

righe di  
controllo e  
spessimetri



**softmetal**  
italiana s.r.l.

<p>409</p>  <p>7/03</p>	<p>411</p>  <p>7/03</p>	<p>413-15</p>  <p>7/03</p>	<p>741</p>  <p>7/04</p>
<p>743</p>  <p>7/05</p>	<p>742</p>  <p>7/05</p>	<p>406-07-08</p>  <p>7/06</p>	<p>417</p>  <p>7/06</p>
<p>460-62</p>  <p>7/07</p>	<p>451</p>  <p>7/08</p>	<p>465-66</p> <p>gr. 1 - 2</p>  <p>7/08</p>	<p>464-69</p> <p>gr. 0 (t)</p>  <p>7/09</p>
<p>467</p>  <p>7/10</p>	<p>468</p>  <p>7/11</p>	<p>458-59</p>  <p>7/11</p>	<p>410</p>  <p>7/11</p>

Assortimenti contafiletti Vogel - lame in acciaio stampato  
 altri assortimenti a richiesta - carta oleata o fodero plastica  
*Zusammenstellungen Gewindeschablonen Vogel - Blaetter aus gestanztem Stahl - andere Saetze auf Anfrage - Oelpapier*  
*Assortments thread gauges Vogel - blades punched from steel sheet other assortments on request - oil paper or plastic pocket*

**Contafiletto - assortimenti** **VOGEL**  
*Zusammenstellungen Gewindeschablonen*  
*Assortments thread gauges* **409**

Cod N°	Pezzi	Filetto	Da...a... (incl. cod.)
Best .Nr.	Stueck	Gewinde	Von...bis... (inkl. Best.)
Code n°	Pieces	Thread	From...to... (incl. code)
409.111	28	Ww 55°	4 - 62
409.112	24	Met 60°	0,25 - 6,0
409.118	20	S.I.60°	0,4 - 7,0
409.113	52	Ww+M	409.111 + 409.112
409.114	58	W+M+Gas	409.113 + Gas
409.115	22	UNC 60°	4 - 64
409.116	16	UNF 60°	12 - 80

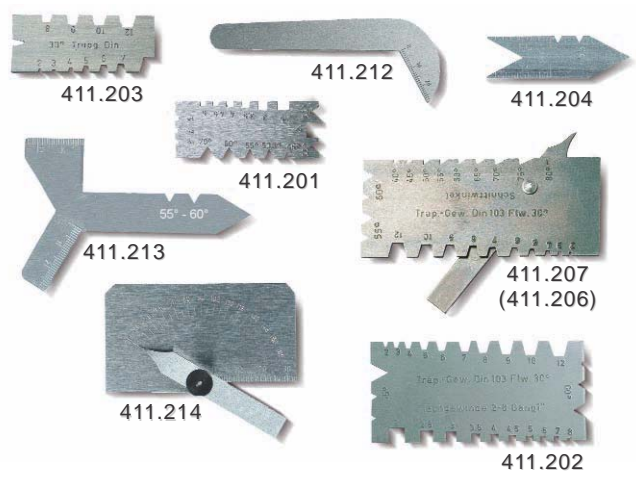


409.111	Ww	4-4,5-5-6-7-8-9-10-11-12-13-14-16-18-19-20-22-24-25-26-28-30-32-36-40-48-60-62
409.112	M	0,25-0,30-0,35-0,40-0,45-0,50-0,60-0,70-0,75-0,80-0,90-1,00-1,25-1,50-1,75-2,00-2,50-3,00-3,50-4,00-4,50-5,00-5,50-6,00
409.118	M	0,40-0,50-0,70-0,75-0,80-1,00-1,25-1,50-1,75-2,00-2,50-3,00-3,50-4,00-4,50-5,00-5,50-6,00-6,50-7,00
409.113	M	0,25-0,30-0,35-0,40-0,45-0,50-0,60-0,70-0,75-0,80-0,90-1,00-1,25-1,50-1,75-2,00-2,50-3,00-3,50-4,00-4,50-5,00-5,50-6,00
	Ww	4-4,5-5-6-7-8-9-10-11-12-13-14-16-18-19-20-22-24-25-26-28-30-32-36-40-48-60-62
409.114	M	0,25-0,30-0,35-0,40-0,45-0,50-0,60-0,70-0,75-0,80-0,90-1,00-1,25-1,50-1,75-2,00-2,50-3,00-3,50-4,00-4,50-5,00-5,50-6,00
	Ww	4-4,5-5-6-7-8-9-10-11-12-13-14-16-18-19-20-22-24-25-26-28-30-32-36-40-48-60-62 + Gas 8-10-11-14-19-28
409.115	UNC	4-4,5-5-6-7-8-9-10-11-12-13-14-16-18-20-22-24-32-40-48-56-64
409.116	UNF	12-14-16-18-20-24-28-32-36-40-44-48-56-64-72-80

Scarsette e calibri vari - controllo visivo affilatura barre filetate  
 punte elicoidali ecc. - carta oleata o fodero plastica  
*Gewindestahl- und Bohrer Schleiflehren - Visive Kontrolle Anschleifen von Drehstaehlen, Bohrem u.a. - Oelpapier oder Plastiketui*  
*Thread and drill grinding gauges - grinding check of threaded or twisted bars, drills, etc. - oil paper or plastic pocket*

**Scarsette controllo filetti - affilatura** **VOGEL**  
*Gewindestahl- und Bohrer Schleiflehren*  
*Thread and drill grinding gauges* **411**

Cod N°	Descrizione sommaria delle scarsette
Best .Nr.	Grobe Beschreibung der Lehren
Code n°	Summary description of the gauges
411.201	Universal - quadr. + ang.
411.202	Combinata - quadr. + ang. + trap.
411.203	Trap. 30° DIN 103
411.204	Whitworth 55°
411.205	Metrico 60°
411.206	Combinata - quadr. + ang.
411.207	411.206 + asta - <i>Zeiger - rod</i>
411.212	118° + grad. 0-28mm
411.213	118° + 55-60° + grad.
411.214	30 - 160° + asta - <i>Zeiger - rod</i>



Calibri di controllo piccoli fori (413) o saldature (415)  
 carta oleata o fodero plastica  
*Kontroll-Lehren fuer Bohrungen (413) oder Schweissnaehte (415)*  
*Oelpapier oder Plastiketui*  
*Control calipers for small holes (413) or weldings (415)*  
*oil paper or plastic pocket*

