

Part Name <b>Speed Gear SR1</b>		Customer Part Number <b>250.1.3774.77</b>	
Shown on Drawing No. <b>250.1.3774.77</b>		Organization Part # _____	
Engineering Change Level <b>a 35670</b>		Dated <b>31-lug-14</b>	
Additional Engineering Changes _____		Dated _____	
Safety and/or Government Regulation <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Purchase Order No. _____	Weight (kg) <b>1,5670</b>	
Checking Aid No. _____	Checking Aid Engineering Change Level _____	Dated _____	

**ORGANIZATION MANUFACTURING INFORMATION**

**GETRAG MODUGNO**

Organization Name & Supplier/Vendor Code  
**VIA DEI CICLAMINI N°4**  
 Street Address  
**MODUGNO BARI 70026 ITALY**  
 City Region Postal Code Country

**CUSTOMER SUBMITTAL INFORMATION**

**FORD**

Customer Name/Division  
 Buyer/Buyer Code  
**TYP 250**  
 Application

**MATERIALS REPORTING**

Has customer-required Substances of Concern information been reported?  Yes  No  n/a  
 Submitted by IMDS or other customer format: \_\_\_\_\_

Are polymeric parts identified with appropriate ISO marking codes?  Yes  No  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)**

- Level 1 - Warrant only (and for designated appearance items, an Appearance Approval Report) submitted to customer.  
 Level 2 - Warrant with product samples and limited supporting data submitted to customer.  
 Level 3 - Warrant with product samples and complete supporting data submitted to customer.  
 Level 4 - Warrant and other requirements as defined by customer.  
 Level 5 - Warrant with product samples and complete supporting data reviewed at organization's manufacturing location.

**SUBMISSION RESULTS**

The results for  dimensional measurements  material and functional tests  appearance criteria  statistical process package  
 These results meet all drawing and specification requirements:  Yes  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?  Yes  No  n/a

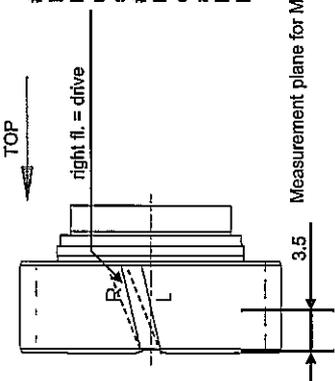
Organization Authorized Signature \_\_\_\_\_ Date **13 Jan 2015**  
 Print Name **Pennacchia Vincenzo** Phone No. **tel 390805858580** Fax No. \_\_\_\_\_  
 Title **GPS Leader** E-mail **vincenzo.pennacchia@getrag.com**

**FOR CUSTOMER USE ONLY (IF APPLICABLE)**

Part Warrant Disposition:  Approved  Rejected  Other  
 Customer Signature \_\_\_\_\_ Date **13.01.15**  
 Print Name \_\_\_\_\_ Customer Tracking Number (optional) \_\_\_\_\_



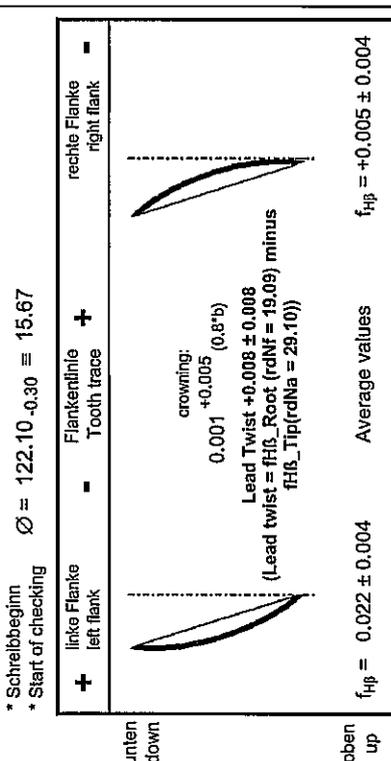
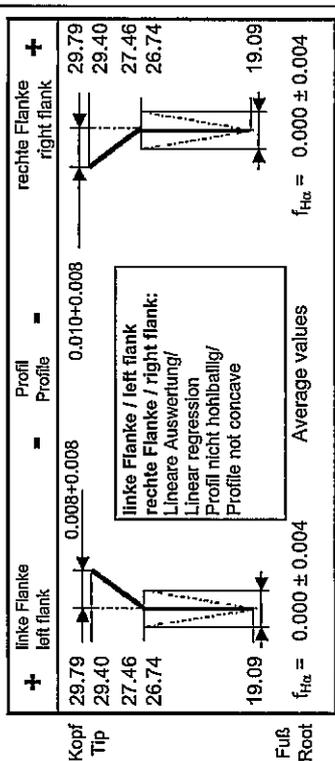
STIRNRAD		Toleranzen der Verzahnung (DIN 3961 vom Aug. 1978)		(7)	
GEAR		gütig für Werte am Einzelzahn		Tolerances of gearing (DIN 3961 of Aug. 1978)	
valid for values at individual tooth		linke Fl. left flank	rechte Fl. right flank	linke Flanke left flank	rechte Flanke right flank
Zähnezahl Number of teeth	z				
Modul Normal module	$m_n$				
Eingriffswinkel Normal pressure angle	$\alpha_n$				
Schraubungswinkel Helix angle	$\beta$				
Hand of helix	LINKS				
Profilverschiebungsfaktor Addendum modification coeff.	x				
Teilkreisradius Pitch diameter	d				
Kopfkreisradius Outside diameter	$d_a$				
Kopfnutzkreis, theo. max. $d_{ha}$ Tip diam. usable theo.					
Kopfnutzkreis, theo. min. $d_{ha}$ Tip diam. usable theo.					
Fußkreisradius Root diameter	$d_f$				
Fußnutzkreisradius Root diameter usable	$d_{fr}$				
Grundkreisradius Base circle radius	$r_b$				
Grundkreisradius Base diameter	$d_b$				
Normalzahnstärke Normal tooth thickness	max. $s_n$				
Normalzahnstärke Normal tooth thickness	min. $s_n$				
Meßzähnezahl Number of teeth spanned	k				
Zahnweite Base tangent length	min. $w_k$				
Zahnweite Base tangent length	max. $w_k$				
Meßkugeldurchmesser Ball diameter	$D_M$				
Diam. Zweikugelmaß Measurement o. balls	max. $M_{gk}$				
Diam. Zweikugelmaß Measurement o. balls	min. $M_{gk}$				
Verdrehtflankenspiel Circumferential backlash	theo. $0,067$				
	0,180				



**Bezugsprofil-Schleifscheibe**  
 Grinding tool data  
 Schleifscheibenkopfhöhe  $h_{aPS} = 2.800$   
 Schleifscheibenkopfradius  $r_{aPS} = 1.292$   
 Grinding wheel tip radius  
 Schleifdurchmesser =  $122.10 - 0.30 \approx 15.67$   
 Honingdurchmesser =  $122.10 - 0.30 \approx 15.67$   
 honing diameter

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

Wkz-Profil siehe Werkzeugdatenblatt Nr. 250.1.3775.76  
 For Tooth profile, see tool data sheet number



\* Schreibebeginn  $\varnothing = 122.10 - 0.30 \approx 15.67$   
 \* Start of checking  
 \*  $f_{Hr}$  (zwischen dNF und dem Schreibebeginn ds) max  $f_{Hr}/2$ , jedoch 0.003 zulässig  
 \*  $f_{Hr}$  (zwischen dNF und start of checking ds) max  $f_{Hr}/2$ , 0.003 allowable.  
 Profil- und Flankenlinienprüfung nach VD/VDI 2612  
 Tabellenwerte für  $F_p$  und  $f_{Hr}$  sind auf die gesamte Radbreite im Meßkreis  $d_M$  bezogen  
 Flankenliniennutzbereich  $L\beta = 0.8 \cdot b$  hochgerechnet auf  $1.0 \cdot b$   
 Begriffe für Stirnräder nach DIN 868, 3960, 3988  
 Profil and helix checking according to VD/VDI 2612  
 Listed tolerance data for  $F_p$  and  $f_{Hr}$  refers to the total face width in the meas. dia.  $d_M$   
 Tooth trace testing area  $L\beta = 0.8 \cdot b$  calculated to  $1.0 \cdot b$   
 Terms of the tooth system according to DIN (German Industrial Standards) No. 868, 3960, 3988

Verteiler:		Schutzvermerk nach ISO 16016 beachten Protection per ISO 16016	
Ersatz für Abbildungen sind unmaßstäblich Diagrams not to scale.		250.0.0003.17	
Buch.	Anz.	Änd.Nr.	Datum
Verzahnungsblatt Endkontrolle Final Check Gear Data		Benennung: Namings.	
Schaltrrad 1.Gg.		Zeichnungsnummer: Drawing number:	
250.1.3775.76		250.1.3775.76	







circuiti di controllo: 1 / 2 / sala di misura

# Istruzioni di controllo



PP Produzione GPS

Materiale: 2501377477

Descrizione: Ruota dentata libera 1M com Stato: Rilasciato Produzione + Calcolo costi

Operazione: 0230 Rettifica denti

Indice del disegno finito:

05.11.2014 / Vito Fiore

Data emissione:

09.01.2015 / Rocco Tanzella

Centro di lavoro: SLW14050 RETTIFICA DENTI SG1

Data aggiornamento:

Operazione	Caratteristica	Misura nomin.	LTI	LTS	Strumento di controllo	Quantità	Frequenza RK1:	Quantità	Frequenza RK2:	Quantità	Frequenza Sala di misura	Cambio ut.	Metodi di gestione / Documentazione
0004	Controllo 1° pz secondo Gear data 250.1.3775.7X				MVZ-400249 EVOLVENTIMETRO						1° pz 2.3.1.1-R 2		CR1: controllo primo pezzo Misu: controllo primo pezzo
0010	DIAMETRO A SFERE Mk	133,883 mm	133,844	133,922	MOA-416121 RUGOSIMETRO TIPO PRK MZA-401071 CALCOLATORE DI MISURA E9066 MARPOSS						1° pz 2.3.1.1-R 2		Misu: calcolatore di misura
0020	DIAGRAMMA DI DENTATURA CON SVERGOLAMENTO DA GEAR TESTING				MVZ-400249 EVOLVENTIMETRO	3	pz ogni 100 per macchina				1		Misu: diagramma di dentatura
0022	Svergolamento evolventi				MVZ-400249 EVOLVENTIMETRO						1		Misu: diagramma di dentatura
0030	SOMMA DI PASSO Fp	mm		0,045	MVZ-400249 EVOLVENTIMETRO						1		Misu: diagramma di dentatura
0040	OSCILLAZIONE RADIALE Fr	mm		0,032	MVZ-400249 EVOLVENTIMETRO						1		Misu: diagramma di dentatura
0050	RUGOSITA' Rz	0,0 µm	0,0	4,0	MOA-416121 RUGOSIMETRO TIPO PRK						1		Misu: controllo primo pezzo
0060	RUGOSITA' Rmax	0,0 µm	0,0	6,3	MOA-416121 RUGOSIMETRO TIPO PRK						1		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 INCOMPLETA					3	pz ogni 100 per macchina						CR1: no documentazione

Trattare i prodotti non conformi secondo procedura 2.3.5 del Manuale dei Processi

Gli audit di prodotto sono stati eseguiti secondo il piano annuale

<b>Point</b>	<b>Characteristic</b>	<b>Tolerance</b>	<b>Part 1</b>	<b>Part 2</b>	<b>Part 3</b>	<b>Part 4</b>	<b>Part 5</b>
4	MDK	133,922/133,834	133,879	133,877	133,873	133,875	133,882

**Manual measures by Marposs**

**SR1 2501 3774 77**

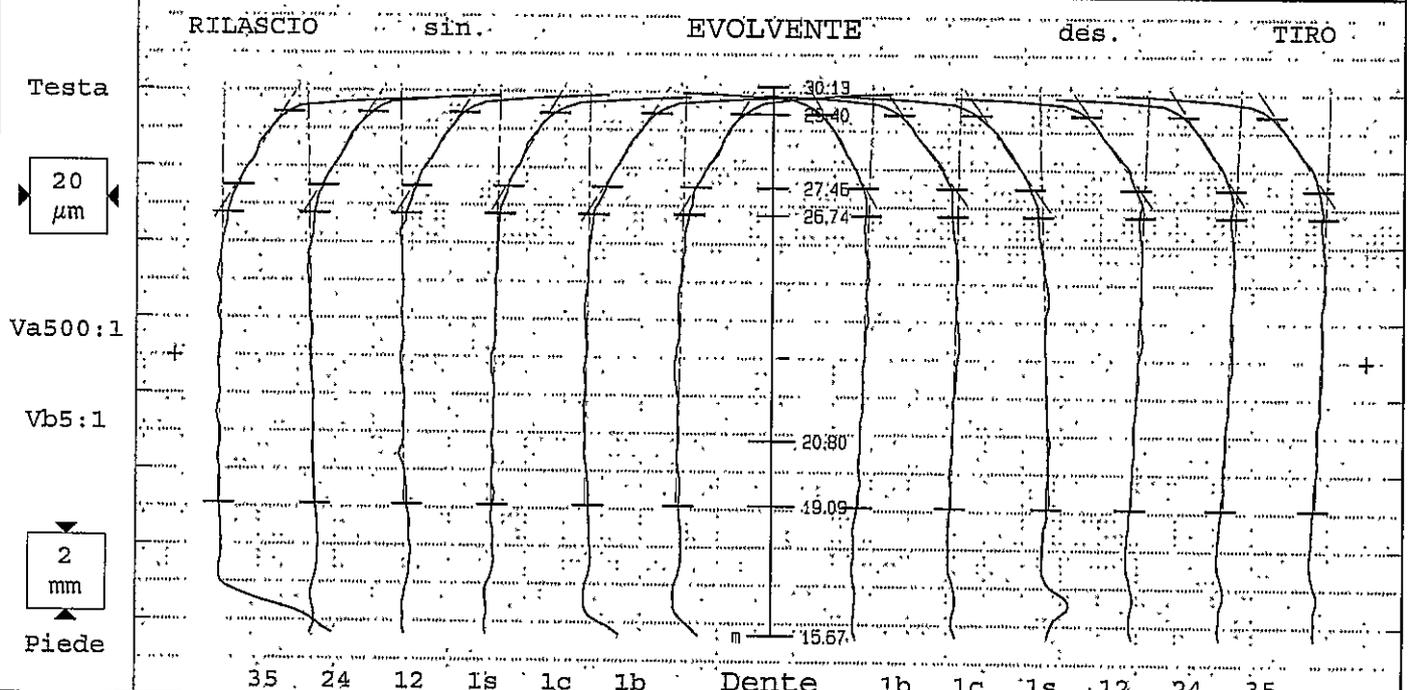
08,Jan,2015

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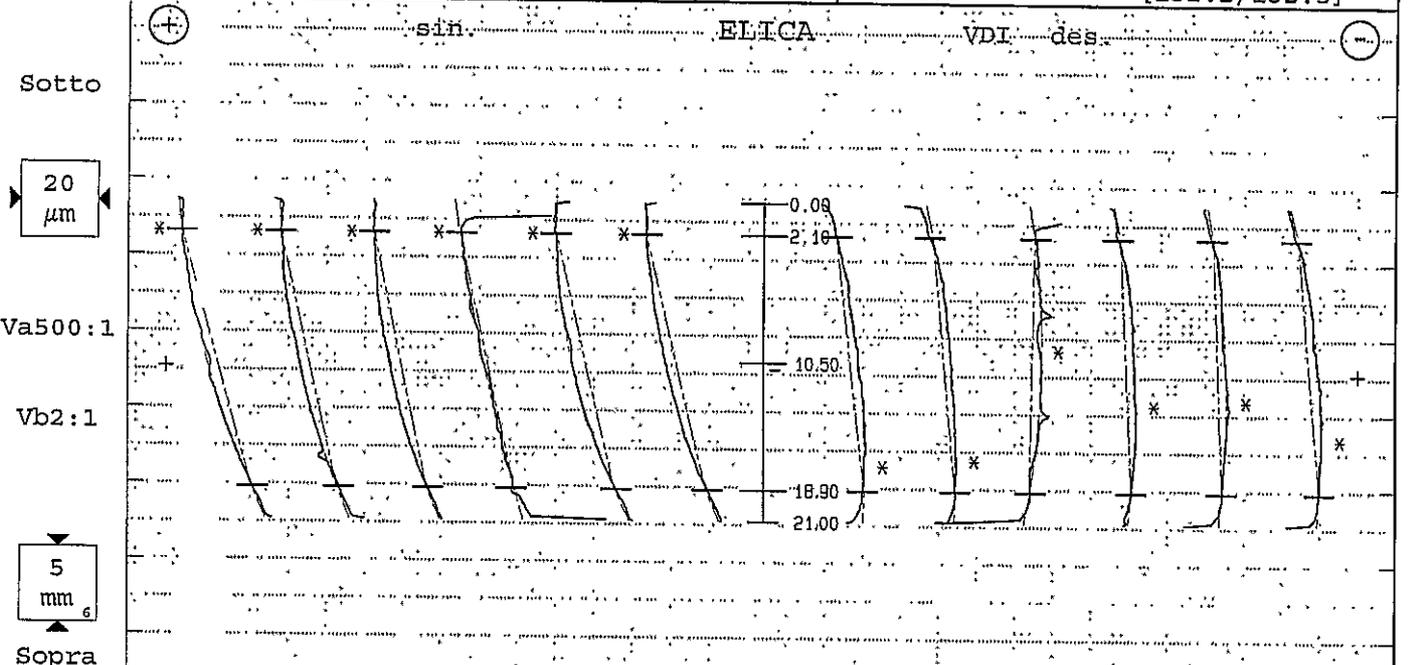
**Ruota cilindrica Evolvente/Elica**



Nr. prog.:	STI0410005 0	PNC35 B4784	Controllore:	TURNO C	Data:	10.01.2015 17:51
Denominazione:	SR1		Numero denti z	46	Largh.fasc.dent. b	21mm
Numero disegno.:	250.1.3775.75-IF		Modulo m	2.45mm	Tratto evolv. La	7.65mm
Commessa/serie nr.:	PPAP 1		Angolo pressione	20°	Tratto elica Ls	16.8mm
Masch.Nr.:	M001	Spindel: Forme	Angolo elica	-28°	Inizio elab. M1	19.09mm
Untersuchungszweck:	Laufende Messung		Ø Base db	118.0075mm	Palpatore Ø	(#1) 1mm
Werkzeug:	Charge:		Ang. Base	-26.178°	Fat.scor.pr. x	-.513



