THE NEW VALUE FRONTIER

KYOCERA

신개념 보링바 New Boring Bar

다이나믹바 Dynamic Bar

유선형의 다이나믹 디자인으로
AeroDynamic Design for

- 우수한 칩배출성능을 발휘
  Improved chip evacuation
- 떨림을 억제하여 안정가공을 실현
  Reduced chattering
  Stable machining

유선형의 다이나믹 디자인
AeroDynamic Design

우수한 칩배출성과 높은 홀더 강성
Improved Chip Control and
High Rigidity

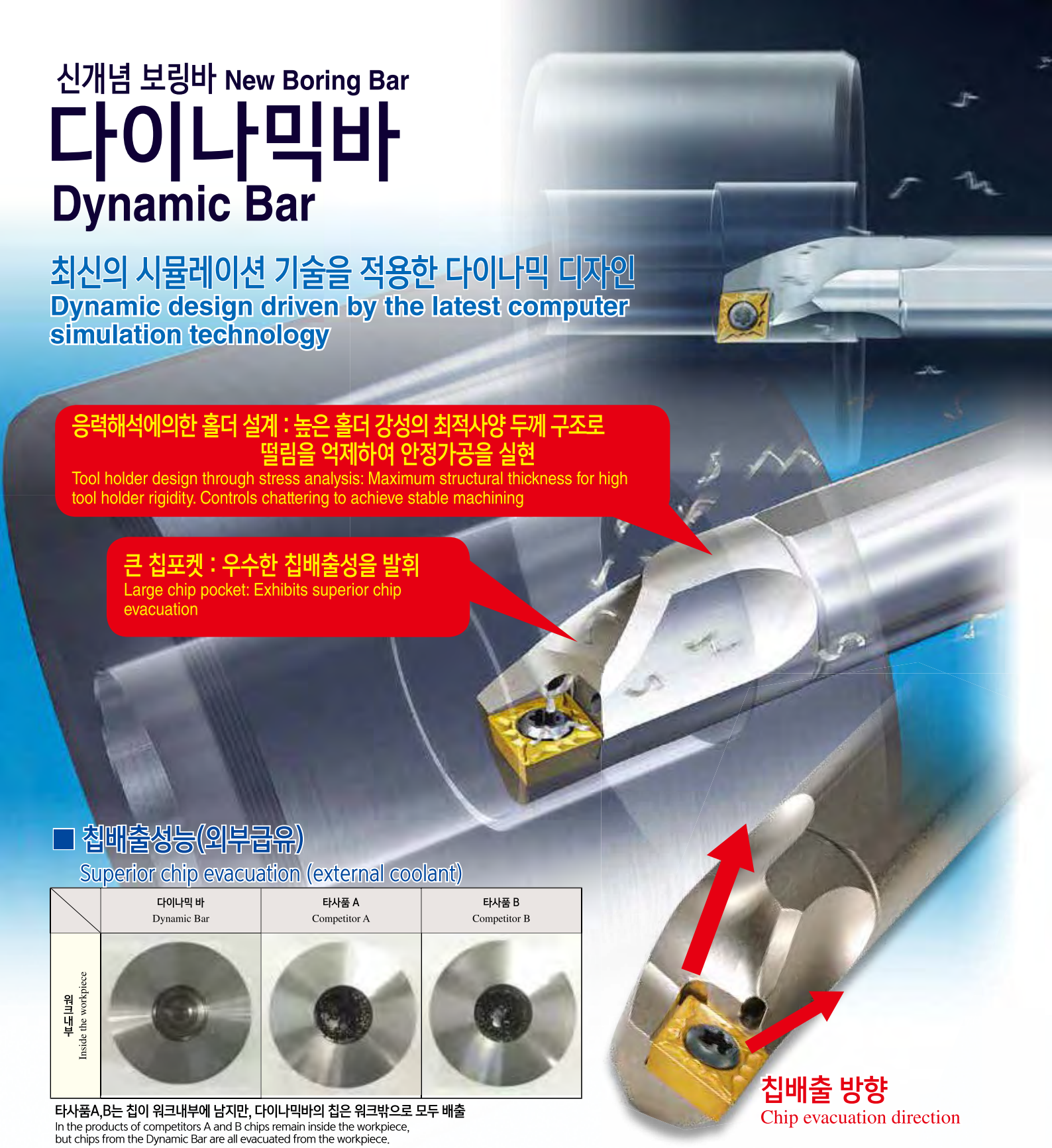
ADVANCING PRODUCTIVITY

생산성 향상에 기여하는 교세라

신개념 보링바 New Boring Bar

다이나믹바
Dynamic Bar

최신의 시뮬레이션 기술을 적용한 다이나믹 디자인
Dynamic design driven by the latest computer simulation technology



응력해석에의한 홀더 설계 : 높은 홀더 강성의 최적사양 두께 구조로 떨림을 억제하여 안정가공을 실현

Tool holder design through stress analysis: Maximum structural thickness for high tool holder rigidity. Controls chattering to achieve stable machining

큰 칩포켓 : 우수한 칩배출성을 발휘

Large chip pocket: Exhibits superior chip evacuation

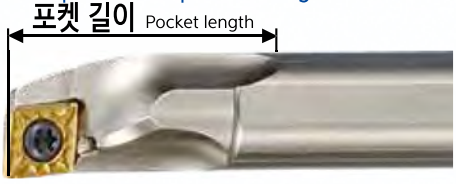
■ 칩배출성능(외부급유)
Superior chip evacuation (external coolant)

	다이나믹 바 Dynamic Bar	타사품 A Competitor A	타사품 B Competitor B
워크내부 Inside the workpiece			

타사품A,B는 칩이 워크내부에 남지만, 다이나믹바의 칩은 워크밖으로 모두 배출

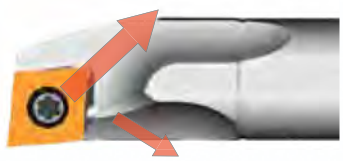
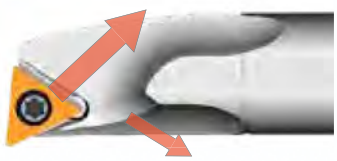
In the products of competitors A and B chips remain inside the workpiece, but chips from the Dynamic Bar are all evacuated from the workpiece.

■ 포켓길이 비교
Comparison of pocket length



규격 Item/Description	포켓 길이 Pocket length	
	다이나믹 바 Dynamic Bar	타사품 A Competitor A
A16-SCLPR09-18 Type	37	29
A20-SCLCR09-22 Type	48	32

■ 칩배출 방향 Chip evacuation direction

SCLC(P)타입 (SCLC(P)-type)	STLB(P)타입 STLB(P)-type
	

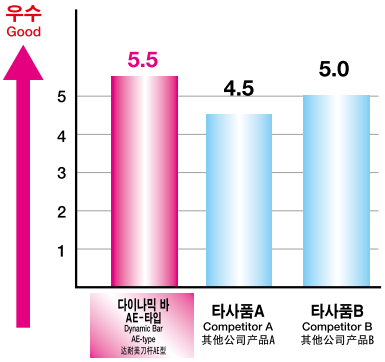
주로 인선의 배면측으로 칩을 흘려 배출을 촉진 Better evacuation by backward chip flow

우수한 칩배출 성능을 실현하는 다이나믹바
The Dynamic Bar achieves superior chip evacuation

응력해석 기술과 특수 합금홀더의 조합이 높은 강성과 떨림없는 가공을 실현. 우수한 면조도와 치수정도를 확보

High rigidity and chattering resistance are ensured through the use of a special alloy and stress analysis technology. Previously unattained surface finish and dimensional accuracy are now achieved.

■ 떨림성능 비교 Anti chatter vibration performance

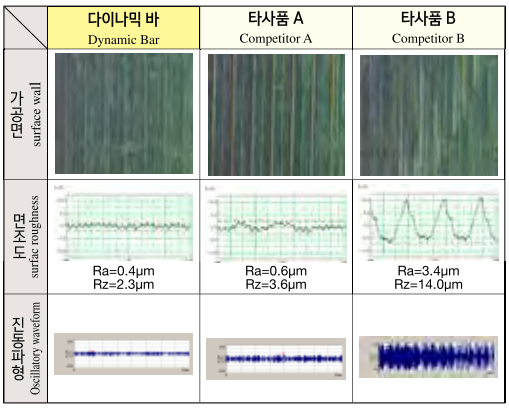


절삭조건 (cutting conditions)
SCM415
Vc=150m/min
ap=0.5mm
f=0.1mm/rev
S16-SCLPR09type
CPMH090304L-Y

■ 면조도 비교 Comparison of surface finish

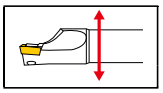
다이나믹바는 절삭속도가 높아도 진동없이 안정가공이 가능

Vibration of the dynamic bar was minimal even at high cutting speeds, enabling stable machining.



절삭조건 (cutting conditions)
SCM415
Vc=210m/min
ap=0.5mm
f=0.1mm/rev
A16Q-SCLPR09-18타입(type)
CPMT090304XP(PV7020)
L/D=4
외부급유 (External coolant)

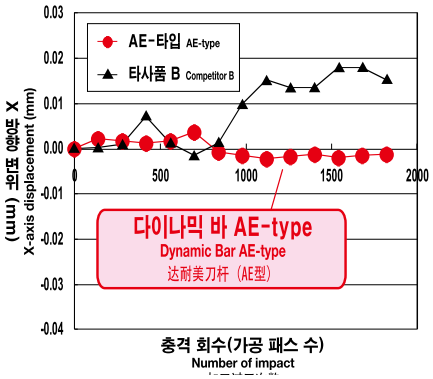
진동 측정방향
Direction of vibration measurement



■ 인선위치 정도 Cutting Point Precision

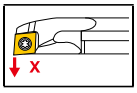
다이나믹바AE타입은 특수합금의 적용에 의해 높은 인선위치정도와 고정도가공을실현

In particular, the AE type Dynamic Bar maintains high cutting edge positional accuracy through the use of a special alloy, thereby achieving high precision machining.



절삭조건 (cutting conditions)
SCM435
Vc=180m/min, ap=2mm
f=0.2mm/rev
S/A16Q-SCLPR09-18type
CPMH090308(CA5525)
L/D=4
외부급유 (External coolant)

측정 방향
Direction of vibration measurement



■ 홀더 레파토리 Toolholder Lineup

엑설런트바(AE타입) Excellent Bar(AE type)

쿨런트홀(내부급유 방식)
(A..AE)타입은 칩배출성이 더욱 우수

Excellent Bar with coolant hole (internal coolant) provides better chip evacuation

강샹크 Steel Bar

경제적인 강샹크 홀더
(쿨런트홀 없음)도 레파토리화

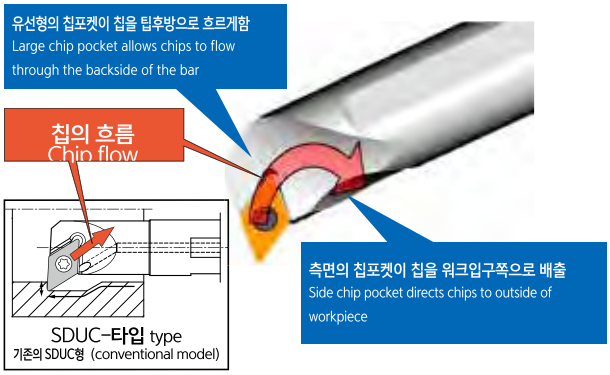
The steel shank bar (without coolant hole) provides superior cost performance

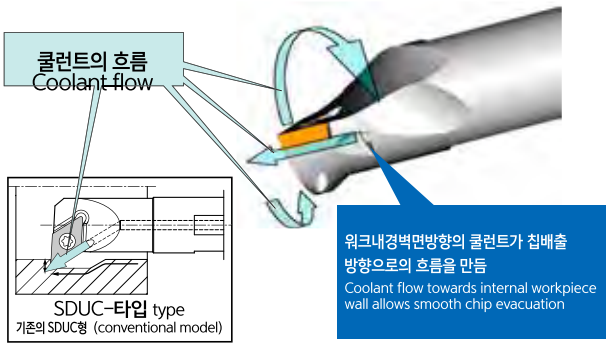
■ SDUC형 다이나믹바의 특징 Advantages of Dynamic Bar SDUC

칩의 흐름을 중시한 새로운 설계, 새로운 발상
New design and concept focusing on chip evacuation

신설계 New design 효율적인 칩배출의 포켓구조
Streamlined pocket provides effective chip evacuation

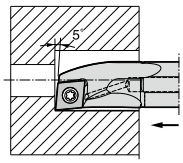
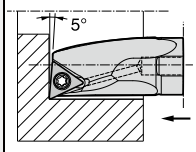
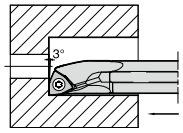
신발상 New design 워크내경 벽면을 타겟으로 한 쿨런트 구조
Coolant flows toward workpiece internal wall



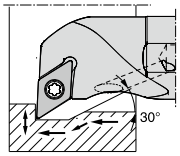
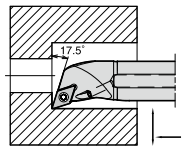
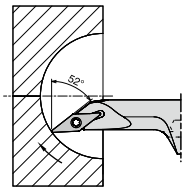
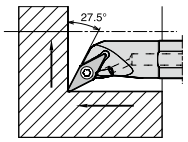
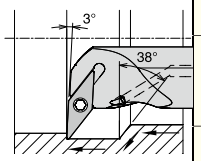
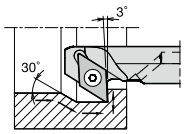
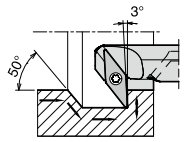


