

Turbo Drill **VLT**

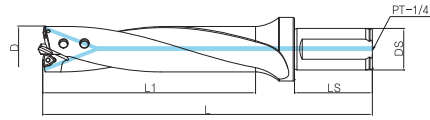


- VLT 드릴 가공 동영상을 보시려면, 오른쪽 QR코드를 스캔하세요.
- Please scan the QR code if you want to see VLT drill testing sample video.



TURBO DRILL

VLT 5×D

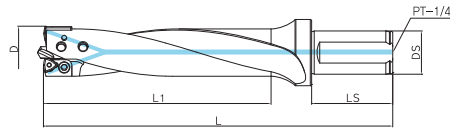


- Shank ISO9766, Parallel with clamping flat

▶ STANDARD TYPE

Code No.	치수 Dimension(mm)					센터드릴 Pilot Drill	인서트 Insert	부품 Component	
	D	L1	L	Ds	Ls			Screw	Wrench
VLT-25050D S32	25	150	240	32	60	PLD-V0630TIN (PLD-C0630TAN)	WCMX030204	TSB-22045	TXL-6
VLT-26050D S32	26								
VLT-27050D S32	27								
VLT-28050D S32	28								
VLT-29050D S32	29								
VLT-30050D S32	30								
VLT-31050D S32	31								
VLT-32050D S32	32								
VLT-33050D S32	33								
VLT-34050D S32	34								
VLT-35050D S32	35								
VLT-36050D S32	36								
VLT-37050D S32	37								
VLT-38050D S32	38								
VLT-39050D S32	39								
VLT-40050D S32	40								

※ ø25~ø40 : 일반형 Standard Type



- Shank ISO9766, Parallel with clamping flat

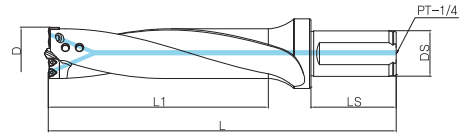
▶ SINGLE INSERT CARTRIDGE TYPE

Shank	Ds	Ls
S40	40	70

Code No.	치수 Dimension(mm)			센터드릴 Pilot Drill	인서트 Insert	부품 Component		카트리지 Cartridge					
	D	L1	L			Screw	Wrench	Inner	Outer				
VLT-414550D S40	41	225	330	PLD-V1035 TIN-H (PLD-C1035 TAN-H)	WCMX 06T308	TSB- 35078	TXL-15	VLC- 410450N	VLC-000410T				
	42												
	43												
	44												
	45												
VLT-465050D S40	46	250	355					PLD-V1238 TIN-H (PLD-C1238 TAN-H)	WCMX 080408	TSB- 40110	TXL-15	VLC- 460500N	VLC-000460T
	47												
	48												
	49												
	50												
VLT-515550D S40	51	275	380	PLD-V1238 TIN-H (PLD-C1238 TAN-H)	WCMX 080408	TSB- 40110	TXL-15	VLC- 510550N	VLC-000510T				
	52												
	53												
	54												
	55												
VLT-565950D S40	56	300	405	PLD-V1238 TIN-H (PLD-C1238 TAN-H)	WCMX 080408	TSB- 40110	TXL-15	VLC- 560590N	VLC-000560T				
	57												
	58												
	59												

※ ø41~ø59 : 1mm단위 개별 카트리지로, 홀더당 가공직경을 최대 5mm까지 조절할 수 있습니다.

※ ø41~ø59 : Adjustable upto 5mm by replacing individual outer cartridge made in 1mm unit.



- Shank ISO9766, Parallel with clamping flat

▶ DUAL INSERT CARTRIDGE TYPE

Shank	Ds	Ls
S40	40	70

Code No.	치수 Dimension(mm)			센터드릴 Pilot Drill	인서트 Insert	부품 Component		카트리지 Cartridge	
	D	L1	L			Screw	Wrench	Inner	Outer
VLT-606550D S40	60~65	325	430	PLD-V1238 TIN-H	WCMX 050308	TSB- 30070	TXL-8	VMC-060065N	VMC-060065T
VLT-657050D S40	65~70	350	455	(PLD-C1238 TAN-H)				VMC-065070N	VMC-065070T
VLT-707550D S40	70~75	375	480					VMC-070075N	VMC-070075T
VLT-758050D S40	75~80	400	505	PLD-V1645 TIN-H	WCMX 06T308	TSB- 35090	TXL-15	VMC-075080N	VMC-075080T