**Calibri e scarsette di controllo** **VOGEL**  
*Verschiedene Kontrolllehren*  
*Various control calipers* **413-5**

Cod N°	Pezzi	Filetto	Da...a... (incl. cod.)
Best .Nr.	Stueck	Gewinde	Von...bis... (inkl. Best.)
Code n°	Pieces	Thread	From...to... (incl. code)
413.103		0 : 3mm - n. 1/10°	
413.105		0 : 5mm - n. 1/10°	
413.501	20p.	0,45 : 1,50mm	
413.502	16p.	1,50 : 3,00mm	
415.101		0 : 2mm - n. 1/10° - 60-70-80-90°	
415.102		12L. - 3 : 12mm	



Hassberg

Nastro calibrato di precisione

741

Fuehlerlehrenband von hoher Qualitaet  
Calibrated tape of high quality

Acciaio temprato - *Gehaerteter Stahl* - *Tempered steel*

Acciaio inox - *Rostfreier Stahl* - *Stainless steel*

Ottone - *Messing* - *Brass*



Tutti i codici sono \* - disponibilita magazzino non specificata e variabile  
*Alle Bestellnummern sind \* - Lagerbestand nicht spezifiziert und variabel*  
*All code numbers are \* - stock availability not specified and variable*

Nastro calibrato - Larghezza 12,7-25-50-100-150mm - acciaio temprato, inox opp. ottone L 1-2-5-10m - \* 8/10 giorni  
*Fuehlerlehrenband - Breiten 12,7-25-50-100-150mm - gehaerteter Stahl, Inox oder Messing - Rollen 1-2-5-10m - \* 8/10 Tage*  
*Calibrated tape - widths 12,7-25-50-100-150mm - tempered or stainless steel or brass - rolls 1-2-5-10m - \* 8/10 days*

mm	Cod N°	Cod N°	Cod N°	Cod N°	µm
mm	Best Nr	Best Nr	Best Nr	Best Nr	µm
mm	Code n°	Code n°	Code n°	Code n°	µm

12,7mm					
mm	1m	2m	5m	10m	µm
0,005	741.001	741.031	741.061	741.091	± 1
0,01	741.002	741.032	741.062	741.092	± 2
0,02	741.003	741.033	741.063	741.093	± 2
0,03	741.005	741.035	741.065	741.095	± 2
0,04	741.006	741.036	741.066	741.096	± 3
0,05	741.007	741.037	741.067	741.097	± 3
0,06	741.008	741.038	741.068	741.098	± 3
0,07	741.009	741.039	741.069	741.099	± 4
0,08	741.011	741.041	741.071	741.101	± 4
0,09	741.012	741.042	741.072	741.102	± 4
0,10	741.013	741.043	741.073	741.103	± 4
0,12	741.014	741.044	741.074	741.104	± 4
0,15	741.015	741.045	741.075	741.105	± 5
0,18	741.016	741.046	741.076	741.106	± 5



0,20	741.017	741.047	741.077	741.107	± 6
0,25	741.019	741.049	741.079	741.109	± 7
0,30	741.020	741.050	741.080	741.110	± 7
0,35	741.021	741.051	741.081	741.111	± 8
0,40	741.022	741.052	741.082	741.112	± 9
0,45	741.023	741.053	741.083	741.113	± 9
0,50	741.024	741.054	741.084	741.114	± 10
0,60	741.025	741.055	741.085	741.115	± 10
0,70	741.026	741.056	741.086	741.116	± 12
0,80	741.027	741.057	741.087	741.117	± 13
0,90	741.028	741.058	741.088	741.118	± 13
1,00	741.029	741.059	741.089	741.119	± 13

mm	Cod N°	µm
mm	Best Nr	µm
mm	Code n°	µm
150mm		
5m		
0,01		
0,02		
0,025	741.243	± 2
0,03		
0,04		
0,05	741.247	± 3
0,06		
0,07		
0,075	741.250	± 4
0,08		
0,09		
0,10	741.253	± 4
0,12		
0,15	741.255	± 5
0,18		
0,20	741.257	± 6
0,22		
0,25	741.259	± 7
0,30	741.260	± 7
0,35		
0,40	741.262	± 9
0,45		
0,50	741.264	± 10
0,60		
0,70		
0,80		
0,90		
1,00		

mm	Cod N°	Cod N°	µm
mm	Best Nr	Best Nr	µm
mm	Code n°	Code n°	µm
100mm		150mm	
5m		5m	
0,01			
0,02	741.183		± 2
0,025		741.213	± 2
0,03			
0,04			
0,05	741.187	741.217	± 3
0,06			
0,07			
0,075		741.220	± 4
0,08			
0,09			
0,10	741.193	741.223	± 4
0,12			
0,15	741.195	741.225	± 5
0,18			
0,20	741.197	741.227	± 6
0,22			
0,25		741.229	± 7
0,30	741.200	741.230	± 7
0,35			
0,40	741.202	741.232	± 9
0,45			
0,50	741.204	741.234	± 10
0,60	741.205		± 10
0,70	741.206		± 12
0,80	741.207		± 13
0,90	741.208		± 13
1,00	741.209		± 13



mm	Cod N°	Cod N°	µm
mm	Best Nr	Best Nr	µm
mm	Code n°	Code n°	µm
25mm		50mm	
5m		5m	
0,01	741.122	741.152	± 2
0,02	741.123	741.153	± 2
0,025			
0,03	741.125	741.155	± 2
0,04	741.126	741.156	± 3
0,05	741.127	741.157	± 3
0,06	741.128	741.158	± 3
0,07	741.129	741.159	± 4
0,075			
0,08	741.131	741.161	± 4
0,09	741.132	741.162	± 4
0,10	741.133	741.163	± 4
0,12		741.164	± 4
0,15	741.135	741.165	± 5
0,18		741.166	± 5
0,20	741.137	741.167	± 6
0,22			
0,25		741.169	± 7
0,30	741.140	741.170	± 7
0,35		741.171	± 8
0,40	741.142	741.172	± 9
0,45		741.173	± 9
0,50	741.144	741.174	± 10
0,60	741.145	741.175	± 10
0,70	741.146	741.176	± 12
0,80	741.147	741.177	± 13
0,90	741.148	741.178	± 13
1,00	741.149	741.179	± 13

7

NASTRO CALIBRATO - FUEHLERLEHRENBAND - CALIBRATED TAPE

7/04

Nastro calibrato in fogli - Acciaio, inox o ottone  
Disponibili in assortimenti dello stesso tipo e della stessa  
misura oppure confezioni con spessori assortiti - \* 8/10 giorni

*Fuehlerlehrenband in Blaettern - Stahl, Inox oder Messing  
Erhaeltlich in Sortimenten gleicher Typ und gleiche Staerke oder  
in Konfektionen mit verschiedenen Staerken - \* 8/10 Tage*

