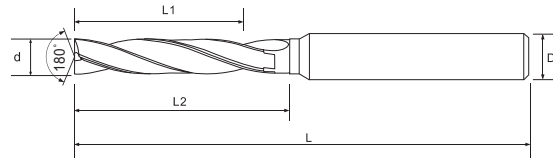


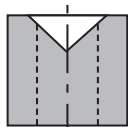
4xD Flat Drill 4FD 平頭鑽



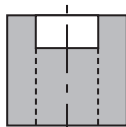
切削條件表 **P180**
Cutting Condition



MODE 型號		Dimension 規格				
Coating 塗層		Diameter	Effective Drill Depth	Flute Length	Shank Diameter	Full Length
nACRo	ZrN-A	d 刃徑	L1 有效深度	L2 溝長	D 直徑	L 全長
4FD0302 nACRo	4FD0302 ZrN-A	3.0	16.5	19.5	6	60
4FD0312 nACRo	4FD0312 ZrN-A	3.1	17.1	20.2	6	60
4FD0322 nACRo	4FD0322 ZrN-A	3.2	17.6	20.8	6	60
4FD0332 nACRo	4FD0332 ZrN-A	3.3	18.2	21.5	6	60
4FD0342 nACRo	4FD0342 ZrN-A	3.4	18.7	22.1	6	60
4FD0352 nACRo	4FD0352 ZrN-A	3.5	19.3	22.8	6	60
4FD0362 nACRo	4FD0362 ZrN-A	3.6	19.8	23.4	6	60
4FD0372 nACRo	4FD0372 ZrN-A	3.7	20.4	24.1	6	60
4FD0382 nACRo	4FD0382 ZrN-A	3.8	20.9	24.7	6	60
4FD0392 nACRo	4FD0392 ZrN-A	3.9	21.5	25.4	6	60
4FD0402 nACRo	4FD0402 ZrN-A	4.0	22.0	26.0	6	60
4FD0412 nACRo	4FD0412 ZrN-A	4.1	22.6	26.7	6	70
4FD0422 nACRo	4FD0422 ZrN-A	4.2	23.1	27.3	6	70
4FD0432 nACRo	4FD0432 ZrN-A	4.3	23.7	28.0	6	70
4FD0442 nACRo	4FD0442 ZrN-A	4.4	24.2	28.6	6	70
4FD0452 nACRo	4FD0452 ZrN-A	4.5	24.8	29.3	6	70
4FD0462 nACRo	4FD0462 ZrN-A	4.6	25.3	29.9	6	70
4FD0472 nACRo	4FD0472 ZrN-A	4.7	25.9	30.6	6	70
4FD0482 nACRo	4FD0482 ZrN-A	4.8	26.4	31.2	6	70
4FD0492 nACRo	4FD0492 ZrN-A	4.9	27.0	31.9	6	70
4FD0502 nACRo	4FD0502 ZrN-A	5.0	27.5	32.5	6	70
4FD0512 nACRo	4FD0512 ZrN-A	5.1	28.1	33.2	6	80
4FD0522 nACRo	4FD0522 ZrN-A	5.2	28.6	33.8	6	80
4FD0532 nACRo	4FD0532 ZrN-A	5.3	29.2	34.5	6	80
4FD0542 nACRo	4FD0542 ZrN-A	5.4	29.7	35.1	6	80



Position Hole 定位孔



Guide Holes 引導孔

Recommend: Use a position hole or a guide hole in advance. 建議: 使用定位孔或引導孔

- Position Hole: 1xD to 3xD deep drilled to assure consistent and precise holes with long drill, and the guide hole should be bigger around 0.1mm than the diameter of drill.
定位孔: 鑽孔1xD和3xD深孔, 以確保長鑽孔的一致和精確孔, 且定位孔應比鑽頭直徑大0.5mm左右。
- Guide Holes: In order to assure precise hole position, and the guide hole should be bigger around 0.1mm than the diameter of drill.
引導孔: 確保孔位置精度, 且引導孔應比鑽頭直徑大0.1mm左右。

Application 適用材質:

★ Perfect 最推薦 ◎ Excellent 適合 ○ Good 佳

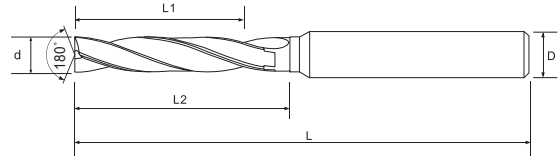
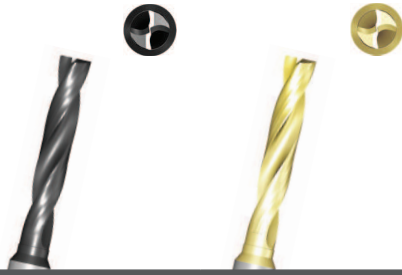
Coating 塗層	Carbon steel, Alloy steel 炭素鋼, 合金鋼	Pre-hardened steel 預硬鋼	High-hardened 高硬度鋼					Stainless steel 不鏽鋼	Cast iron 鑄鐵	Copper alloy 銅合金, 銅	Aluminum alloy 鋁合金	Titanium alloy 鈦合金	Nickel/Inconel alloy 鎳基合金
		~45HRC	~50HRC	~55HRC	~60HRC	~65HRC							
nACRo	◎	○					○	○					
ZrN-A	○						◎	○	○	○	○		