※ $\phi 60 \sim \phi 80$: 외측 카트리지를 커팅하여 직경을 조절합니다.
 ※ $\phi 60 \sim \phi 80$: Cut the outer cartridge and setting.(adjust 5mm)

● VLT 3가지 타입 VLT 3 Types

① VLT A TYPE

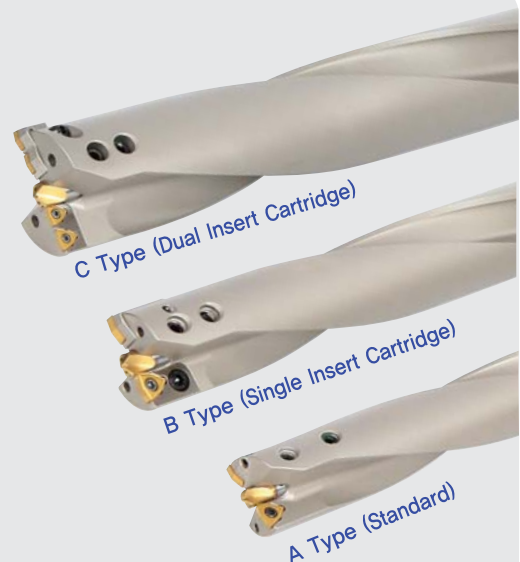
- 기본형 Standard Type
- 드릴인경 Drill diameter : $\phi 25\text{mm} \sim \phi 40\text{mm}$
- 인서트 수량 Insert quantity : 2pcs.

② VLT B TYPE

- 한날 카트리지형 Single Insert Cartridge Type
- 드릴인경 Drill diameter : $\phi 41\text{mm} \sim \phi 59\text{mm}$
- 인서트 수량 Insert quantity : 2pcs.
- 1개의 홀더에 1mm의 단위 개별 카트리지를 체결하여 가공직경을 최대 5mm까지 조절
- Adjustable upto 5mm by replacing individual outer cartridge made in 1mm unit

③ VLT C TYPE

- 두날 카트리지형 Dual Insert Cartridge Type
- 드릴인경 Drill diameter : $\phi 60\text{mm} \sim \phi 80\text{mm}$
- 인서트 수량 Insert quantity : 4pcs.
- 외측 카트리지를 커팅하여 1개의 홀더로 가공직경을 5mm단위로 조절
- Cut the outer cartridge and setting. (adjust 5mm)



● 업그레이드 파일럿드릴(PLD) Upgrade PLD-V type

※ VLT 드릴로 보다 안정적인 드릴링을 위해 'PLD-C'를 사용하는 것을 권장드립니다.
 ※ It's recommended to use 'PLD-C' for more stable drilling when using VLT drill.



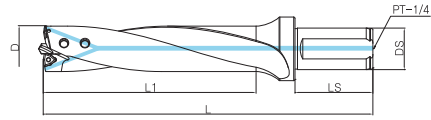
- 기존 PLD 적용 드릴 : TSD, TMD, VMD(MXD)
- Existing PLD-application drill : TSD, VMD(MXD)

- 업그레이드 PLD적용 드릴(호환성이 좋아짐) : TSD, TMD, VLT, VMD(MXD)
- Upgrade PLD-application drill : TSD, VMD(MXD) and VLT

TURBO DRILL

VLT 6.5×D

DRILLING

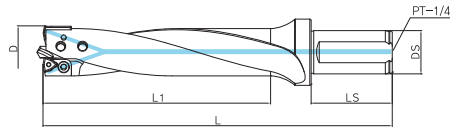


- Shank ISO9766, Parallel with clamping flat

▶ STANDARD TYPE

Code No.	치수 Dimension(mm)					센터드릴 Pilot Drill	인서트 Insert	부품 Component	
	D	L1	L	Ds	Ls			Screw	Wrench
VLT-25065D S32	25	185	275	32	60	PLD-V0630 TIN (PLD-C0630TAN)	WCMX030204	TSB-22045	TXL-6
VLT-26065D S32	26								
VLT-27065D S32	27								
VLT-28065D S32	28								
VLT-29065D S32	29								
VLT-30065D S32	30								
VLT-31065D S32	31								
VLT-32065D S32	32								
VLT-33065D S32	33								
VLT-34065D S32	34								
VLT-35065D S32	35								
VLT-36065D S32	36								
VLT-37065D S32	37								
VLT-38065D S32	38								
VLT-39065D S32	39								
VLT-40065D S32	40								
		218	308			PLD-V0835 TIN (PLD-C0835TAN)	WCMX050308	TSB-30070	TXL-8
				250	340				

