

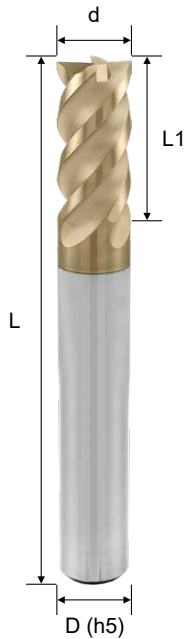
H68X - Square · High Precision · Standard · 4F

平銑刀 · 高精標準型 · 4 刃

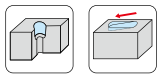
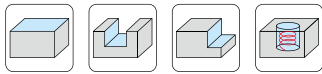
- High precision cutting for HRC 30~65 hardened steel.
- For general side finishing ($A_e < d \times 10\%$).
- SNAX (Al, Ti, Si, N) smooth coating provides excellent wear resistance and low friction.



EHSSF



Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EHSSF441000S	1.0	3	50	4	4
EHSSF441500S	1.5	4	50	4	4
EHSSF442000S	2.0	5	50	4	4
EHSSF442500S	2.5	6	50	4	4
EHSSF403000S	3.0	8	50	6	4
EHSSF404000S	4.0	10	50	6	4
EHSSF405000S	5.0	13	50	6	4
EHSSF406000S	6.0	15	50	6	4
EHSSF408000S	8.0	20	60	8	4
EHSSF410000S	10.0	25	75	10	4
EHSSF412000S	12.0	30	75	12	4



d Tolerance	
d ≤ 6	0 ~ -0.01
d > 6	0 ~ -0.02

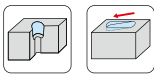
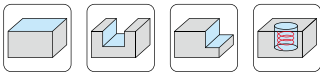
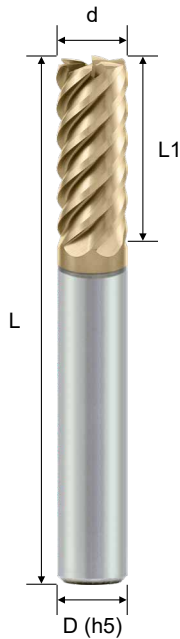
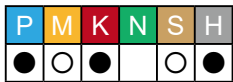
WORKING MATERIAL	PREHARDENED STEEL NAK80,CENA1				HARDENED STEEL SKD61,SKD11,SKH51			
	HRC 35~45				HRC 45~60			
HARDNESS	HRC 35~45				HRC 45~60			
CONDITION RANGE	HIGH SPEED		GENERAL		HIGH SPEED		GENERAL	
Vc	110 m/min		80 m/min		100 m/min		70 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1mm	35000	630	25500	460	32000	600	22000	360
2mm	17500	830	12700	510	16000	750	11200	440
3mm	12000	1000	8500	550	11000	800	7400	460
4mm	8700	1000	6350	600	8000	850	5600	500
6mm	5830	1100	4200	750	5300	900	3750	560
8mm	4380	1100	3200	800	4000	1000	2800	600
10mm	3500	1100	2500	750	3200	900	2200	580
12mm	2900	1100	2150	700	2750	850	2000	550
	ap = 1.5d ae ≤ 0.05d		ap = 1.5d ae ≤ 0.07d		ap = 1.5d ae ≤ 0.02d		ap = 1.5d ae ≤ 0.05d	

H68X - Square · High Precision · High Helix · 6F / 8F 平銑刀 · 高精高導型 · 6 刃 / 8 刃

- High precision cutting for HRC 30~65 hardened steel.
- 50° helix for general side finishing (Ae < d×10%), 50° helix for light side finishing (Ae < d×5%).
- SNAX (Al, Ti, Si, N) smooth coating provides excellent wear resistance and low friction.



