		Ang. Base	-23.399°	Fat.scor.pr. x	- .696



Tolerance	Medio	Val. misur [µm]							Qual	Tolerance	Val. misur [µm]							Medio	Qual		
fHm	±4	-1	Var 2								±4	Var 2							1		
fHα	±7	-1	0	-1	-2	0	-2	-4		±7	4	2	1	1	0	1	1				
Fα		3	2	3	3	2	4	7			4	3	5	2	2	2	2				
ffα	5	2	2	2	2	2	3	3		5	2	2	5	1	1	2	2				
fKα	-16/-8	-14	-15	-14	-14	-14	-14	-13		-18/-10	-14	-15	-16	-14	-14	-14	-14				
P/T-φ[mm]		117.544	[117.25/117.7]									130.845	[130.7/131]								



N:Z		36	24	13	1t	1c	1p	Ø Dente	1p	1c	1t	13	24	36					
fH5m	22±4	20	Var 14								5±4	Var 13							3
fH8	22±8	20	27	21	14	13	18	22		5±8	7	4	-3	-3	3	9	3		
FS	11	6	6	4	9	10	5	3		11	3	3	9	8	4	4	5		
ffB	5	1	1	1	1	3	1	2		5	2	2	4	1	1	2	2		
CB	0/5	3	3	3	4	2	3	2		0/5	2	1	2	2	2	2	2		
Bd	8±8	9								8±8							10		

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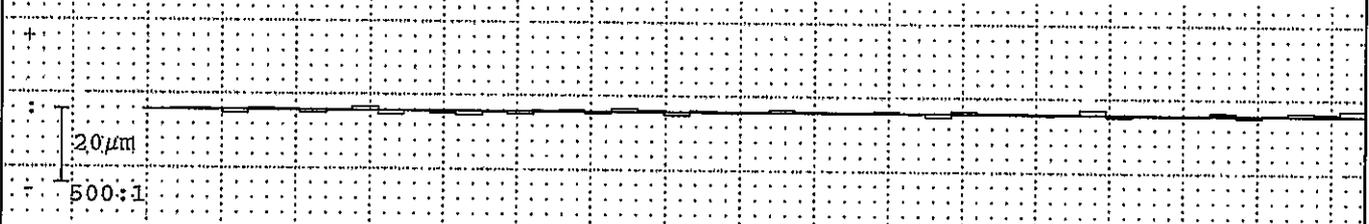
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Ruota cilindrica Divisione

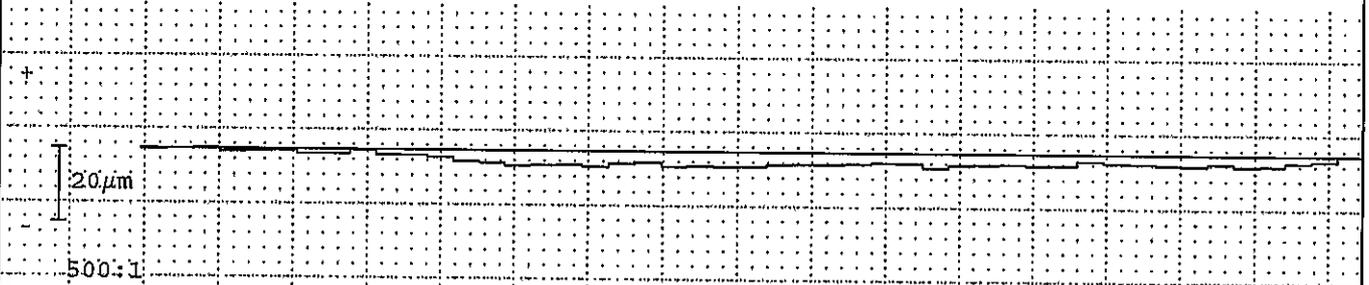


Nr. prog.: STI0410005 0	PNC35 B4784	Controllore: TURNO C	Data: 12.01.2015 07:07
Denominazione: SR1		Numero denti z: 47	Angolo pressione: 20°
Numero disegno: 250.1.3637.77-IF		Modulo m: 2.45mm	Angolo elica: -25°
Comessa/serie nr.: PPAP 2		Untersuchungszweck: Laufende Messung	
Masch.Nr.: M001	Spindel: FORMI	Caricidg:	Charge:

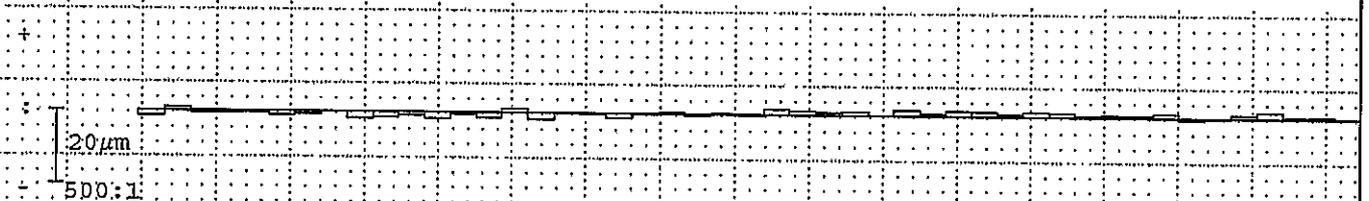
Errori singoli di divisione fp fianco sinistro



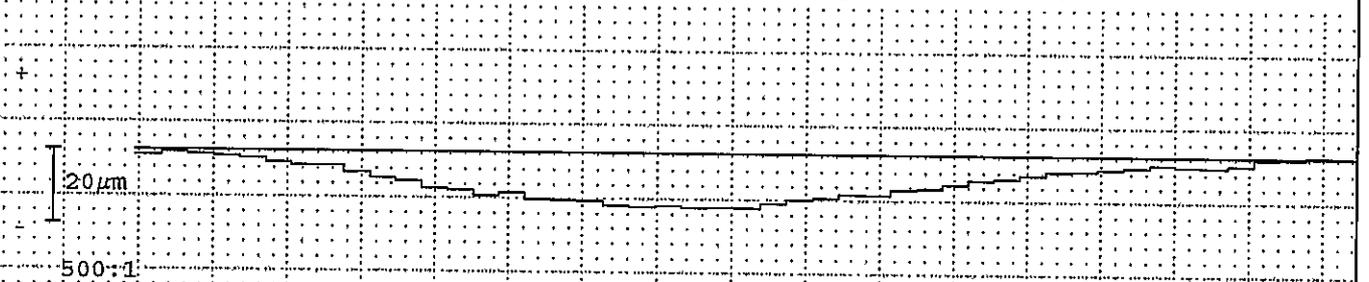
Errore somma di divisione Fp fianco sinistro