※ ø25~ø40 : 일반형 Standard Type



- Shank ISO9766, Parallel with clamping flat

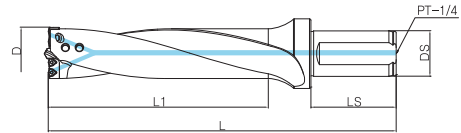
▶ SINGLE INSERT CARTRIDGE TYPE

Shank	Ds	Ls
S40	40	70

Code No.	치수 Dimension(mm)			센터드릴 Pilot Drill	인서트 Insert	부품 Component		카트리지 Cartridge				
	D	L1	L			Screw	Wrench	Inner	Outer			
VLT-414565D S40	41	283	388	PLD-V1035 TIN-H (PLD-C1035 TAN-H)	WCMX 06T308	TSB- 35078	TXL-15	VLC- 410450N	VLC-000410T			
	42											
	43											
	44											
	45											
VLT-465065D S40	46	315	420									VLC-000460T
	47											
	48											
	49											
	50											
VLT-515565D S40	51	348	453	PLD-V1238 TIN-H (PLD-C1238 TAN-H)	WCMX 080408	TSB- 40110	TXL-15	VLC- 510550N	VLC-000510T			
	52											
	53											
	54											
	55											
VLT-565965D S40	56	380	485									VLC-000560T
	57											
	58											
	59											
	59											

※ ø41~ø59 : 1mm단위 개별 카트리지로, 홀더당 가공직경을 최대 5mm까지 조절할 수 있습니다.

※ ø41~ø59 : Adjustable upto 5mm by replacing individual outer cartridge made in 1mm unit.



- Shank ISO9766, Parallel with clamping flat

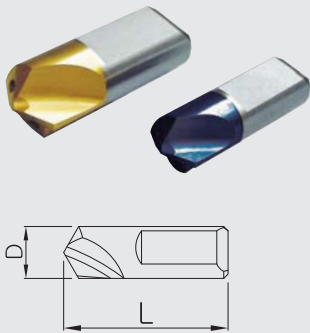
▶ DUAL INSERT CARTRIDGE TYPE

Shank	Ds	Ls
S40	40	70

Code No.	치수 Dimension(mm)			센터드릴 Pilot Drill	인서트 Insert	부품 Component		카트리지 Cartridge	
	D	L1	L			Screw	Wrench	Inner	Outer
VLT-606565D S40	60~65	423	528	PLD-V1238 TIN-H	WCMX 050308	TSB-30070	TXL-8	VMC-060065N	VMC-060065T
VLT-657065D S40	65~70	455	560	(PLD-C1238 TAN-H)				VMC-065070N	VMC-065070T
VLT-707565D S40	70~75	488	593					VMC-070075N	VMC-070075T
VLT-758065D S40	75~80	520	625	PLD-V1645 TIN-H	WCMX 06T308	TSB-35090	TXL-15	VMC-075080N	VMC-075080T

- ※ $\phi 60 \sim \phi 80$: 외측 카트리지를 커팅하여 직경을 조절합니다.
- ※ $\phi 60 \sim \phi 80$: Cut the outer cartridge and setting.(adjust 5mm)

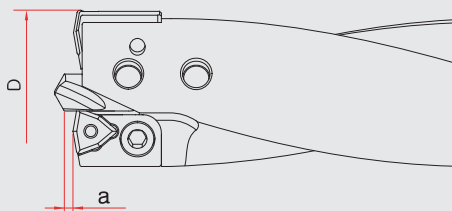
● VLT용 파일럿드릴(PLD) Pilot(PLD) for VLT



Code no.	D	L	Hole	Material / Coating
PLD-V0630TIN	6	30	X	HSS / TiN Coated
PLD-V0835TIN	8	35	X	
PLD-V1035TIN-H	10	35	O	
PLD-V1238TIN-H	12	38	O	
PLD-V1645TIN-H	16	45	O	
PLD-C0630TAN	6	30	X	Carbide / TiAlN Coated
PLD-C0835TAN	8	35	X	
PLD-C1035TAN-H	10	35	O	
PLD-C1238TAN-H	12	38	O	

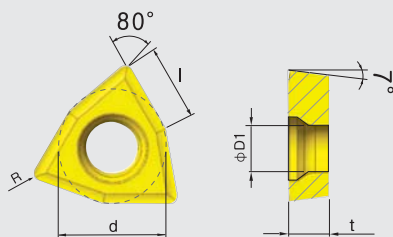
- 보다 안정적인 드릴링을 위해서 초경PLD(PLD-C) 사용을 권장드립니다.
- It's recommendable to use PLD-C for safer drilling.