레파토리 일람 Product Lineup

다이나믹바 Dynamic Bar

가공형태 Application	개 관 형 상 Overview Shape	홀더 타입 Boring Bar Type	샹크 타입 Shank Type 최대 돌출량 Max. Overhang Length (L/D)	쿨런트홀 Coolant Hole		최소 가공경 ØA Min. Bore Dia. øA																					홀더 참조 페이지 Refer Page for Toolholder
				유	무	5	6	7	8	10	12	13	14	16	18	20	22	23	25	26	27	30	31	32	34	40	50	
내경·깊은 단면가공 Boring / Internal Facing		A...SCLC-AE	엑셀런트 Excellent L/D = ~5.5	●						●	●		●		●		●				●							P5
		S...SCLC-AE	엑셀런트 Excellent L/D = ~5.5		○	●	●	●	●																			
		S...SCLC-A	강 Steel L/D = ~4		○					●	●		●		●		●				●							
		C...SCLC-A	초경 Carbide L/D = ~7		○	●	●	●	●																			
		E...SCLC-A	초경 Carbide L/D = ~7	●						●	●		●		●		●				●							
		A...SCLP-AE	엑셀런트 Excellent L/D = ~5.5	●							●		●	●	●		●				●							P6
		S...SCLP-A	강 Steel L/D = ~4		○						●		●	●	●		●				●							
		E...SCLP-A	초경 Carbide L/D = ~7	●							●		●		●		●				●							
		E...STLP-A	초경 Carbide L/D = ~7	●						●	●		●		●		●				●							P12
		C...STLB-A			○				●																			
		A...STLP-AE	엑셀런트 Excellent L/D = ~5.5	●						●	●		●		●		●				●							
		S...STLB-AE			○				●																			
		S...STLB(P)-A	강 Steel L/D = ~4		○				●	●	●		●		●		●				●							
		A...STLC-AE	엑셀런트 Excellent L/D = ~5.5	●						●	●		●		●		●											P10
		S...STLC-A	강 Steel L/D = ~4		○					●	●		●		●		●											
내경가공 Boring		S...SWUB(P)-A	강 Steel L/D = ~4		○		●	●	●	●	●		●		●		●											P18
		S...SWUB-AE	엑셀런트 Excellent L/D = ~5.5		○		●	●	●																			
		A...SWUB(P)-AE	엑셀런트 Excellent L/D = ~5.5	●						●	●		●		●		●											
		C...SWUB-A	초경 Carbide L/D = ~7		○		●	●	●																			P19
		E...SWUB(P)-A	초경 Carbide L/D = ~7	●						●	●		●		●		●											

다이나믹바 Dynamic Bar

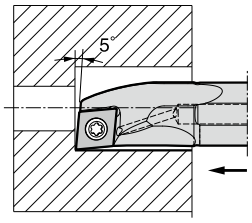
가공형태 Application	개 관 형 상 Overview Shape	홀더 타입 Boring Bar Type	샹크 타입 Shank Type 최대 돌출량 Max. Overhang Length (L/D)	쿨런트홀 Coolant Hole 유	쿨런트홀 Coolant Hole 무	최소 가공경 ØA Min. Bore Dia. øA 5	6	7	8	10	12	13	14	16	18	20	22	23	25	26	27	30	31	32	34	40	50	홀더 찾아보기 페이지 Refer Page for Toolholder
모방가공 Copying		A...SDUC-AE	엑셀런트 Excellent L/D = ~5.5	●									●	●		●		●			●			●				P7
		S...SDUC-A	강 Steel L/D = ~4		○								●	●		●		●			●			●				
		E...SDUC-A	초경 Carbide L/D = ~7	●									●	●		●		●			●			●				
		A...SDQC-AE	엑셀런트 Excellent L/D = ~5.5	●								●		●		●			●			●						P8
		S...SDQC-A	강 Steel L/D = ~4		○							●		●		●			●			●						
		E...SDQC-A	초경 Carbide L/D = ~7	●								●		●		●			●			●						
		A...SVJB(C)-AE	엑셀런트 Excellent L/D = ~5.5	●										●		●			●			●				●	●	P13
		A...SVJP-AE		●										●														
		S...SVJB(C)-A	강 Steel L/D = ~4		○									●		●			●			●				●	●	
		S...SVJP-A			○									●														
		A...SVPB(C)-AE	엑셀런트 Excellent L/D = ~5.5	●									●		●		●			●			●			●		P15
		S...SVPB(C)-A	강 Steel L/D = ~4		○								●		●		●			●			●			●		
		E...SVPB(C)-A	초경 Carbide L/D = ~7	●									●		●		●			●			●					
		A...SVUB(C)-AE	엑셀런트 Excellent L/D = ~5.5	●										●		●			●						●	●		P16
		S...SVUB(C)-A	강 Steel L/D = ~4		○									●		●			●						●	●		
		E...SVUB(C)-A	초경 Carbide L/D = ~7	●											●				●			● 29			●			
모방(백)가공 Back Copying		A...SDZC-AE	엑셀런트 Excellent L/D = ~5.5	●									●	●		●		●			●			●				P9
		S...SDZC-A	강 Steel L/D = ~4		○								●	●		●		●			●			●				
		E...SDZC-A	초경 Carbide L/D = ~7	●									●	●		●		●			●							
		A...SVZB(C)-AE	엑셀런트 Excellent L/D = ~5.5	●										●		●			●						●	●		P17
		S...SVZB(C)-A	강 Steel L/D = ~4		○									●		●			●						●	●		

홀더 타입에 따라서 최소 가공경 ØA 는 ●표시 아래 숫자의 경이 됩니다 .

Min.Bore Dia. øA is indicated by the figure under ● depending on the boring bar size.

A/S-SCLC-AE형 엑셀런트바 (내경·깊은 단면가공) Excellent Bar (Boring / Internal Facing)

최대 돌출량 L/D=~5.5 Max. Overhang Length L/D=~5.5



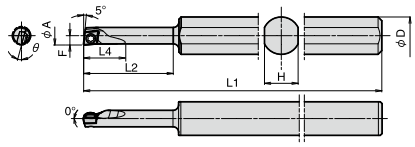


그림-1 Fig.1

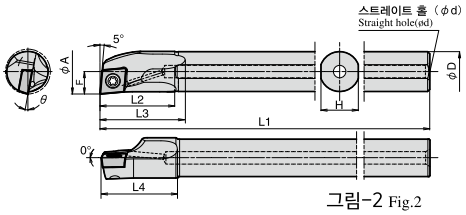


그림-2 Fig.2

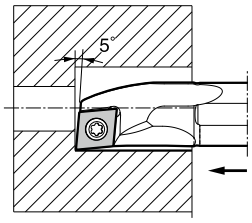
샹크경 ØD Shank Dia. øD	스트레이트 홀경Ød Straight hole Dia. ød
Ø8	Ø2.5
Ø10	Ø3
Ø12	Ø4
Ø16	Ø5
Ø20	
Ø25	

• 본 그림은 우승수 (R) 를 나타냅니다 . Right-hand Shown

우승수 (R) 홀더에는 좌승수 (L) 팁 , 좌승수 (L) 홀더에는 우승수 (R) 팁이 적합합니다 .
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

S-SCLC-A형 강바 (내경·깊은 단면가공) Steel Bar (Boring / Internal Facing)

최대 돌출량 L/D=~4 Max. Overhang Length L/D=~4



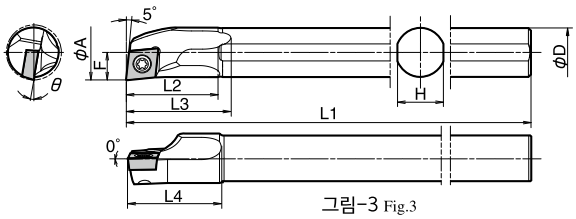


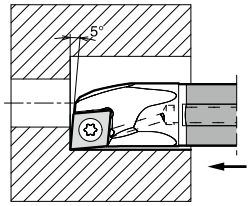
그림-3 Fig.3

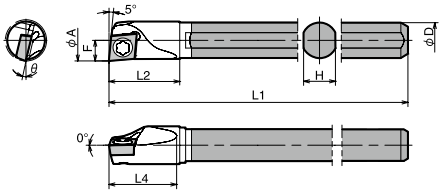
• 본 그림은 우승수 (R) 를 나타냅니다 . Right-hand Shown

우승수 (R) 홀더에는 좌승수 (L) 팁 , 좌승수 (L) 홀더에는 우승수 (R) 팁이 적합합니다 .
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

C/E-SCLC-A형 초경 방진바 (내경·깊은 단면가공) Carbide Shank Bar (Boring / Internal Facing)

최대 돌출량 L/D=~7 Max. Overhang Length L/D=~7





C04G-SCLC ℄03-05A만 2°

그림-4 Fig.4

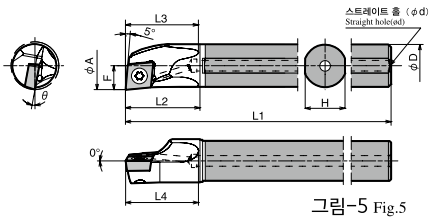


그림-5 Fig.5

샹크경 ØD Shank Dia. øD	스트레이트 홀경Ød Straight hole Dia. ød
Ø8	Ø3
Ø10	
Ø12	Ø4
Ø16	
Ø20	Ø6
Ø25	

• 본 그림은 우승수 (R) 를 나타냅니다 . Right-hand Shown

우승수 (R) 홀더에는 좌승수 (L) 팁 , 좌승수 (L) 홀더에는 우승수 (R) 팁이 적합합니다 .
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

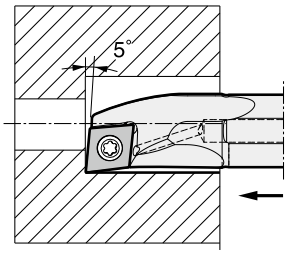
● 홀더 치수 Toolholder Dimensions

규격 Description		재고 Stock R	재고 Stock L	최소 가공경 Min. Bore Dia. ØA	치수 (mm) Dimension ØD	H	L1	L2	L3	L4	F	θ	기준코너R (rε) Std. Corner-R (rε)	쿨런트홀 Coolant Hole	형상 Shape	부품 Spare Parts 클램프 스크류 Clamp Screw	렌치 Wrench	적합 팁 Applicable Inserts
엑셀런트바 Excellent Bar	S10H-SCLC&03-05AE	●	●	5	10	9	100	24	–	11	2.5	15°	0.2	무 No	그림-1 Fig.1	SB-1635TR	FT-6	CC..0301..
	S10H-SCLC&03-06AE	●	●	6				28		13	3	13°						
	S10H-SCLC&04-07AE	●	●	7				32		15	3.5					SB-2035TR		CC..0401..
	S10H-SCLC&04-08AE	●	●	8				37		15	4	11°						
	A08X-SCLC&06-10AE	●	●	10	8	7	120	16	20	17	5	14°	0.4	유 Yes	그림-2 Fig.2	SB-2545TR	FT-8	CC..0602..
	A10L-SCLC&06-12AE	●	●	12	10	9	140	20	25	21	6	12°						
	A12M-SCLC&06-14AE	●	●	14	12	11	150	24	30	25	7	10°						
	A16Q-SCLC&09-18AE	●	●	18	16	15	180	30	34	31	9					SB-4065TR	FT-15	CC..09T3..
	A20R-SCLC&09-22AE	●	●	22	20	19	200	36	49	37	11	8°						
	A25S-SCLC&09-27AE	●	●	27	25	24	250	46	55	46	13.5	6°						
강 Steel	S08X-SCLC&06-10A	●	●	10	8	7	120	16	20	17	5	14°	0.4	무 No	그림-3 Fig.3	SB-2545TR	FT-8	CC..0602..
	S10L-SCLC&06-12A	●	●	12	10	9	140	20	25	21	6	12°						
	S12M-SCLC&06-14A	●	●	14	12	11	150	24	30	25	7	10°						
	S16Q-SCLC&09-18A	●	●	18	16	15	180	30	34	31	9	10°				SB-4065TR	FT-15	CC..09T3..
	S20R-SCLC&09-22A	●	●	22	20	19	200	36	49	37	11	8°						
	S25S-SCLC&09-27A	●	●	27	25	24	250	46	55	46	13.5	6°						
초경 Carbide	C04G-SCLC&03-05A	●	●	5	4	3.8	90	9	–	8	2.5	15°	0.2	무 No	그림-4 Fig.4	SB-1635TR	FT-6	CC..0301..
	C05H-SCLC&03-06A	●	●	6	5	4.4	100	11		11	3	13°						
	C06J-SCLC&04-07A	●	●	7	6	5.4	110	12		12	3.5	13°				SB-2035TR		CC..0401..
	C07K-SCLC&04-08A	●	●	8	7	6.4	125	13		13	4	11°						
	E08L-SCLC&06-10A	●	●	10	8	7	140	16	15	15	5	14°	0.4	유 Yes	그림-5 Fig.5	SB-2545TR	FT-8	CC..0602..
	E08L-SCLC&06-10A-2/3	●					90											
	E10N-SCLC&06-12A	●	●	12	10	9	160	20	19	19	6	12°						
	E10N-SCLC&06-12A-2/3	●					105											
	E12Q-SCLC&06-14A	●	●	14	12	11	180	23	22	22	7	10°						
	E12Q-SCLC&06-14A-2/3	●					120											
	E16X-SCLC&09-18A	●	●	18	16	15	220	28	27	27	9	10°				SB-4065TR	FT-15	CC..09T3..
	E16X-SCLC&09-18A-2/3	●					145											
	E20S-SCLC&09-22A	●	●	22	20	19	250	32	31	31	11	8°						
	E20S-SCLC&09-22A-2/3	●					165											
	E25T-SCLC&09-27A	●	●	27	25	24	300	38	37	37	13.5	6°						
	E25T-SCLC&09-27A-2/3	●					200											

●: 표준재고 ●: Std. Stock

▦A-SCLP-AE형 엑셀런트바 (내경·깊은 단면가공) Excellent Bar (Boring / Internal Facing)

