

TARAUDS À REFOULER NANO MASCHI A RULLARE NANO

DC Classification des matières

DC Classificazione dei materiali

Groupes de matières Gruppi di materiali	Désignation des matières	Designazione dei materiali	Dureté Durezza (HB)	Résistance Resistenza Rm (N/mm ²)	Allongement Allungamento A (%)
10 Aciers Acciai	11 Aciers de décolletage	Acciai da tornitura	< 200	< 700	< 10
	12 Aciers de construction ou de cémentation	Acciai da costruzione / da cementazione	< 200	< 700	< 30
	13 Aciers au carbone	Acciai al carbonio	< 300	< 1000	< 20
	14 Aciers alliés < 850 N/mm ²	Acciai legati < 850 N/mm ²	< 250	< 850	< 30
	15 Aciers alliés / traités > 850 - < 1150 N/mm ²	Acciai legati / trattati > 850 - < 1150 N/mm ²	> 250	> 850	< 30
	16 Aciers haute résistance ≤ 44 HRC	Acciai ad alta resistenza ≤ 44 HRC	> 250	> 850	< 12
	17 Aciers améliorés > 44 - ≤ 54 HRC	Acciai bonificati > 44 - ≤ 54 HRC	> 410	> 1400	< 2
	18 Aciers trempés > 54 - ≤ 63 HRC	Acciai temprati > 54 - ≤ 63 HRC	> 560	> 1980	< 2
20 Aciers inoxydables Acciai inox	21 Aciers inoxydables, soufrés	Acciai inox, allo zolfo	< 250	< 850	< 25
	22 Austénitiques	Acciai inox, austenitici	< 250	< 850	> 20
	23 Ferritiques et martensitiques < 850 N/mm ²	Ferritici e martensitici < 850 N/mm ²	< 250	< 850	> 20
	24 Ferritiques et martensitiques > 850 - < 1150 N/mm ²	Ferritici e martensitici > 850 - < 1150 N/mm ²	> 250	> 850	> 15
30 Fonte Ghisa	31 Fonte grise	Ghisa grigia	< 250	< 850	< 10
	32 Fonte à graphite sphéroïdale et malléable	Ghisa grafitica sferoidale e malleabile	< 250	< 850	> 10
40 Titane Titanio	41 Titane pur	Titanio puro	< 250	< 850	> 20
	42 Alliage de titane	Leghe di titanio	> 250	> 850	< 20
50 Nickel Nickel	51 Alliage de nickel 1 ≤ 850 N/mm ²	Leghe di nickel 1 ≤ 850 N/mm ²	< 250	< 850	> 25
	52 Alliage de nickel 2 > 850 - ≤ 1150 N/mm ²	Leghe di nickel 2 > 850 - ≤ 1150 N/mm ²	> 250	> 850	< 25
	53 Alliage de nickel 3 > 1150 - ≤ 1600 N/mm ²	Leghe di nickel 3 > 1150 - ≤ 1600 N/mm ²	> 340	> 1150	< 20
60 Cuivre Rame	61 Cuivre pur (électrolytique)	Rame puro (elettrolitico)	< 120	< 400	> 12
	62 Laiton, bronze (copeaux courts)	Ottone, bronzo (trucioli corti)	< 200	< 700	< 12
	63 Laiton (copeaux longs)	Ottone (trucioli lunghi)	< 200	< 700	> 12
	64 Laiton sans plomb	Ottone senza piombo	< 220	< 700	> 15
70 Aluminium Magnésium Alluminio Magnesio	71 Al non allié	Alluminio non legato	< 100	< 350	> 15
	72 Al allié Si < 1.5 %	Leghe di alluminio Si < 1.5 %	< 150	< 500	> 15
	73 Al allié Si > 1.5 % - < 10 %	Leghe di alluminio Si > 1.5 % - < 10 %	< 120	< 400	< 15
	74 Al allié Si > 10 %, alliages de magnésium	Leghe di al. Si > 10 %, leghe di magnesio	< 120	< 400	< 10
80 Matières plastiques Materie plastiche	81 Matières thermoplastiques	Materie termoplastiche	-	-	-
	82 Matières duroplastiques	Materie termoindurenti	-	-	-
	83 Matières plastiques renforcées par fibres	Materie plastiche rinforzate con fibre	-	-	-
90 Métaux précieux Metalli preziosi	91 Or jaune	Oro giallo	-	-	-
	92 Or rose	Oro rosso	-	-	-
	93 Or blanc	Oro bianco	-	-	-
	94 Argent	Argento	-	-	-