Tolerance	Medio	Val. misur [µm]							Qual	Tolerance	Val. misur [µm]							Medio	Qual
		Var 2									Var 2								
fHm ±4	0									±4								3	
fHa ±7	0	-1	1	1	-1	-1	-2		±7	2	1	-2	3	3	3	3	3		
Fa	2	3	2	2	2	2	4			3	2	3	3	4	3	3	3		
ffa 5	2	3	2	2	2	2	3		5	2	3	2	2	2	2	2	2		
fKo -16/-8	-16	-15	-16	-16	-13	-16	-14		-18/-10	-13	-15	-15	-15	-14	-14	-15	-15		
P/T-φ [mm]	119.062	[118.9/119.2]									132.364								[132.2/132.5]



Tolerance	Medio	Val. misur [µm]							Qual	Tolerance	Val. misur [µm]							Medio	Qual
		Var 6									Var 5								
fHSm 22±4	20									5±4								6	
fHS 22±8	20	23	19	17	18	19	19		5±8	9	8	-1	4	3	7	6	6		
FS 11	5	3	6	5	5	4	3		11	4	3	23	3	3	4	3	3		
ffS 5	2	1	3	1	2	1	1		5	1	2	4	1	2	1	2	2		
CS 1/6	3	3	3	3	1	4	3		1/5	2	2	3	2	2	2	2	2		
Bd 8±8	1								8±8								10		





Nr. prog.: STI041005 0	PNC35 B4784	Controllore: TURNO C	Data: 10.01.2015 17:51
Denominazione: SR1		Numero denti z: 46	Angolo pressione: 20°
Numero disegno.: 250.1.3775.75-IF		Modulo m: 2.45mm	Angolo elica: -28°
Comessa/serie nr.: PPAP 1		Untersuchungszweck: Laufende Messung	
Masch.Nr.: M001	spindel: FORMIN	Werkzeug:	Charge:

**Errori singoli di divisione fp fianco sinistro**

20µm

500:1

**Errore somma di divisione Fp fianco sinistro**

20µm

500:1

**Errori singoli di divisione fp fianco destro**

20µm

500:1

**Errore somma di divisione Fp fianco destro**

20µm

500:1

Corso per misura divis.:125.127 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		3		14	
Scarto di divisione Rp	5				4			
Err. globale di divisione Fp	23		45		17		45	
Err. cordale di divisione Fpz/8	11				9			

**Centricità Fr (Ø-sfera =4.25mm)**

⊙ : 23µm

20µm

500:1

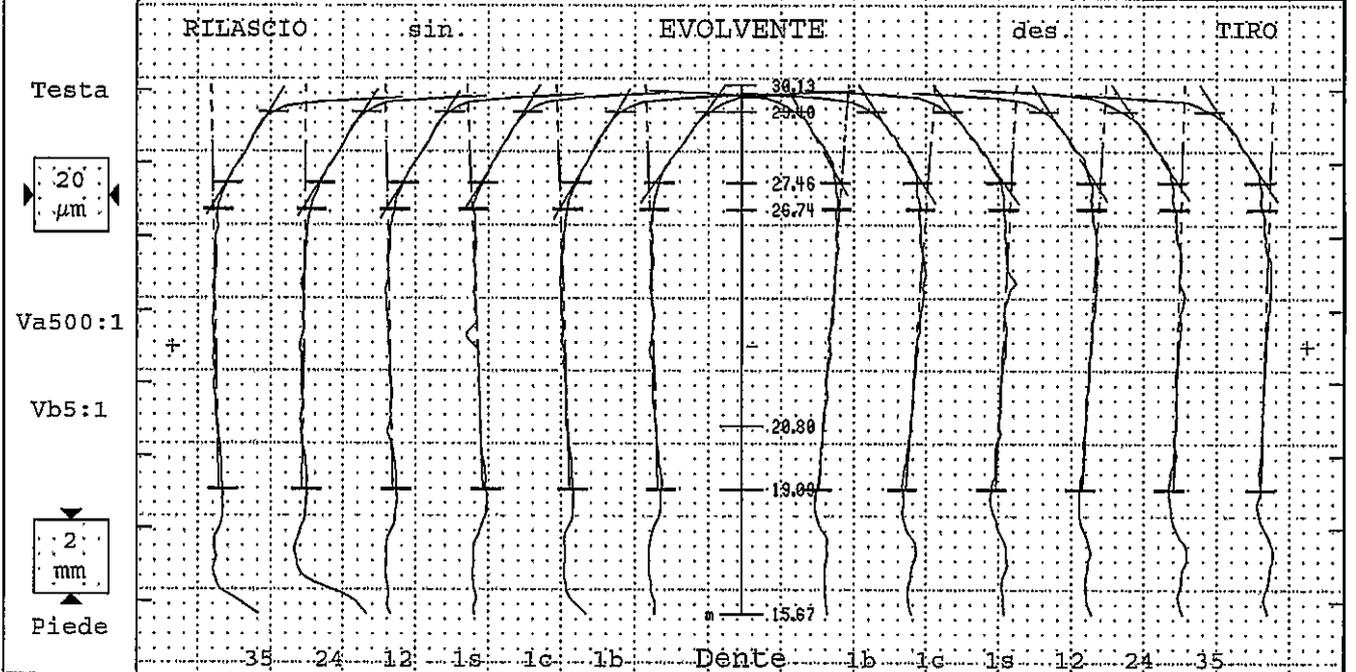
Err. di concentricità Fr	25	32	
Variac. spessore dente Rs			

# GETRAG

## Ruota cilindrica Evolvente/Elica

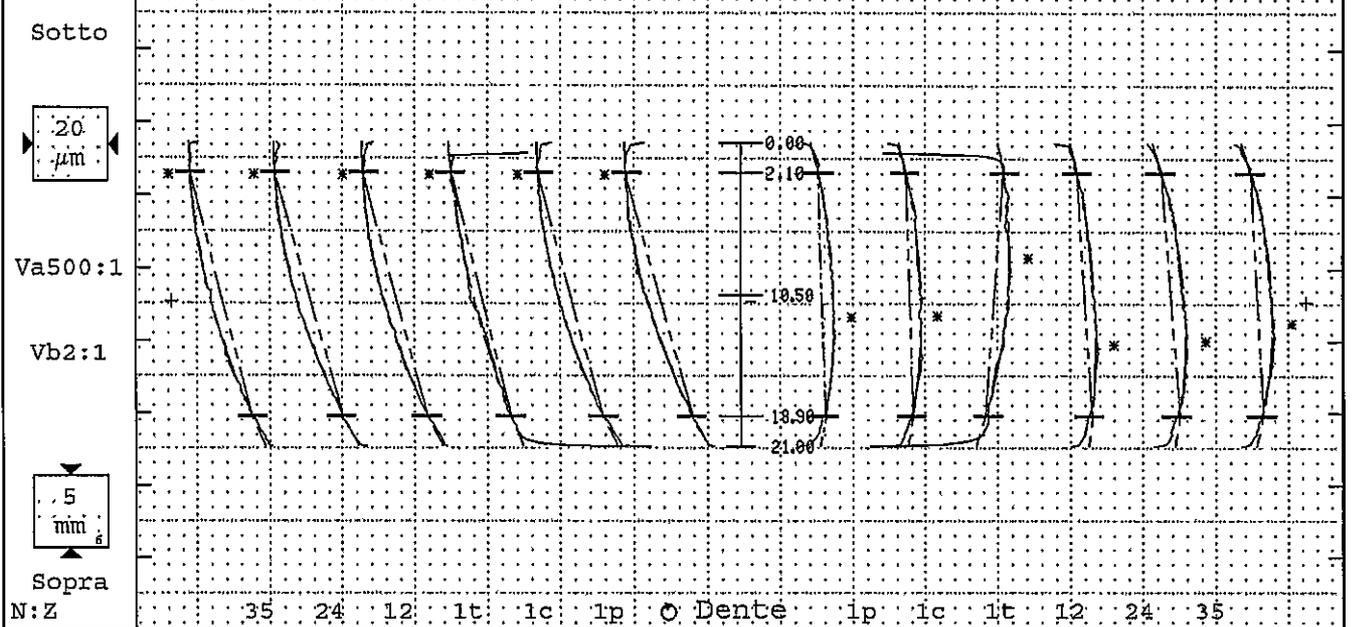


Nr. prog.:	STI0410o05 0	PNC35 B4784	Controller:	TURNO c	Date:	10.01.2015 17:29
Denominazione:	SR1		Numero denti z	46	Largh. fasc. dent. b	21mm
Numero disegno.:	250.1.3775.75-IF		Modulo m	2.45mm	Tratto evolv. La	7.65mm
Comessa/serie nr.:	PPAP 2		Angolo pressione	20°	Tratto elica Ls	16.8mm
Masch.Nr.:	M001	Spindel: Formi	Angolo elica	-28°	Inizio elab. M1	19.09mm
Untersuchungszweck:	Laufende Messung		β Base db	118.0075mm	Palpatore β	(#1)1mm
Werkzeug:	Charge:		Ang. Base	-26.178°	Fat. scor. pr. x	- .513