최대 돌출량 L/D=~5.5 Max. Overhang Length L/D=~5.5



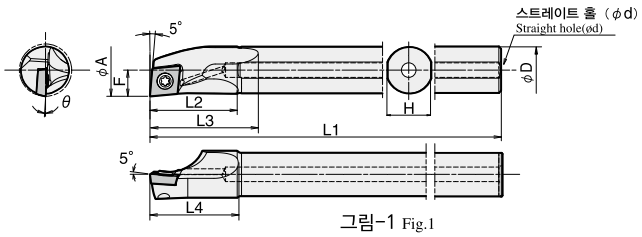


그림-1 Fig.1

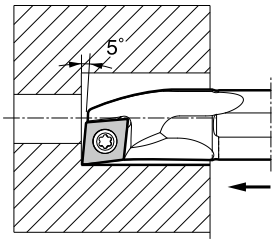
샹크경 ØD Shank Dia. øD	스트레이트 홀경Ød Straight hole Dia. ød
Ø10	Ø3
Ø12	Ø4
Ø16	Ø5
Ø20	
Ø25	

• 본 그림은 우승수 (R) 를 나타냅니다.
Right-hand Shown

우승수 (R) 홀더에는 좌승수 (L) 팁, 좌승수 (L) 홀더에는 우승수 (R) 팁이 적합합니다.
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

▦S-SCLP-A형 강바 (내경·깊은 단면가공) Steel Bar (Boring / Internal Facing)

최대 돌출량 L/D=~4 Max. Overhang Length L/D=~4



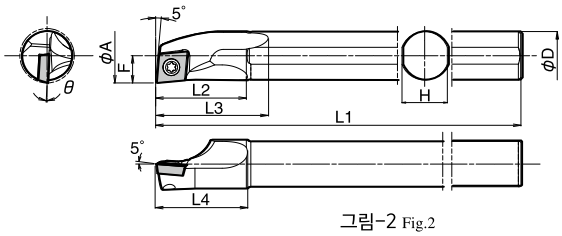


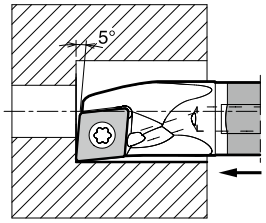
그림-2 Fig.2

• 본 그림은 우승수 (R) 를 나타냅니다.
Right-hand Shown

우승수 (R) 홀더에는 좌승수 (L) 팁, 좌승수 (L) 홀더에는 우승수 (R) 팁이 적합합니다.
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

▦E-SCLP-A형 초경 방진바 (내경·깊은 단면가공) Carbide Shank Bar (Boring / Internal Facing)

최대 돌출량 L/D=~7 Max. Overhang Length L/D=~7



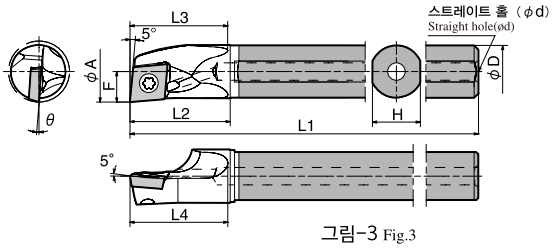


그림-3 Fig.3

샹크경 ØD Shank Dia. øD	스트레이트 홀경 Ød Straight hole Dia. ød
Ø10	Ø3
Ø12	Ø4
Ø16	
Ø20	Ø6
Ø25	

• 본 그림은 우승수 (R) 를 나타냅니다.
Right-hand Shown

우승수 (R) 홀더에는 좌승수 (L) 팁, 좌승수 (L) 홀더에는 우승수 (R) 팁이 적합합니다.
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

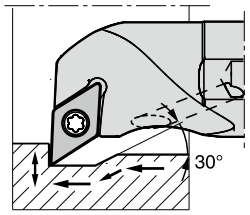
● 홀더 치수 Toolholder Dimensions

	규 격 Description	재고 Stock R	재고 Stock L	최소 가공경 Min. Bore Dia. ØA	치 수 (mm) Dimension ØD	H	L1	L2	L3	L4	F	θ	기준코너R (rε) Std. Corner-R (rε)	쿨런트홀 Coolant Hole	형 상 Shape	부 품 Spare Parts 클램프 스크류 Clamp Screw	렌치 Wrench	적합 팁 Applicable Inserts
엑셀런트바 Excellent Bar	A10L-SCLP&08-12AE	●	●	12	10	9	140	20	25	20	6	5°	0.4	유 Yes	그림-1 Fig.1	SB-3060TR	FT-10	CP..0802..
	A12M-SCLP&08-14AE	●	●	14	12	11	150	24	29	24	7	4°						
	A12M-SCLP&09-16AE	●	●	16					31	24	8					SB-4065TR	FT-15	CP..0903..
	A16Q-SCLP&09-18AE	●	●	18	16	15	180	30	37	30	9	3.5°						
	A20R-SCLP&09-22AE	●	●	22	20	19	200	36	47	37	11	2°						
	A25S-SCLP&09-27AE	●	●	27	25	24	250	46	55	46	13.5	0°						
강 Steel	S10L-SCLP&08-12A	●	●	12	10	9	140	20	25	20	6	5°	0.4	무 No	그림-2 Fig.2	SB-3060TR	FT-10	CP..0802..
	S12M-SCLP&08-14A	●	●	14	12	11	150	24	29	24	7	4°						
	S12M-SCLP&09-16A	●	●	16					31	24	8					SB-4065TR	FT-15	CP..0903..
	S16Q-SCLP&09-18A	●	●	18	16	15	180	30	37	30	9	3.5°						
	S20R-SCLP&09-22A	●	●	22	20	19	200	36	47	37	11	2°						
	S25S-SCLP&09-27A	●	●	27	25	24	250	46	55	46	13.5	0°						
초경 Carbide	E10N-SCLP&08-12A	●	●	12	10	9	160	20	19	19	6	5°	0.4	유 Yes	그림-3 Fig.3	SB-3060TR	FT-10	CP..0802..
	E10N-SCLP&08-12A-2/3	●					105											
	E10N-SCLP&08-12A-1/2	●					80											
	E12Q-SCLP&08-14A	●	●	14	12	11	180	23	22	22	7	4°						
	E12Q-SCLP&08-14A-2/3	●					120											
	E12Q-SCLP&08-14A-1/2	●					90											
	E16X-SCLP&09-18A	●	●	18	16	15	220	28	27	27	9	3.5°				SB-4065TR	FT-15	CP..0903..
	E16X-SCLP&09-18A-2/3	●					145											
	E16X-SCLP&09-18A-1/2	●					110											
	E20S-SCLP&09-22A	●	●	22	20	19	250	32	31	31	11	2°						
	E20S-SCLP&09-22A-2/3	●					165											
	E20S-SCLP&09-22A-1/2	●					125											
	E25T-SCLP&09-27A	●	●	27	25	24	300	38	37	37	13.5	0°						
	E25T-SCLP&09-27A-2/3	●					200											

●: 표준재고 ●: Std. Stock

A-SDUC-AE형 엑셀런트바 (모방가공) Excellent Bar (Copying)

최대 돌출량 L/D=~5.5 Max. Overhang Length L/D=~5.5



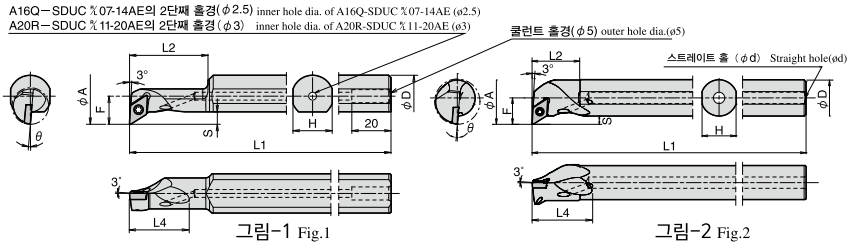


그림-1 Fig.1　　그림-2 Fig.2

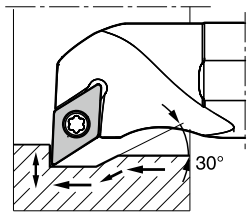
샹크경ØD Shank Dia. ØD	스트레이트 홀경Ød Straight hole Dia. Ød
Ø10	Ø3
Ø12	Ø4
Ø16	Ø5
Ø20	
Ø25	

• 본 그림은 우승수 (R) 를 나타냅니다 .
Right-hand Shown

우승수 (R) 홀더에는 좌승수 (L) 팁 , 좌승수 (L) 홀더에는 우승수 (R) 팁이 적합합니다 .
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

S-SDUC-A형 강바 (모방가공) Steel Bar (Copying)

최대 돌출량 L/D=~4 Max. Overhang Length L/D=~4



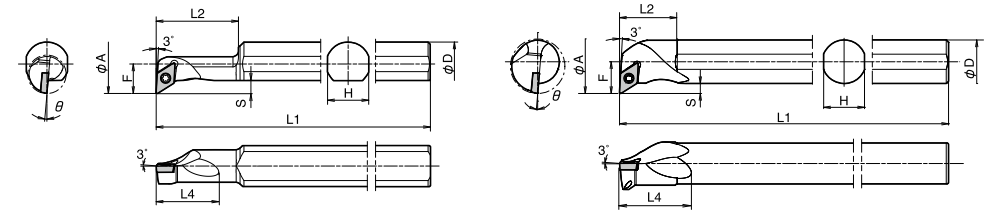


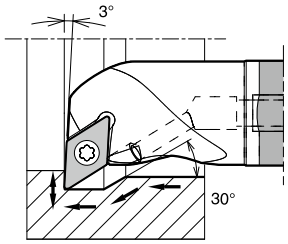
그림-3 Fig.3　　그림-4 Fig.4

• 본 그림은 우승수 (R) 를 나타냅니다 .
Right-hand Shown

우승수 (R) 홀더에는 좌승수 (L) 팁 , 좌승수 (L) 홀더에는 우승수 (R) 팁이 적합합니다 .
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

E-SDUC-A형 초경 방진바 (모방가공) Carbide Shank Bar (Copying)

최대 돌출량 L/D=~7 Max. Overhang Length L/D=~7



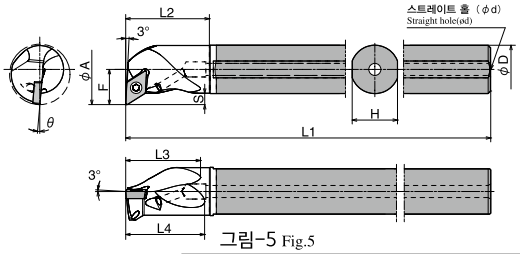


그림-5 Fig.5

샹크경 ØD Shank Dia. ØD	스트레이트 홀경 Ød Straight hole Dia. Ød
Ø10	Ø3
Ø12	Ø4
Ø16	
Ø20	Ø6
Ø25	

• 본 그림은 우승수 (R) 를 나타냅니다 .
Right-hand Shown

우승수 (R) 홀더에는 좌승수 (L) 팁 , 좌승수 (L) 홀더에는 우승수 (R) 팁이 적합합니다 .
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

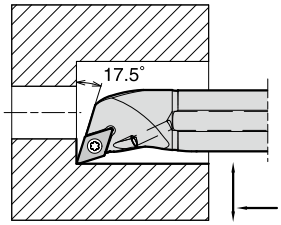
● 홀더 치수 Toolholder Dimensions

	규 격 Description	재고 Stock R	재고 Stock L	최소 가공경 Min. Bore Dia. ØA	치 수 (mm) Dimension ØD	H	L1	L2	L3	L4	F	S	θ	기준코너R (rε) Std. Corner-R (rε)	쿨런트홀 Coolant Hole	형상 Shape	부 품 Spare Parts 클램프스크류 Clamp Screw	렌치 Wrench	적합 팁 Applicable Inserts
엑셀런트바 Excellent Bar	A16Q-SDUC&07-14AE	●	●	14	16	15	180	28	-	23	10.8	4.4	5°	0.4	유 Yes	그림-1 Fig.1	SB-2560TR	FT-8	DC..0702..
	A20R-SDUC&11-20AE	●	●	20	20	19	200	48	-	30	15.6	6.1					SB-4065TR	FT-15	DC..11T3..
	A10L-SDUC&07-14AE	●	●	14	10	9	140	19	-	20	8.7	3.3	5°	0.4		그림-2 Fig.2	SB-2560TR	FT-8	DC..0702..
	A12M-SDUC&07-16AE	●	●	16	12	11	150	21	-	24	9.7								
	A16Q-SDUC&07-20AE	●	●	20	16	15	180		-	26	11.7								
	A16Q-SDUC&11-23AE	●	●	23					-	31	14.5	6.1					SB-4065TR	FT-15	DC..11T3..
	A20R-SDUC&11-27AE	●	●	27	20	19	200	23	-	36	16.5								
	A25S-SDUC&11-32AE	●	●	32	25	24	250	24	-	39	19								
강 Steel	S16Q-SDUC&07-14A	●	●	14	16	15	180	28	-	23	10.8	4.4	5°	0.4	무 No	그림-3 Fig.3	SB-2560TR	FT-8	DC..0702..
	S20R-SDUC&11-20A	●	●	20	20	19	200	48	-	30	15.6	6.1					SB-4065TR	FT-15	DC..11T3..
	S10L-SDUC&07-14A	●	●	14	10	9	140	19	-	20	8.7	3.3	5°	0.4		그림-4 Fig.4	SB-2560TR	FT-8	DC..0702..
	S12M-SDUC&07-16A	●	●	16	12	11	150	21	-	24	9.7								
	S16Q-SDUC&07-20A	●	●	20	16	15	180		-	26	11.7								
	S16Q-SDUC&11-23A	●	●	23					-	31	14.5	6.1					SB-4065TR	FT-15	DC..11T3..
	S20R-SDUC&11-27A	●	●	27	20	19	200	23	-	36	16.5								
	S25S-SDUC&11-32A	●	●	32	25	24	250	24	-	39	19								
초경 Carbide	E10N-SDUC&07-14A	●	●	14	10	9	160	20	-	19	8.7	3.3	5°	0.4	유 Yes	그림-5 Fig.5	SB-2560TR	FT-8	DC..0702..
	E10N-SDUC&07-14A-2/3	●					105												
	E12Q-SDUC&07-16A	●	●	16	12	11	180	23	-	22	9.7								
	E12Q-SDUC&07-16A-2/3	●					120												
	E16X-SDUC&07-20A	●	●	20	16	15	220	28	-	26	11.7								
	E16X-SDUC&07-20A-2/3	●					145												
	E16X-SDUC&11-23A	●	●	23			220		-	27	14.5	6.1					SB-4065TR	FT-15	DC..11T3..
	E16X-SDUC&11-23A-2/3	●					145												
	E20S-SDUC&11-27A	●	●	27	20	19	250	32	-	31	16.5								
	E20S-SDUC&11-27A-2/3	●					165												
	E25T-SDUC&11-32A	●	●	32	25	24	300	38	-	37	19								
	E25T-SDUC&11-32A-2/3	●					200												