*Calibrated tape in foils - steel, stainless steel or brass  
available in assortments of same type and same thickness or  
sets with assorted thicknesses - \* 8/10 days*

Acciaio temprato - *Gehaerteter Stahl* - Tempered steel

Acciaio inox - *Rostfreier Stahl* - Stainless steel

Ottone - *Messing* - Brass

Assortimenti strisce calibrate

Hassberg

*(Zusammenstellungen) kalibrierter Streifen  
(Assortments) calibrated feeler strips*

743



N° pezzi stesso tipo stessa misura - *Nr. Streifen gleicher Typ und Groesse* - *Nr. strips same type and size*

mm	Cod N°	Cod N°	Cod N°	Cod N°	mm	Cod N°	Cod N°	Cod N°	Cod N°
mm	Best Nr	Best Nr	Best Nr	Best Nr	mm	Best Nr	Best Nr	Best Nr	Best Nr
mm	Code n°	Code n°	Code n°	Code n°	mm	Code n°	Code n°	Code n°	Code n°
	50x300	100x500	150x500	150x500		50x300	100x500	150x500	150x500
	10pz	5pz	5pz	5pz		10pz	5pz	5pz	5pz
0,01	743.301				0,12	743.313			
0,02	743.302	743.332			0,15	743.314	743.344	743.374	743.404
0,025			743.363	743.393	0,18	743.315	743.345		
0,03	743.304				0,20	743.316	743.346	743.376	743.406
0,04	743.305				0,25	743.317		743.377	743.407
0,05	743.306	743.336	743.366	743.396	0,30	743.318	743.348	743.378	743.408
0,06	743.307				0,35	743.319			
0,07	743.308				0,40	743.320	743.350	743.380	743.410
0,075			743.369	743.399	0,45	743.321			
0,08	743.310				0,50	743.322	743.352	743.382	743.412
0,09	743.311				0,60	743.323	743.353	743.383	
0,10	743.312	743.342	743.372	743.402	0,70	743.324	743.354	743.384	
					0,80	743.325	743.355	743.385	
					0,90	743.326	743.356	743.386	
					1,00	743.327	743.357	743.387	
					1,50		743.358	743.388	
					2,00		743.359	743.389	

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N° pezzi stessa misura spessori assortiti - *Nr. Streifen gleiche Groesse mit verschiedenen Staerken* - *Nr. strips same size assorted thicknesses*

Cod N°	Pezzi	Misura	Spessori contenuti negli assortimenti - 1 pezzo per tipo
Best. Nr.	Stueck	Groesse	Staerke die in den Serien enthalten sind - 1 Stueck pro Staerke
Code n°	Pieces	Size	Thicknesses which are enclosed in the sets - 1 piece per type
743.300	25	50x300	0,01-0,02-0,03-0,04-0,05-0,06-0,07-0,08-0,09-0,10-0,12-0,15-0,18 0,20-0,25-0,30-0,35-0,40-0,45-0,50-0,60-0,70-0,80-0,90-1,00
743.330	23	50x300	0,03-0,04-0,05-0,06-0,07-0,08-0,09-0,10-0,12-0,15-0,18-0,20 0,25-0,30-0,35-0,40-0,45-0,50-0,60-0,70-0,80-0,90-1,00
743.335	11	50x300	0,02-0,03-0,05-0,10-0,15-0,20-0,25-0,30-0,40-0,50-1,00
743.340	9	100x500	0,02-0,05-0,10-0,15-0,20-0,30-0,40-0,50-1,00
743.345	2	100x500	1,50 - 2,00
743.360	4	100x500	0,60 - 0,70 - 0,80 - 0,90
743.370	10	150x500	0,025-0,05-0,075-0,10-0,15-0,20-0,25-0,30-0,40-0,50
743.400	10	150x500	0,025-0,05-0,075-0,10-0,15-0,20-0,25-0,30-0,40-0,50

Nastro calibrato standard - Larghezza 12,7mm - acciaio  
temprato - bobine 5m in custodia fino a 0,80mm

*Fuehlerlehrenband Standardausfuehrung - Breite 12,7mm  
gehaerteter Stahl - 5m Rollen in PVC Box bis 0,80mm*  
*Feeler tape standard execution - width 12,7mm - tempered  
steel - rolls 5m in pvc box up to 0,80mm*

Nastro calibrato 12,7mm x 5m

VOGEL

*Fuehlerlehrenband 12,7mm x 5m  
Feeler tape 12,7mm x 5m*

742

Cod N°	mm	Cod N°	mm
Best. Nr.	mm	Best Nr	mm
Code n°	mm	Code n°	mm
742.141	0,01	742.156	0,20
742.142	0,02	742.157	0,25
742.143	0,03	742.158	0,30
742.144	0,04	742.160	0,40
742.145	0,05	742.162	0,50
742.146	0,06	742.164	0,60
742.147	0,07	742.165	0,70
742.148	0,08	742.166	0,80
742.149	0,09	742.167	0,90
742.150	0,10	742.168	1,00
742.153	0,15		



742.144

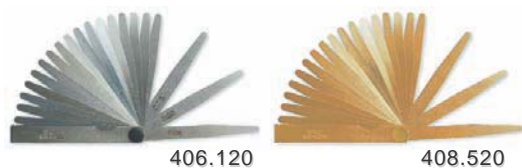
**VOGEL**

**Spessimetri lame coniche L100**

**406-8**

*Fuehlerlehren mit konischen Blaettern L100*  
*Feeler gauges with conical blades L100*

Assortimenti spessimetri Midway - custodia metallica o plastica numero, spessore e lame vedi tabella - carta o fodero plastica  
*Saetze Fuehlerlehren Midway - Halter in Metall/Plastik - Anzahl, Staerke und Material der Blaetter siehe Tabelle - Papier oder Plastikfutter*  
*Sets feeler gauges Vogel - cover in metal or plastic - number, thickness and type of material see list - paper or plastic pocket*



Acciaio temprato - *Gehaerteter Stahl* - *Tempered steel*  
Acciaio inox - *Rostfreier Stahl* - *Stainless steel*  
Ottone - *Messing* - *Brass*