Errori singoli di divisione fp fianco destro



Errore somma di divisione Fp fianco destro

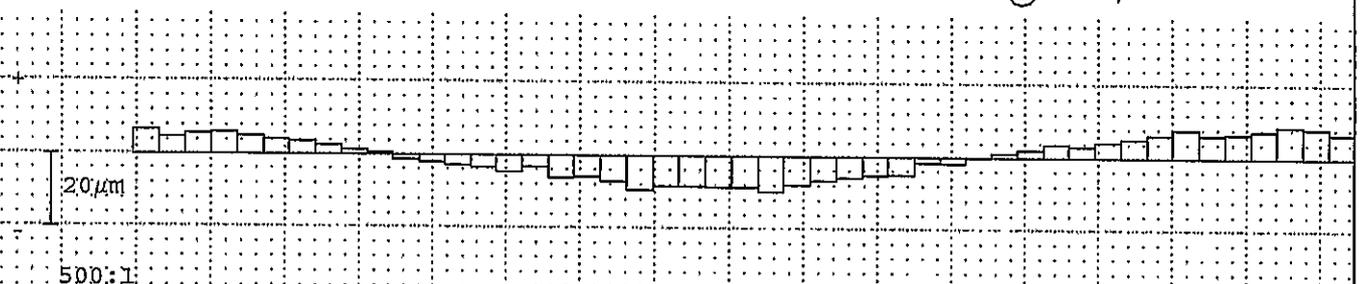


Corso per misura divis. 123.643 z=10.5mm

	fianco sinistro / RILASCIO				fianco destro / TIRO			
	Val. misur	Qual.	Val. amm	Qual.	Val. misur	Qual.	Val. amm	Qual.
Gr. err. singoli divisione fp max	2		11		2		11	
Gr. salto di passo fu max	2		14		3		14	
Scarto di divisione Rp	3				4			
Err. globale di divisione Fp	4		45		15		45	
Err. cordale di divisione Fpz/8	4				8			

Centricità Fr (\emptyset -sfera = 4.25mm)

⊙ : 16μm



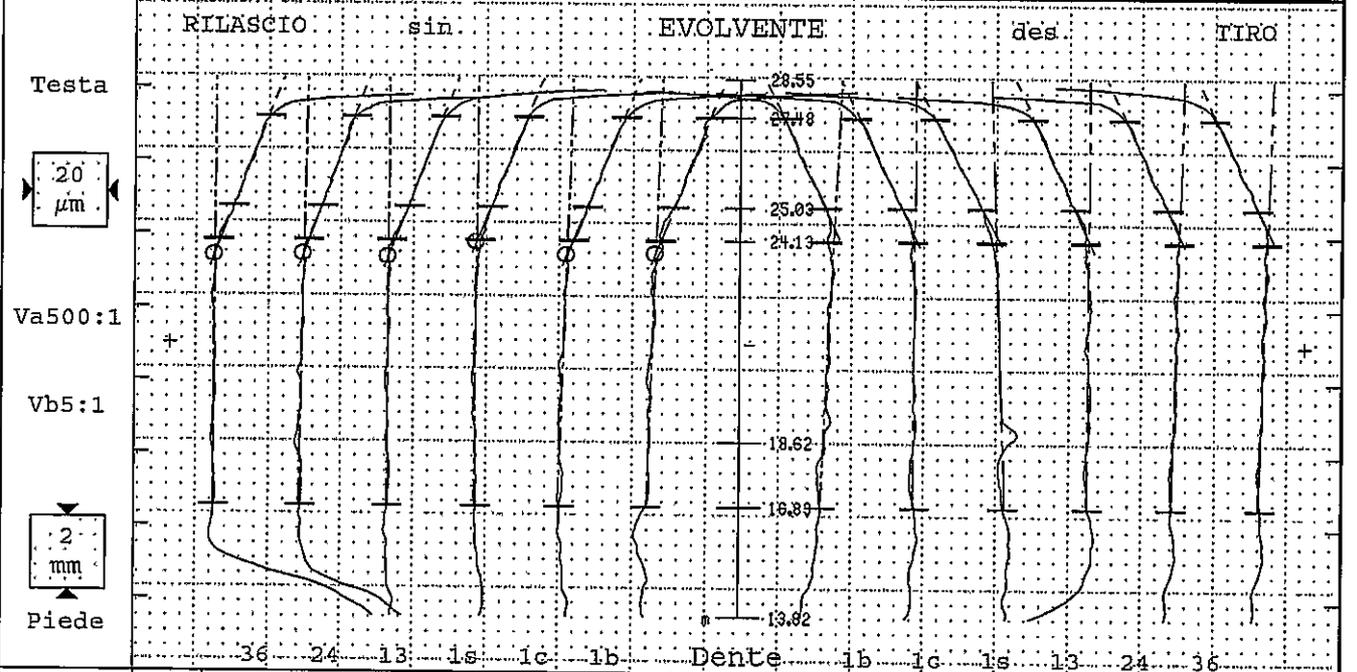
Err. di concentricità Fr	18	32	
Variab. spessore dente Rs			