● : 표준재고 ● : Std. Stock

A-SDQC-AE형 엑셀런트바 (모방가공) Excellent Bar (Copying)

최대 돌출량 L/D=~5.5 Max. Overhang Length L/D=~5.5



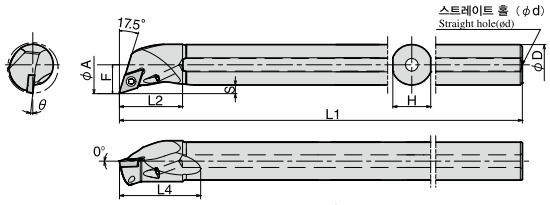


그림-1 Fig.1

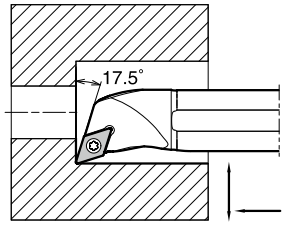
샹크경 ØD Shank Dia. øD	스트레이트 홀경 Ød Straight hole Dia. ød
Ø10	Ø3
Ø12	Ø4
Ø16	Ø5
Ø20	
Ø25	

• 본 그림은 우승수 (R) 를 나타냅니다 .
Right-hand Shown

우승수 (R) 홀더에는 좌승수 (L) 팁 , 좌승수 (L) 홀더에는 우승수 (R) 팁이 적합합니다 .
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

S-SDQC-A형 강바 (모방가공) Steel Bar (Copying)

최대 돌출량 L/D=~4 Max. Overhang Length L/D=~4



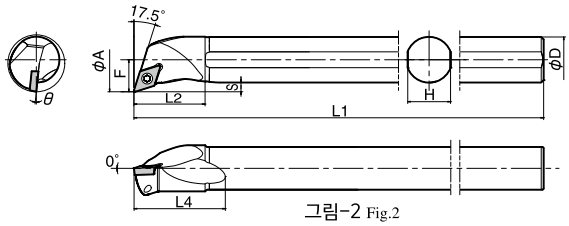


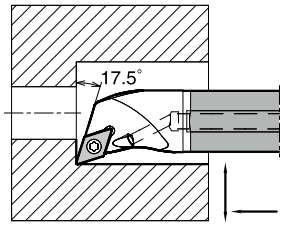
그림-2 Fig.2

• 본 그림은 우승수 (R) 를 나타냅니다 .
Right-hand Shown

우승수 (R) 홀더에는 좌승수 (L) 팁 , 좌승수 (L) 홀더에는 우승수 (R) 팁이 적합합니다 .
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

E-SDQC-A형 초경 방진바 (모방가공) Carbide Shank Bar (Copying)

최대 돌출량 L/D=~7 Max. Overhang Length L/D=~7



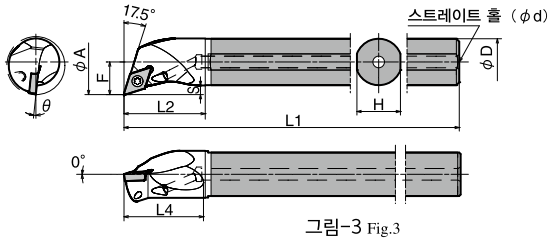


그림-3 Fig.3

샹크경 ØD Shank Dia. øD	스트레이트 홀경 Ød Straight hole Dia. ød
Ø10	Ø3
Ø12	Ø4
Ø16	
Ø20	Ø6
Ø25	

• 본 그림은 우승수 (R) 를 나타냅니다 .
Right-hand Shown

우승수 (R) 홀더에는 좌승수 (L) 팁 , 좌승수 (L) 홀더에는 우승수 (R) 팁이 적합합니다 .
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

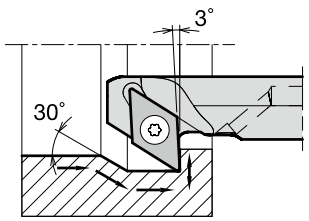
● 홀더 치수 Toolholder Dimensions

규 격 Description		재고 Stock R	재고 Stock L	최소 가공경 Min. Bore Dia. ØA	치 수 (mm) Dimension ØD	H	L1	L2	L3	L4	F	S	θ	기준코너R (rε) Std. Corner-R (rε)	쿨런트홀 Coolant Hole	형 상 Shape	부 품 Spare Parts 클램프 스크류 Clamp Screw	렌치 Wrench	적합 팁 Applicable Inserts
엑셀런트바 Excellent Bar	A10L -SDQC&07-13AE	●	●	13	10	9	140	19	-	21	7.5	2.1	10°	0.4	유 Yes	그림-1 Fig.1	SB-2560TR	FT-8	DC..0702..
	A12M-SDQC&07-16AE	●	●	16	12	11	150	22		25	9.25	2.6	8°						
	A16Q-SDQC&07-20AE	●	●	20	16	15	180	25		32	11.3	2.6	6°						
	A20R-SDQC&11-25AE	●	●	25	20	19	200	31		37	14.4	3.7	5°				SB-4065TR	FT-15	DC..11T3..
	A25S-SDQC&11-30AE	●	●	30	25	24	250	38		45	16.9	3.7	4°						
강 Steel	S10L-SDQC&07-13A	●	●	13	10	9	140	19	-	21	7.5	2.1	10°	0.4	무 No	그림-2 Fig.2	SB-2560TR	FT-8	DC..0702..
	S12M-SDQC&07-16A	●	●	16	12	11	150	22		25	9.25	2.6	8°						
	S16Q-SDQC&07-20A	●	●	20	16	15	180	25		32	11.3	2.6	6°						
	S20R-SDQC&11-25A	●	●	25	20	19	200	31		37	14.4	3.7	5°				SB-4065TR	FT-15	DC..11T3..
	S25S-SDQC&11-30A	●	●	30	25	24	250	38		45	16.9	3.7	4°						
초경 Carbide	E10N-SDQC&07-13A	●	●	13	10	9	160	20	-	19	7.5	2.1	10°	0.4	유 Yes	그림-3 Fig.3	SB-2560TR	FT-8	DC..0702..
	E10N-SDQC&07-13A-2/3	●					105												
	E12Q-SDQC&07-16A	●	●	16	12	11	180	23	-	22	9.25	2.6	8°						
	E12Q-SDQC&07-16A-2/3	●					120												
	E16X-SDQC&07-20A	●	●	20	16	15	220	28	-	27	11.3	2.6	6°						
	E16X-SDQC&07-20A-2/3	●					145												
	E20S-SDQC&11-25A	●	●	25	20	19	250	32	-	31	14.4	3.7	5°				SB-4065TR	FT-15	DC..11T3..
	E20S-SDQC&11-25A-2/3	●					165												
	E25T-SDQC&11-30A	●	●	30	25	24	300	38	-	37	16.9	3.7	4°						
	E25T-SDQC&11-30A-2/3	●					200												

● : 표준재고 ● : Std. Stock

▦A-SDZC-AE형 엑셀런트바 (백가공) Excellent Bar (Back Copying)

최대 돌출량 L/D=~5.5 Max. Overhang Length L/D=~5.5



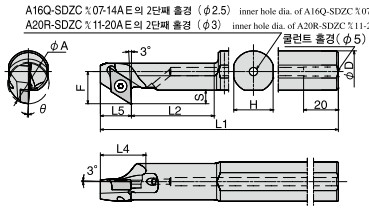


그림-1 Fig.1

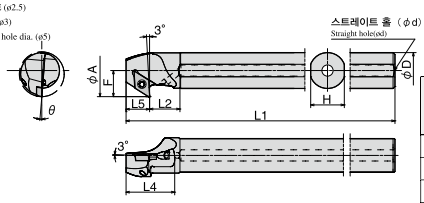


그림-2 Fig.2

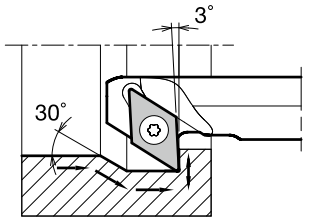
샹크경 ØD Shank Dia. øD	스트레이트 홀경 Ød Straight hole Dia. ød
Ø10	Ø3
Ø12	Ø4
Ø16	Ø5
Ø20	
Ø25	

• 본 그림은 우승수 (R) 를 나타냅니다. Right-hand Shown

우승수 (R) 홀더에는 우승수 (R) 팁, 좌승수 (L) 홀더에는 좌승수 (L) 팁이 적합합니다. Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder

▦S-SDZC-A형 강바 (백가공) Steel Bar (Back Copying)

최대 돌출량 L/D=~4 Max. Overhang Length L/D=~4



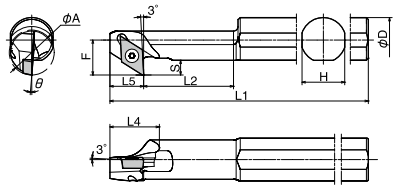


그림-3 Fig.3

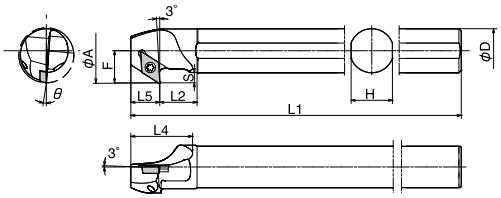


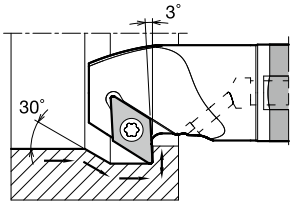
그림-4 Fig.4

• 본 그림은 우승수 (R) 를 나타냅니다. Right-hand Shown

우승수 (R) 홀더에는 우승수 (R) 팁, 좌승수 (L) 홀더에는 좌승수 (L) 팁이 적합합니다. Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder

▦E-SDZC-A형 초경 방진바 (백가공) Carbide Shank Bar (Back Copying)

최대 돌출량 L/D=~7 Max. Overhang Length L/D=~7



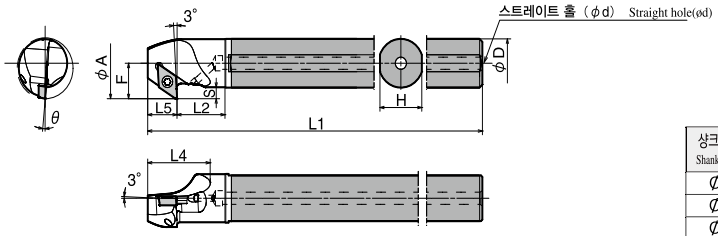


그림-5 Fig.5

샹크경 ØD Shank Dia. øD	스트레이트 홀경Ød Straight hole Dia. ød
Ø10	Ø3
Ø12	Ø4
Ø16	
Ø20	Ø6

• 본 그림은 우승수 (R) 를 나타냅니다. Right-hand Shown

우승수 (R) 홀더에는 우승수 (R) 팁, 좌승수 (L) 홀더에는 좌승수 (L) 팁이 적합합니다. Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder

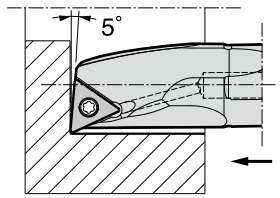
● 홀더 치수 Toolholder Dimensions

	규 격 Description	재고 Stock R	재고 Stock L	최소 가공경 Min. Bore Dia. ØA	치 수 (mm) Dimension ØD	H	L1	L2	L4	L5	F	S	θ	기준코너R (rε) Std. Corner-R (rε)	쿨런트홀 Coolant Hole	형상 Shape	부품 Spare Parts 클램프 스크류 Clamp Screw	렌치 Wrench	적합 팁 Applicable Inserts
엑셀런트바 Excellent Bar	A16Q-SDZC&07-14AE	●	●	14	16	15	180	30	17	10	10.8	4.4	5°	0.4	유 Yes	그림-1 Fig.1	SB-2545TR	FT-8	DC..0702..
	A20R-SDZC&11-20AE	●	●	20	20	19	200	40	24	15	15.6	6.1					SB-4065TR	FT-15	DC..11T3..
	A10L-SDZC&07-14AE	●	●	14	10	9	140	14	16	9.5	8.7	3.3	5°	0.4		그림-2 Fig.2	SB-2545TR	FT-8	DC..0702..
	A12M-SDZC&07-16AE	●	●	16	12	11	150	14	20	10.5	9.7	3.3					SB-2560TR		
	A16Q-SDZC&07-20AE	●	●	20	16	15	180	14	22	10.5	11.7	3.3							
	A16Q-SDZC&11-23AE	●	●	23	16	15	180	15	22	15	14.5	6.1					SB-4065TR	FT-15	DC..11T3..
	A20R-SDZC&11-27AE	●	●	27	20	19	200	15	25	15	16.5	6.1							
	A25S-SDZC&11-32AE	●	●	32	25	24	250	15	26	15	19	6.1							
강 Steel	S16Q-SDZC&07-14A	●	●	14	16	15	180	30	17	10	10.8	4.4	5°	0.4	무 No	그림-3 Fig.3	SB-2545TR	FT-8	DC..0702..
	S20R-SDZC&11-20A	●	●	20	20	19	200	40	24	15	15.6	6.1					SB-4065TR	FT-15	DC..11T3..
	S10L-SDZC&07-14A	●	●	14	10	9	140	14	16	9.5	8.7	3.3	5°	0.4		그림-4 Fig.4	SB-2545TR	FT-8	DC..0702..
	S12M-SDZC&07-16A	●	●	16	12	11	150	14	20	10.5	9.7	3.3					SB-2560TR		
	S16Q-SDZC&07-20A	●	●	20	16	15	180	14	22	10.5	11.7	3.3							
	S16Q-SDZC&11-23A	●	●	23	16	15	180	15	22	15	14.5	6.1					SB-4065TR	FT-15	DC..11T3..
	S20R-SDZC&11-27A	●	●	27	20	19	200	15	25	15	16.5	6.1							
	S25S-SDZC&11-32A	●	●	32	25	24	250	15	26	15	19	6.1							
초경 Carbide	E10N-SDZC&07-14A	●		14	10	9	160	10.5	16	9.5	8.7	3.3	5°	0.4	유 Yes	그림-5 Fig.5	SB-2545TR	FT-8	DC..0702..
	E12Q-SDZC&07-16A	●		16	12	11	180	12.5	20	10.5	9.7	3.3					SB-2560TR		
	E16X-SDZC&07-20A	●		20	16	15	220	17.5	22	10.5	11.7	3.3							
	E16X-SDZC&11-23A	●		23	16	15	220	17	22	15	14.5	6.1					SB-4065TR	FT-15	DC..11T3..
	E20S-SDZC&11-27A	●		27	20	19	250	17	25	15	16.5	6.1							