Flat Drill

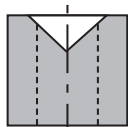
4xD Flat Drill 4FD 平頭鑽



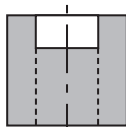
切削
條件表
P180
Cutting Condition



MODE 型號		Dimension 規格				
Coating 塗層		Diameter	Effective Drill Depth	Flute Length	Shank Diameter	Full Length
nACRo	ZrN-A	d 刃徑	L1 有效深度	L2 溝長	D 直徑	L 全長
4FD0552 nACRo	4FD0552 ZrN-A	5.5	30.3	35.8	6	80
4FD0562 nACRo	4FD0562 ZrN-A	5.6	30.8	36.4	6	80
4FD0572 nACRo	4FD0572 ZrN-A	5.7	31.4	37.1	6	80
4FD0582 nACRo	4FD0582 ZrN-A	5.8	31.9	37.7	6	80
4FD0592 nACRo	4FD0592 ZrN-A	5.9	32.5	38.4	6	80
4FD0602 nACRo	4FD0602 ZrN-A	6.0	33.0	39.0	6	80
4FD0612 nACRo	4FD0612 ZrN-A	6.1	33.6	39.7	8	85
4FD0622 nACRo	4FD0622 ZrN-A	6.2	34.1	40.3	8	85
4FD0632 nACRo	4FD0632 ZrN-A	6.3	34.7	41.0	8	85
4FD0642 nACRo	4FD0642 ZrN-A	6.4	35.2	41.6	8	85
4FD0652 nACRo	4FD0652 ZrN-A	6.5	35.8	42.3	8	85
4FD0662 nACRo	4FD0662 ZrN-A	6.6	36.3	42.9	8	85
4FD0672 nACRo	4FD0672 ZrN-A	6.7	36.9	43.6	8	85
4FD0682 nACRo	4FD0682 ZrN-A	6.8	37.4	44.2	8	85
4FD0692 nACRo	4FD0692 ZrN-A	6.9	38.0	44.9	8	85
4FD0702 nACRo	4FD0702 ZrN-A	7.0	38.5	45.5	8	85
4FD0712 nACRo	4FD0712 ZrN-A	7.1	39.1	46.2	8	90
4FD0722 nACRo	4FD0722 ZrN-A	7.2	39.6	46.8	8	90
4FD0732 nACRo	4FD0732 ZrN-A	7.3	40.2	47.5	8	90
4FD0742 nACRo	4FD0742 ZrN-A	7.4	40.7	48.1	8	90
4FD0752 nACRo	4FD0752 ZrN-A	7.5	41.3	48.8	8	90
4FD0762 nACRo	4FD0762 ZrN-A	7.6	41.8	49.4	8	90
4FD0772 nACRo	4FD0772 ZrN-A	7.7	42.4	50.1	8	90
4FD0782 nACRo	4FD0782 ZrN-A	7.8	42.9	50.7	8	90
4FD0792 nACRo	4FD0792 ZrN-A	7.9	43.5	51.4	8	90



Position Hole 定位孔



Guide Holes 引導孔

Recommend: Use a position hole or a guide hole in advance. 建議: 使用定位孔或引導孔

- Position Hole: 1xD to 3xD deep drilled to assure consistent and precise holes with long drill, and the guide hole should be bigger around 0.1mm than the diameter of drill.
定位孔: 鑽孔1xD和3xD深孔, 以確保長鑽孔的一致和精確孔, 且定位孔應比鑽頭直徑大0.5mm左右。
- Guide Holes: In order to assure precise hole position, and the guide hole should be bigger around 0.1mm than the diameter of drill.
引導孔: 確保孔位置精度, 且引導孔應比鑽頭直徑大0.1mm左右。

Application 適用材質:

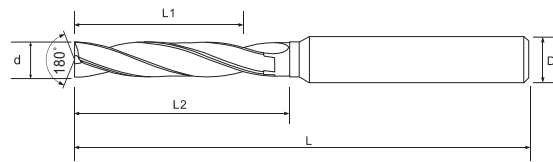
★ Perfect 最推薦 ◎ Excellent 適合 ○ Good 佳

Coating 塗層	Carbon steel, Alloy steel 炭素鋼, 合金鋼	Pre-hardened steel 預硬鋼	High-hardened 高硬度鋼					Stainless steel 不鏽鋼	Cast iron 鑄鐵	Copper alloy 銅合金, 銅	Aluminum alloy 鋁合金	Titanium alloy 鈦合金	Nickel/Inconel alloy 鎳基合金
		~45HRC	~50HRC	~55HRC	~60HRC	~65HRC							
nACRo	◎	○					○	○					
ZrN-A	○						◎	○	○	○	○		

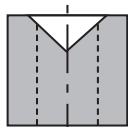
4xD Flat Drill 4FD 平頭鑽



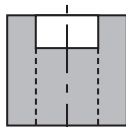
切削條件表 **P180**
Cutting Condition



MODE 型號		Dimension 規格				
Coating 塗層		Diameter	Effective Drill Depth	Flute Length	Shank Diameter	Full Length
nACRo	ZrN-A	d 刃徑	L1 有效深度	L2 溝長	D 直徑	L 全長
4FD0802 nACRo	4FD0802 ZrN-A	8.0	44.0	52.0	8	90
4FD0812 nACRo	4FD0812 ZrN-A	8.1	44.6	52.7	10	100
4FD0822 nACRo	4FD0822 ZrN-A	8.2	45.1	53.3	10	100
4FD0832 nACRo	4FD0832 ZrN-A	8.3	45.7	54.0	10	100
4FD0842 nACRo	4FD0842 ZrN-A	8.4	46.2	54.6	10	100
4FD0852 nACRo	4FD0852 ZrN-A	8.5	46.8	55.3	10	100
4FD0862 nACRo	4FD0862 ZrN-A	8.6	47.3	55.9	10	100
4FD0872 nACRo	4FD0872 ZrN-A	8.7	47.9	56.6	10	100
4FD0882 nACRo	4FD0882 ZrN-A	8.8	48.4	57.2	10	100
4FD0892 nACRo	4FD0892 ZrN-A	8.9	49.0	57.9	10	100
4FD0902 nACRo	4FD0902 ZrN-A	9.0	49.5	58.5	10	100
4FD0912 nACRo	4FD0912 ZrN-A	9.1	50.1	59.2	10	105
4FD0922 nACRo	4FD0922 ZrN-A	9.2	50.6	59.8	10	105
4FD0932 nACRo	4FD0932 ZrN-A	9.3	51.2	60.5	10	105
4FD0942 nACRo	4FD0942 ZrN-A	9.4	51.7	61.1	10	105
4FD0952 nACRo	4FD0952 ZrN-A	9.5	52.3	61.8	10	105
4FD0962 nACRo	4FD0962 ZrN-A	9.6	52.8	62.4	10	105
4FD0972 nACRo	4FD0972 ZrN-A	9.7	53.4	63.1	10	105
4FD0982 nACRo	4FD0982 ZrN-A	9.8	53.9	63.7	10	105
4FD0992 nACRo	4FD0992 ZrN-A	9.9	54.5	64.4	10	105
4FD1002 nACRo	4FD1002 ZrN-A	10.0	55.0	65.0	10	105
4FD1012 nACRo	4FD1012 ZrN-A	10.1	55.6	65.7	12	120
4FD1022 nACRo	4FD1022 ZrN-A	10.2	56.1	66.3	12	120
4FD1032 nACRo	4FD1032 ZrN-A	10.3	56.7	67.0	12	120
4FD1042 nACRo	4FD1042 ZrN-A	10.4	57.2	67.6	12	120



Position Hole 定位孔



Guide Holes 引導孔

Recommend: Use a position hole or a guide hole in advance. 建議: 使用定位孔或引導孔

- Position Hole: 1xD to 3xD deep drilled to assure consistent and precise holes with long drill, and the guide hole should be bigger around 0.1mm than the diameter of drill.
定位孔: 鑽孔1xD和3xD深孔, 以確保長鑽孔的一致和精確, 且定位孔應比鑽頭直徑大0.5mm左右。
- Guide Holes: In order to assure precise hole position, and the guide hole should be bigger around 0.1mm than the diameter of drill.
引導孔: 確保孔位置精度, 且引導孔應比鑽頭直徑大0.1mm左右。

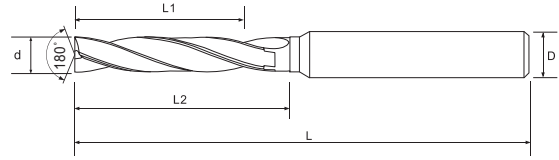
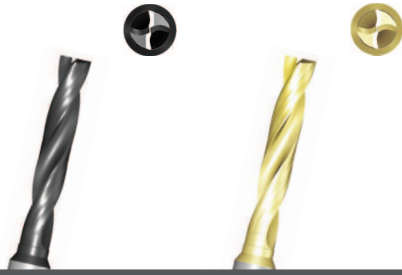
Application 適用材質:

★ Perfect 最推薦 ◎ Excellent 適合 ○ Good 佳

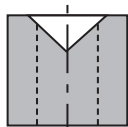
Coating 塗層	Carbon steel, Alloy steel 炭素鋼, 合金鋼	Pre-hardened steel 預硬鋼	High-hardened 高硬度鋼					Stainless steel 不鏽鋼	Cast iron 鑄鐵	Copper alloy 銅合金, 銅	Aluminum alloy 鋁合金	Titanium alloy 鈦合金	Nickel/Inconel alloy 鎳基合金
		~45HRC	~50HRC	~55HRC	~60HRC	~65HRC							
nACRo	◎	○					○	○					
ZrN-A	○						◎	○	○	○	○		

Flat Drill

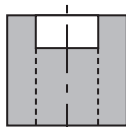
4xD Flat Drill 4FD 平頭鑽



MODE 型號		Dimension 規格				
Coating 塗層		Diameter	Effective Drill Depth	Flute Length	Shank Diameter	Full Length
nACRo	ZrN-A	d 刃徑	L1 有效深度	L2 溝長	D 直徑	L 全長
4FD1052 nACRo	4FD1052 ZrN-A	10.5	57.8	68.3	12	120
4FD1062 nACRo	4FD1062 ZrN-A	10.6	58.3	68.9	12	120
4FD1072 nACRo	4FD1072 ZrN-A	10.7	58.9	69.6	12	120
4FD1082 nACRo	4FD1082 ZrN-A	10.8	59.4	70.2	12	120
4FD1092 nACRo	4FD1092 ZrN-A	10.9	60.0	70.9	12	120
4FD1102 nACRo	4FD1102 ZrN-A	11.0	60.5	71.5	12	120
4FD1112 nACRo	4FD1112 ZrN-A	11.1	61.1	72.2	12	125
4FD1122 nACRo	4FD1122 ZrN-A	11.2	61.6	72.8	12	125
4FD1132 nACRo	4FD1132 ZrN-A	11.3	62.2	73.5	12	125
4FD1142 nACRo	4FD1142 ZrN-A	11.4	62.7	74.1	12	125
4FD1152 nACRo	4FD1152 ZrN-A	11.5	63.3	74.8	12	125
4FD1162 nACRo	4FD1162 ZrN-A	11.6	63.8	75.4	12	125
4FD1172 nACRo	4FD1172 ZrN-A	11.7	64.4	76.1	12	125
4FD1182 nACRo	4FD1182 ZrN-A	11.8	64.9	76.7	12	125
4FD1192 nACRo	4FD1192 ZrN-A	11.9	65.5	77.4	12	125
4FD1202 nACRo	4FD1202 ZrN-A	12.0	66.0	78.0	12	125
4FD1252 nACRo	4FD1252 ZrN-A	12.5	68.8	81.3	14	135
4FD1302 nACRo	4FD1302 ZrN-A	13.0	71.5	84.5	14	135
4FD1352 nACRo	4FD1352 ZrN-A	13.5	74.3	87.8	14	140
4FD1402 nACRo	4FD1402 ZrN-A	14.0	77.0	91.0	14	140
4FD1452 nACRo	4FD1452 ZrN-A	14.5	79.8	94.3	16	150
4FD1502 nACRo	4FD1502 ZrN-A	15.0	82.5	97.5	16	150
4FD1552 nACRo	4FD1552 ZrN-A	15.5	85.3	100.8	16	155
4FD1602 nACRo	4FD1602 ZrN-A	16.0	88.0	104.0	16	155



Position Hole 定位孔



Guide Holes 引導孔

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- Guide Holes: In order to assure precise hole position, and the guide hole should be bigger around 0.1mm than the diameter of drill.
引導孔: 確保孔位置精度, 且引導孔應比鑽頭直徑大0.1mm左右。

Application 適用材質:

★ Perfect 最推薦 ◎ Excellent 適合 ○ Good 佳

Coating 塗層	Carbon steel, Alloy steel 碳素鋼, 合金鋼	Pre-hardened steel 預硬鋼	High-hardened 高硬度鋼					Stainless steel 不鏽鋼	Cast iron 鑄鐵	Copper alloy 銅合金, 銅	Aluminum alloy 鋁合金	Titanium alloy 鈦合金	Nickel/Inconel alloy 鎳基合金
		~45HRC	~50HRC	~55HRC	~60HRC	~65HRC							
nACRo	◎	○					○	○					
ZrN-A	○						◎	○	○	○	○		