GETRAG

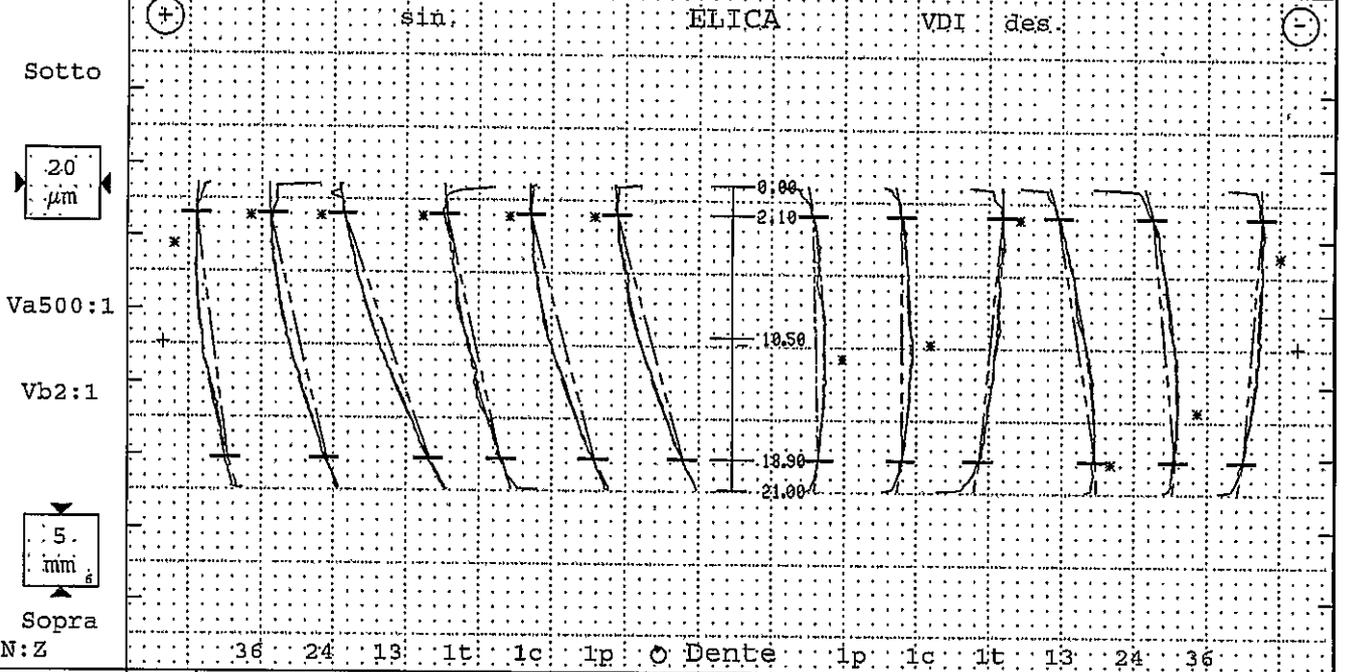
Ruota cilindrica Evolvente/Elica



Nr. prog.: STI041005 0	PNC35 B4784	Controllora: TURNO C	Data: 12.01.2015 07:51
Denominazione: SR1	Numero denti z: 47	Largh.fasc.dent. b: 21mm	
Numero disegno.: 250.1.3637.77-IF	Modulo m: 2.45mm	Tratto evolv. La: 7.3mm	
Comessa/serie nr.: PPAP 3	Angolo pressione: 20°	Tratto elica Lb: 16.8mm	
Masch.Nr.: M001	spindel: Form. evolventica	Ang. press. -25°	Inizio elab. Ml: 16.83mm
Untersuchungszweck: Laufende Messung	Ø Base db: 117.9016mm	Palpatore Ø: (#1)1mm	
Werkzeug: Charge:	Ang. Base: -23.399°	Fat.scor.pr. x: -.696	



Tolerance	Medio	Val. misur [µm]							Qual	Tolerance	Val. misur [µm]							Medio	Qual		
fHm	±4	-1	Var 2								±4	Var 2							1		
fHα	±7	-1	0	-1	0	-1	-2	-3		±7	4	0	-2	0	2	2	1				
Fα		3	2	4	2	2	4	4			5	2	7	2	3	3	3				
ffa	5	3	2	3	2	2	3	3		5	4	2	6	2	2	1	2				
fKo -16/-8		-14	-15	-13	-15	-14	-14	-13		-18/-10	-15	-16	-16	-15	-16	-15	-16				
P/T-φ[mm]		117.546	[117.25/117.7]									130.839	[130.7/131]								



εHm	22±4	21	Var 18								5±4	Var 20							5
fHs	22±8	21	14	19	29	18	22	22		5±8	2	0	-8	13	8	-3	5		
FB	11	7	10	5	7	5	4	4		11	4	5	11	7	5	10	7		
ffb	5	1	2	1	1	2	1	1		5	2	1	2	2	1	1	1		
CB	0/5	3	3	3	3	2	4	3		0/5	2	3	2	2	3	2	3		
Bd	8±8	4								8±8							10		

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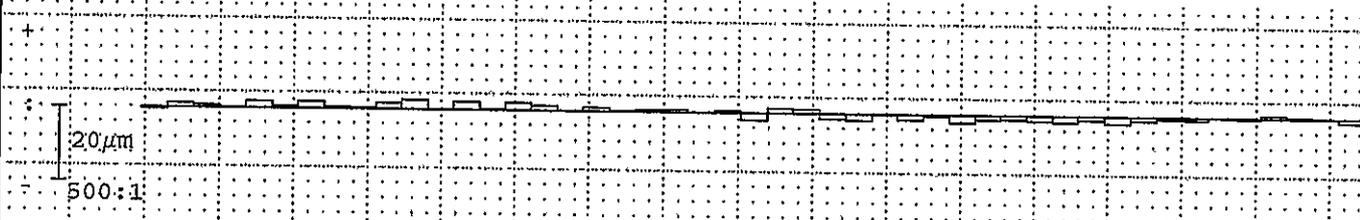
GETRAG

Ruota cilindrica Divisione

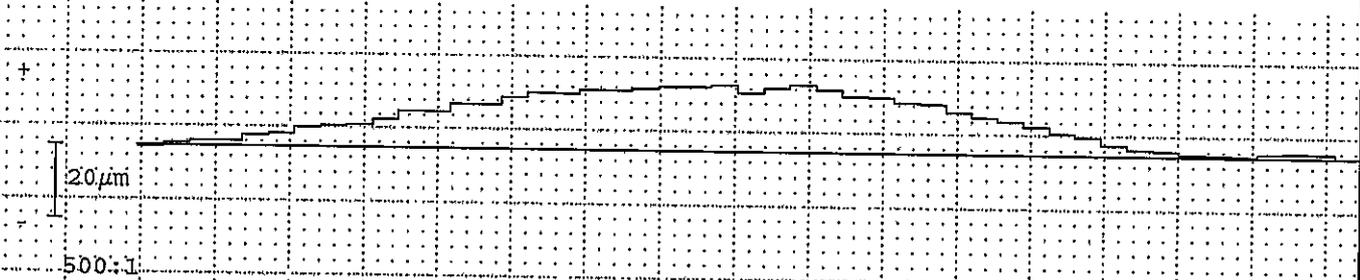


Nr. prog.: STI0410005 0	PNC35 B4784	Controllere: TURNO C	Data: 12.01.2015 07:51
Denominazione: SR1		Numero denti z 47	Angolo pressione 20°
Numero disegno.: 250.1.3637.77-IF		Modulo m 2.45mm	Angolo elicita -25°
Commessa/serie nr.: PPAP 3		Untersuchungszweck: Laufende Messung	
Masch.Nr.: M001	Spindel: Form	Carzedy:	Charge:

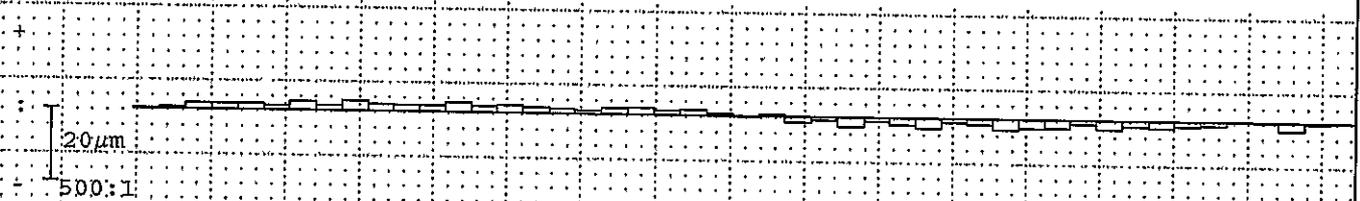
Errori singoli di divisione fp fianco sinistro