EHSMF



d Tolerance	
d ≤ 6	0 ~ -0.02
d > 6	0 ~ -0.03

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EHSMF606000S	6	15	50	6	6
EHSMF608000S	8	20	60	8	6
EHSMF610000S	10	25	75	10	6
EHSMF612000S	12	30	75	12	6
EHSMF816000S	16	40	100	16	8

WORKING MATERIAL	PREHARDENED STEEL NAK80,CENA1				HARDENED STEEL SKD61,SKD11,SKH51			
	HRC 35~45				HRC 45~60			
CONDITION RANGE	HIGH SPEED		GENERAL		HIGH SPEED		GENERAL	
Vc	110 m/min		80 m/min		100 m/min		70 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1mm	35000	630	25500	460	32000	600	22000	360
2mm	17500	830	12700	510	16000	750	11200	440
3mm	12000	1000	8500	550	11000	800	7400	460
4mm	8700	1000	6350	600	8000	850	5600	500
6mm	5830	1100	4200	750	5300	900	3750	560
8mm	4380	1100	3200	800	4000	1000	2800	600
10mm	3500	1100	2500	750	3200	900	2200	580
12mm	2900	1100	2150	700	2750	850	2000	550
	ap = 1.5d ae ≤ 0.05d		ap = 1.5d ae ≤ 0.07d		ap = 1.5d ae ≤ 0.02d		ap = 1.5d ae ≤ 0.05d	

Solid End Milling

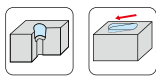
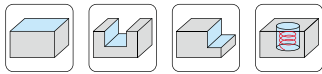
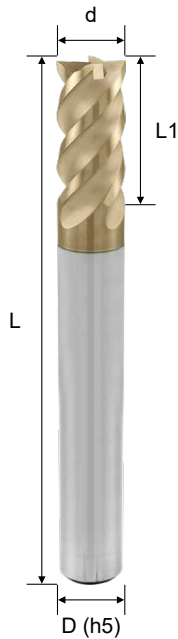
H68X - Square · High Precision · Long Shank · 4F

平銑刀 · 高精長柄型 · 4 刃

- High precision cutting for HRC 30~65 hardened steel.
- 45° helix for general side finishing (Ae < d×10%), 50° helix for light side finishing (Ae < d×5%).
- SNAX (Al, Ti, Si, N) smooth coating provides excellent wear resistance and low friction.

ASIA
(Metric)

EHSLF



d Tolerance	
d ≤ 6	0 ~ -0.02
d > 6	0 ~ -0.03

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EHSLF404007S	4	10	75	6	4
EHSLF406007S	6	15	75	6	4
EHSLF406010S	6	15	100	6	4
EHSLF408007S	8	20	75	8	4
EHSLF408010S	8	20	100	8	4
EHSLF410010S	10	25	100	10	4
EHSLF412010S	12	30	100	12	4

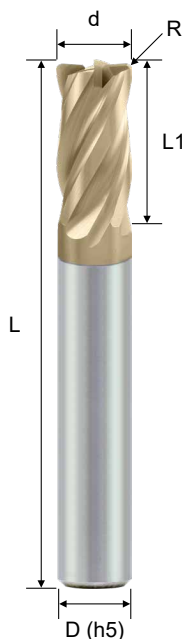
WORKING MATERIAL	PREHARDENED STEEL NAK80,CENA1				HARDENED STEEL SKD61,SKD11,SKH51			
	HRC 35~45				HRC 45~60			
CONDITION RANGE	HIGH SPEED		GENERAL		HIGH SPEED		GENERAL	
Vc	110 m/min		80 m/min		100 m/min		70 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1mm	35000	630	25500	460	32000	600	22000	360
2mm	17500	830	12700	510	16000	750	11200	440
3mm	12000	1000	8500	550	11000	800	7400	460
4mm	8700	1000	6350	600	8000	850	5600	500
6mm	5830	1100	4200	750	5300	900	3750	560
8mm	4380	1100	3200	800	4000	1000	2800	600
10mm	3500	1100	2500	750	3200	900	2200	580
12mm	2900	1100	2150	700	2750	850	2000	550
	ap = 1.5d ae ≤ 0.05d		ap = 1.5d ae ≤ 0.07d		ap = 1.5d ae ≤ 0.02d		ap = 1.5d ae ≤ 0.05d	

H68X - Corner Radius · High Precision · Standard · 4F 圓鼻銑刀 · 高精標準型 · 4 刃

- High precision cutting for HRC 30~65 hardened steel.
- For general slot finishing.
- SNAX (Al, Ti, Si, N) smooth coating provides excellent wear resistance and low friction.