Cod N° Best. Nr. Code n°	Lame Blaetter Blades	Misura mm Groesse mm Size mm	Spessori contenuti negli assortimenti - 1 pezzo per tipo Staerken, die in den Serien enthalten sind - 1 Stueck pro Staerke Thicknesses which are enclosed in the sets - 1 piece per type
406.107	8 - E	0,03-0,10	0,03-0,04-0,05-0,06-0,07-0,08-0,09-0,10
406.108	8 - A	0,05-0,50	0,05-0,10-0,15-0,20-0,25-0,30-0,40-0,50
406.113	13 - B	0,05-1,00	0,05-0,10-0,15-0,20-0,25-0,30-0,40-0,50-0,60-0,70-0,80-0,90-1,00
406.120	20 - C	0,05-1,00	0,05-0,10-0,15-0,20-0,25-0,30-0,35-0,40-0,45-0,50 0,55-0,60-0,65-0,70-0,75-0,80-0,85-0,90-0,95-1,00
406.121	20 - D	0,10-2,00	0,10-0,20-0,30-0,40-0,50-0,60-0,70-0,80-0,90-1,00 1,10-1,20-1,30-1,40-1,50-1,60-1,70-1,80-1,90-2,00
406.132	32	0,03-1,00	0,03-0,04-0,05-0,06-0,07-0,08-0,09-0,10-0,12-0,15-0,18-0,20-0,23-0,25-0,28-0,30 0,32-0,35-0,38-0,40-0,45-0,50-0,55-0,60-0,65-0,70-0,75-0,80-0,85-0,90-0,95-1,00
408.113	13 - B	0,05-1,00	0,05-0,10-0,15-0,20-0,25-0,30-0,40-0,50-0,60-0,70-0,80-0,90-1,00
408.120	20 - C	0,05-1,00	0,05-0,10-0,15-0,20-0,25-0,30-0,35-0,40-0,45-0,50 0,55-0,60-0,65-0,70-0,75-0,80-0,85-0,90-0,95-1,00
408.513	13 - B	0,05-1,00	0,05-0,10-0,15-0,20-0,25-0,30-0,40-0,50-0,60-0,70-0,80-0,90-1,00
408.520	20 - C	0,05-1,00	0,05-0,10-0,15-0,20-0,25-0,30-0,35-0,40-0,45-0,50 0,55-0,60-0,65-0,70-0,75-0,80-0,85-0,90-0,95-1,00

**VOGEL**

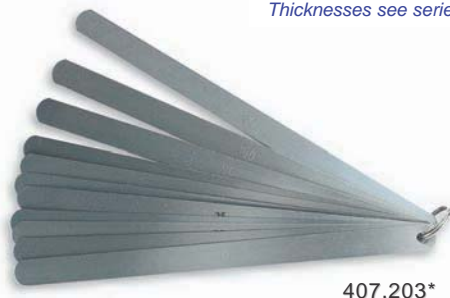
**Spessimetri lame lunghe**

**407**

*Fuehlerlehren mit langen Blaettern*  
*Feeler gauges with long blades*

Spessimetri come sopra - lame cilindriche di varie lunghezze  
8pz (A) - 13pz (B) - 20pz (C) e 20pz (D) - \* 10/20 giorni  
*Fuehlerlehren wie oben - zylindrische Blaetter in verschiedenen Laengen - 8Bl. (A) - 13Bl. (B) - 20Bl. (C) und 20Bl. (D) - \* 10/20 Tage*  
*Feeler gauges as above - cylindrical blades with various lengths 8bl. (A) - 13bl. (B) - 20bl. (C) and 20bl. (D) - \* 10/20 days*

Spessori vedi serie 406-408  
*Staerken siehe Serien 406-408*  
*Thicknesses see series 406-408*



mm	Cod N° Best Nr mm	Cod N° Best Nr Code n°	Cod N° Best Nr Code n°	Cod N° Best Nr Code n°	Cod N° Best Nr Code n°
	8 A	13 B	20 C	20 D	
150	407.101*	407.201*	407.301*	407.401*	
200	<b>407.102</b>	407.202*	<b>407.302</b>	407.402*	
300	<b>407.103</b>	407.203*	<b>407.303</b>	407.403*	
400	407.104*	407.204*	407.304*	407.404*	
500	407.105*	407.205*	407.305*	407.405*	
600	407.106*	407.206*	407.306*	407.406*	
800	407.108*	407.208*	407.308*	407.408*	
1000	407.110*	407.210*	407.310*	407.410*	

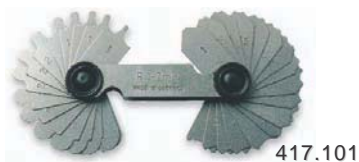
**VOGEL**

**Raggimetri - acciaio / inox**

**417**

*Radiuslehren Stahl / rostfrei*  
*Radius gauges steel / stainless*

Assortimenti raggimetri Vogel - coppie lame con raggi interni ed esterni fresati - acciaio o inox - carta oleata o fodero PVC  
*Zusammenstellungen Radiusschablonen Vogel - Blaetterpaare mit Innen- und Aussenradien gefraest - Stahl oder Inox - Oelpapier*  
*Assortments radius gauges Vogel - couple of blades with internal and external radius milled - steel or stainless - oil paper or plastic pocket*



Cod N° Best. Nr. Code n°	Misura Groesse Size	Lame int. Blatter innen Blades inside	Lame est. Blatter aussen Bl. outside
Acciaio - <i>Stahl</i> - <i>Steel</i>			
417.101	1 - 7	17	17
417.102	7,5 - 15	16	16
417.103	15,5 - 25	15	15
Inox - <i>Rostfrei</i> - <i>Stainless</i>			
417.501	1 - 7	17	17
417.502	7,5 - 15	16	16
417.503	15,5 - 25	15	15

Righe e righe graduate Midway - incisione chimica su 2 lati (° solo 1 lato) vedi tabella - acciaio speciale cromatizzato o Duralluminio - DIN 7168m (ex DIN 866) - senza confezione  
*Biegsame und starre Masstaebe Midway - beidseitig geaetzt (° nur 1 Seite) siehe Tabelle - rostfreier Federbandstahl verchromt oder Duraluminium - DIN 7168m (ex DIN 866) - ohne Verpackung*  
 Flexible and rigid graduated rules Midway - both sides etched (° only 1 side) see list - stainless spring steel chromed or Duraluminium precision DIN 7168m (ex DIN 866) - without packing (paper wrapped)

Cod N° Best Nr Code n°	mm mm mm	Sezione Querschnitt Section	Incisione Teilung Graduation
005.601	100	13x0,5	mm-½mm
005.602	150	13x0,5	mm-½mm
005.603	200	13x0,5	mm-½mm
005.604	250	13x0,5	mm-½mm
005.605	300	13x0,5	mm-½mm
005.606	500	20x0,5	mm-½mm
005.607°	1000	25x0,5	mm-½mm
005.608°	2000	25x0,5	mm-½mm
005.611	300	30x0,8	mm-½mm
005.612	500	30x0,8	mm-½mm
005.613°	1000	30x0,8	mm-½mm
005.614°	2000	30x0,8	mm-½mm
005.615°	3000	30x1	mm-mm
005.616°	5000	30x1	mm-mm