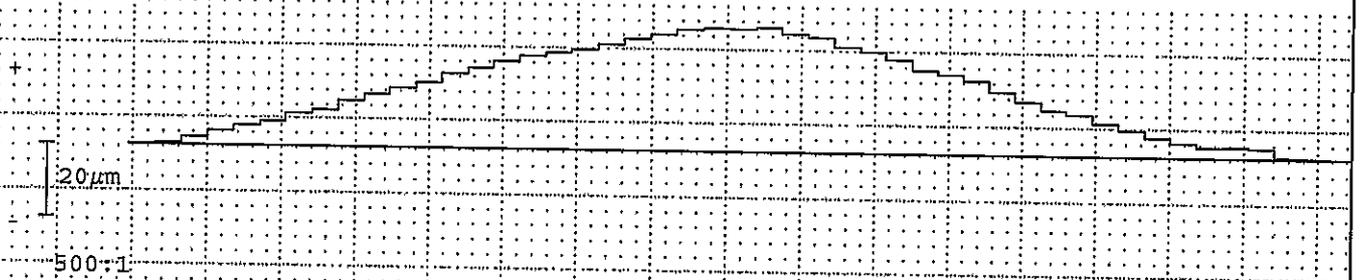
Errore somma di divisione Fp fianco sinistro



Errori singoli di divisione fp fianco destro



Errore somma di divisione Fp fianco destro

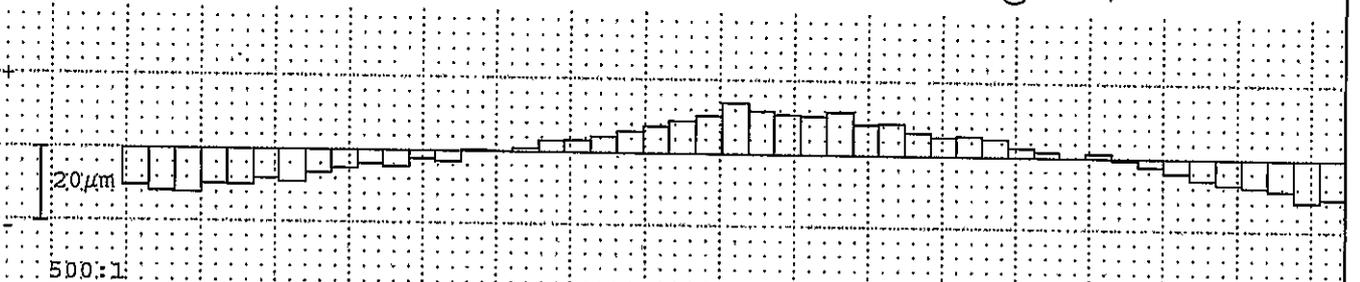


Corsa per misura divis.: 123.643 z=10.5mm

	fianco sinistro / RILASCIO				fianco destro / TIRO			
	Val. misur	Qual.	Val. amm	Qual.	Val. misur	Qual.	Val. amm	Qual.
Gr. err. singoli divisione fp max	2		11		3		11	
Gr. salto di passo fu max	3		14		2		14	
Scarto di divisione Rp	4				6			
Err. globale di divisione Fp	19		45		34		45	
Err. cordale di divisione Fpz/8	9				13			

Centricità Fr (Ø-sfera = 4.25mm)

⊙ : 21µm



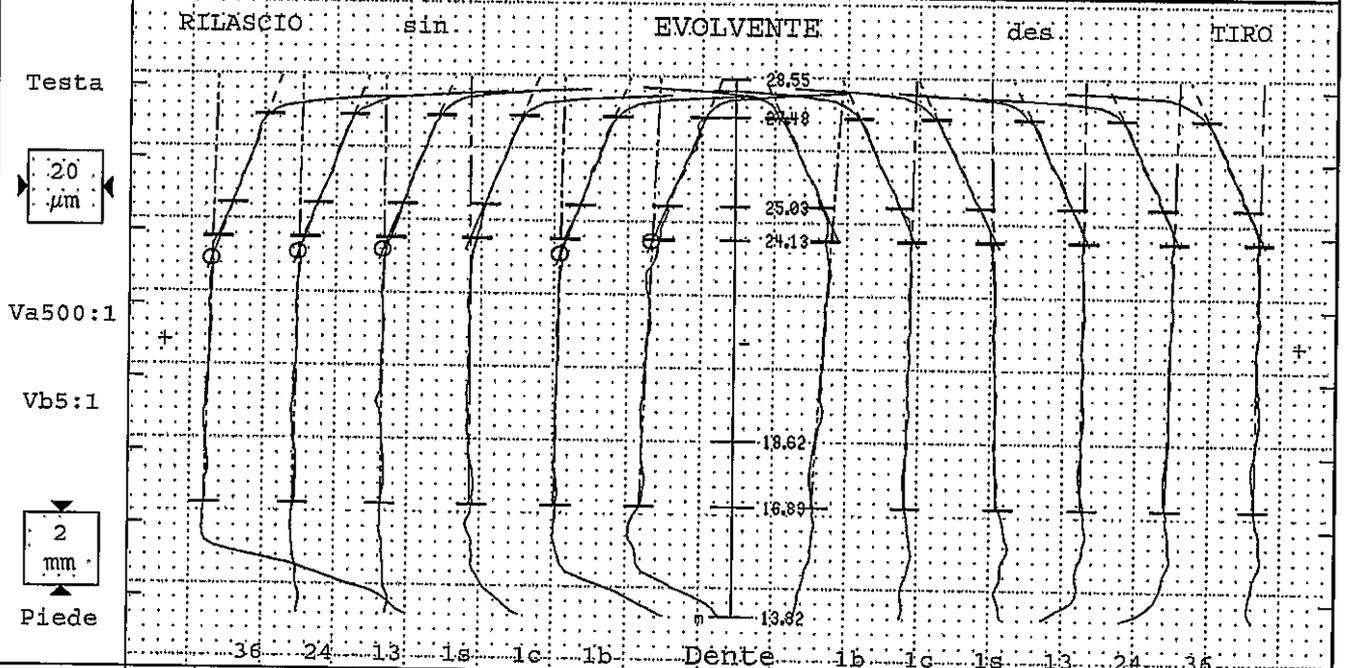
Err. di concentricità Fr	26	32	
Variaz. spessore dente Rs			