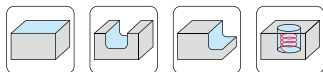


EHCSF



Order No.	Dia. (d)	Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EHCSF441001S	1.0	0.1R	2	50	4	4
EHCSF441002S	1.0	0.2R	2	50	4	4
EHCSF441501S	1.5	0.1R	3	50	4	4
EHCSF441502S	1.5	0.2R	3	50	4	4
EHCSF442001S	2.0	0.1R	4	50	4	4
EHCSF442002S	2.0	0.2R	4	50	4	4
EHCSF442005S	2.0	0.5R	4	50	4	4
EHCSF443002S	3.0	0.2R	6	50	4	4
EHCSF443005S	3.0	0.5R	6	50	4	4
EHCSF403005S	3.0	0.5R	6	50	6	4
EHCSF444002S	4.0	0.2R	8	50	4	4
EHCSF444005S	4.0	0.5R	8	50	4	4
EHCSF404005S	4.0	0.5R	8	50	6	4
EHCSF404010S	4.0	1.0R	8	50	6	4
EHCSF406005S	6.0	0.5R	12	50	6	4
EHCSF406010S	6.0	1.0R	12	50	6	4
EHCSF406002S	6.0	0.2R	12	50	6	4
EHCSF406003S	6.0	0.3R	12	50	6	4
EHCSF408005S	8.0	0.5R	16	60	8	4
EHCSF408010S	8.0	1.0R	16	60	8	4
EHCSF410005S	10.0	0.5R	20	75	10	4
EHCSF410010S	10.0	1.0R	20	75	10	4
EHCSF412005S	12.0	0.5R	24	75	12	4
EHCSF412010S	12.0	1.0R	24	75	12	4

Solid End Milling



d Tolerance	
d ≤ 6	0 ~ -0.01
d > 6	0 ~ -0.02

R Tolerance	
R < 2	±0.010
R ≥ 2	±0.015

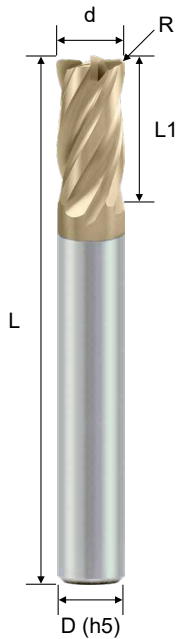
WORKING MATERIAL	PREHARDENED STEEL NAK80,CENA1		HARDENED STEEL SKD61,SKD11,SKH51	
	HRC 35~45		HRC 45~60	
Vc	60 m/min		40 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	7690	410	3990	200
4mm	5800	520	3000	240
5mm	4640	600	2430	300
6mm	3770	550	1950	330
8mm	2900	520	1500	300
10mm	2320	495	1200	270
12mm	1890	470	1020	240
	ap ≤ 0.5d ae = 1d		ap ≤ 0.2d ae = 1d	

H68X - Corner Radius · High Precision · Long Shank · 4F 圓鼻銑刀 · 高精長柄型 · 4刃

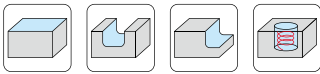
- High precision cutting for HRC 30~65 hardened steel.
- For general slot finishing.
- SNAX (Al, Ti, Si, N) smooth coating provides excellent wear resistance and low friction.