Tolerance	Medio	Val. misur [μm]							Qual	Tolerance	Val. misur [μm]							Medio	Qual	
fHm	±4	1	Var 3								±4	Var 4							4	
fHr	±7	1	1	-1	1	3	2	2		±7	6	6	4	5	2	2	4			
Fa		3	3	3	3	5	4	3			6	7	7	5	5	3	5			
ffa	5	3	2	3	3	4	3	2		5	2	3	4	3	4	3	3			
fKo -16/-8		-16	-16	-16	-16	-15	-16	-16		-10/-10	-12	-16	-17	-15	-15	-15	-15			

P/T-φ[mm]	119.084	[118.9/119.2]	132.384	[132.2/132.5]
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Tolerance	Medio	Val. misur [μm]							Qual	Tolerance	Val. misur [μm]							Medio	Qual	
fHsm	22±4	22	Var 3								5±4	Var 3							5	
fHs	22±8	22	21	24	22	21	22	23		5±8	3	3	-6	5	6	4	5			
FB	11	3	3	3	3	3	3	4		11	4	4	9	3	4	4	4			
ffB	5	1	1	1	1	2	1	1		5	1	2	2	2	2	1	2			
CB	1/6	4	3	4	4	2	3	4		1/6	3	3	4	3	4	4	4			
Bd	8±8	2									8±8								9	



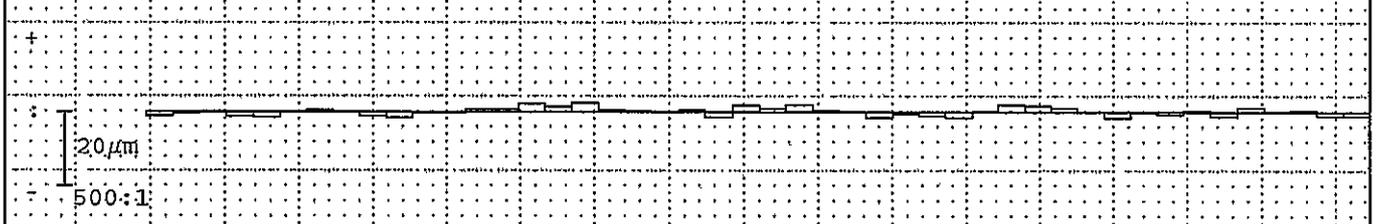
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## Ruota cilindrica Divisione

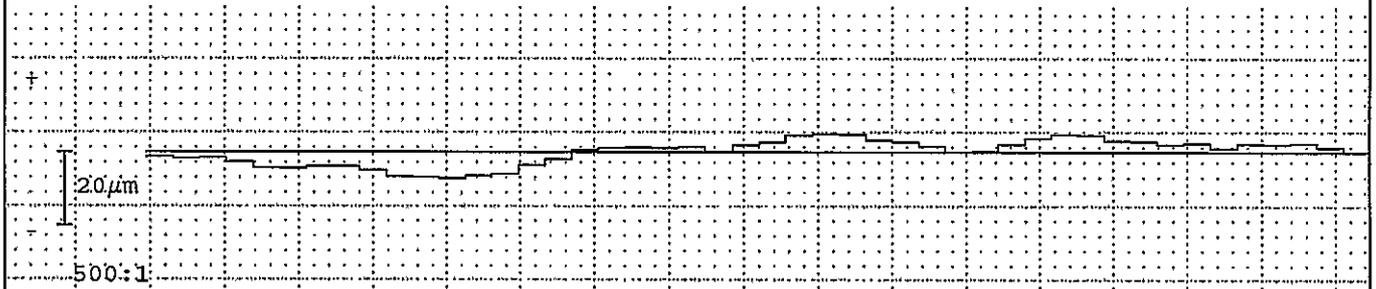


Nr. prog.:	STI0410005 0	PNC35 B4784	Controllore:	TURNO c	Data:	10.01.2015 17:29
Denominazione:	SRI		Numero denti z	46	Angolo pressione	20°
Numero disegno.:	250.1.3775.75-IF		Modulo m	2.45mm	Angolo elica	-28°
Comessa/serie nr.:	PPAP 2		Untersuchungszweck:	Laufende Messung		
Masch.Nr.:	M001	Spindel: Form	Caricatore:	Charge:		

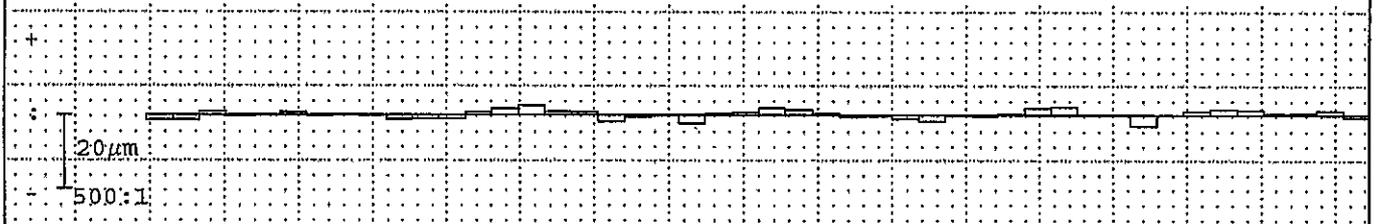
## Errori singoli di divisione fp fianco sinistro



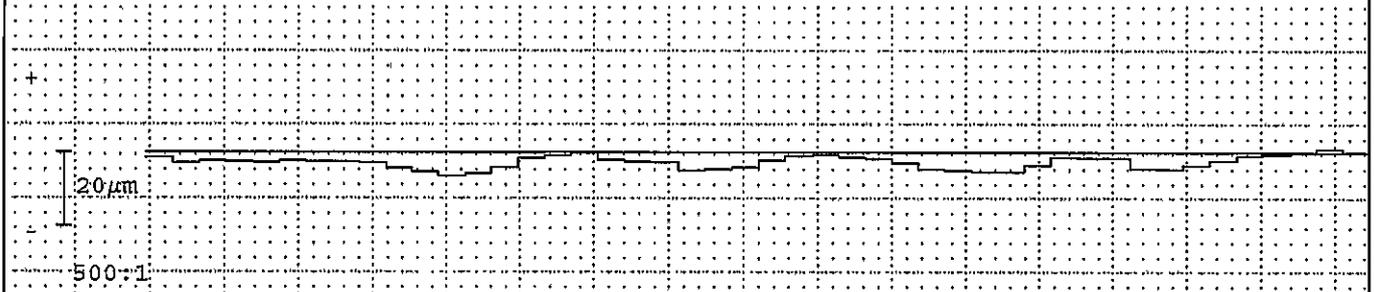
## Errore somma di divisione Fp fianco sinistro



## Errori singoli di divisione fp fianco destro



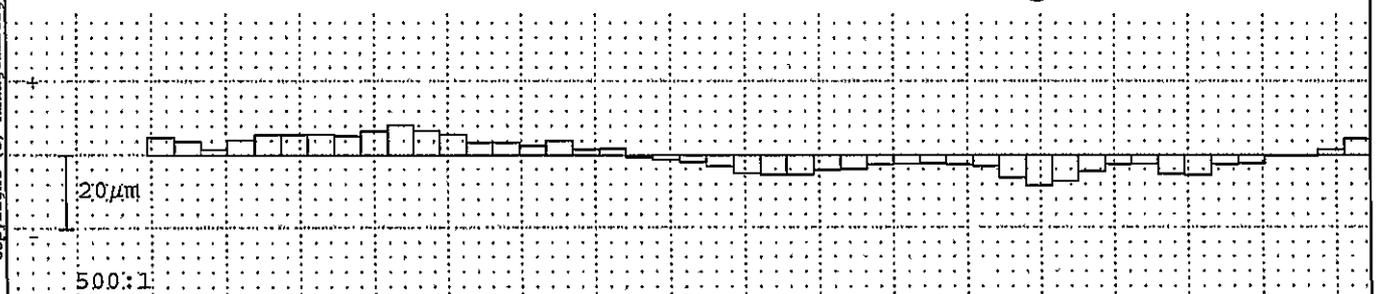
## Errore somma di divisione Fp fianco destro



Corsa per misura divis.: 125.127 z=10.5mm	fianco sinistro / RILASCIO				fianco destro / TIRO			
	Val. misur	Qual.	Val. amm	Qual.	Val. misur	Qual.	Val. amm	Qual.
Gr. arr. singoli divisione fp max	3		11		3		11	
Gr. salto di passo fu max	3		14		3		14	
Scarto di divisione Rp	5				5			
Err. globale di divisione Fp	12		45		7		45	
Err. cordale di divisione Fpz/B	8				5			