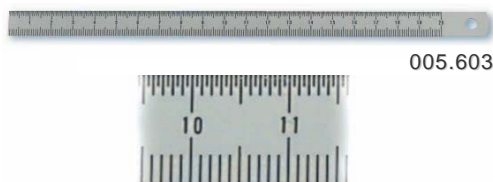


Righe flessibili o semi rigide

*Starre und biegsame Masstaebe*  
 Flexible and semi rigid graduated steel rules



460



005.603

Cod N° Best Nr Code n°	mm mm mm	Sezione Querschnitt Section	Incisione Teilung Graduation
Duralluminio - Aluminium - aluminium			
005.609	300	30x1,2	mm-mm
005.610	500	30x1,2	mm-mm
005.618°	1000	30x1,2	mm-mm
005.619°	2000	30x1,2	mm-mm



Righe e righe graduate Vogel - incisione a laser su 1 lato vedi tabella - acciaio inox speciale cromatizzato - DIN 7168m (ex DIN 866) - senza confezione  
*Biegsame und starre Masstaebe Vogel - Lasergravierung auf 1 Seite siehe Tabelle - rostfreier Federbandstahl verchromt DIN 7168m (ex DIN 866) - ohne Verpackung*  
 Flexible and rigid graduated rules Vogel - 1 side laser engraved stainless spring steel chromed - precision DIN7168m (ex DIN 866) without packing (paper wrapped)

Cod N° Best Nr Code n°	mm mm mm	Sezione Querschnitt Section	Incisione Teilung Graduation
462.201	150	20x0,5	mm-mm
462.203	300	20x0,5	mm-mm
462.205	500	20x0,5	mm-mm
462.210	1000	20x0,5	mm-mm
462.303	300	30x1	mm-mm
462.305	500	30x1	mm-mm
462.310	1000	30x1	mm-mm
462.320	2000	30x1	mm-mm
462.330	3000	30x1	mm-mm
462.340	4000	30x1	mm-mm
462.350	5000	30x1	mm-mm

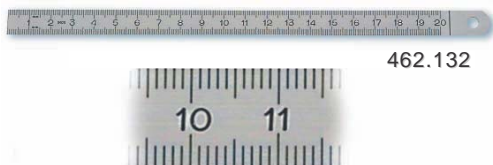


Righe flessibili o semi rigide - laser

*Starre und biegsame Masstaebe - Laser*  
 Flexible and semi rigid graduated steel rules



462



462.132

Incisione a laser - Laser Gravierung - Laser engraved

Cod N° Best Nr Code n°	mm mm mm	Sezione Querschnitt Section	Incisione Teilung Graduation
462.130	100	13x0,5	mm-mm
462.131	150	13x0,5	mm-mm
462.132	200	13x0,5	mm-mm
462.133	250	13x0,5	mm-mm
462.134	300	13x0,5	mm-mm



Righe graduate Vogel - sezione rettangolare - protezione 10mm ambo i lati - specifiche DIN 866-A - graduazione mm astuccio/cassa legno al costo - \* 10/15 giorni  
*Masstaebe Vogel - rechtwinkliger Querschnitt - 10mm Schutzenden auf beiden Seiten - mm-Teilung unten - Anforderungen DIN 866-A Holzkasten zum Einkaufspreis - \* 10/15 Tage*  
 Graduated rules Vogel - rectangular section - both sides with 10mm protection - bottom graduation mm- specification DIN 866-A wooden box at cost - \* 10/15 days

Cod N° Best Nr Code n°	mm mm mm	Sezione Querschn Section	µm - Kg µm - Kg µm - Kg
866-A - Acciaio - Stahl - Steel			
451.101*	500	30x6	40 - 0,8
451.102	1000	40x8	40 - 2,6
451.103*	1500	40x8	60 - 4
451.104*	2000	50x10	60 - 8



Righe graduate DIN 866-A (gr. 1)

*Masstaebe mm-Teilung DIN 866-A*  
 Graduated steel rules precision DIN 866-A

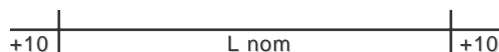


451



451.102

Cod N° Best Nr Code n°	mm mm mm	Sezione Querschn Section	µm - Kg µm - Kg µm - Kg
866-A - Inox - Rostfrei - Stainless			
451.201*	500	30x6	40 - 0,8
451.202	1000	40x8	40 - 2,6
451.203*	1500	40x8	60 - 4
451.204*	2000	50x10	60 - 8



**VOGEL**

Righe graduate DIN 866-B (gr. 2)

452

*Masstaebae mm-Teilung DIN 866-B*  
Graduated steel rules precision DIN 866-B



452.101\*



Righe graduate in acciaio opp. inox Vogel - sezione rettangolare - senza protezione - specifiche DIN 866-B graduazione mm - cassa legno al costo - \* 10/15 giorni  
*Stahl oder Rostfreie Masstaebae Vogel - rechwinkliger Querschnitt - ohne Schutzenden - mm-Teilung unten - Anforderungen DIN 866-B - Holzkasten zum Einkaufspreis - \* 10/15 Tage*  
Graduated steel or stainless rules Vogel - rectangular section without protection - bottom graduation mm - specification DIN 866-B wooden box at cost - 10/15 days

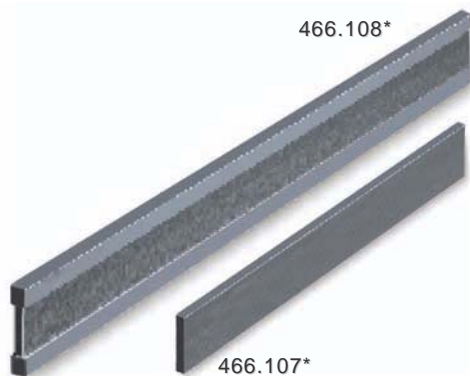
Cod N°	mm	Sezione	µm - Kg
Best Nr	mm	Querschn	µm - Kg
Code n°	mm	Section	µm - Kg
866-B - Acciaio - <i>Stahl</i> - Steel			
452.101*	500	25x5	100 - 0,5
452.102*	1000	30x6	100 - 1,5
452.103*	1500	30x6	150 - 2,2
452.104*	2000	40x8	150 - 5