EHCLF



Order No.	Dia. (d)	Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EHCLF40400507S	4	0.5R	8	75	6	4
EHCLF40600507S	6	0.5R	12	75	6	4
EHCLF40600510S	6	0.5R	12	100	6	4
EHCLF40800507S	8	0.5R	16	75	8	4
EHCLF40800510S	8	0.5R	16	100	8	4
EHCLF41000510S	10	0.5R	20	100	10	4
EHCLF41200510S	12	0.5R	24	100	12	4



d Tolerance	
d ≤ 6	0 ~ -0.02
d > 6	0 ~ -0.03

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

WORKING MATERIAL	PREHARDENED STEEL NAK80, CENA1		HARDENED STEEL SKD61, SKD11, SKH51	
	HRC 35~45		HRC 45~60	
Vc	60 m/min		40 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	7690	410	3990	200
4mm	5800	520	3000	240
5mm	4640	600	2430	300
6mm	3770	550	1950	330
8mm	2900	520	1500	300
10mm	2320	495	1200	270
12mm	1890	470	1020	240
	ap ≤ 0.5d ae = 1d		ap ≤ 0.2d ae = 1d	

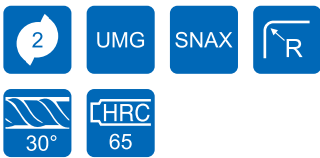
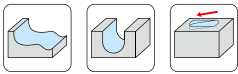
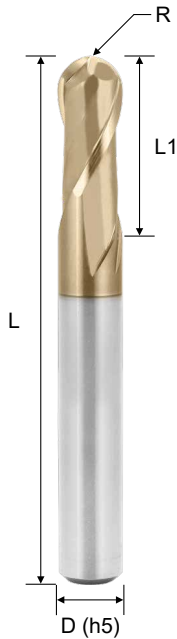
H68X - Ball Nose · High Precision · Standard · 2F

球型銑刀 · 高精標準型 · 2刃

- High precision cutting for HRC 30~65 hardened steel.
- The ball nose radius tolerance is within $\pm 5\mu\text{m}$ ($d \leq 6$) and $\pm 7\mu\text{m}$ ($d > 6$).
- SNAX (Al, Ti, Si, N) smooth coating provides excellent wear resistance and low friction.



EHBSF



R Tolerance	
R ≤ 3	±0.005
R > 3	±0.007

Order No.	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EHBSF241000S	0.5R	1	2	50	4	2
EHBSF242000S	1.0R	2	4	50	4	2
EHBSF244000S	2.0R	4	8	50	4	2
EHBSF203000S	1.5R	3	6	50	6	2
EHBSF204000S	2.0R	4	8	50	6	2
EHBSF206000S	3.0R	6	12	50	6	2
EHBSF208000S	4.0R	8	16	60	8	2
EHBSF210000S	5.0R	10	20	75	10	2
EHBSF212000S	6.0R	12	24	75	12	2

WORKING MATERIAL	PREHARDENED STEEL NAK80,CENA1				HARDENED STEEL SKD61,SKT4				HARDENED STEEL SKD11,SKH51						
	HRC 35~45								HRC 45~55				HRC 55~60		
CONDITION RANGE	HIGH SPEED		GENERAL		HIGH SPEED		GENERAL		HIGH SPEED		GENERAL				
	Vc	50~95 m/min	25~70 m/min	40~95 m/min	20~70 m/min	30~95 m/min	20~50 m/min								
RADIUS (R)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)			
	0.5R	50000	3200	36000	1600	50000	2560	36000	1280	50000	2000	25000	1000		
1R	32000	3000	20000	1500	32000	2560	20000	1280	32000	2000	15000	1000			
2R	22000	2850	13000	1500	20000	2500	10000	1280	16000	1920	9500	960			
3R	16000	2800	8500	1400	13000	2200	6800	1160	11000	1760	6500	960			
4R	12000	2400	6400	1200	10000	1840	5200	960	8000	1400	4800	840			
5R	10000	2000	5000	1060	8000	1600	4000	820	6400	1200	3800	720			
6R	8000	1600	4200	920	6600	1400	3500	730	5300	1060	3200	640			
	ap = 0.05d~0.1d pf = 0.2d								ap = 0.05d~0.1d pf = 0.15d						