## Centricità Fr (Ø-sfera =4.25mm)

⊙ : 11µm



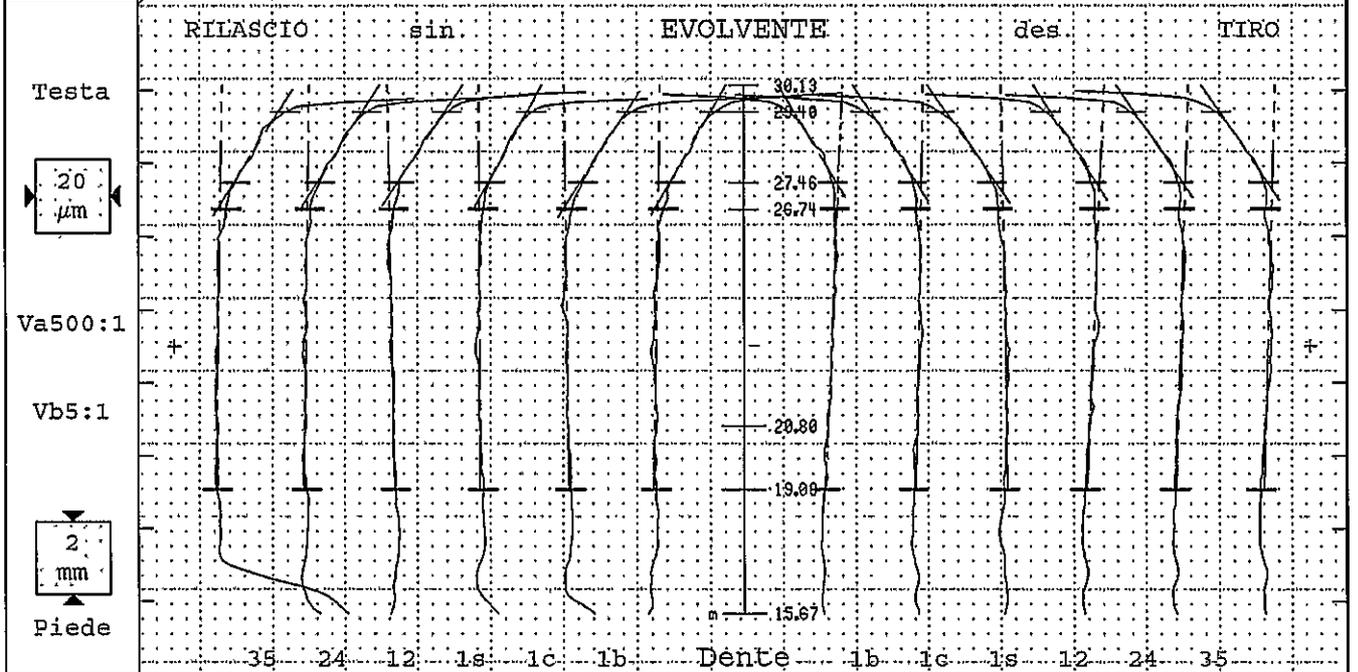
Err. di concentricità Fr	17	32	
Variab. spessore dente Rs			

**GETRAG**

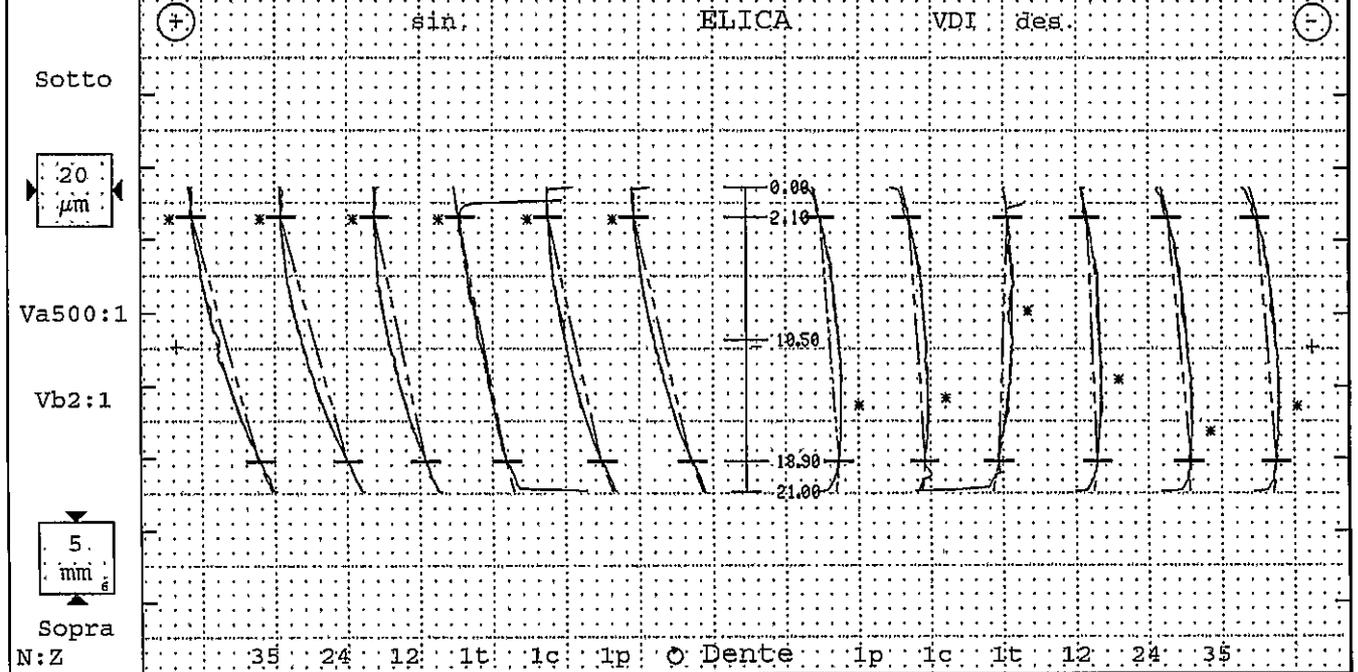
Ruota cilindrica Evolvente/Elica



Nr. prog.:	STI0410005 0	PNC35 B4784	Controllore:	TURNO c	Data:	10.01.2015 17:45
Denominazione:	SRL		Numero denti z	46	Largh. fasc. dent. b	21mm
Numero disegno:	250.1.3775.75-IF		Modulo m	2.45mm	Tratto evolv. La	7.65mm
Comessa/serie nr.:	PPAP 3		Angolo pressione	20°	Tratto elica Lb	16.8mm
Masch.Nr.:	M001	Spindel: Form	Angolo elica	-28°	Inizio elab. M1	19.09mm
Untersuchungszweck:	Laufende Messung		φ Base db	118.0075mm	Palpatore φ	(#1)1mm
Werkzeug:	Charge:		Ang. Base	-26.178°	Fat. scor. pr. x	- .513



Tolerance	Medio	Val. misur [μm]							Qual	Tolerance	Val. misur [μm]							Medio	Qual	
		Var		2						Var		2								
fHm ±4	0								±4							2				
fHr ±7	0	-1	-1	1	0	1	-1		±7	3	1	-1	3	2	2	2				
Fα	3	3	2	2	2	3	4			4	3	3	4	3	4	4				
ffα	5	2	2	2	2	3	3		5	1	3	2	2	2	3	3				
fK0 -16/-8	-16	-15	-15	-16	-13	-16	-14		-10/-10	-13	-15	-15	-14	-14	-15	-15				
P/T-φ[mm]	119.063	[118.9/119.2]									132.366	[132.2/132.5]								

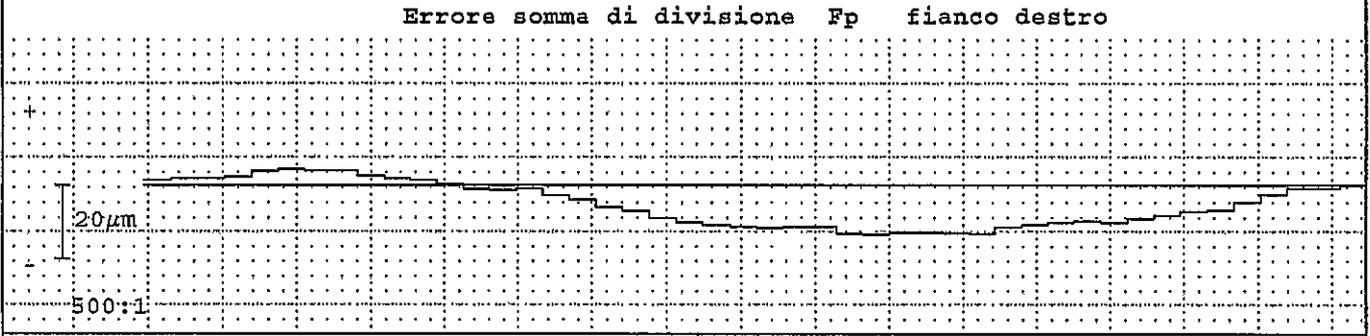
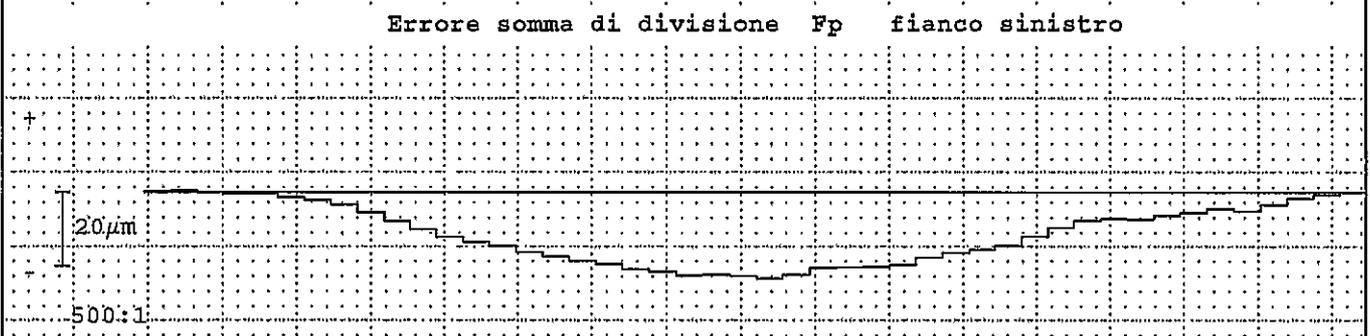


fHm	22±4	21	Var							5	5±4	Var							5	6
fHs	22±8	21	23	23	18	16	18	19		5±8	6	6	-3	3	8	7	6			
Fβ	11	4	3	3	5	5	4	3		11	3	3	22	3	3	3	3			
f.fβ	5	1	2	1	1	1	1	1		5	1	1	2	1	1	1	1			
CB	1/6	3	3	4	3	1	3	2		1/6	2	3	2	2	2	2	2			
Bd	8±8	3								8±8							9			