● 파일럿드릴(PLD) 셋팅높이 Pilot drill(PLD) setting



Drill dia. (ϕ)	a		
	non-alloy steels	alloy steels	non-ferrous metal
25-30	1.2	1	1.5
31-40	1.5	1.3	1.8
41-50	1.8	1.5	2.2
51-59	2.2	1.8	2.5
60-75	2.5	2	2.8
75-80	3	2.5	3.5

● VLT용 인서트 The Insert for VLT-DRILL

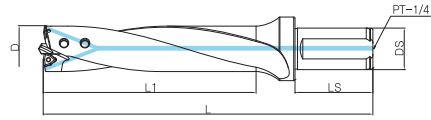


Code No.	치수 Dimension(mm)				
	R	d	D1	t	l
WCMX030204	0.4	5.56	2.5	2.38	3.8
WCMX040204	0.4	6.35	2.8	2.38	4.3
WCMX050308	0.8	7.94	3.4	3.18	5.4
WCMX06T308	0.8	9.525	4.4	3.97	6.5
WCMX080408	0.8	12.7	5.5	4.76	8.7

- 위 규격과 다른 인서트를 사용하면 인서트 스크류가 인서트보다 튀어나오거나, 가공경이 작아질 수 있습니다.
- If you use different inserts not from the above table, insert screw could be sticking out or the machining size could be smaller.

TURBO DRILL

VLT 8×D

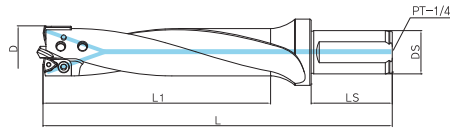


- Shank ISO9766, Parallel with clamping flat

▶ STANDARD TYPE

Code No.	치수 Dimension(mm)					센터드릴 Pilot Drill	인서트 Insert	부품 Component	
	D	L1	L	Ds	Ls			Screw	Wrench
VLT-25080D S32	25	220	310	32	60	PLD-V0630 TIN (PLD-C0630TAN)	WCMX030204	TSB-22045	TXL-6
VLT-26080D S32	26								
VLT-27080D S32	27								
VLT-28080D S32	28								
VLT-29080D S32	29								
VLT-30080D S32	30								
VLT-31080D S32	31								
VLT-32080D S32	32								
VLT-33080D S32	33								
VLT-34080D S32	34								
VLT-35080D S32	35								
VLT-36080D S32	36								
VLT-37080D S32	37								
VLT-38080D S32	38								
VLT-39080D S32	39								
VLT-40080D S32	40								

※ ø25~ø40 : 일반형 Standard Type



- Shank ISO9766, Parallel with clamping flat

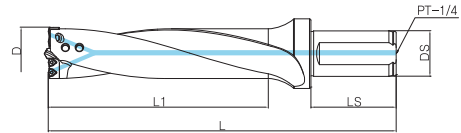
▶ SINGLE INSERT CARTRIDGE TYPE

Shank	Ds	Ls
S40	40	70

Code No.	치수 Dimension(mm)			센터드릴 Pilot Drill	인서트 Insert	부품 Component		카트리지 Cartridge					
	D	L1	L			Screw	Wrench	Inner	Outer				
VLT-414580D S40	41	340	445	PLD-V1035 TIN-H (PLD-C1035 TAN-H)	WCMX 06T308	TSB- 35078	TXL-15	VLC- 410450N	VLC-000410T				
	42												
	43												
	44												
	45												
VLT-465080D S40	46	380	485					PLD-V1238 TIN-H (PLD-C1238 TAN-H)	WCMX 080408	TSB- 40110	TXL-15	VLC- 460500N	VLC-000460T
	47												
	48												
	49												
	50												
VLT-515580D S40	51	420	525	PLD-V1238 TIN-H (PLD-C1238 TAN-H)	WCMX 080408	TSB- 40110	TXL-15	VLC- 510550N	VLC-000510T				
	52												
	53												
	54												
	55												
VLT-565980D S40	56	460	565	PLD-V1238 TIN-H (PLD-C1238 TAN-H)	WCMX 080408	TSB- 40110	TXL-15	VLC- 560590N	VLC-000560T				
	57												
	58												
	59												
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※ ø41~ø59 : 1mm단위 개별 카트리지로, 홀더당 가공직경을 최대 5mm까지 조절할 수 있습니다.