●: 표준재고 ●: Std. Stock

▦A-STLC-AE형 엑셀런트바 (내경·깊은 단면가공) Excellent Bar (Boring / Internal Facing)

최대 돌출량 L/D=~5.5 Max. Overhang Length L/D=~5.5



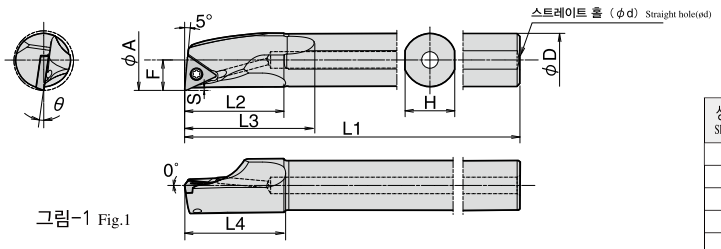


그림-1 Fig.1

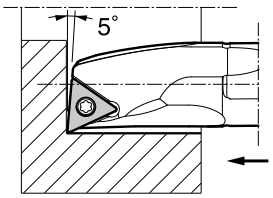
상크경 ØD Shank Dia. øD	스트레이트 홀경Ød Straight hole Dia. ød
Ø8	Ø2.5
Ø10	Ø3
Ø12	Ø4
Ø16	Ø5
Ø20	

• 본 그림은 우승수 (R) 를 나타냅니다 .
Right-hand Shown

우승수 (R) 홀더에는 좌승수 (L) 팁 , 좌승수 (L) 홀더에는 우승수 (R) 팁이 적합합니다 .
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

▦S-STLC-A형 강바 (내경·깊은 단면가공) Steel Bar (Boring / Internal Facing)

최대 돌출량 L/D=~4 Max. Overhang Length L/D=~4



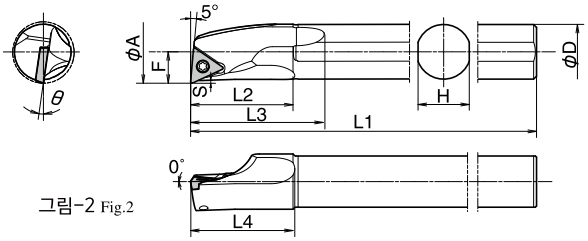


그림-2 Fig.2

• 본 그림은 우승수 (R) 를 나타냅니다 .
Right-hand Shown

우승수 (R) 홀더에는 좌승수 (L) 팁 , 좌승수 (L) 홀더에는 우승수 (R) 팁이 적합합니다 .
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

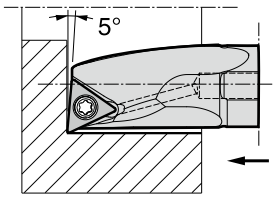
●홀더 치수

	규 격 Description	재고 Stock R	재고 Stock L	최소 가공경 Min. Bore Dia. ØA	치 수 (mm) Dimension ØD	H	L1	L2	L3	L4	F	S	θ	기준코너R (rε) Std. Corner-R (rε)	쿨런트홀 Coolant Hole	형 상 Shape	부 품 Spare Parts 클램프 스크류 Clamp Screw	렌치 Wrench	적합 팁 Applicable Inserts
엑셀런트바 Excellent Bar	A08X-STLC&09-10AE	●	●	10	8	7	120	16	22	16	5	0.5	14°	0.4	유 Yes	그림-1 Fig.1	SB-2250TR	FT-7	TC..0902..
	A10L-STLC&09-12AE	●	●	12	10	9	140	20	26	20	6.2	0.9	12°						
	A10L-STLC&11-12AE	●	●																
	A12M-STLC&11-14AE	●	●	14	12	11	150	24	30	25	7.2	0.7	10°				SB-2560TR	FT-8	TC..1102..
	A16Q-STLC&11-18AE	●	●	18	16	15	180	30	39	31	9.2		8°						
	A20R-STLC&11-22AE	●	●	22	20	19	200	36	44	36	11.2		6°						
강 Steel	S08X-STLC&09-10A	●	●	10	8	7	120	16	22	16	5	0.5	14°	0.4	무 No	그림-2 Fig.2	SB-2250TR	FT-7	TC..0902..
	S10L-STLC&09-12A	●	●	12	10	9	140	20	26	20	6.2	0.9	12°						
	S10L-STLC&11-12A	●	●																
	S12M-STLC&11-14A	●	●	14	12	11	150	24	30	25	7.2	0.7	10°				SB-2560TR	FT-8	TC..1102..
	S16Q-STLC&11-18A	●	●	18	16	15	180	30	39	31	9.2		8°						
	S20R-STLC&11-22A	●	●	22	20	19	200	36	44	36	11.2		6°						

● : 표준재고 ● : Std. Stock

A/S-STLB(P)-AE형 엑셀런트바 (내경·깊은 단면가공) Excellent Bar (Boring / Internal Facing)

최대 돌출량 L/D=~5.5 Max. Overhang Length L/D=~5.5



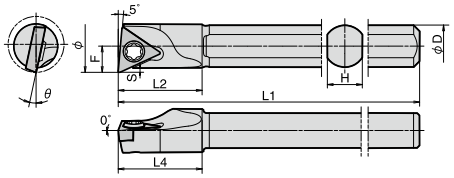


그림-1 Fig.1

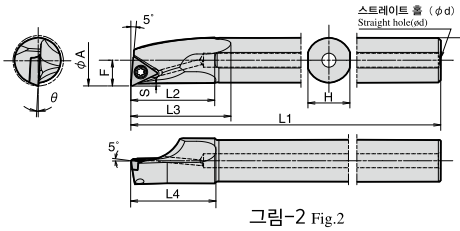


그림-2 Fig.2

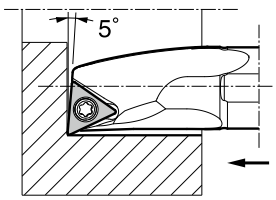
샹크경 ØD Shank Dia. øD	스트레이트 홀경Ød Straight hole Dia. ød
Ø8	Ø2.5
Ø10	Ø3
Ø12	Ø4
Ø16	Ø5
Ø20	
Ø25	

• 본 그림은 우승수 (R) 를 나타냅니다 .
Right-hand Shown

우승수 (R) 홀더에는 좌승수 (L) 팁 , 좌승수 (L) 홀더에는 우승수 (R) 팁이 적합합니다 .
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

S-STLB(P)-A형 강바 (내경·깊은 단면가공) Steel Bar (Boring / Internal Facing)

최대 돌출량 L/D=~4 Max. Overhang Length L/D=~4



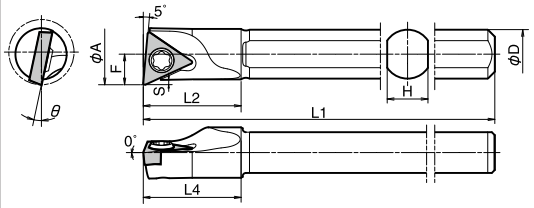


그림-3 Fig.3

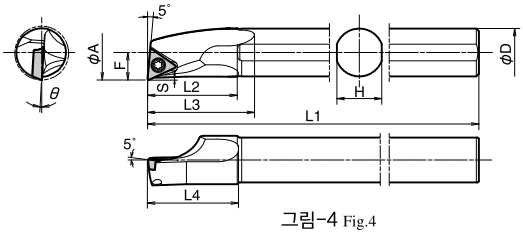


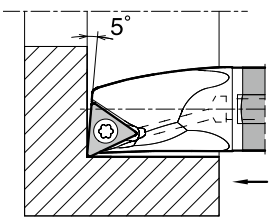
그림-4 Fig.4

• 본 그림은 우승수 (R) 를 나타냅니다 .
Right-hand Shown

우승수 (R) 홀더에는 좌승수 (L) 팁 , 좌승수 (L) 홀더에는 우승수 (R) 팁이 적합합니다 .
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

E(C)-STLB(P)-A형 초경 방진바 (내경·깊은 단면가공) Carbide Shank Bar (Boring / Internal Facing)

최대 돌출량 L/D=~7 Max. Overhang Length L/D=~7



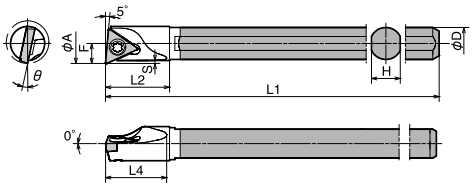


그림-5 Fig.5

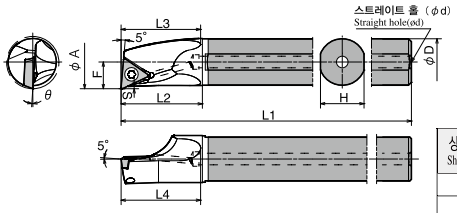


그림-6 Fig.6

샹크경 ØD Shank Dia. øD	스트레이트 홀경Ød Straight hole Dia. ød
Ø8	Ø3
Ø10	
Ø12	Ø4
Ø16	
Ø20	Ø6
Ø25	

• 본 그림은 우승수 (R) 를 나타냅니다 .
Right-hand Shown

우승수 (R) 홀더에는 좌승수 (L) 팁 , 좌승수 (L) 홀더에는 우승수 (R) 팁이 적합합니다 .
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

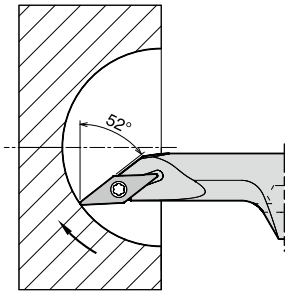
● 홀더 치수 Toolholder Dimensions

	규 격 Description	재고 Stock R	재고 Stock L	최소 가공경 Min. Bore Dia. ØA	치 수 (mm) Dimension ØD	H	L1	L2	L3	L4	F	S	θ	기준코너R (rε) Std. Corner-R (rε)	쿨런트홀 Coolant Hole	형 상 Shape	부 품 Spare Parts 클램프스크류 Clamp Screw	렌치 Wrench	적합 팁 Applicable Inserts
엑셀런트바 Excellent Bar	S06H-STLB&06-08AE	●	●	8	6	5	100	12	-	12	3.8	0.5	12°	0.2	무 No	그림-1 Fig.1	SB-2035TR	FT-6	TB..0601..
	A08X-STLP&09-10AE	●	●	10	8	7	120	16	22	16	5	0.5	10°	0.4	유 Yes	그림-2 Fig.2	SB-2545TR	FT-8	TP..0902..
	A10L-STLP&09-12AE	●	●	12	10	9	140	20	25	20	6.2	0.9	8°						
	A10L-STLP&11-12AE	●	●						26		6	0.7	10°				SB-3060TR	FT-10	TP..1103..
	A12M-STLP&11-14AE	●	●	14	12	11	150	24	30	24	7.2	0.8	7°						
	A16Q-STLP&11-18AE	●	●	18	16	15	180	30	36	30	9.2	0.7	3.5°						
	A20R-STLP&11-22AE	●	●	22	20	19	200	36	46	37	11.2		2°						
	A25S-STLP&16-27AE	●	●	27	25	24	250	46	55	46	13.7		0°				SB-4065TR	FT-15	TP..1603..
강 Steel	S06H-STLB&06-08A	●	●	8	6	5	100	12	-	12	3.8	0.5	12°	0.2	무 No	그림-3 Fig.3	SB-2035TR	FT-6	TB..0601..
	S08X-STLP&09-10A	●	●	10	8	7	120	16	22	16	5	0.5	10°	0.4		그림-4 Fig.4	SB-2545TR	FT-8	TP..0902..
	S10L-STLP&09-12A	●	●	12	10	9	140	20	25	20	6.2	0.9	8°						
	S10L-STLP&11-12A	●	●						26		6	0.7	10°				SB-3060TR	FT-10	TP..1103..
	S12M-STLP&11-14A	●	●	14	12	11	150	24	30	24	7.2	0.8	7°						
	S16Q-STLP&11-18A	●	●	18	16	15	180	30	36	30	9.2	0.7	3.5°						
	S20R-STLP&11-22A	●	●	22	20	19	200	36	46	37	11.2		2°						
	S25S-STLP&16-27A	●	●	27	25	24	250	46	55	46	13.7		0°				SB-4065TR	FT-15	TP..1603..
초경 Carbide	C06J-STLB&06-08A	●	●	8	6	5.4	110	12	-	12	3.8	0.5	12°	0.2	무 No	그림-5 Fig.5	SB-2035TR	FT-6	TB..0601..
	E08L-STLP&09-10A	●	●	10	8	7	140	16	15	15	5	0.5	10°	0.4	유 Yes	그림-6 Fig.6	SB-2545TR	FT-8	TP..0902..
	E10N-STLP&09-12A	●	●	12	10	9	160	20	19	19	6.2	0.9	8°						
	E10N-STLP&09-12A-2/3	●					105												
	E10N-STLP&09-12A-1/2	●					80												
	E10N-STLP&11-12A	●	●				160				6	0.7	10°				SB-3060TR	FT-10	TP..1103..
	E10N-STLP&11-12A-2/3	●					105												
	E10N-STLP&11-12A-1/2	●					80												
	E12Q-STLP&11-14A	●	●	14	12	11	180	23	22	22	7.2	0.8	7°						
	E12Q-STLP&11-14A-2/3	●					120												
	E12Q-STLP&11-14A-1/2	●					90												
	E16X-STLP&11-18A	●	●	18	16	15	220	28	27	27	9.2	0.7	3.5°						
	E16X-STLP&11-18A-2/3	●					145												
	E16X-STLP&11-18A-1/2	●					110												
	E20S-STLP&11-22A	●	●	22	20	19	250	32	31	31	11.2		2°						
	E20S-STLP&11-22A-2/3	●					165												
	E20S-STLP&11-22A-1/2	●					125												
	E25T-STLP&16-27A	●	●	27	25	24	300	38	37	37	13.7		0°				SB-4065TR	FT-15	TP..1603..
	E25T-STLP&16-27A-2/3	●					200												