**VOGEL**

Righe di controllo - acciaio/inox

465-6

*Flachlineale aus Stahl oder Inox*  
Control rules from steel or stainless steel



466.108\*

466.107\*

Righe in acciaio o inox Vogel - sezione piena opp. ad "I" (vedi tabelle) - DIN 874/1 o /2 astuccio o cassa legno al costo - \* 10/15 giorni  
*Stahl oder Rostfreie Flachlineale Vogel - flache Ausfuehrung oder mit "I" Querschnitt (siehe Tabellen) - DIN 874/1 oder /2 Holzkasten zum Einkaufspreis - \* 10/15 Tage*  
Steel or stainless control rules Vogel - flat type or with "I" section (see list below) - precision DIN 874/1 or /2 wooden box at cost - \* 10/15 days

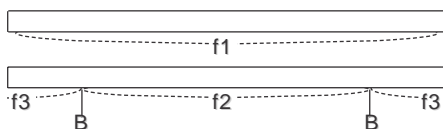
Cod N°	mm	Sezione	µm
Best Nr	mm	Querschn	µm
Code n°	mm	Section	µm
874/1 - Acciaio - <i>Stahl</i> - Steel			
465.101*	500	40x8	12
465.102*	750	50x10	17
<b>465.103</b>	1000	50x10	21
<b>465.104</b>	1500	60x12	29
<b>465.105</b>	2000	70x15	37
465.106*	2500	80x15	46
465.107*	3000	100x16	54
465.108*	4000	120x20	71
465.109*	5000	140x20	87
465.110*	6000	140x20	104



Cod N°	mm	Sezione	µm
Best Nr	mm	Querschn	µm
Code n°	mm	Section	µm
874/1 - Inox - <i>Rostfreier Stahl</i> - Stainless steel			
465.201*	500	40x8	12
465.202*	750	50x10	17
465.203*	1000	50x10	21
465.204*	1500	60x12	29
465.205*	2000	70x15	37
465.206*	2500	80x15	46
465.207*	3000	100x16	54
465.208*	4000	120x20	71
465.209*	5000	140x20	87
465.210*	6000	140x20	104



mm	f1-µm	B	f2-µm	f3-µm	Kg
500	2	110	0	0	1,2
750	7	165	0	0	2,9
1000	23	220	1	0	3,8
1500	62	330	2	1	8,4
2000	146	440	4	2	11,9
2500	274	550	7	4	15
3000	364	660	9	5	25,9
4000	801	880	21	11	48
5000	1448	1100	37	20	70
6000	3008	1320	77	41	86



Pt. Bessel =  $\left| > 0,22 \times L \text{mm} \dots \dots \dots 0,22 \times L \text{mm} \right|$

mm	f1-µm	B	f2-µm	f3-µm	Kg
500	4	110	0	0	0,7
750	12	165	0	0	1,8
1000	37	220	1	0	2,5
1500	116	330	3	2	6
2000	259	440	7	3	11
2500	465	550	12	6	20,6
3000	739	660	20	10	28
4000	1159	880	30	16	33
5000	1961	1100	51	27	60
6000	4074	1320	105	55	72



Cod N°	mm	Sezione	µm
Best Nr	mm	Querschn	µm
Code n°	mm	Section	µm
874/2 - Acciaio - <i>Stahl</i> - Steel			
466.101*	500	30x6	21
466.102*	750	40x8	27
466.103*	1000	40x8	33
<b>466.104</b>	1500	50x10	46
<b>466.105</b>	2000	60x12	58
466.106*	2500	70x15	71
466.107*	3000	80x15	83
466.108*	4000	100x16	108
466.109*	5000	120x20	133
466.110*	6000	120x20	158

Tabelle flessione righe: f1 appoggio alle estremità (situazione peggiore) - f2/f3 sui punti Bessel = 0,22 x L riga dalle estremità  
*Tabelle Durchbiegung der Lineale: f1 Auflage an den Linealenden (ungunstigster Fall) - f2/f3 an den Besselpunkten = 0,22 x L von den Linealenden*  
Deflection lists of rules: f1 at rule's ends (worst situation) - f2/f3 at the Bessel points = 0,22 x L of rule from extremities



Righe in acciaio o inox Vogel - sezione ad "I" (sezione piena fino a 1500mm aggiungere al codice .../A) - DIN 874/0 astuccio o cassa legno al costo - \* 10/15 giorni

Stahl oder Rostfreie Flachlineale Vogel - "I"-foermiger Querschnitt (bis 1500mm auch glatte lieferbar, Best.n° .../A) - DIN 874/0 Holzkasten zum Einkaufspreis - \* 10/15 Tage

Steel or stainless rules Vogel - "I" section (alternatively flat type available up to 1500mm, add to code .../A) - precision DIN 874/0 wooden box at cost - \* 10/15 days

Cod N°	mm	Sezione	µm
Best Nr	mm	Querschn	µm
Code n°	mm	Section	µm
874/0 - Acciaio - Stahl - Steel			
464.101*	500	50x10	7
464.102*	750	50x10	9,5
464.103*	1000	60x12	12
464.104*	1500	70x15	17
464.105*	2000	80x15	22
464.106*	2500	100x16	27
464.107*	3000	120x20	32
464.108*	4000	140x20	42
464.109*	5000	140x20	52
464.110*	6000	140x20	62

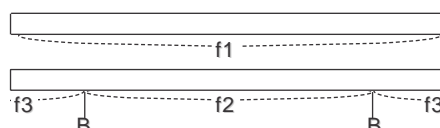
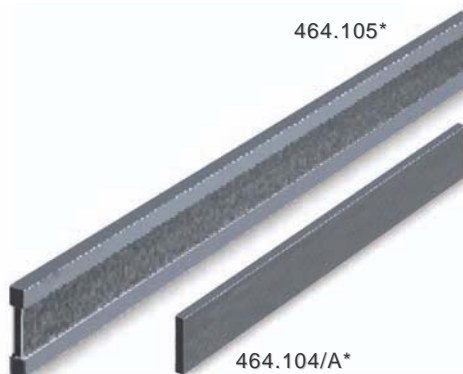
Cod N°	mm	Sezione	µm
Best Nr	mm	Querschn	µm
Code n°	mm	Section	µm
874/0 - Inox - Rostfreier Stahl - Stainless steel			
464.201*	500	50x10	7
464.202*	750	50x10	9,5
464.203*	1000	60x12	12
464.204*	1500	70x15	17
464.205*	2000	80x15	22
464.206*	2500	100x16	27
464.207*	3000	120x20	32
464.208*	4000	140x20	42
464.209*	5000	140x20	52
464.210*	6000	140x20	62