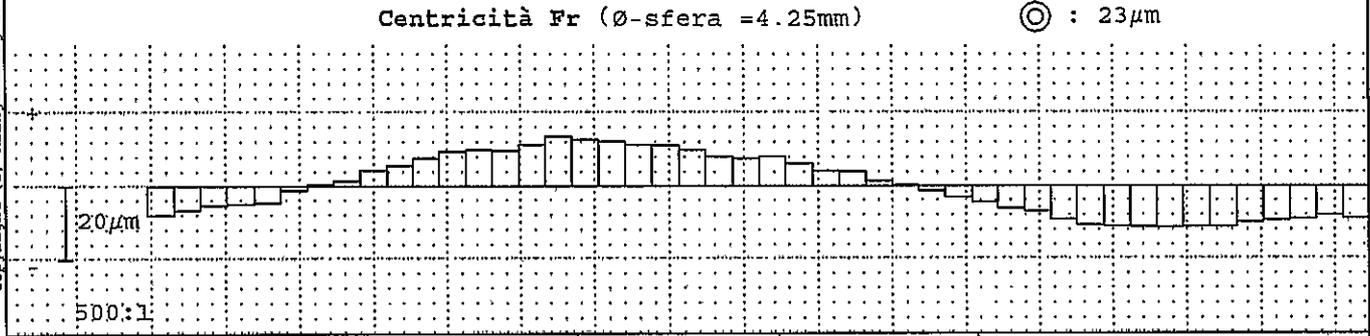




Nr. prog.: STI0410005 0	PNC35 B4784	Controllore: TURNO c	Data: 10.01.2015 17:45
Denominazione: SR1		Numero denti z: 46	Angolo pressione: 20°
Numero disegno.: 250.1.3775.75-IF		Modulo m: 2.45mm	Angolo elica: -28°
Commessa/serie nr.: PPAP 3		Untersuchungszweck: Laufende Messung	
Masch.Nr.: M001	Spindel: Formel	Erzdg:	Charge:



	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		2		14	
Scarto di divisione Rp	4				4			
Err. globale di divisione Fp	24		45		17		45	
Err. cordale di divisione Fpz/8	11				9			



Err. di concentricità Fr	25	32
Variab. spessore dente Rs		

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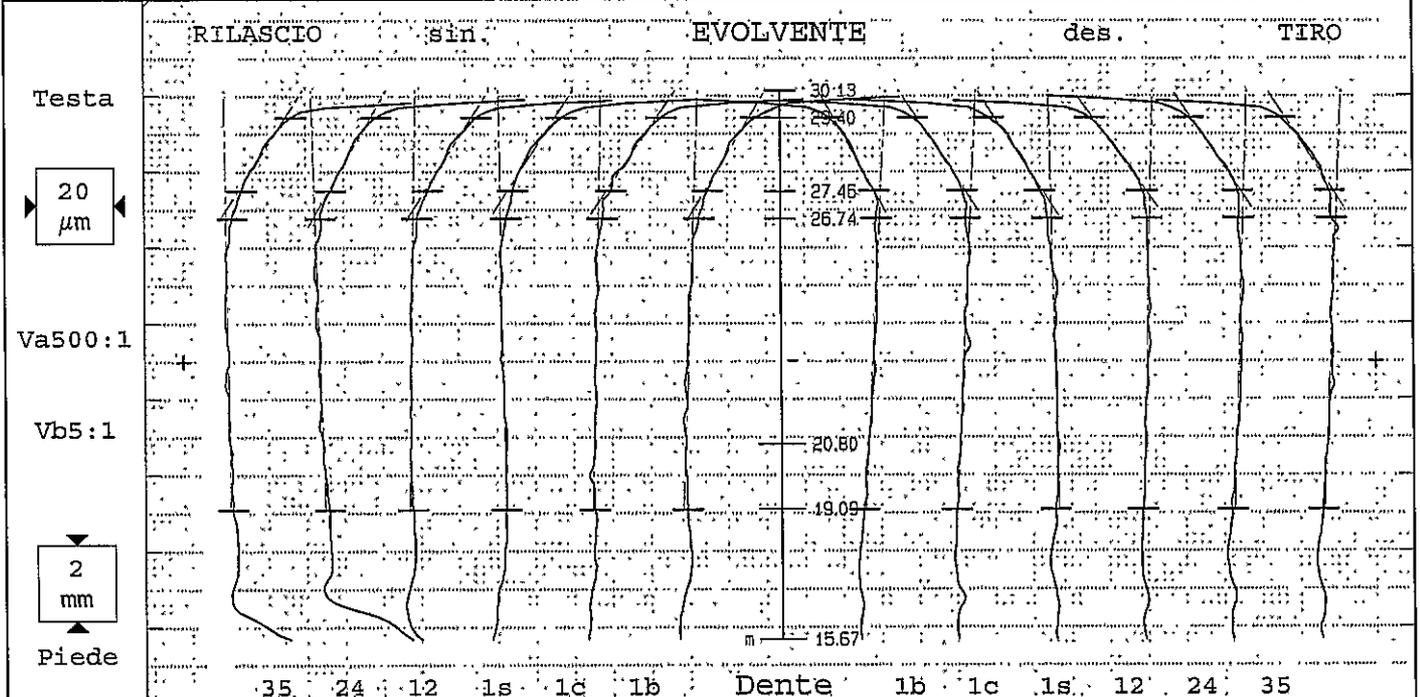


# GETRAG

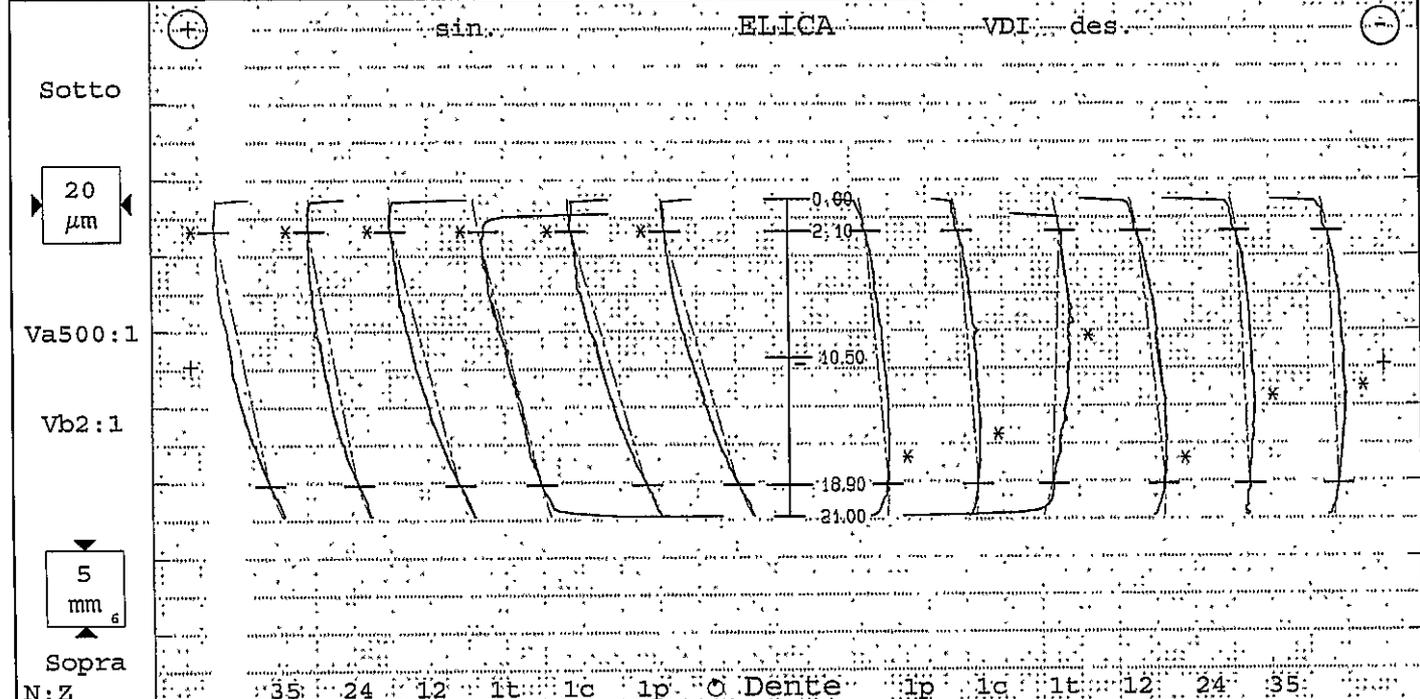
## Ruota cilindrica Evolvente/Elica



Nr. prog.:	STI0410005 0	PNC35 B4784	Controllore:	TURNO C	Data:	12.01.2015 06:28
Denominazione:	SR1		Numero denti z	46	Largh.fasc.dent. b	21mm
Numero disegno.:	250.1.3775.75-IF		Modulo m	2.45mm	Tratto evolv. La	7.65mm
Comessa/serie nr.:	PPAP 4		Angolo pressione	20°	Tratto elica Ls	16.8mm
Masch.Nr.:	M001	Spindel: Forme	Angolo elica	-28°	Inizio elab. M1	19.09mm
Untersuchungszweck:	Laufende Messung		Ø Base db	118.0075mm	Palpatore Ø	(#1) 1mm
Werkzeug:	Charge:		Ang. Base	-26.178°	Fat.scor.pr. x	-.513