Solid End Milling

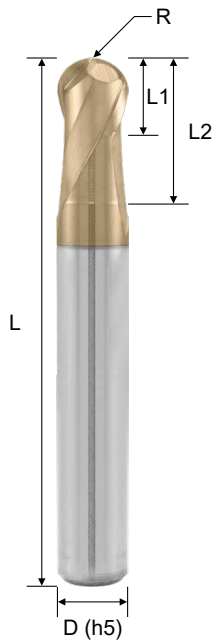
H68X - Ball Nose · High Precision · Short with Neck · 2F

球型銑刀 · 高精短刃型 · 2 刃

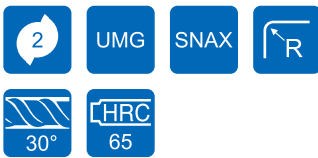
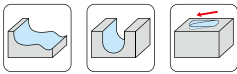
- High precision cutting for HRC 30~65 hardened steel.
- The ball nose radius tolerance is within $\pm 5\mu\text{m}$ ($d \leq 6$) and $\pm 7\mu\text{m}$ ($d > 6$).
- SNAX (Al, Ti, Si, N) smooth coating provides excellent wear resistance and low friction.



EHBUFF



Order No.	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHBUFF240201S	0.10R	0.2	0.2	0.4	50	4	2
EHBUFF240401S	0.20R	0.4	0.4	0.8	50	4	2
EHBUFF240601S	0.30R	0.6	0.6	1.2	50	4	2
EHBUFF240801S	0.40R	0.8	0.8	1.6	50	4	2
EHBUFF241001S	0.50R	1.0	1.0	2	50	4	2
EHBUFF241501S	0.75R	1.5	1.5	3	50	4	2
EHBUFF242001S	1.00R	2.0	2.0	4	50	4	2
EHBUFF243001S	1.50R	3.0	3.0	6	50	4	2
EHBUFF244001S	2.00R	4.0	4.0	8	50	4	2
EHBUFF206001S	3.00R	6.0	6.0	12	50	6	2
EHBUFF208001S	4.00R	8.0	8.0	16	60	8	2
EHBUFF210001S	5.00R	10.0	10.0	20	75	10	2
EHBUFF212001S	6.00R	12.0	12.0	24	75	12	2
EHBUFF240200S	0.10R	0.2	0.2	-	50	4	2
EHBUFF240400S	0.20R	0.4	0.4	-	50	4	2
EHBUFF240600S	0.30R	0.6	0.6	-	50	4	2
EHBUFF240800S	0.40R	0.8	0.8	-	50	4	2
EHBUFF241000S	0.50R	1.0	1.0	-	50	4	2
EHBUFF241500S	0.75R	1.5	1.5	-	50	4	2
EHBUFF242000S	1.00R	2.0	2.0	-	50	4	2
EHBUFF243000S	1.50R	3.0	3.0	-	50	4	2
EHBUFF203000S	1.50R	3.0	3.0	-	50	6	2
EHBUFF244000S	2.00R	4.0	4.0	-	50	4	2
EHBUFF204000S	2.00R	4.0	4.0	-	50	6	2