TARAUDS À REFOULER NANO — MASCHI A RULLARE NANO



Dès page : Dalla pagina:
M
MF
UNC
UNF
S
SF
SL

	Vc (m/min) Guide Line		FA		CFA		
	Ø 0.3 - 1.4 mm		Matières normales Materiali normali		Matériaux non-ferreux Materiali non ferrosi		
	Revêtu Rivestito	Revêtu Rivestito	363 364 365 366 367 368 369	363 364 365 366 367 368 369	370 371 372 373	370 371 372 373	
11	4 - 10	12 - 20					11
12	4 - 10	12 - 20					12
13	4 - 10	12 - 20					13
14	4 - 10	12 - 20					14
15	3 - 6	6 - 12					15
16							16
17							17
18							18
21	4 - 10	12 - 20					21
22	3 - 6	6 - 12					22
23	3 - 6	6 - 12					23
24	3 - 6	6 - 12					24
31							31
32							32
41							41
42							42
51	3 - 6	6 - 12					51
52							52
53							53
61	4 - 10	12 - 20					61
62	4 - 10	12 - 20					62
63	4 - 10	12 - 20					63
64	4 - 10	12 - 20					64
71	4 - 10	12 - 20					71
72	4 - 10	12 - 20					72
73	4 - 10	12 - 20					73
74							74
81							81
82							82
83							83
91	4 - 10	12 - 20					91
92	4 - 10	12 - 20					92
93	4 - 10	12 - 20					93
94	4 - 10	12 - 20					94

nano

	FA				CFA			
Caractéristiques Caratteristiche		VS		VS		VS		VS
		E 1.5 x P		C 2.5 x P		E 1.5 x P		C 2.5 x P
Genre de trou Tipo di foro		<2.5 x D		<2.5 x D		<2.5 x D		<2.5 x D
	FA80VS	FA83VS	CFA80VS	CFA83VS				
M 4HX / 6HX ISO DIN 14 ISO DIN 13 DC ~DIN 371	363	363	370	370				
MF 4HX / 6HX ISO DIN 13 DC ~DIN 371	364	364						
UNC 2BX ASME B1.1 DC ~DIN 371	365	365	371	371				
3BX ASME B1.1 DC ~DIN 371	365	365						
UNF 2BX ASME B1.1 DC ~DIN 371	366	366	372	372				
3BX ASME B1.1 DC ~DIN 371	366	366						
S NIHS NIHS 06 - 10 DC	367	367	373	373				
SF NIHS NIHS 06-10 Fine Thread DC	368	368						
SL Safelock SL 15 - 01 DC	369	369						

FA

FA80VS



VS

FA83VS

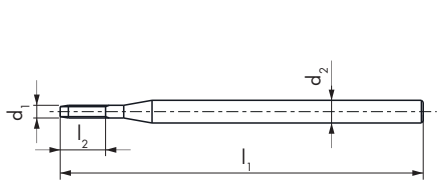


VS



FA80VS

FA83VS

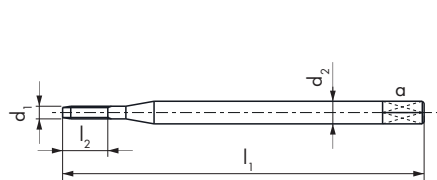


4HX

4HX

Ø d ₁ M	P mm	l ₁ mm	l ₂ mm	d ₂ mm		ID	ID
0.5	0.125	25	1.5	2	Δ0.44	● 161750	● 173719
0.6	0.15	25	1.8	2	Δ0.53	● 152412	● 173720
0.7	0.175	25	2.1	2	Δ0.62	● 152415	● 173721
0.8	0.2	25	2.4	2	Δ0.71	● 152418	● 173722
0.9	0.225	25	2.7	2	Δ0.8	● 152421	● 173723
1	0.25	40	3	2.5	Δ0.88	● 151559	● 173729
1.2	0.25	40	3.6	2.5	Δ1.08	● 151565	● 173730
1.4	0.3	40	4.2	2.5	Δ1.25	● 152429	● 173731