Tolerance	Medio	Val. misur [µm]						Qual	Tolerance	Val. misur [µm]						Medio	Qual	
		Var 4								Var 2								
fH <sub>am</sub>	±4	0							±4									
fH <sub>a</sub>	±7	0	1	2	-1	1	-2	-3		±7	4	4	-2	2	2	3	3	
F <sub>a</sub>		3	2	4	2	2	4	4			4	4	3	2	4	5	4	
ffa		5	2	2	2	2	2	2		5	2	3	2	2	2	2	2	
EK <sub>o</sub>	-16/-8	-15	-16	-15	-15	-15	-14	-14		-18/-10	-13	-15	-14	-15	-14	-14	-15	
P/T-φ (mm)		119.078	[118.9/119.2]							132.378	[132.2/132.5]							



fH <sub>Sm</sub>	22±4	20	Var 8						5±4	Var 6						6
fH <sub>B</sub>	22±8	20	17	16	22	20	24	23	5±8	7	6	-3	9	4	3	6
F <sub>B</sub>	11	5	5	6	3	3	4	3	11	2	3	8	4	2	3	3
ff <sub>B</sub>	5	2	1	2	1	2	2	1	5	1	2	2	1	1	1	1
CS	1/6	3	3	3	3	1	3	3	1/6	2	2	4	2	2	3	2
Bd	8±8	3							8±8							10





Nr. prog.: STI0410005 0	PNC35 B4784	Controllore: TURNO C	Data: 12.01.2015 06:28
Denominazione: SR1		Numero denti z 46	Angolo pressione 20°
Numero disegno: 250.1.3775.75-IF		Modulo m 2.45mm	Angolo elica -28°
Commessa/serie nr.: PPAP 4		Untersuchungszweck: Laufende Messung	
Masch.Nr.: M001	Spindel: Formelwerkzeug	Charge:	

**Errori singoli di divisione fp fianco sinistro**

20µm

500:1

**Errore somma di divisione Fp fianco sinistro**

20µm

500:1

**Errori singoli di divisione fp fianco destro**

20µm

500:1

**Errore somma di divisione Fp fianco destro**

20µm

500:1

Corsa per misura divis.: 125.127 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		3		11	
Gr. salto di passo fu max	2		14		3		14	
Scarto di divisione Rp	5				6			
Err. globale di divisione Fp	26		45		27		45	
Err. cordale di divisione Fpz/θ	12				13			

**Centricità Fr (Ø-sfera =4.25mm)**

⊙ : 18µm

20µm

500:1

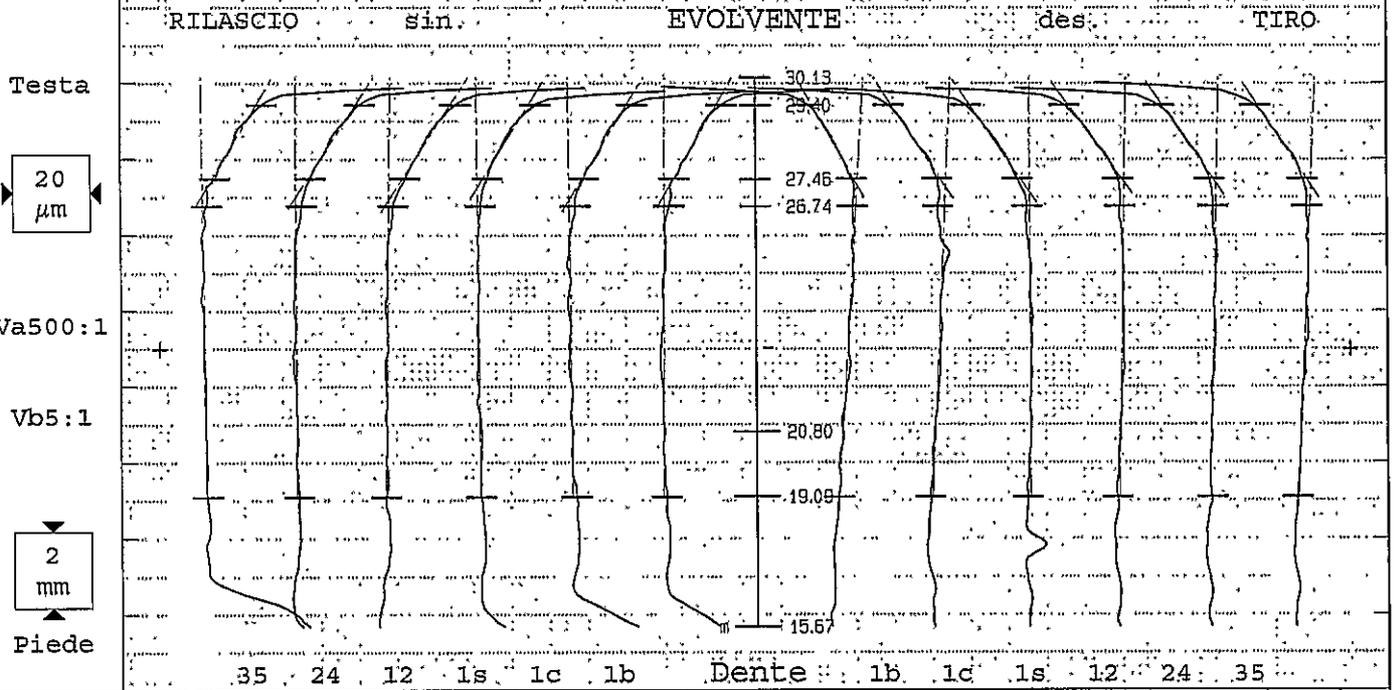
Err. di concentricità Fr	23	32	
Variat. spessore dente Rθ			

**GETRAG**

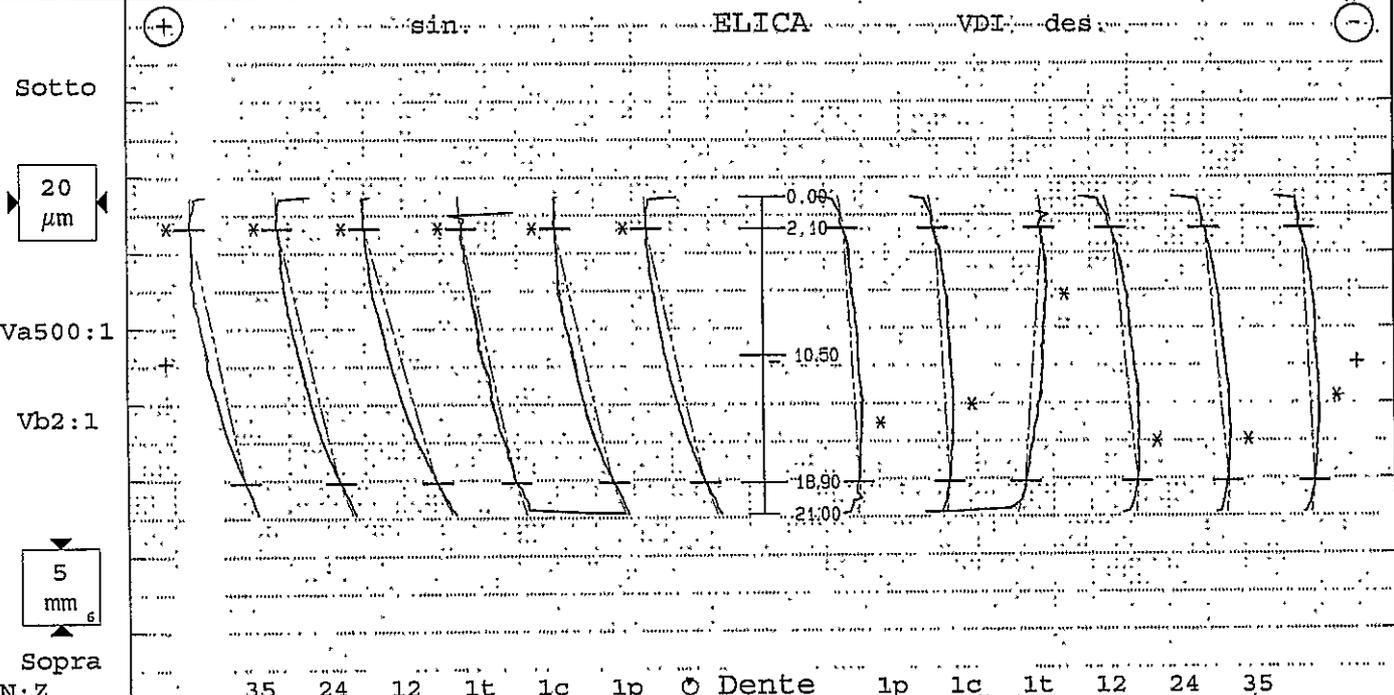
**Ruota cilindrica Evolvente/Elica**



Nr. prog.:	STI0410005 0	PNC35 B4784	Controllore:	TURNO C	Data:	12.01.2015 06:51
Denominazione:	SR1		Numero denti z	46	Largh.fasc.dent. b	21mm
Numero disegno.:	250.1.3775.75-IF		Modulo m	2.45mm	Tratto evolv. La	7.65mm
Comessa/serie nr.:	PPAP 5		Angolo pressione	20°	Tratto elica Ls	16.8mm
Masch.Nr.:	M001	spindel: FORM. 100	Angolo elica	-28°	Inizio elab. M1	19.09mm
Untersuchungszweck:	Laufende Messung		Ø Base db	118.0075mm	Palpatore Ø	(#1) 1mm
Werkzeug:	Charge:		Ang. Base	-26.178°	Fat.scor.pr. x	-.513