● : 표준재고 ● : Std. Stock

A-SVJP(C)(B)-AE형 엑셀런트바 (내경 구면·깊은 단면가공) Excellent Bar (Internal Spherical Machining, Internal Facing)

최대 돌출량 L/D=~5.5 Max. Overhang Length L/D=~5.5



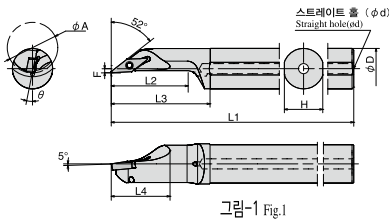


그림-1 Fig.1

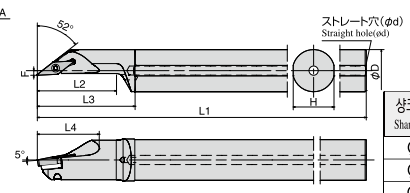


그림-2 Fig.2

※SVJP(C)&08형·SVJB&11형은 시트는 장착되어 있지 않습니다.
No shim for SVJP(C)&08 and SVJB&11

샹크경 ØD Shank Dia. øD	스트레이트 홀경Ød Straight hole Dia. ød
Ø12	Ø4
Ø16	
Ø20	Ø5
Ø25	
Ø32	Ø7
Ø40	Ø9

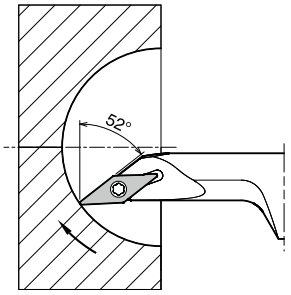
가공 방법은 **P14** 를 참고하여 주십시오 .
For applications, see P14.

• 본 그림은 우승수 (R) 를 나타냅니다 .
Right-hand Shown

우승수 (R) 홀더에는 좌승수 (L) 팁 , 좌승수 (L) 홀더에는 우승수 (R) 팁이 적합합니다 .
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

S-SVJP(C)(B)-A형 강바 (내경 구면·깊은 단면가공) Steel Bar (Internal Spherical Machining, Internal Facing)

최대 돌출량 L/D=~4 Max. Overhang Length L/D=~4



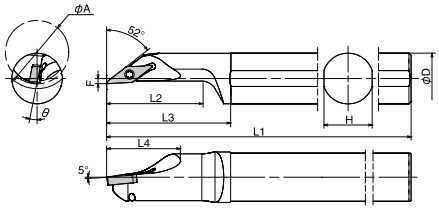


그림-3 Fig.3

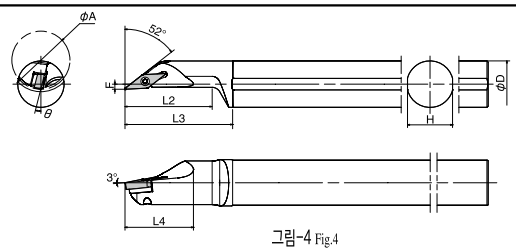


그림-4 Fig.4

※SVJP(C)&08형·SVJB&11형은 시트는 장착되어 있지 않습니다.
No shim for SVJP(C)&08 and SVJB&11

가공 방법은 **P14** 를 참고하여 주십시오 .
For applications, see P14.

• 본 그림은 우승수 (R) 를 나타냅니다 .
Right-hand Shown

우승수 (R) 홀더에는 좌승수 (L) 팁 , 좌승수 (L) 홀더에는 우승수 (R) 팁이 적합합니다 .
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

● 홀더 치수 Toolholder Dimensions

	규 격 Description	재고 Stock R	재고 Stock L	최소 가공경 Min. Bore Dia. ØA	치 수 (mm) Dimension ØD	H	L1	L2	L3	L4	F	S	θ	기준코너R (rε) Std. Corner-R (rε)	쿨런트홀 Coolant Hole	형상 Shape	부 품 Spare Parts 클램프 스크류 Clamp Screw	렌치 Wrench	적합 팁 Applicable Inserts
엑셀런트바 Excellent Bar	A12M-SVJP&08-16AE	●	●	16	12	11	150	26	33	21	2	-	5°	0.2	유 Yes	그림-1 Fig.1	SB-2050TR	FT-6	VP..0802..
	A12M-SVJC&08-16AE	●	●	16	12	11	150	26	33	20	2	-	5°	0.4					VC..0802..
	A16Q-SVJC&08-20AE	●	●	20	16	15	180	36	43	22	2	-	5°						
	A20R-SVJB&11-25AE	●	●	25	20	19	200	37.5	48	30	2	-	5°				SB-2570TR	FT-8	VB..1103..
	A25S-SVJB&11-30AE	●	●	30	25	24	250	45	58	33	3.5	-	5°						
	A32S-SVJB&16-40AE	●	●	40	32	31	250	60	74	45	3.5	-	8°			그림-2 Fig.2	SB-40125TRN	FT-15	VB..1604..
	A40T-SVJB&16-50AE	●	●	50	40	39	300	75	91	49	4.5	-	7°						VC..1604..
강 Steel	S12M-SVJP&08-16A	●	●	16	12	11	150	26	33	21	2	-	5°	0.2	무 No	그림-3 Fig.3	SB-2050TR	FT-6	VP..0802..
	S12M-SVJC&08-16A	●	●	16	12	11	150	26	33	20	2	-	5°	0.4					VC..0802..
	S16Q-SVJC&08-20A	●	●	20	16	15	180	36	43	22	2	-	5°						
	S20R-SVJB&11-25A	●	●	25	20	19	200	37.5	48	30	2	-	5°				SB-2570TR	FT-8	VB..1103..
	S25S-SVJB&11-30A	●	●	30	25	24	250	45	58	33	3.5	-	5°						
	S32S-SVJB&16-40A	●	●	40	32	31	250	60	74	45	3.5	-	8°			그림-4 Fig.4	SB-40125TRN	FT-15	VB..1604..
	S40T-SVJB&16-50A	●	●	50	40	39	300	75	91	49	4.5	-	7°						VC..1604..

※A-SVJB-AE형 / S-SVJB-A형에는 VBGT1103‥-Y / VBGT1604‥-Y의 사용을 추천하지 않습니다.
VBGT1103…Y / VBGT1604…Y are not recommended for A-SVJB-AE type/ S-SVJB-A type

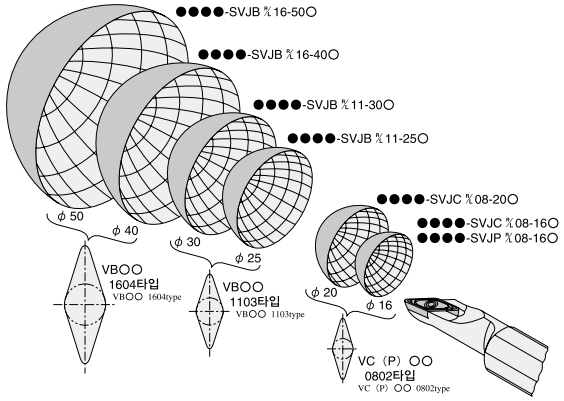
● : 표준재고 ● : Std. Stock

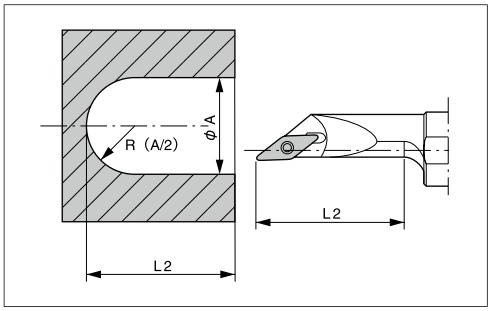
●부품 Spare Parts

규 격 Description	부 품 Spare Parts 시트 Shim	심 스크류 Shim Screw	렌치 (심 스크류용) Wrench(for Shim Screw)
○32S-SVJB&16-40A○ ○40T-SVJB&16-50A○	SVN-32N	SS-4N	LW-4

▦ ○…SVJB (C) -○, S…SVJP-○형의 가공방법 Application of ○…SVJB(C)-○ / S…SVJP-○

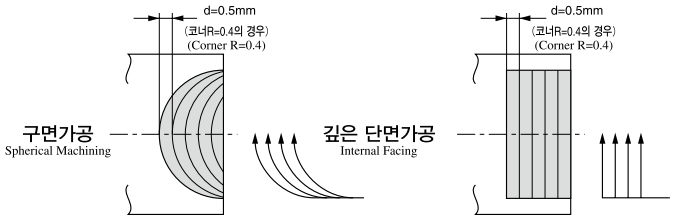
1. 가공 가능 범위 Application Range





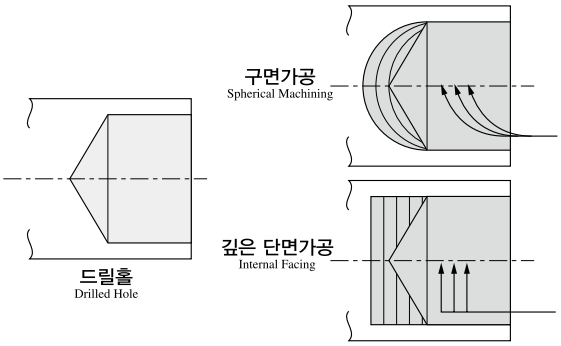
2. 가공방법 Machining Method

하혈이 없는 경우 Case with No Existing Hole



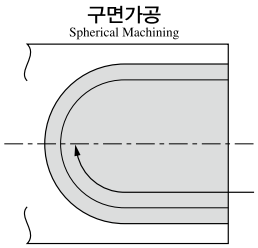
(주) 깊은 단면가공에서의 돌입시는 F=0.05mm/rev 이하로 가공하여 주십시오 .
(Note) f shall be under 0.05mm/rev at internal facing.

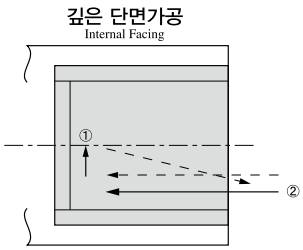
드릴홀에서의 가공 Case with Drilled Hole



(주) 깊은 단면가공에서의 돌입시는 F=0.05mm/rev 이하로 가공하여 주십시오 .
(Note) f shall be under 0.05mm/rev at internal facing.

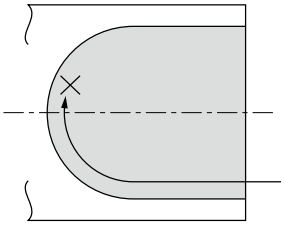
정삭가공 Finishing





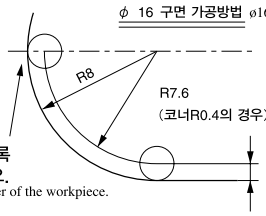
가공순서 Machining Process
① 깊은 단면을 최초로 정삭 ①Finish the internal face firstly.
② 다음에 내경을 정삭 ②Next, finish the internal diameter.

3. 가공상의 주의점 Caution



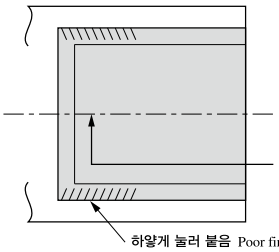
내경 구면 및 깊은 단면가공(특히 내경 구면)의 경우 인선이 중심을 넘으면 결손의 우려가 있으므로 주의하여 주십시오.
When machining past the center of the workpiece, insert breakage may occur.

φ 16 구면 가공방법 ø16 Spherical Machining



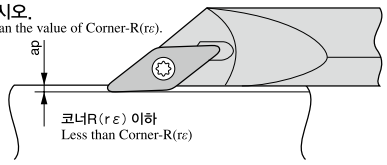
팁 선단이 원점이 되도록 인선을 맞추어 주십시오.
Set the insert edge at the center of the workpiece.

가공 반경은 코너R만큼 작게 되도록 보정하여 주십시오.
Adjust the machining program of radius smaller by Corner-R(rε) value.



왼쪽 그림대로의 가공도 가능하지만 사선부가 칩에 의해 상처가 날 수 있습니다.
Machining of this kind is available, but the oblique part may be scratched by chips.

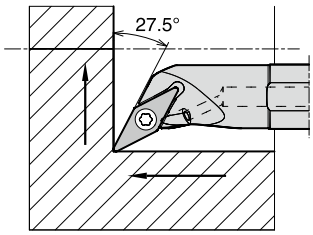
오른쪽 그림처럼 내경 모방가공의 경우, 절입량 ap는 코너R(rε)이하로 설정하여 주십시오.
For internal profiling, ap should be less than the value of Corner-R(rε).



〔코너R(rε)이상으로 가공하면 버가 발생합니다.〕
[Burr may occur, if ap is bigger than corner-R(rε).]