Tol. = +0/0.02 mm



6HX

6HX

Ø d ₁ M	P mm	l ₁ mm	l ₂ mm	d ₂ mm	a mm		ID	ID
1.6	0.35	40	4.8	2.5		Δ1.45	● 152433	● 193801
1.8	0.35	40	5.4	2.5		Δ1.65	● 193764	● 193802
2	0.4	45	8	2.8	2.1	Δ1.8	● 151566	● 193803
2.3	0.4	45	9	2.8	2.1	Δ2.1	● 193765	● 193804
2.5	0.45	50	10	2.8	2.1	Δ2.3	● 193766	● 193805
2.6	0.45	50	10	2.8	2.1	Δ2.4	● 193767	● 193806

Tol. = +0/0.02 mm



PM

DC - DIN 371

FA

FA80VS



VS

FA83VS

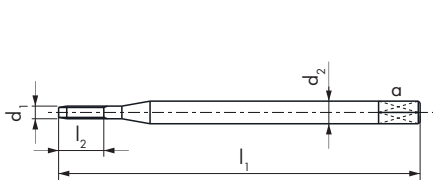


VS



FA80VS

FA83VS



4HX

4HX

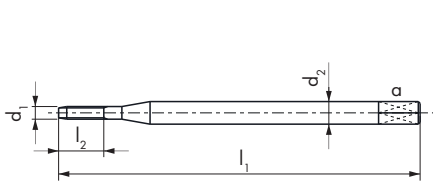
$\varnothing d_1$ MF	P mm	l_1 mm	l_2 mm	d_2 mm	a mm	
1.4	0.2	40	4.2	2.5		$\Delta 1.31$
1.6	0.2	40	4.8	2.5		$\Delta 1.51$
1.8	0.2	40	5.4	2.5		$\Delta 1.71$
2	0.2	45	6	2.8	2.1	$\Delta 1.91$
2	0.25	45	6	2.8	2.1	$\Delta 1.88$
2.2	0.2	45	6.6	2.8	2.1	$\Delta 2.11$
2.2	0.25	45	6.6	2.8	2.1	$\Delta 2.08$
2.3	0.2	45	6.9	2.8	2.1	$\Delta 2.21$
2.3	0.25	45	6.9	2.8	2.1	$\Delta 2.18$
2.5	0.2	50	7.5	2.8	2.1	$\Delta 2.41$
2.5	0.25	50	7.5	2.8	2.1	$\Delta 2.38$

ID

ID

● 155928	● 180436
● 156480	● 193807
● 193768	● 193808
● 193769	● 193809
● 193770	● 193810
● 193771	● 193811
● 193772	● 193812
● 193773	● 193813
● 193774	● 193814
● 193775	● 193815
● 193776	● 193816

Tol. = +0/0.02 mm



6HX

6HX

$\varnothing d_1$ MF	P mm	l_1 mm	l_2 mm	d_2 mm	a mm	
2.5	0.35	50	7.5	2.8	2.1	$\Delta 2.35$
2.6	0.35	50	7.8	2.8	2.1	$\Delta 2.45$

ID

ID

● 193777	● 193817
● 193778	● 193818

Tol. = +0/0.02 mm


UNC ASME B1.1




PM

DC - DIN 371

FA

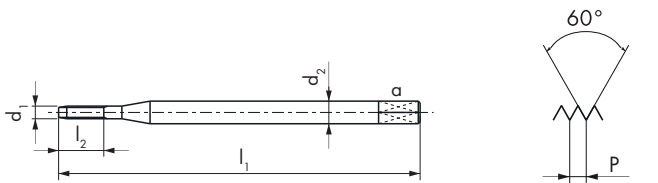
FA80VS  VS

FA83VS  VS

11	12	13	14	15
21	22	23	24	51
61	63	64	71	72
73	91	92	94	

FA80VS

FA83VS



2BX

2BX

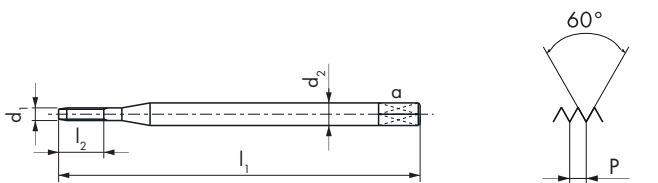
$\emptyset d_1$ UNC	P TPI	d_1 mm	l_1 mm	l_2 mm	d_2 mm	a mm	
1	64	1.85	40	5.6	2.5	2.1	$\Delta 1.65$
2	56	2.18	45	9	2.8	2.1	$\Delta 2$
3	48	2.51	50	10	2.8	2.1	$\Delta 2.25$