GETRAG

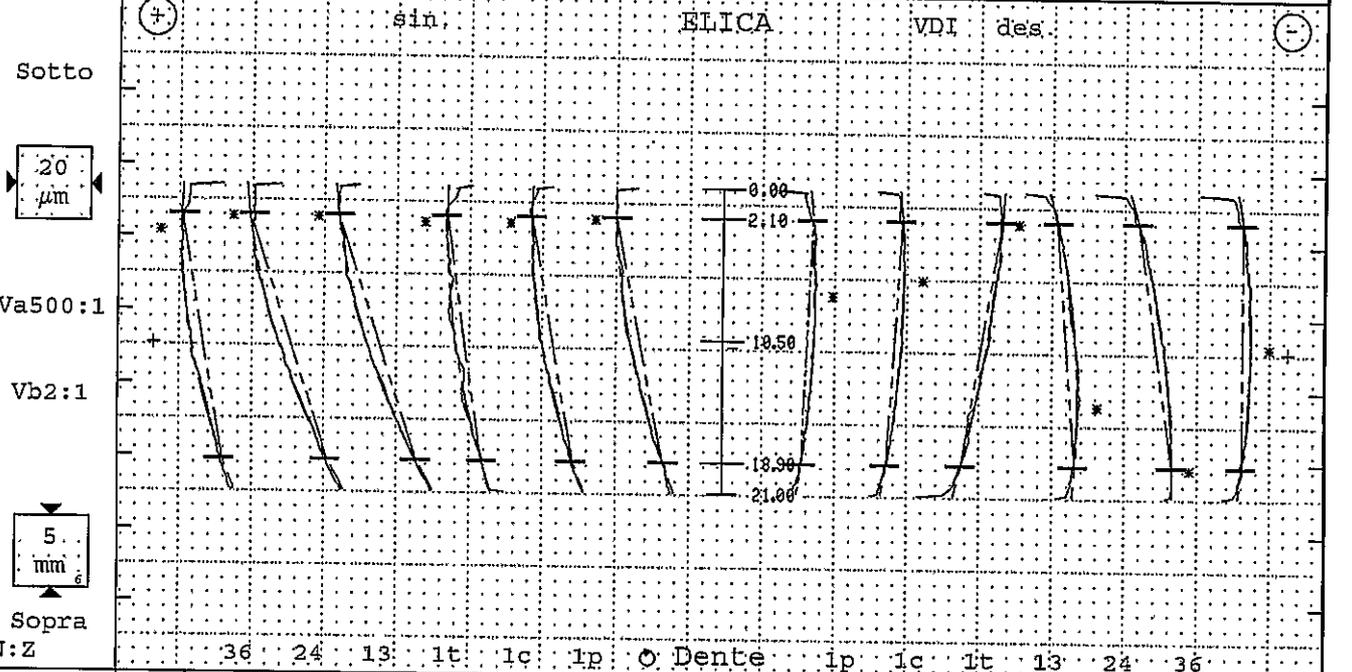
Ruota cilindrica Evolvente/Elica



Nr. prog.: STI0410005 0	PNC35 B4784	Controllore: TURNO C	Data: 12.01.2015 07:36
Denominazione: SR1	Numero denti z: 47	Largh.fasc.dent. b: 21mm	
Numero disegno.: 250.1.3637.77-IF	Modulo m: 2.45mm	Tratto evolv. La: 7.3mm	
Comessa/serie nr.: PPAP 4	Angolo pressione: 20°	Tratto elica Ls: 16.8mm	
Masch.Nr.: M001	Spindel: Forme Angolo elica: -25°	Inizio elab. M1: 16.83mm	
Untersuchungszweck: Laufende Messung	Ø Base db: 117.9016mm	Palpatore Ø: (#1)1mm	
Werkzeug: Charge:	Ang. Base: -23.399°	Fat. scor.pr. x: -.696	



Tolerance	Medio	Val. misur [µm]							Qual	Tolerance	Val. misur [µm]							Medio	Qual
		Var 2									Var 2								
fHm	±4	-1							±4								1		
fHα	±7	-1	-2	-1	0	0	-1	-3	±7	5	2	-1	0	2	1	1			
Fα		4	4	3	4	2	3	5		5	2	3	2	3	2	2			
ffα	5	3	2	3	3	3	2	3	5	3	1	2	1	1	2	1			
fKα -16/-8		-14	-14	-14	-15	-14	-14	-13	-18/-10	-16	-15	-15	-15	-15	-15	-15			
P/T-φ [mm]		117.541	[117.25/117.7]								130.830	[130.7/131]							



Tolerance	Medio	Val. misur [µm]							Qual	Tolerance	Val. misur [µm]							Medio	Qual
		Var 13									Var 17								
fHm	22±4	21							5±4								4		
fHs	22±8	21	14	27	27	12	14	16	5±8	-4	-3	-14	6	12	0	4			
Fs	11	7	8	6	6	8	7	6	11	8	9	15	3	7	6	6			
ffs	5	2	2	2	1	2	1	1	5	1	1	2	1	1	2	1			
Cs	0/5	3	3	3	3	2	3	3	0/5	2	2	2	3	2	2	2			
Bd	8±8	4							8±8							10			

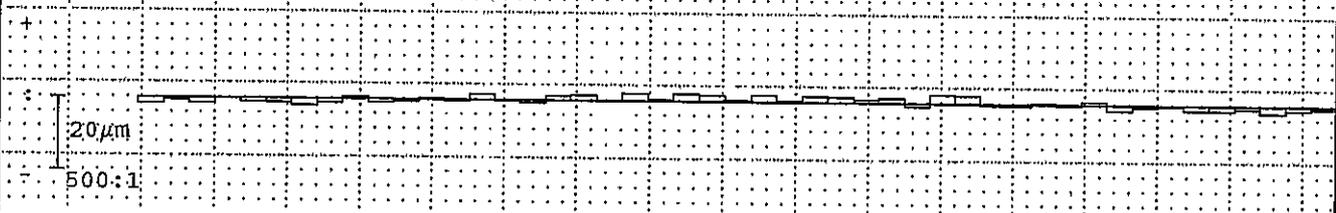
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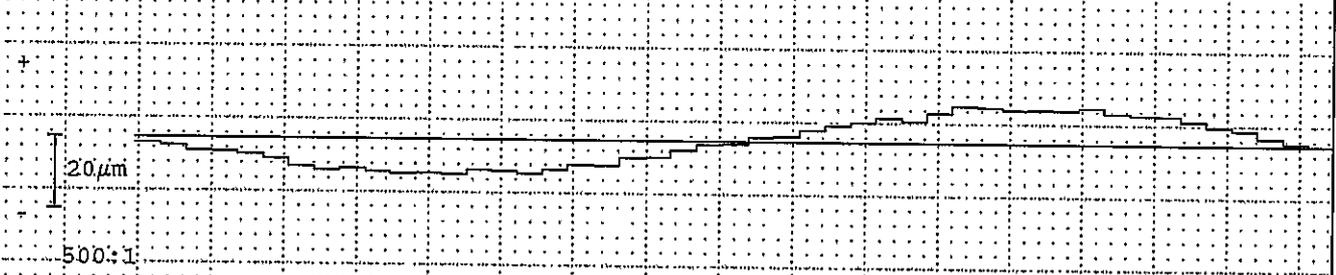