A-SVPC(B)-AE형 엑셀런트바 (모방·릴리프가공) Excellent Bar (Copying / Undercutting)

최대 돌출량 L/D=~5.5 Max. Overhang Length L/D=~5.5



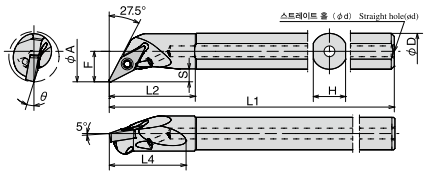


그림-1 Fig.1

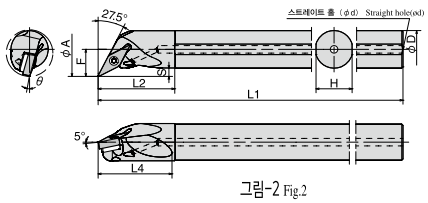


그림-2 Fig.2

샹크경 ØD Shank Dia. øD	스트레이트 홀경Ød Straight hole Dia. ød
Ø10	Ø3
Ø12	Ø4
Ø16	Ø5
Ø20	
Ø25	
Ø32	

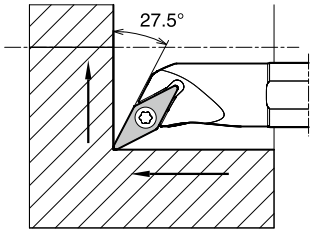
※SVPC&08형·SVPB&11형은 시트는 장착되어 있지 않습니다.
No shim for SVZCR/L08 and SVZBR/L11

• 본 그림은 우승수 (R) 를 나타냅니다 .
Right-hand Shown

우승수 (R) 홀더에는 좌승수 (L) 팁 , 좌승수 (L) 홀더에는 우승수 (R) 팁이 적합합니다 .
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

S-SVPC(B)-A형 강바 (모방·릴리프가공) Steel Bar (Copying / Undercutting)

최대 돌출량 L/D=~4 Max. Overhang Length L/D=~4



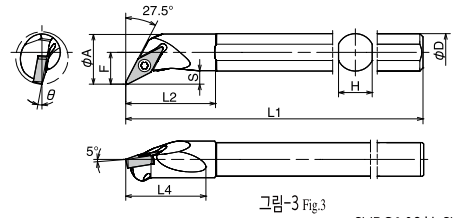


그림-3 Fig.3

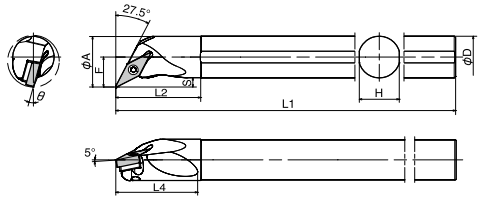


그림-4 Fig.4

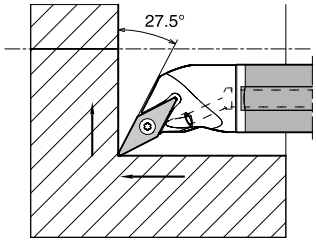
※SVPC&08형·SVPB&11형은 시트는 장착되어 있지 않습니다.
No shim for SVZCR/L08 and SVZBR/L11

• 본 그림은 우승수 (R) 를 나타냅니다 .
Right-hand Shown

우승수 (R) 홀더에는 좌승수 (L) 팁 , 좌승수 (L) 홀더에는 우승수 (R) 팁이 적합합니다 .
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

E-SVPC(B)-A형 초경 방진바 (모방·릴리프가공) Carbide Shank Bar (Copying / Undercutting)

최대 돌출량 L/D=~7 Max. Overhang Length L/D=~7



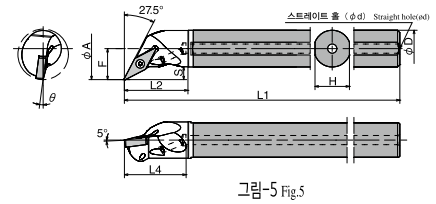


그림-5 Fig.5

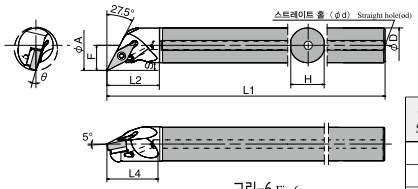


그림-6 Fig.6

샹크경 ØD Shank Dia. øD	스트레이트 홀경Ød Straight hole Dia. ød
Ø10	Ø3
Ø12	Ø4
Ø16	
Ø20	Ø6
Ø25	

※SVPC&08형·SVPB&11형은 시트는 장착되어 있지 않습니다.
No shim for SVZCR/L08 and SVZBR/L11

• 본 그림은 우승수 (R) 를 나타냅니다 .
Right-hand Shown

우승수 (R) 홀더에는 좌승수 (L) 팁 , 좌승수 (L) 홀더에는 우승수 (R) 팁이 적합합니다 .
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

● 홀더 치수 Toolholder Dimensions

	규 격 Description	재고 Stock R	재고 Stock L	최소 가공경 Min. Bore Dia. ØA	치 수 (mm) Dimension ØD	H	L1	L2	L3	L4	F	S	θ	기준코너R (rε) Std. Corner-R (rε)	쿨런트홀 Coolant Hole	형상 Shape	부 품 Spare Parts 클램프 스크류 Clamp Screw	렌치 Wrench	적합 팁 Applicable Inserts
엑셀런트바 Excellent Bar	A10L-SVPC&08-14AE	●	●	14	10	9	140	24	-	21	8.5	3	8°	0.4	유 Yes	그림-1 Fig.1	SB-2050TR	FT-6	VC..0802..
	A12M-SVPB&11-18AE	●	●	18	12	11	150	29	-	26	11	4.5	8°				SB-2570TR	FT-8	VB..1103..
	A16Q-SVPB&11-22AE	●	●	22	16	15	180	35	-	33	13.5	5	5°						
	A20R-SVPB&11-26AE	●	●	26	20	19	200	41	-	39	15.5	5	5°						
	A25S-SVPB&16-31AE	●	●	31	25	24	250	51	-	49	18	5	13°			그림-2 Fig.2	SB-40125TRN	FT-15	VB..1604.. VC..1604..
	A32S-SVPB&16-40AE	●	●	40	32	31	250	54	-	53	23	6.5	9°						
강 Steel	S10L-SVPC&08-14A	●	●	14	10	9	140	24	-	21	8.5	3	8°	0.4	무 No	그림-3 Fig.3	SB-2050TR	FT-6	VC..0802..
	S12M-SVPB&11-18A	●	●	18	12	11	150	29	-	26	11	4.5	8°				SB-2570TR	FT-8	VB..1103..
	S16Q-SVPB&11-22A	●	●	22	16	15	180	35	-	33	13.5	5	5°						
	S20R-SVPB&11-26A	●	●	26	20	19	200	41	-	39	15.5	5	5°						
	S25S-SVPB&16-31A	●	●	31	25	24	250	51	-	49	18	5	13°			그림-4 Fig.4	SB-40125TRN	FT-15	VB..1604.. VC..1604..
	S32S-SVPB&16-40A	●	●	40	32	31	250	54	-	53	23	6.5	9°						
초경 Carbide	E10N-SVPC&08-14A	●		14	10	9	160	20	-	18.5	8.5	3	8°	0.4	유 Yes	그림-5 Fig.5	SB-2050TR	FT-6	VC..0802..
	E12Q-SVPB&11-18A	●		18	12	11	180	23	-	22	11	4.5	8°				SB-2570TR	FT-8	VB..1103..
	E16X-SVPB&11-22A	●		22	16	15	220	28	-	27	13.5	5	5°						
	E20S-SVPB&11-26A	●		26	20	19	250	32	-	31	15.5	5	5°						
	E25T-SVPB&16-31A	●		31	25	24	300	38	-	37	18	5	13°			그림-6 Fig.6	SB-40125TRN	FT-15	VB..1604.. VC..1604..

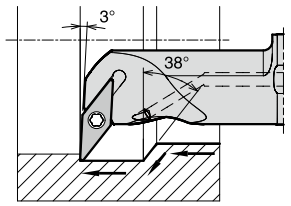
●: 표준재고 ●: Std. Stock

●부품 Spare Parts

규 격 Description	부 품 Spare Parts 시트 Shim	심 스크류 Shim Screw	렌치 (심 스크류용) Wrench(for Shim Screw)
○25○-SVPB&16-31A○ ○32S-SVPB&16-40A○	SVN-32N	SS-4N	LW-4

A-SVUC(B)-AE형 엑셀런트바 (모방가공) Excellent Bar (Copying)

최대 돌출량 L/D=~5.5 Max. Overhang Length L/D=~5.5



A12M－SVUC％08-16AE의 2단째 홀경(φ3) inner hole dia. (ø3) for A12M-SVUC&08-16AE
A16Q－SVUB％11-20AE의 2단째 홀경(φ3) inner hole dia. (ø3) for A16Q-SVUB&11-20AE
A20R－SVUB％11-25AE의 2단째 홀경(φ3) inner hole dia. (ø3) for A20R-SVUB&11-25AE
A32S－SVUB％16-40AE는 스트레이트 홀경(φ5) Straight hole dia. (ø5) for A32S-SVUB&16-40AE

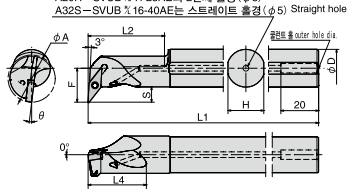


그림-1 Fig.1

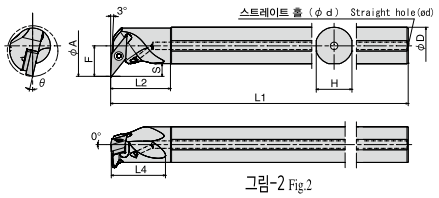


그림-2 Fig.2

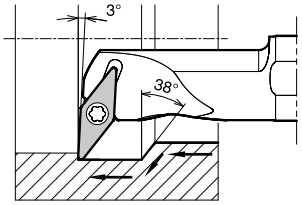
샹크경 ØD Shank Dia. øD	쿨런트 홀 outer hole dia.	스트레이트 홀경 Ød Straight hole Dia. ød
Ø12	Ø4	-
Ø16	Ø5	
Ø20		
Ø25	-	Ø5
Ø32		

• 본 그림은 우승수 (R) 를 나타냅니다 .
Right-hand Shown

우승수 (R) 홀더에는 좌승수 (L) 팁 , 좌승수 (L) 홀더에는 우승수 (R) 팁이 적합합니다 .
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

S-SVUC(B)-A형 강바(모방가공) Steel Bar (Copying)

최대 돌출량 L/D=~4 Max. Overhang Length L/D=~4



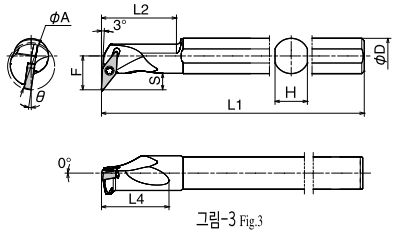


그림-3 Fig.3

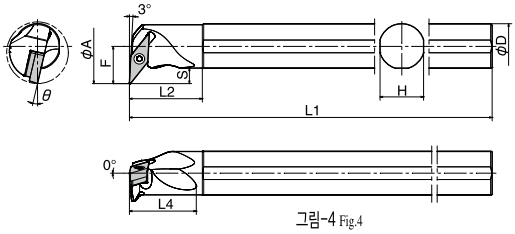


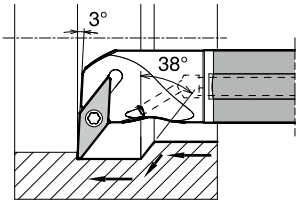
그림-4 Fig.4

• 본 그림은 우승수 (R) 를 나타냅니다 .
Right-hand Shown

우승수 (R) 홀더에는 좌승수 (L) 팁 , 좌승수 (L) 홀더에는 우승수 (R) 팁이 적합합니다 .
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

E-SVUC(B)-A형 초경 방진바(모방가공) Carbide Shank Bar (Copying)

최대 돌출량 L/D=~7 Max. Overhang Length L/D=~7



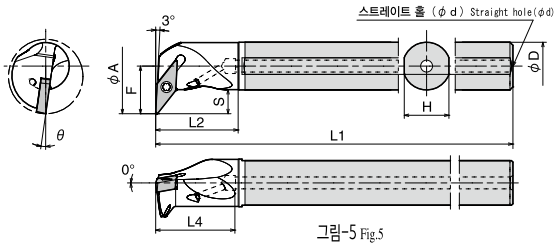


그림-5 Fig.5

샹크경 ØD Shank Dia. øD	스트레이트 홀경Ød Straight hole Dia. ød
Ø12	Ø4
Ø16	
Ø20	Ø6
Ø25	

• 본 그림은 우승수 (R) 를 나타냅니다 .
Right-hand Shown

우승수 (R) 홀더에는 좌승수 (L) 팁 , 좌승수 (L) 홀더에는 우승수 (R) 팁이 적합합니다 .
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

●홀더 치수

	규 격 Description	재고 Stock R	재고 Stock L	최소 가공경 Min. Bore Dia. ØA	치 수 (mm) Dimension ØD	H	L1	L2	L4	L5	F	S	θ	기준코너R (rε) Std. Corner-R (rε)	쿨런트홀 Coolant Hole	형 상 Shape	부 품 Spare Parts 클램프 스크류 Clamp Screw	렌치 Wrench	적합 팁 Applicable Inserts
엑셀런트바 Excellent Bar	A12M-SVUC&08-16AE	●	●	16	12	11	150	25.5	23	-	11.5	5.5	8°	0.4	유 Yes	그림-1 Fig.1	SB-2050TR	FT-6	VC..0802..
	A16Q-SVUB&11-20AE	●	●	20	16	15	180	32.5	27	-	16	8	8°				SB-2570TR	FT-8	VB..1102..
	A20R-SVUB&11-25AE	●	●	25	20	19	200	40.5	31	-	18	8	7°						
	A25S-SVUB&16-34AE	●	●	34	25	24	250	40	37	-	20.5	8.5	13°			그림-2 Fig.2	SB-40125TRN	FT-15	VB..1604.. VC..1604..
	A32S-SVUB&16-40AE	●	●	40	32	31	250	84	47	-	28	12	9°			그림-1 Fig.1			
강 Steel	S12M-SVUC&08-16A	●	●	16	12	11	150	25.5	23	-	11.5	5.5	8°	0.4	무 No	그림-3 Fig.3	SB-2050TR	FT-6	VC..0802..
	S16Q-SVUB&11-20A	●	●	20	16	15	180	32.5	27	-	16	8	8°				SB-2570TR	FT-8	VB..1102..
	S20R-SVUB&11-25A	●	●	25	20	19	200	40.5	31	-	18	8	7°						
	S25S-SVUB&16-34A	●	●	34	25	24	250	40	37	-	20.5	8.5	13°			그림-4 Fig.4	SB-40125TRN	FT-15	VB..1604.. VC..1604..
	S32S-SVUB&16-40A	●	●	40	32	31	250	84	47	-	28	12	9°			그림-3 Fig.3			
초경 Carbide	E12Q-SVUC&08-18A	●		18	12	11	180	23	22	-	11.5	5.5	8°	0.4	유 Yes	그림-5 Fig.5	SB-2050TR	FT-6	VC..0802..
	E16X-SVUB&11-25A	●		25	16	15	220	28	27	-	16	8	8°				SB-2570TR	FT-8	VB..1102..
	E20S-SVUB&11-29A	●		29	20	19	250	32	30	-	18	8	7°						
	E25T-SVUB&16-34A	●		34	25	24	300	38	37	-	21	8.5	13°				SB-40125TRN	FT-15	VB..1604.. VC..1604..