ID

ID

- | | |
|----------------------------------------------|----------------------------------------------|
| ● 193779 | ● 193819 |
| ● 193780 | ● 193820 |
| ● 193781 | ● 193821 |

Δ Tol. = +0/0.02 mm



3BX

3BX

$\emptyset d_1$ UNC	P TPI	d_1 mm	l_1 mm	l_2 mm	d_2 mm	a mm	
1	64	1.85	40	5.6	2.5	2.1	$\Delta 1.65$
2	56	2.18	45	9	2.8	2.1	$\Delta 2$
3	48	2.51	50	10	2.8	2.1	$\Delta 2.25$

ID

ID

- | | |
|----------------------------------------------|----------------------------------------------|
| ● 193782 | ● 193822 |
| ● 193783 | ● 193823 |
| ● 193784 | ● 193824 |

Δ Tol. = +0/0.02 mm

nomo




PM

DC - DIN 371

FA

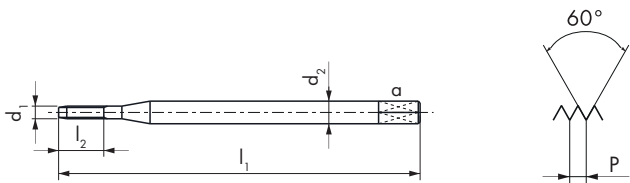
FA80VS  VS

FA83VS  VS

11	12	13	14	15
21	22	23	24	51
61	63	64	71	72
73	91	92	94	

FA80VS

FA83VS



2BX

2BX

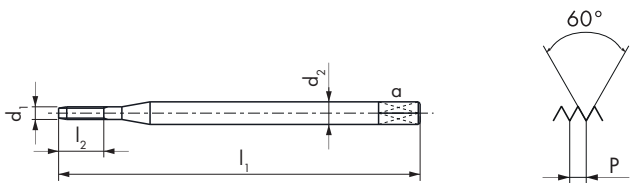
$\emptyset d_1$ UNF	P TPI	d_1 mm	l_1 mm	l_2 mm	d_2 mm	a mm	
0	80	1.52	40	4.6	2.5	$\Delta 1.4$	
1	72	1.85	40	5.6	2.5	$\Delta 1.7$	
2	64	2.18	45	9	2.8	2.1	$\Delta 2$
3	56	2.51	50	10	2.8	2.1	$\Delta 2.3$

ID

ID

- | | |
|----------|----------|
| ● 193785 | ● 193825 |
| ● 193786 | ● 193826 |
| ● 193787 | ● 193827 |
| ● 193788 | ● 193828 |

Δ Tol. = +0/0.02 mm



3BX

3BX

$\emptyset d_1$ UNF	P TPI	d_1 mm	l_1 mm	l_2 mm	d_2 mm	a mm	
0	80	1.52	40	4.6	2.5	$\Delta 1.4$	
1	72	1.85	40	5.6	2.5	$\Delta 1.7$	
2	64	2.18	45	9	2.8	2.1	$\Delta 2$
3	56	2.51	50	10	2.8	2.1	$\Delta 2.3$

ID

ID

- | | |
|----------|----------|
| ● 193789 | ● 193829 |
| ● 193790 | ● 193830 |
| ● 193791 | ● 193831 |
| ● 193792 | ● 193832 |

Δ Tol. = +0/0.02 mm



PM



DC

FA

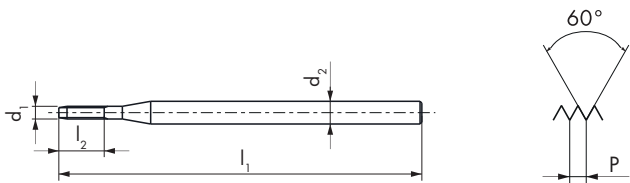
FA80VS VS

FA83VS VS

11	12	13	14	15
21	22	23	24	51
61	63	64	71	72
73	91	92	94	

FA80VS

FA83VS



NIHS

NIHS

$\varnothing d_1$ S	P mm	l_1 mm	l_2 mm	d_2 mm	
0.5	0.125	25	1.5	2	$\Delta 0.44$
0.6	0.15	25	1.8	2	$\Delta 0.53$
0.7	0.175	25	2.1	2	$\Delta 0.62$
0.8	0.2	25	2.4	2	$\Delta 0.71$
0.9	0.225	25	2.7	2	$\Delta 0.8$
1	0.25	40	3.0	2.5	$\Delta 0.88$
1.2	0.25	40	3.6	2.5	$\Delta 1.08$
1.4	0.3	40	4.2	2.5	$\Delta 1.25$