Nr. prog.: STI0410005 0	PNC35 B4784	Controllore: TURNO C	Data: 12.01.2015 07:36
Denominazione: SR1		Numero denti z 47	Angolo pressione 20°
Numero disegno.: 250.1.3637.77-IF		Modulo m 2.45mm	Angolo elica -25°
Commessa/serie nr.: PPAP 4		Untersuchungszweck: Laufende Messung	
Masch.Nr.: M001	Spindel: Form	Caricatore:	Charge:

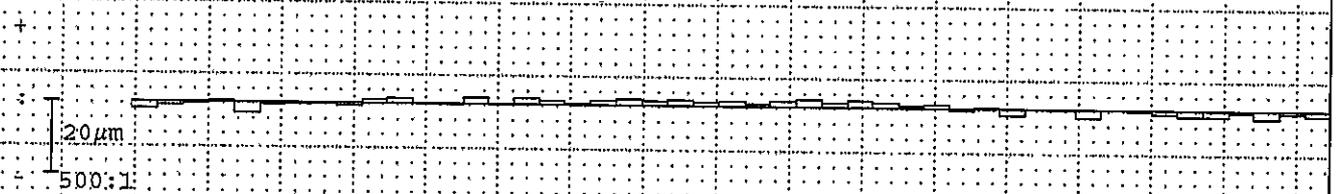
Errori singoli di divisione fp fianco sinistro



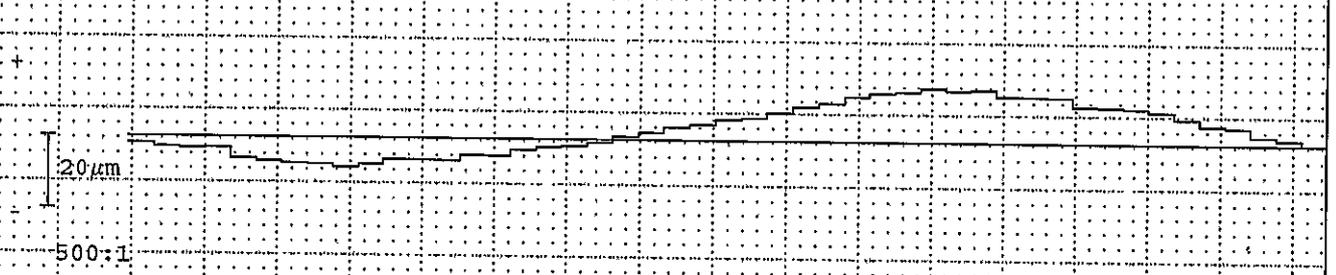
Errore somma di divisione Fp fianco sinistro



Errori singoli di divisione fp fianco destro



Errore somma di divisione Fp fianco destro

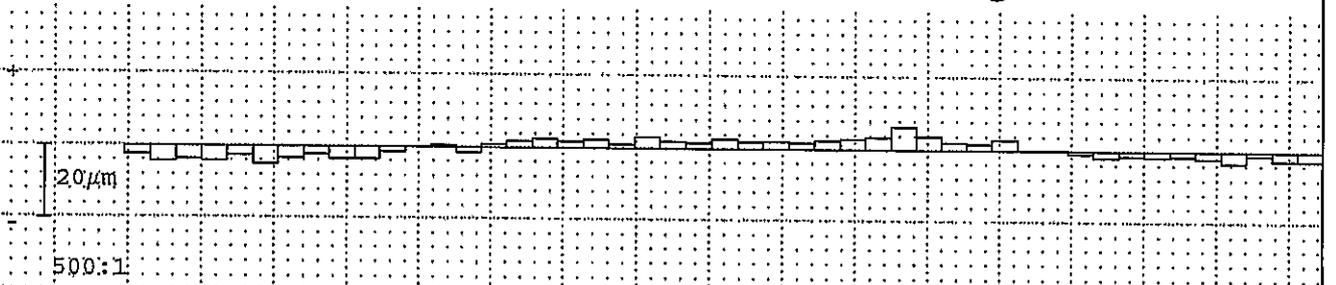


Corsa per misura divis.: 123.643 z=10.5mm

	fianco sinistro / RILASCIO				fianco destro / TIRO			
	Val. misur	Qual.	Val. amm	Qual.	Val. misur	Qual.	Val. amm	Qual.
Gr. err. singoli divisione fp max	2		11		3		11	
Gr. salto di passo fu max	3		14		3		14	
Scarto di divisione Rp	4				5			
Err. globale di divisione Fp	20		45		23		45	
Err. cordale di divisione Fpz/R	8				9			

Centricità Fr (Ø-sfera = 4.25mm)

⊙ : 7µm



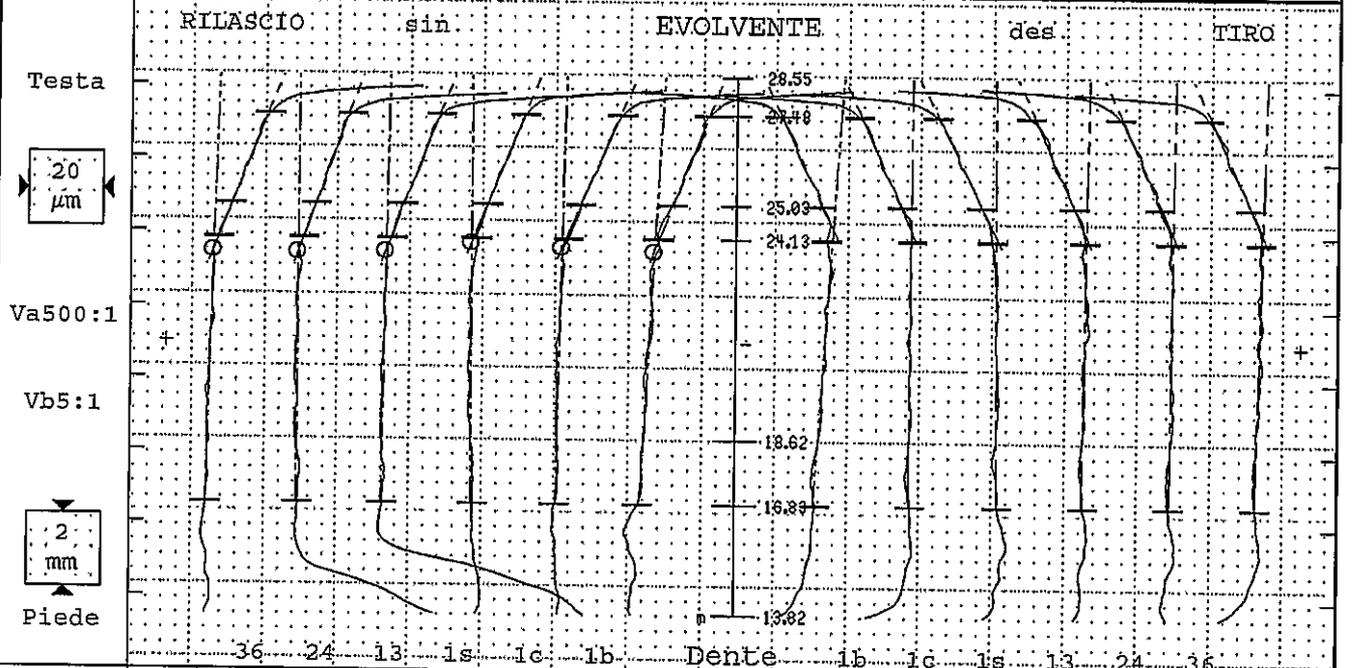
Err. di concentricità Fr	11	32	
Variaz. spessore dente Rs			