R Tolerance	
R ≤ 3	±0.005
R > 3	±0.007

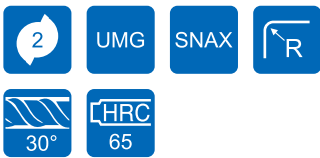
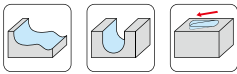
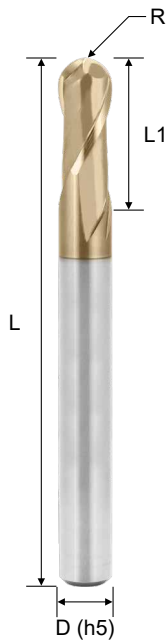
WORKING MATERIAL	PREHARDENED STEEL NAK80,CENA1				HARDENED STEEL SKD61,SKT4				HARDENED STEEL SKD11,SKH51			
HARDNESS	HRC 35~45				HRC 45~55				HRC 55~60			
CONDITION RANGE	HIGH SPEED		GENERAL		HIGH SPEED		GENERAL		HIGH SPEED		GENERAL	
Vc	50~95 m/min		25~70 m/min		40~95 m/min		20~70 m/min		30~95 m/min		20~50 m/min	
RADIUS (R)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
0.5R	50000	3200	36000	1600	50000	2560	36000	1280	50000	2000	25000	1000
1R	32000	3000	20000	1500	32000	2560	20000	1280	32000	2000	15000	1000
2R	22000	2850	13000	1500	20000	2500	10000	1280	16000	1920	9500	960
3R	16000	2800	8500	1400	13000	2200	6800	1160	11000	1760	6500	960
4R	12000	2400	6400	1200	10000	1840	5200	960	8000	1400	4800	840
5R	10000	2000	5000	1060	8000	1600	4000	820	6400	1200	3800	720
6R	8000	1600	4200	920	6600	1400	3500	730	5300	1060	3200	640
	ap = 0.05d~0.1d pf = 0.2d								ap = 0.05d~0.1d pf = 0.15d			

H68X - Ball Nose · High Precision · Long Shank · 2F 球型銑刀 · 高精長柄型 · 2 刃

- High precision cutting for HRC 30~65 hardened steel.
- The ball nose radius tolerance is within $\pm 5\mu\text{m}$ ($d \leq 6$) and $\pm 7\mu\text{m}$ ($d > 6$).
- SNAX (Al, Ti, Si, N) smooth coating provides excellent wear resistance and low friction.



EHLBF



R Tolerance	
R ≤ 3	±0.007
R > 3	±0.010

Order No.	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EHLBF204007S	2R	4	8	75	6	2
EHLBF206007S	3R	6	12	75	6	2
EHLBF206010S	3R	6	12	100	6	2
EHLBF208007S	4R	8	16	75	8	2
EHLBF208010S	4R	8	16	100	8	2
EHLBF210010S	5R	10	20	100	10	2
EHLBF212010S	6R	12	24	100	12	2

Solid End Milling

WORKING MATERIAL	PREHARDENED STEEL NAK80,CENA1				HARDENED STEEL SKD61,SKT4				HARDENED STEEL SKD11,SKH51																						
	HARDNESS								HRC 35~45								HRC 45~55								HRC 55~60						
CONDITION RANGE	HIGH SPEED		GENERAL		HIGH SPEED		GENERAL		HIGH SPEED		GENERAL																				
	Vc	50~95 m/min	25~70 m/min	40~95 m/min	20~70 m/min	30~95 m/min	20~50 m/min																								
RADIUS (R)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)																			
0.5R	50000	3200	36000	1600	50000	2560	36000	1280	50000	2000	25000	1000																			
1R	32000	3000	20000	1500	32000	2560	20000	1280	32000	2000	15000	1000																			
2R	22000	2850	13000	1500	20000	2500	10000	1280	16000	1920	9500	960																			
3R	16000	2800	8500	1400	13000	2200	6800	1160	11000	1760	6500	960																			
4R	12000	2400	6400	1200	10000	1840	5200	960	8000	1400	4800	840																			
5R	10000	2000	5000	1060	8000	1600	4000	820	6400	1200	3800	720																			
6R	8000	1600	4200	920	6600	1400	3500	730	5300	1060	3200	640																			
	ap = 0.05d~0.1d pf = 0.2d								ap = 0.05d~0.1d pf = 0.15d																						