※ ø41~ø59 : Adjustable upto 5mm by replacing individual outer cartridge made in 1mm unit.



- Shank ISO9766, Parallel with clamping flat

▶ DUAL INSERT CARTRIDGE TYPE

Shank	Ds	Ls
S40	40	70

Code No.	치수 Dimension(mm)			센터드릴 Pilot Drill	인서트 Insert	부품 Component		카트리지 Cartridge	
	D	L1	L			Screw	Wrench	Inner	Outer
VLT-606565D S40	60~65	520	625	PLD-V1238 TIN-H (PLD-C1238 TAN-H)	WCMX 050308	TSB- 30070	TXL-8	VMC-060065N	VMC-060065T
VLT-657065D S40	65~70	560	665					VMC-065070N	VMC-065070T
VLT-707565D S40	70~75	600	705					VMC-070075N	VMC-070075T
VLT-758065D S40	75~80	640	745	PLD-V1645 TIN-H	WCMX 06T308	TSB- 35090	TXL-15	VMC-075080N	VMC-075080T

※ ø60~ø80 : 외측 카트리지를 커팅하여 직경을 조절합니다.
 ※ ø60~ø80 : Cut the outer cartridge and setting.(adjust 5mm)

Corn Point System

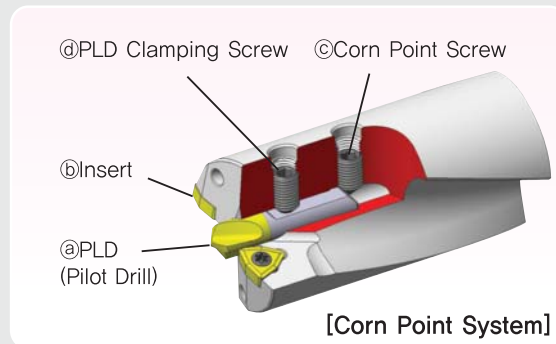
▣ 콘포인트 시스템 특징

- (1) PLD높이를 빠르고 쉽게 조절할 수 있다
- (2) PLD를 빼 내야 할 경우, 콘포인트볼트를 이용해 쉽게 제거할 수 있다.
- (3) 가공시 진동발생이 발생해도 볼트가 풀리지 않아 PLD가 뒤로 밀리는 현상이 없다.

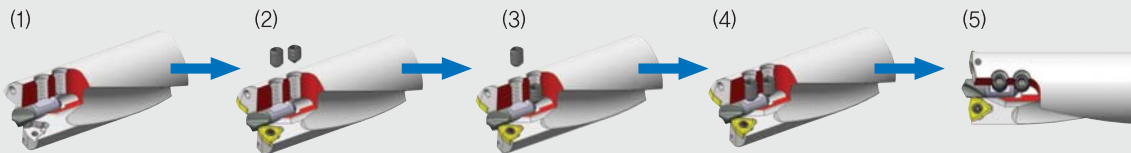
▣ Corn Point System Characteristic

- (1) It is fast and easy to adjust hight, when you insert the PLD on the drill.
- (2) The PLD is broken while you use, you can remove of the corn-point-screw.
- (3) Even if vibration occurs while processing, bolt will not be loosen so that PLD won't be pushed back into the drill.

Anti-Vibration! Anti-Loose!



▣ 조립순서(VLT,FXD) How to use (VLT, FXD)

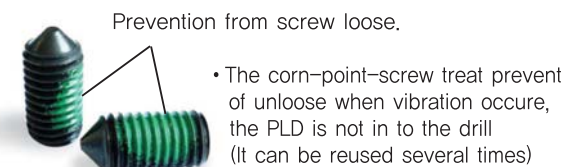


- (1) 먼저 @PLD를 삽입한다.
- (2) 인서트 (또는 카트리지)를 클램핑한다.
- (3) 콘포인트 볼트로 PLD높이를 알맞게 맞춘다.
- (4) PLD 클램핑볼트로 강하게 조여준다.
- (5) 콘포인트 볼트로 다시한번 강하게 조여 유격을 없앤다.