GETRAG

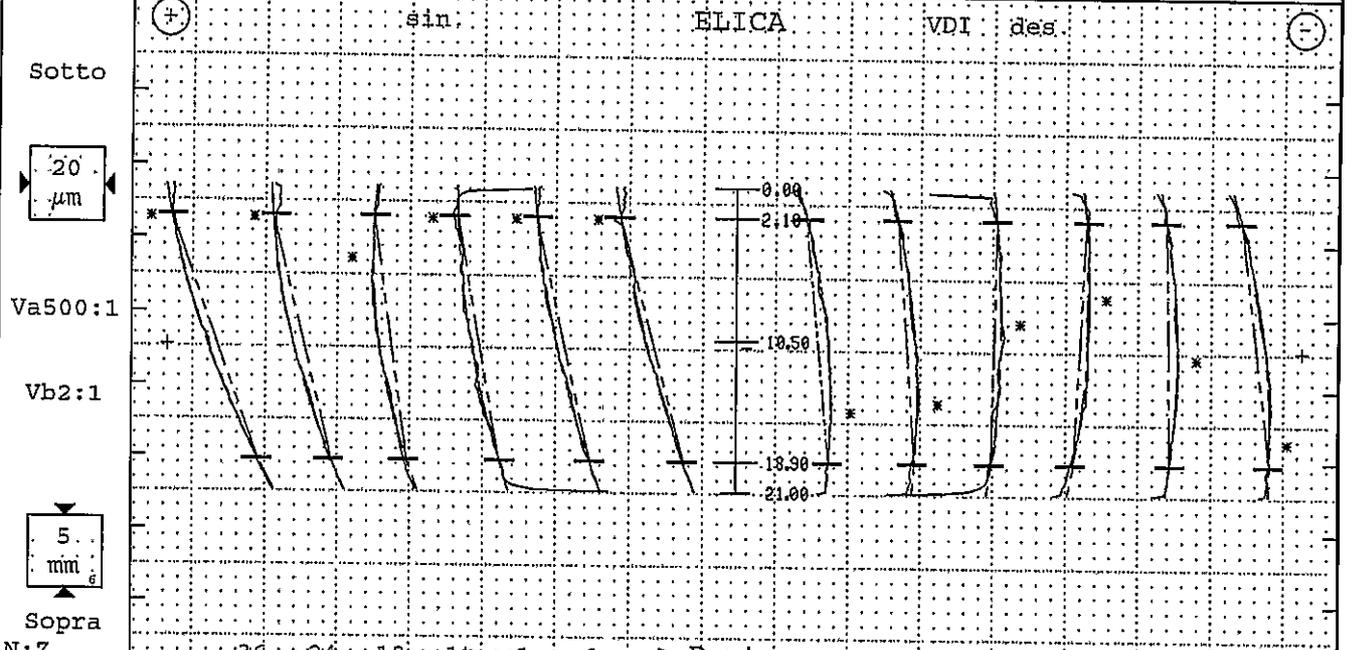
Ruota cilindrica Evolvente/Elica



Nr. prog.:	STI0410005 0	PNC35 B4784	Controllore:	TURNO C	Data:	12.01.2015 07:14
Denominazione:	SRI		Numero denti z	47	Largh.fasc.dent. b	21mm
Numero disegno.:	250.1.3637.77-IF		Module m	2.45mm	Tratto evolv. La	7.3mm
Comessa/serie nr.:	PPAP 5		Angolo pressione	20°	Tratto elica Ls	16.8mm
Masch.Nr.:	M001	Spindel: Form	Angolo elica	-25°	Inizio elab. M1	16.83mm
Untersuchungszweck:	Laufende Messung		Ø Base db	117.9016mm	Palpatore Ø	(#1)1mm
Werkzeug:	Charge:		Ang. Base	-23.399°	Fat.scor.pr. x	- .696



Tolerance	Medio	Val. misur [µm]							Qual	Tolerance	Val. misur [µm]							Medio	Qual	
fHm	±4	-1	Var 2								±4	Var 2								1
fHa	±7	-1	-2	0	-1	0	-2	-4		±7	5	0	-1	1	1	2	1			
Fα		3	3	2	3	2	3	6			6	2	2	2	2	2				
fFa	5	2	2	2	2	2	3	2		5	2	2	2	2	2	2				
fKa -16/-8		-14	-14	-14	-14	-14	-15	-13		-10/-10	-16	-14	-16	-15	-14	-15				
P/T-φ[mm]		117.529	[117.25/117.7]									130.823	[130.7/131]							



N:Z	Medio	Var							Qual	N:Z	Medio	Var							Qual
fHm	22±4	21	19								5±4	14							4
fHs	22±8	21	30	20	14	14	18	21		5±8	8	6	-2	-3	1	10	4		
Fβ	11	6	7	4	10	6	4	3		11	4	4	7	9	4	6	6		
fFβ	5	1	1	1	2	2	1	3		5	1	1	2	2	1	1	1		
Cβ	0/5	3	3	3	3	2	2	2		0/5	3	3	2	2	2	2	2		
Bd	8±8	7									8±8								10

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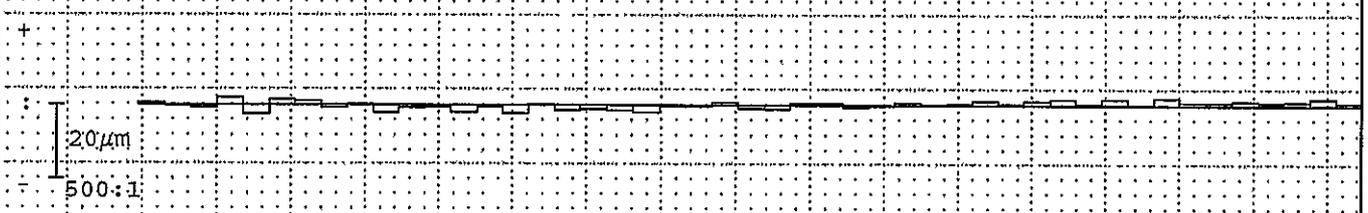
GETRAG