Righe di controllo - acciaio/inox

VOGEL

Flachlineale aus Stahl oder Inox  
Control rules steel or stainless steel

464



Pt. Bessel = | > 0,22 x Lmm ----- 0,22 x Lmm < |

mm	f1-µm	B	f2-µm	f3-µm	Kg
500	2	110	0	0	1,9
750	7	165	0	0	2,9
1000	15	220	0	0	5,7
1500	60	330	2	1	12,3
2000	112	440	3	2	18,6
2500	175	550	5	2	21
3000	252	660	7	3	36
4000	591	880	15	8	56
5000	1448	1100	37	20	70
6000	3008	1320	77	41	86

Righe speciali con sezioni e finiture diverse a richiesta - possono essere realizzate righe o simili a disegno cliente  
Spezial-Lineale mit anderen Querschnitten und Toleranzen auf Anfrage - Lineale u/ae werden auch nach Kundenzeichnung realisiert  
Special rules with different sections and finish on request - Rules or similars can be realized according to customer's drawings

Righe inox temprate Vogel - sezione ad "I" - durezza 58HRC rettificata - DIN 874/00 o 0 - astuccio legno incluso \* 20/30 giorni

Gehaertete Flachlineale Inox Vogel - "I"-foermiger Querschnitt Haerte 58HRC - DIN 874/00 oder 0 - Holzkasten inklusiv \* 20/30 Tage

Tempered stainless steel rules Vogel - "I" section - hardness 58HRC grinded and lapped - precision DIN 874/00 or 0 - wooden box included \* 20/30 days

Righe di controllo temprate inox

VOGEL

Flachlineale Inox gehaertet  
Control rules tempered stainless steel

469

Cod N°	mm	Sezione	µm - Kg
Best Nr	mm	Querschn	µm - Kg
Code n°	mm	Section	µm - Kg
874/00 - Inox - Rostfreier Stahl - Stainless steel			
469.101*	100	25x5	2 - 0,1
469.102*	150	30x6	2 - 0,12
469.103*	200	30x6	2,5 - 0,25
469.104*	300	40x8	3 - 0,6
469.105*	400	40x8	4 - 0,8
469.106*	500	50x10	4 - 1,75
469.107*	750	50x10	6 - 2,6
469.108*	1000	60x12	8 - 5,2
469.109*	1500	70x14	11 - 9,2
469.110*	2000	80x15	14 - 12,6
874/0 - Inox - Rostfreier Stahl - Stainless steel			
469.201*	100	25x5	3 - 0,1
469.202*	150	30x6	3,5 - 0,12
469.203*	200	30x6	4 - 0,25
469.204*	300	40x8	5 - 0,6
469.205*	400	40x8	6 - 0,8
469.206*	500	50x10	7 - 1,75
469.207*	750	50x10	9,5 - 2,6
469.208*	1000	60x12	12 - 5,2
469.209*	1500	70x14	17 - 9,2
469.210*	2000	80x15	22 - 12,6



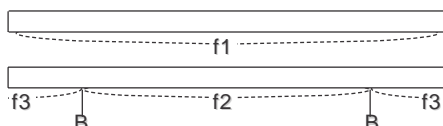
**VOGEL**

Righe di montaggio gr. 0 e 1

467

Montagelineale Stahl Klasse 0 und 1  
Assembly straight edges steel grade 0 and 1

467.113\*



Pt. Bessel =  $\left| > 0,22 \times Lmm \text{ ----- } 0,22 \times Lmm < \right|$

mm	f1-µm	B	f2-µm	f3-µm	Kg
1000	3	220	1	1	5
1500	13	330	1	1	7,5
2000	30	440	1	1	15,1
2500	72	550	2	1	18,8
3000	112	660	3	2	26,2
4000	357	880	9	5	35,2
5000	693	1100	18	9	53,4
6000	1448	1320	37	19	64,7

Righe di montaggio in acciaio Vogel - sezione ad "I" - fori di alleggerimento - DIN 874/0 opp. /1 - modello con superficie standard - astuccio o cassa legno al costo - \* 15/20 giorni  
Montagelineale aus Stahl Vogel - Ausfuehrung mit "I" Querschnitt Erleichterungsloecher - DIN 874/0 oder /1 - Modell mit Standardoberflaeche - Holzkasten zum Einkaufspreis - \* 15/20 Tage  
Assembly straight edges Vogel - execution in "I" section - holes for weight saving - precision DIN 874/0 or DIN 874/1 - model with standard surfaces - wooden box at cost - \* 15/20 days

Cod N°	mm	Sezione	µm
Best Nr	mm	Querschn	µm
Code n°	mm	Section	µm
874/0 - Acciaio - <i>Stahl</i> - <i>Steel</i>			
467.101*	1000	100x30	12
467.102*	1500	100x30	17
467.103*	2000	120x40	22
467.104*	2500	120x40	27
467.105*	3000	140x40	32
467.106*	4000	140x40	42
467.107*	5000	160x40	52
467.108*	6000	160x40	62

874/1 - Acciaio - <i>Stahl</i> - <i>Steel</i>			
467.111*	1000	100x30	21
467.112	1500	100x30	29
467.113	2000	120x40	37
467.114*	2500	120x40	46
467.115	3000	140x40	54
467.116*	4000	140x40	71
467.117*	5000	160x40	87
467.118*	6000	160x40	104

Tabelle flessione righe: f1 appoggio alle estremità (situazione peggiore) - f2/f3 sui punti Bessel = 0,22 x L riga dalle estremità  
Tabelle Durchbiegung der Lineale: f1 Auflage an den Linealenden (ungenuestigster Fall) - f2/f3 an den Besselpunkten = 0,22 x L von den Linealenden  
Deflection lists of rules: f1 at rule's ends (worst situation) - f2/f3 at the Bessel points = 0,22 x L of rule from extremities

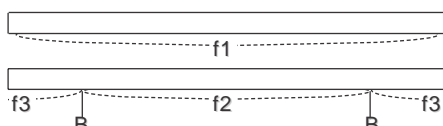
**VOGEL**

Righe di montaggio base larga

467

Montagelineale mit breiter Auflage  
Assembly straight edges large base

467.023\*



Pt. Bessel =  $\left| > 0,22 \times Lmm \text{ ----- } 0,22 \times Lmm < \right|$

mm	f1-µm	B	f2-µm	f3-µm	Kg
500	1	110	1	1	2,1
750	1	165	1	1	3,2
1000	1	220	1	1	12,2
1500	6	330	1	1	18
2000	17	440	1	1	24
2500	42	550	1	1	29,9
3000	67	660	2	1	45,5
4000	211	880	5	3	60,6
5000	413	1100	10	5	102,3
6000	851	1320	22	11	122,1