- (1) First, The @PLD insert to Hole.
- (2) Locking the @Insert, (Cartridge+Insert)
- (3) The @PLD hight control as the @corn-point-screw
- (4) @PLD-Clamping-screw tightly.
- (5) Clamping of @Corn-point-screw tightly again.

(※Important!)

[Corn Point System]



● TURBO 드릴(VLT,VSD,TMD)의 특징 TURBO DRILL(VLT,VSD,TMD)CHARACTERISTIC

- 1) 가공직경의 5배 이상의 길이를 떨림 없이 고속으로 드릴링 할 수 있습니다.
Turbo drill can drill with high speed without shaking for the length over 5times of the drill diameter.
- 2) 가공직경의 최대 8배까지 부드럽게 작업할 수 있습니다.
This drill can drill smoothly the max length 8times from diameter
- 3) 특히, 선반에서의 대구경 가공시 떨림과 인서트 깨짐현상 없이 드릴링 됩니다.
(선반에서 $\phi 40$ 이상 가공시엔 High Speed Drill보다는 Turbo Drill이나 Max Drill을 권장합니다.
Especially, the big diameter drilling done without insert broken at the lathe.
(When drilling over $\phi 40$ at the lathe, we recommend Turbo Drill or Max Drill then High Speed Drill.)

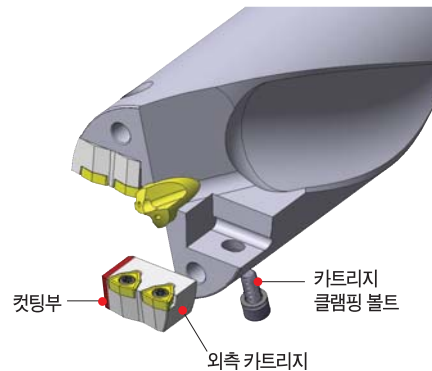
● VLT(VSD)1날 카트리지 타입 가공경 셋팅방법 THE DIAMETER SETTING PROCEDURES OF THE VLT(VSD)SINGLE INSERT CARTRIDGE TYPE

- 1) VLT 1날 카트리지 타입은 개별 카트리지(1mm 단위)로 공급됩니다.
VLT Single cartridge type is supplied it individual cartridge by 1mm unit.
- 2) 드릴 바디를 확인(셋팅 범위)하시고, 원하시는 외측 개별 카트리지를 바디에 장착하시면 간단히 셋팅 완료됩니다.
Make sure of the setting range of the drill body and adhere an outer cartridge to the drill body.

Example VLT-465050D를 $\phi 48$ 로 셋팅한다면,
VLC-000480T(외측 카트리지)를 드릴 바디의 외측 카트리지부에 장착합니다.
If setting VLT-465050D to $\phi 48$ set
Adhere VLC-000480T(outer cartridge)to the outer cartridge putting place of the drill body.

● VLT(VSD, VMD)2날 카트리지 타입 가공경 셋팅방법 THE DIAMETER SETTING PROCEDURES OF THE VLT(VSD, VMD)DUAL INSERT CARTRIDGE TYPE

- 1) 외측카트리지를 카트리지 클램핑 볼트를 풀어 바디에서 이탈 시킵니다.
Loosen the clamping bolt of the outer cartridge and remove it from the drill body
- 2) 외측 카트리지의 측면 밀착부를 가공하려는 직경을 계산하여 밀링작업을 합니다.
Cut off the inside part, the contacted side of the outer cartridge by milling after calculating the drilling diameter
- 3) 컷팅된 외측카트리지의 날카로운 모서리면을 모따기 처리합니다.
Slick the sharp corner of the cut cartridge.
- 4) 외측카트리지를 틈이 발생되지 않도록 바디에 밀착시키면서 카트리지 클램핑 볼트로 단단히 고정합니다.
Put the cartridge closely to the drill body in order not to make any gap, and fix the cartridge with bolt tightly.



Example VLT-657080D를 $\phi 66$ 로 셋팅한다면,
기본직경은 $\phi 70$ 이므로 $\phi 70 - \phi 66 = 4 \rightarrow 4 \div 2 = 2$ (반지름으로 계산) 2mm컷팅합니다.
If setting VLT-657080D to $\phi 66$ set
The standard drill diameter is $\phi 70$ so $\phi 70 - \phi 66 = 4 \rightarrow 4 \div 2 = 2$ (calculation by semidiameter)
2mm is cut off.