Ruota cilindrica Divisione

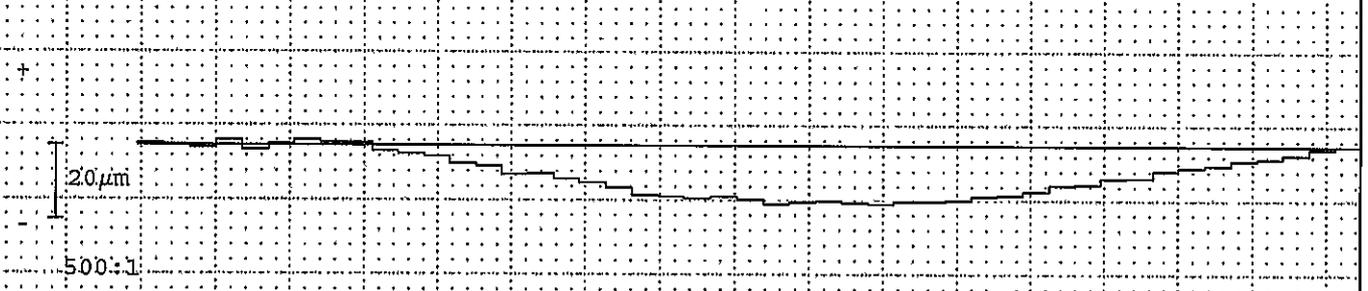


Nr. prog.: STI0410005 0	PNC35 B4784	Controllore: TURNO C	Data: 12.01.2015 07:14
Denominazione: SR1		Numero denti z: 47	Angolo pressione: 20°
Numero disegno: 250.1.3637.77-IF		Modulo m: 2.45mm	Angolo elica: -25°
Commessa/serie nr.: PPAP 5		Untersuchungszweck: Laufende Messung	
Masch.Nr.: M001	Spindel: FORM	Zeit: 04:42	Charge:

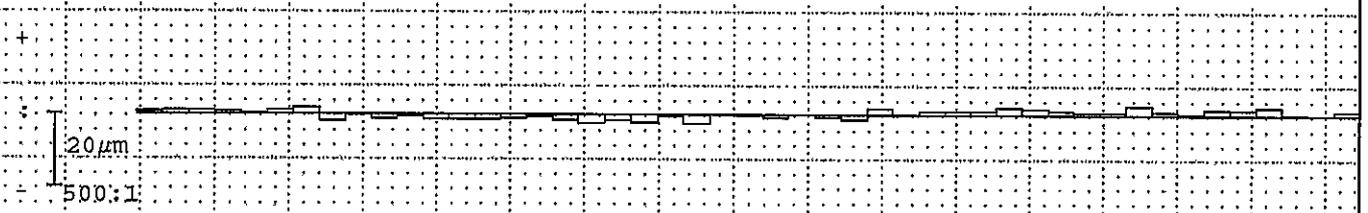
Errori singoli di divisione fp fianco sinistro



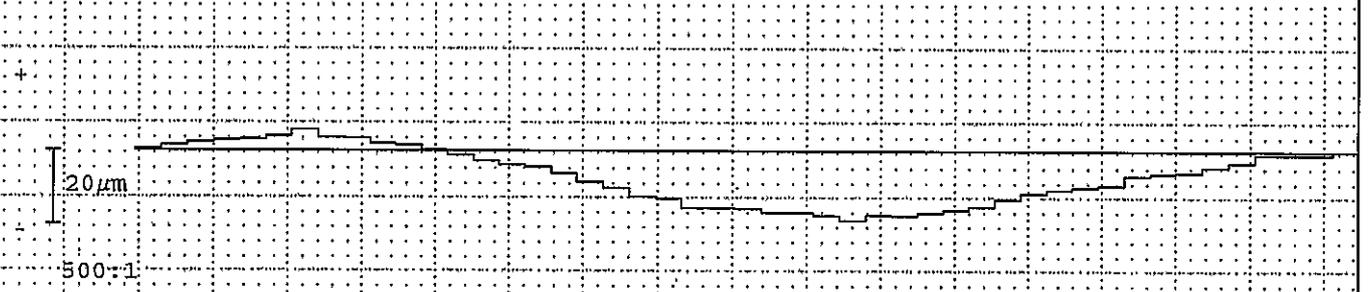
Errore somma di divisione Fp fianco sinistro



Errori singoli di divisione fp fianco destro

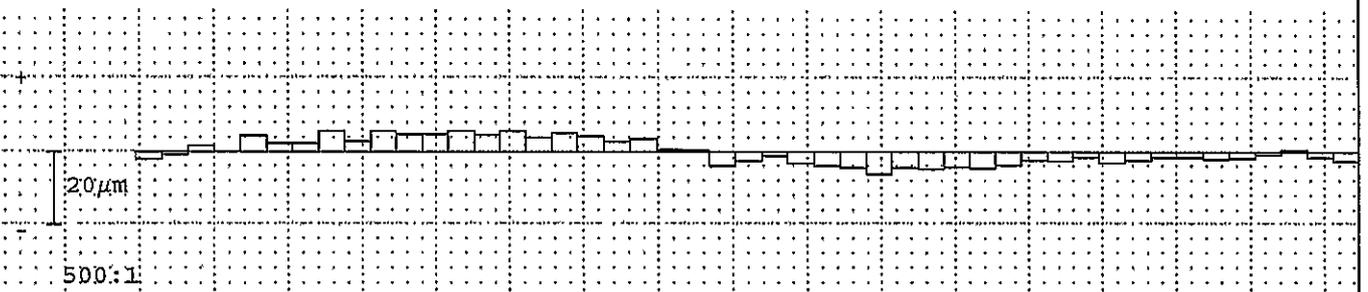


Errore somma di divisione Fp fianco destro



	fianco sinistro / RILASCIO				fianco destro / TIRO			
	Val. misur	Qual.	Val. amm	Qual.	Val. misur	Qual.	Val. amm	Qual.
Gr. err. singoli divisione fp max	2		11		3		11	
Gr. salto di passo fu max	4		14		3		14	
Scarto di divisione Rp	4				5			
Err. globale di divisione Fp	17		45		24		45	
Err. cordale di divisione Fpz/8	8				11			

Centricità Fr (Ø-sfera = 4.25mm) Ⓞ : 9µm



Err. di concentricità Fr	12	32	
Variab. spessore denta Rs			

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