Righe di montaggio in acciaio Vogel - sezione ad "I" - fori di alleggerimento - DIN 874/0 opp. /1 - base di appoggio larga - astuccio o cassa legno al costo - \* 15/20 giorni  
Montagelineale aus Stahl Vogel - Ausfuehrung mit "I" Querschnitt Erleichterungsloecher - DIN 874/0 oder /1 - Modell mit breiter Auflageflaeche - Holzkasten zum Einkaufspreis - \* 15/20 Tage  
Assembly straight edges Vogel - execution in "I" section - holes for weight saving - precision DIN 874/0 or /1 - model with large basic surfaces - wooden box at cost - \* 15/20 days

Cod N°	mm	Sezione	µm
Best Nr	mm	Querschn	µm
Code n°	mm	Section	µm
874/0 - Acciaio - <i>Stahl</i> - <i>Steel</i>			
467.009*	500	80x40	7
467.010*	750	80x40	9,5
467.011*	1000	160x50	12
467.012	1500	160x50	17
467.013	2000	160x50	22
467.014*	2500	160x50	27
467.015*	3000	180x60	32
467.016*	4000	180x60	42
467.017*	5000	200x80	52
467.018*	6000	200x80	62

874/1 - Acciaio - <i>Stahl</i> - <i>Steel</i>			
467.019*	500	80x40	12
467.020*	750	80x40	17
467.021*	1000	160x50	21
467.022*	1500	160x50	29
467.023*	2000	160x50	37
467.024*	2500	160x50	46
467.025*	3000	180x60	54
467.026*	4000	180x60	71
467.027*	5000	200x80	87
467.028*	6000	200x80	104

Guardapiani inox temp Vogel - isolamento termico - 45°  
 appuntito - DIN 874/00 - astuccio legno - \* 4/5 giorni  
*Haarlineale rostfrei gehaertet Vogel - Waermeisolierung*  
*Spitze 45° - DIN 874/00 - Holzkasten - \* 4/5 Tage*  
 Straight edges ss tempered Vogel - thermal isolation - pointed  
 45° - DIN 874/00 - wooden box - \* 4/5 days

Cod N°	mm	Sezione	Planar. µm
Best Nr	mm	Querschn	Ebenheit µm
Code n°	mm	Section	Flatness µm
468.200	50	25x6	2
468.201	75	25x6	2
468.202	100	25x6	2
468.203*	125	25x6	2
468.204	150	25x6	2
468.205	200	25x6	2
468.206	300	30x7	3
468.207*	400	40x7	3
468.208	500	40x7	3
468.209*	600	40x7	3
468.210*	800	45x10	4
468.211*	1000	45x10	4

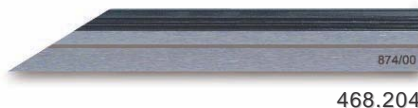


Guardapiani inox temp. DIN 874/00



*Haarlineale Inox gehaertet DIN 874/00*  
 Straight edges ss tempered DIN 874/00

468



468.204

Diametro Vogel in acciaio opp. inox - doppia  
 incisione a laser per diametro e circonferenza - graduazione  
 1mm con nonio 0,1mm - scatola - \* 15/20 giorni  
*Umfangsbandmasse Vogel aus (rostfreiern) Stahl - doppelte*  
*Laserteilung fuer Umfang und Durchmesser - mm-Teilung mit*  
*0,1mm Nonius - Kartonschachtel - \* 15/20 Tage*  
 Diameter tape Vogel from (stainless) steel - double laser engraving  
 for diameter and circumference - mm division with reading 0,1mm  
 carton box - \* 15/20 days

Cod N°	Diametro	Circonferenza
Best Nr	Durchmesser	Umfang
Code n°	Diameter	Circumference
<i>Acciaio - Stahl - Steel</i>		
458.102	20-300	60-950
458.103	300-700	940-2200
458.104	700-1100	2190-3460
458.105*	1100-1500	3450-4720
458.106*	1500-1900	4710-5980
458.107*	1900-2300	5960-7230
458.108*	2300-2700	7220-8500
458.109*	2700-3100	8490-9760
458.110*	3100-3500	9730-11010
458.111*	3500-3900	11000-12260
458.112*	3900-4300	12250-13500
458.113*	4300-4700	13500-14760
458.114*	4700-5100	14760-16020
458.115*	5100-5500	13020-17270
458.116*	5500-5900	17270-18520
458.117*	5900-6300	18520-19780
<i>Inox - Rostfreier Stahl - Stainless steel</i>		
459.502*	20-300	60-950
459.503*	300-700	940-2200
459.504*	700-1100	2190-3460
459.505*	1100-1500	3450-4720
459.506*	1500-1900	4710-5980
459.507*	1900-2300	5960-7230



Diametri - circometri



*Umfangsbandmasse aus Stahl*  
 Diameter tape from steel

458-9



458.103



459.503\*

Tabelle girevoli 110x60x30 - filettature Whitworth-ISO  
 Gas-BSF-PG-BA-UNC-UNF-UNEF - tolleranze ISO R286-1962  
 per dia. fino a 500 con oltre 6400 valori  
*Drehbare Tabellen 110x60x30 - Gewinde Whitworth-ISO*  
*Gas-BSF-PG-BA-UNC-UNF-UNEF - Tolleranz ISO R286-1962*  
*bis Durchmesser 500 mit ueber 6400 Werten*  
 Turnable tables 110x60x30 - threads Whitworth-ISO  
 Gas-BSF-PG-BA-UNC-UNF-UNEF - tolerances ISO R286-1962  
 for diameters up to 500 with more than 6400 values

Cod N°	mm	Sezione	Planar. µm
Best Nr	mm	Querschn	Ebenheit µm
Code n°	mm	Section	Flatness µm
410.350	Filetor - filettatura-Gewinde-threads		
410.351	Tolerator - tolleranze ISO		

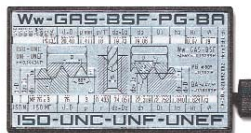


Tolerator - Filetor

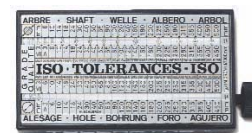


*Tolerator-Filetor drehbare Tabellen*  
 Tolerator-Filetor turnable hole-thread tables

410



410.350



410.351

Ultimi arrivi - novità

*Letzte Ankuenfte - Neuigkeiten*  
*Last arrivals - news*

7

Correzioni ed annotazioni

*Korrekturen und Anmerkungen*  
*Corrections and notes*

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