ID

ID

● 158977	● 173724
● 151561	● 173725
● 151742	● 173726
● 151564	● 173727
● 151562	● 173728
● 151542	● 173732
● 151543	● 173733
● 152427	● 173734

Δ Tol. = +0/0.02 mm



FA

FA80VS



VS

FA83VS

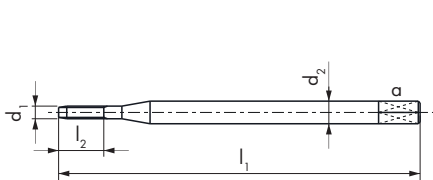


VS



FA80VS

FA83VS



Ø d ₁ SF	P mm	l ₁ mm	l ₂ mm	d ₂ mm	a mm	
1.4	0.2	40	4.2	2.5		Δ 1.31
1.6	0.2	40	4.8	2.5		Δ 1.51
1.8	0.2	40	5.4	2.5		Δ 1.71
2	0.2	45	6	2.8	2.1	Δ 1.91
2.2	0.2	45	6.6	2.8	2.1	Δ 2.11
2.2	0.25	45	6.6	2.8	2.1	Δ 2.08
2.5	0.2	50	7.5	2.8	2.1	Δ 2.41
2.5	0.25	50	7.5	2.8	2.1	Δ 2.38

ID	ID
● 176180	● 193793
● 193757	● 193794
● 193758	● 193795
● 193759	● 193796
● 193760	● 193797
● 193761	● 193798
● 193762	● 193799
● 193763	● 193800

Δ Tol. = +0/0.02 mm



FA

FA80VS



VS

FA83VS

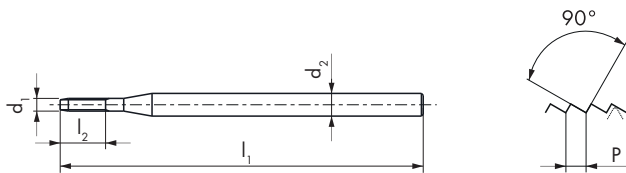


VS



FA80VS

FA83VS



$\varnothing d_1$ SL	P mm	l_1 mm	l_2 mm	d_2 mm	ID	ID
0.5	0.1	25	1.5	2	● 600049	● 600100
0.6	0.125	25	1.8	2	● 600050	● 600101
0.7	0.15	25	2.1	2	● 600051	● 600102
0.8	0.15	25	2.4	2	● 600052	● 600103
0.9	0.175	25	2.7	2	● 600053	● 600104
1	0.2	40	3	2.5	● 600054	● 600105
1.2	0.2	40	3.6	2.5	● 600055	● 600106
1.4	0.25	40	4.2	2.5	● 600056	● 600107



CFA

CFA80VS



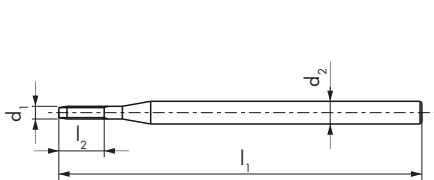
62 63 91 92 94

CFA83VS



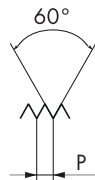
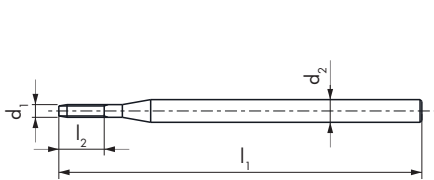
CFA80VS

CFA83VS



$\emptyset d_1$ M	P mm	l_1 mm	l_2 mm	d_2 h5 mm		ID	ID
0.5	0.125	32	1.5	1.5	$\Delta 0.44$	● 171771	● 193611
0.6	0.15	32	1.8	1.5	$\Delta 0.53$	● 171773	● 193612
0.7	0.175	32	2.1	1.5	$\Delta 0.62$	● 171775	● 193613
0.8	0.2	32	2.4	1.5	$\Delta 0.71$	● 171777	● 193614
0.9	0.225	32	2.7	1.5	$\Delta 0.8$	● 171779	● 193615
1	0.25	32	3	2	$\Delta 0.88$	● 171782	● 193616
1.2	0.25	32	3.6	2	$\Delta 1.08$	● 171783	● 193617
1.4	0.3	32	4.2	2	$\Delta 1.25$	● 171785	● 193618