Tolerance	Medio	Val. misur [µm]							Qual	Tolerance	Val. misur [µm]							Medio	Qual	
		Var 2									Var 2									
fHm ±4	0									±4								2		
fHa ±7	0	1	0	-1	0	1	-1			±7	5	3	0	1	2	3	2	2		
Fa 2	2	2	2	2	1	2	2			5	5	2	2	2	3	3	3			
ffa 5	2	2	2	2	2	2	2			5	2	4	2	2	2	2	3			
fKo -15/-8	-15	-14	-16	-16	-14	-15	-13			-18/-10	-13	-15	-16	-15	-15	-15	-15			
P/T-φ [mm]	119.077	[118.9/119.2]									132.380	[132.2/132.5]								



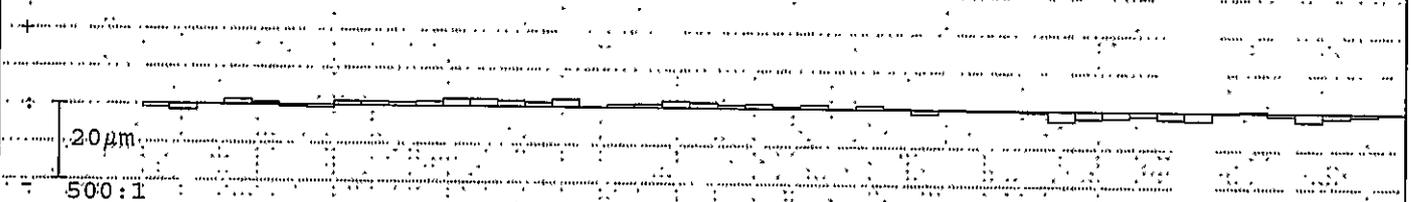
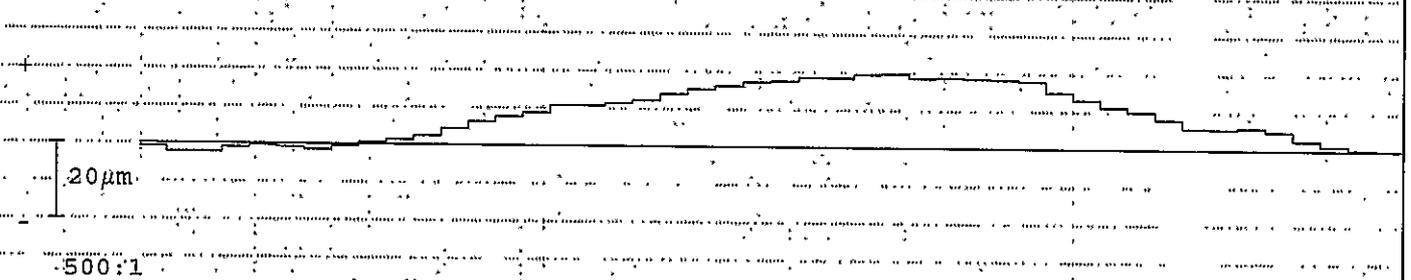
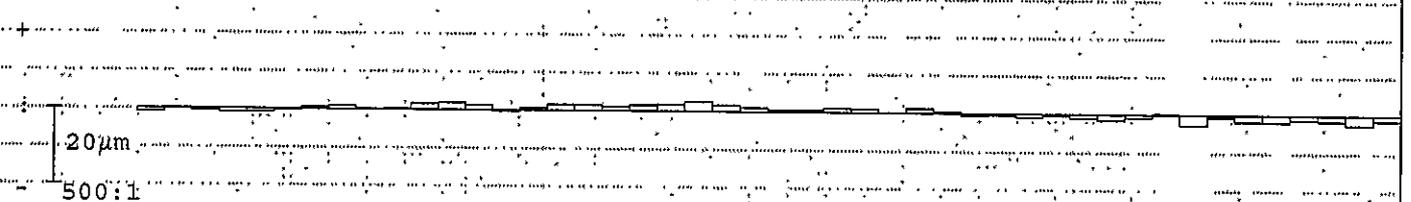
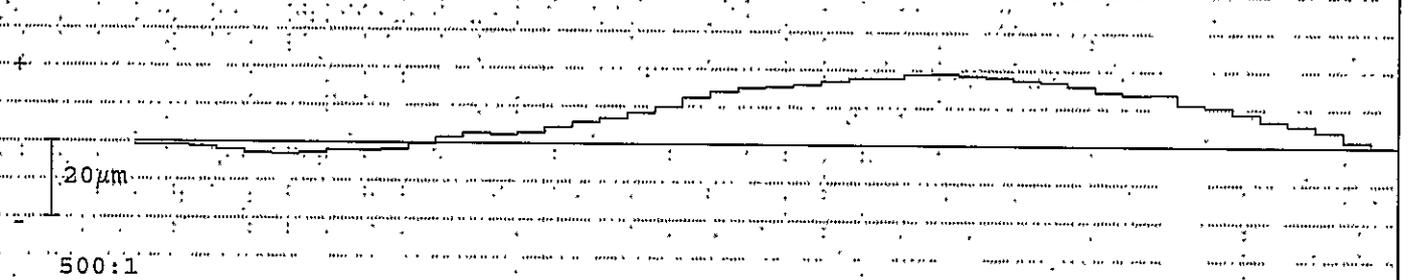
N:Z		Var 5								Tolerance	Var 4								Qual
fH3m 22±4	20									5±4							6		
fH6 22±8	20	18	20	23	18	18	19			5±8	5	4	-6	8	7	4	6		
FB 11	4	5	3	3	4	4	4			11	2	2	18	4	3	2	3		
ffB 5	1	1	1	1	1	1	1			5	1	1	1	1	1	1	1		
CB 1/6	3	3	3	3	2	3	3			1/6	2	2	3	2	2	2	2		
Bd 8±8	1									8±8							11		

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**GETRAG****Ruota cilindrica Divisione**

Nr. prog.:	STI0410005 0	PNC35 B4784	Controllore:	TURNO C	Data:	12.01.2015 06:51
Denominazione:	SR1		Numero denti z	46	Angolo pressione	20°
Numero disegno.:	250.1.3775.75-IF		Modulo m	2.45mm	Angolo elica	-28°
Commessa/serie nr.:	PPAP 5		Untersuchungszweck:	Laufende Messung		
Masch.Nr.:	M001	Spindel: Form	atzelg:	Charge:		

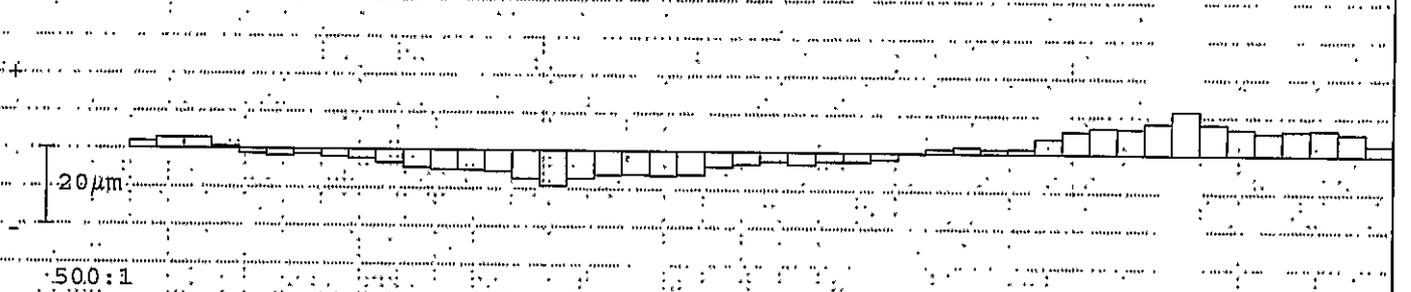
**Errori singoli di divisione fp fianco sinistro****Errore somma di divisione Fp fianco sinistro****Errori singoli di divisione fp fianco destro****Errore somma di divisione Fp fianco destro**

Corsa per misura divis.: 125.127 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		3		11	
Gr. salto di passo fu max	2		14		3		14	
Scarto di divisione Rp	5				5			
Err. globale di divisione Fp	22		45		22		45	
Err. cordale di divisione Fpz/8	12				10			

**Centricità Fr (Ø-sfera =4.25mm)**

⊙ : 14µm



Err. di concentricità Fr	21	32		
Variaz. spessore dente Rs				



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