Δ Tol. = +0/0.02 mm



$\emptyset d_1$ M	P mm	l_1 mm	l_2 mm	d_2 h5 mm		ID	ID
1.6	0.35	32	4.8	2	$\Delta 1.45$	● 193590	● 193619
1.8	0.35	32	5.4	2	$\Delta 1.65$	● 193591	● 193620
2	0.4	39	8	3	$\Delta 1.8$	● 193592	● 193621
2.3	0.4	39	9	3	$\Delta 2.1$	● 193593	● 193622
2.5	0.45	39	10	3	$\Delta 2.3$	● 193594	● 193623
2.6	0.45	39	10	3	$\Delta 2.4$	● 193595	● 193624

Δ Tol. = +0/0.02 mm





CFA

CFA80VS



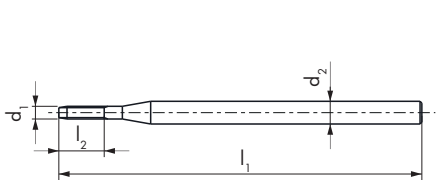
62 63 91 92 94

CFA83VS



CFA80VS

CFA83VS



Ø d UNC	P TPI	d ₁ mm	l ₁ mm	l ₂ mm	d ₂ h5 mm	
1	64	1.85	32	5.5	2	Δ 1.65
2	56	2.18	39	8.6	3	Δ 2
3	48	2.51	39	10	3	Δ 2.25

ID

ID

● 193596	● 193625
● 193597	● 193626
● 193598	● 193627

Tol. = +0/0.02 mm



CFA

CFA80VS



62 63 91 92 94

CFA83VS



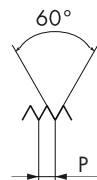
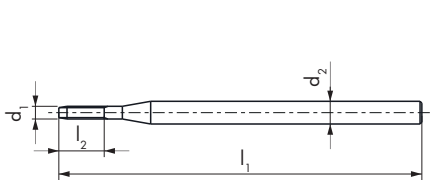
CFA80VS

CFA83VS



2BX

2BX



$\emptyset d$ UNF	P TPI	d_1 mm	l_1 mm	l_2 mm	d_2 h5 mm	
0	80	1.52	32	4.5	2	$\Delta 1.4$
1	72	1.85	32	5.5	2	$\Delta 1.7$
2	64	2.18	39	8.6	3	$\Delta 2$
3	56	2.51	39	10	3	$\Delta 2.3$

ID

ID

● 193599	● 193628
● 193600	● 193629
● 193601	● 193630
● 193602	● 193631

Tol. = +0/0.02 mm



CFA

CFA80VS



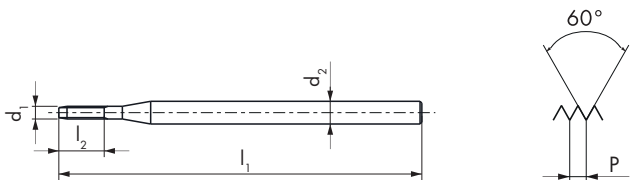
62 63 91 92 94

CFA83VS



CFA80VS

CFA83VS



$\varnothing d_1$ S	P mm	l_1 mm	l_2 mm	d_2 h5 mm	
0.5	0.125	32	1.5	1.5	$\Delta 0.44$
0.6	0.15	32	1.8	1.5	$\Delta 0.53$
0.7	0.175	32	2.1	1.5	$\Delta 0.62$
0.8	0.2	32	2.4	1.5	$\Delta 0.71$
0.9	0.225	32	2.7	1.5	$\Delta 0.8$
1	0.25	32	3	2	$\Delta 0.88$
1.2	0.25	32	3.6	2	$\Delta 1.08$
1.4	0.3	32	4.2	2	$\Delta 1.25$

Δ Tol. = +0/0.02 mm

ID

ID

● 171770	● 193603
● 171772	● 193604
● 171774	● 193605
● 171776	● 193606
● 171778	● 193607
● 171780	● 193608
● 171781	● 193609
● 171784	● 193610