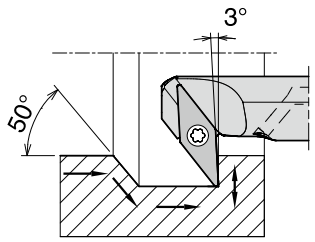
●: 표준재고 ●: Std. Stock

●부품 Spare Parts

규 격 Description	부 품 Spare Parts 시트 Shim	심 스크류 Shim Screw	렌치 (심스크류용) Wrench(for Shim Screw)
○25○-SVUB&16-34A○ ○32S-SVUB&16-40A○	SVN-32N	SS-4N	LW-4

A-SVZC(B)-AE형 엑설런트바 (백가공) Excellent Bar (Back Copying)

최대 돌출량 L/D=~5.5 Max. Overhang Length L/D=~5.5



A12M－SVZC％08-16AE의 2단째 홀경(ϕ3) inner hole dia. (ø3) for A12M-SVZC&08-16AE
A16Q－SVZB％11-20AE의 2단째 홀경(ϕ3) inner hole dia. (ø3) for A16Q-SVZB&11-20AE
A20R－SVZB％11-25AE의 2단째 홀경(ϕ3) inner hole dia. (ø3) for A20R-SVZB&11-25AE
A32S－SVZB％16-40AE는 스트레이트 홀경(ϕ5) Straight hole dia. (ø5) for A32S-SVZB&16-40AE

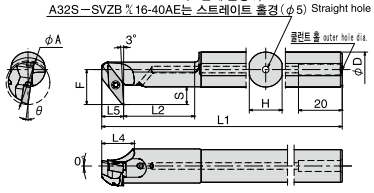


그림-1 Fig.1

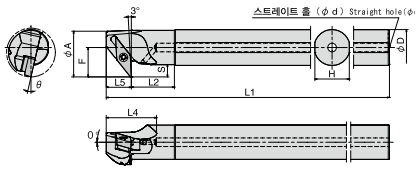


그림-2 Fig.2

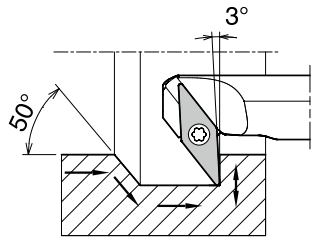
상크경 ØD Shank Dia. øD	쿨런트 홀 outer hole dia.	스트레이트 홀경 Ød Straight hole Dia. ød
Ø12	Ø4	-
Ø16	Ø5	
Ø20		
Ø25	-	Ø5
Ø32		

• 본 그림은 우승수 (R) 를 나타냅니다 .
Right-hand Shown

※SVZC&08형·SVZB&11형은 시트는 장착되어 있지 않습니다.
우승수 (R) 홀더에는 우승수 (R) 팁 , 좌승수 (L) 홀더에는 좌승수 (L) 팁이 적합합니다 .
Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder

S-SVZC(B)-A형 강바(백가공) Steel Bar (Back Copying)

최대 돌출량 L/D=~4 Max. Overhang Length L/D=~4



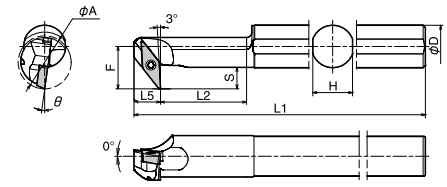


그림-3 Fig.3

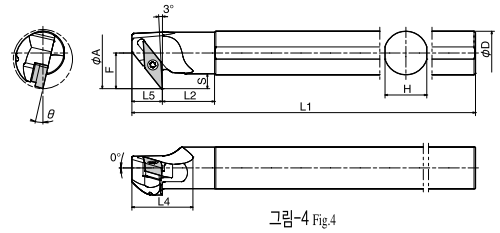


그림-4 Fig.4

• 본 그림은 우승수 (R) 를 나타냅니다 .
Right-hand Shown

※SVZC&08형·SVZB&11형은 시트는 장착되어 있지 않습니다.
우승수 (R) 홀더에는 우승수 (R) 팁 , 좌승수 (L) 홀더에는 좌승수 (L) 팁이 적합합니다 .
Right-hand Insert for Right-hand Toolholder, Left-hand Insert for Left-hand Toolholder

● 홀더 치수 Toolholder Dimensions

	규 격 Description	재고 Stock R	재고 Stock L	최소 가공경 Min. Bore Dia. ØA	치 수 (mm) Dimension ØD	H	L1	L2	L4	L5	F	S	θ	기준코너R (rε) Std. Corner-R (rε)	쿨런트홀 Coolant Hole	형상 Shape	부 품 Spare Parts 클램프 스크류 Clamp Screw	렌치 Wrench	적합 팁 Applicable Inserts
엑설런트바 Excellent Bar	A12M-SVZC&08-16AE	●	●	16	12	11	150	25.5	14	7.5	11.5	5.5	8°	0.4	유 Yes	그림-1 Fig.1	SB-2050TR	FT-6	VC..0802..
	A16Q-SVZB&11-20AE	●	●	20	16	15	180	32.5	20	10	16	8	8°				SB-2570TR	FT-8	VB..1103..
	A20R-SVZB&11-25AE	●	●	25	20	19	200	40.5	23	10	18	8	7°						
	A25S-SVZB&16-34AE	●	●	34	25	24	250	30	34	17.5	20.5	8.5	13°			그림-2 Fig.2	SB-40125TRN	FT-15	VB..1604.. VC..1604..
	A32S-SVZB&16-40AE	●	●	40	32	31	250	72.5	36	17.5	28	12	9°			그림-1 Fig.1			
강 Steel	S12M-SVZC&08-16A	●	●	16	12	11	150	25.5	14	7.5	11.5	5.5	8°	0.4	무 No	그림-3 Fig.3	SB-2050TR	FT-6	VC..0802..
	S16Q-SVZB&11-20A	●	●	20	16	15	180	32.5	20	10	16	8	8°				SB-2570TR	FT-8	VB..1103..
	S20R-SVZB&11-25A	●	●	25	20	19	200	40.5	23	10	18	8	7°						
	S25S-SVZB&16-34A	●	●	34	25	24	250	30	34	17.5	20.5	8.5	13°			그림-4 Fig.4	SB-40125TRN	FT-15	VB..1604.. VC..1604..
	S32S-SVZB&16-40A	●	●	40	32	31	250	72.5	36	17.5	28	12	9°			그림-3 Fig.3			

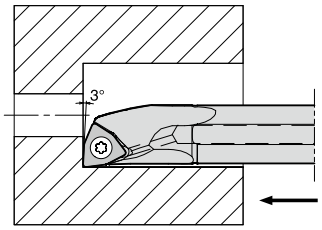
●：표준재고 ●：Std. Stock

●부품 Spare Parts

규 격 Description	부 품 Spare Parts 시트 Shim	심 스크류 Shim Screw	렌치 (심 스크류용) Wrench(for Shim Screw)
○25S-SVZB&16-34A○	SVN-32N	SS-4N	LW-4
○32S-SVZB&16-40A○			

S/A-SWUB (P) -AE형 엑설런트바 (내경가공) Excellent Bar (Boring)

최대 돌출량 L/D=~5.5 Max. Overhang Length L/D=~5.5



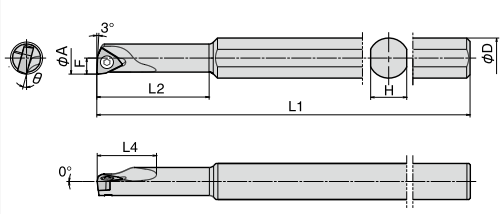
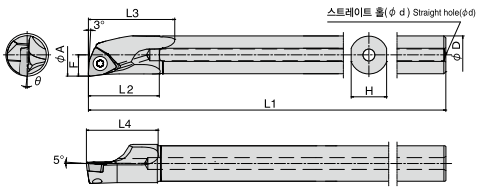


그림-1 Fig.1



A08X-SWUB ％08-10AE, A10L-SWUB ％08-12AE는 0°

그림-2 Fig.2

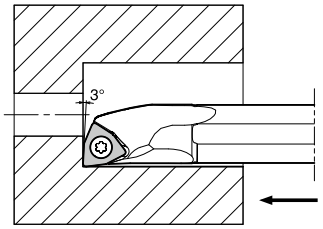
샹크경 ØD Shank Dia. øD	스트레이트홀경 Ød Straight hole Dia. ød
Ø8	Ø2.5
Ø10	Ø3
Ø12	Ø4
Ø16	Ø5

• 본 그림은 우승수 (R) 를 나타냅니다 .
Right-hand Shown

우승수 (R) 홀더에는 좌승수 (L) 팁 , 좌승수 (L) 홀더에는 우승수 (R) 팁이 적합합니다 .
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

S-SWUB (P) -A형 강바 (내경가공) Steel Bar (Boring)

최대 돌출량 L/D=~4 Max. Overhang Length L/D=~4



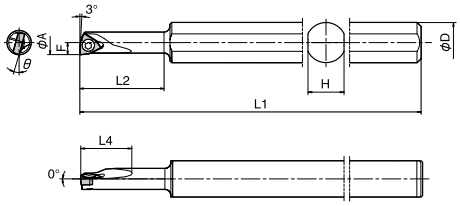
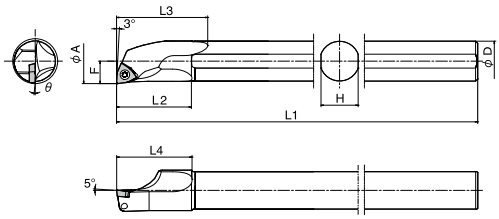


그림-3 Fig.3



S08X-SWUB ％08-10A, S10L-SWUB ％08-12A는 0°

그림-4 Fig.4

• 본 그림은 우승수 (R) 를 나타냅니다 .
Right-hand Shown

우승수 (R) 홀더에는 좌승수 (L) 팁 , 좌승수 (L) 홀더에는 우승수 (R) 팁이 적합합니다 .
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

● 홀더 치수 Toolholder Dimensions

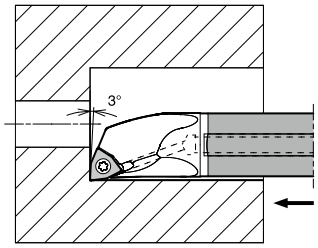
규 격 Description		재고 Stock R	재고 Stock L	최소 가공경 Min. Bore Dia. ØA	치 수 (mm) Dimension ØD	H	L1	L2	L3	L4	F	S	θ	기준코너R (rε) Std. Corner-R (rε)	쿨런트홀 Coolant Hole	형상 Shape	부품 Spare Parts 클램프 스크류 Clamp Screw	렌치 Wrench	적합 팁 Applicable Inserts
엑설런트바 Excellent Bar	S10H-SWUB&06-06AE	●	●	6	10	9	100	21	-	13	3	-	15°	0.2	무 No	그림-1 Fig.1	SB-2035TR	FT-6	WB..0601..
	S10H-SWUB&06-07AE	●	●	7	10	9	100	24.5	-	15	3.5	-	13°						
	S10H-SWUB&08-08AE	●	●	8	10	9	100	28	-	15	4	-	15°						WB..0802..
	A08X-SWUB&08-10AE	●	●	10	8	7	120	16	21	16	5	-	13°		유 Yes	그림-2 Fig.2	SB-2050TR		
	A10L-SWUB&08-12AE	●	●	12	10	9	140	20	25	20	6	-	10°						
	A12M-SWUP&11-14AE	●	●	14	12	11	150	24	30	24	7	-	4°	0.4			SB-2545TR	FT-8	WP..1102..
	A16Q-SWUP&11-18AE	●	●	18	16	15	180	30	37	30	9	-	1°						
	A16Q-SWUP&16-18AE	●	●										3.5°	0.8			SB-4065TR	FT-15	WP..1603..
	A20R-SWUP&16-22AE	●	●	22	20	19	200	36	46	37	11	-	2°						
강 Steel	S10H-SWUB&06-06A	●	●	6	10	9	100	21	-	13	3	-	15°	0.2	무 No	그림-3 Fig.3	SB-2035TR	FT-6	WB..0601..
	S10H-SWUB&06-07A	●	●	7	10	9	100	25	-	15	3.5	-	13°						
	S10H-SWUB&08-08A	●	●	8	10	9	100	28	-	15	4	-	15°						WB..0802..
	S08X-SWUB&08-10A	●	●	10	8	7	120	16	21	16	5	-	13°			그림-4 Fig.4	SB-2050TR		
	S10L-SWUB&08-12A	●	●	12	10	9	140	20	25	20	6	-	10°						
	S12M-SWUP&11-14A	●	●	14	12	11	150	24	30	24	7	-	4°	0.4			SB-2545TR	FT-8	WP..1102..
	S16Q-SWUP&11-18A	●	●	18	16	15	180	30	37	30	9	-	1°						
	S16Q-SWUP&16-18A	●	●										3.5°	0.8			SB-4065TR	FT-15	WP..1603..
	S20R-SWUP&16-22A	●	●	22	20	19	200	36	46	37	11	-	2°						

● : 표준재고 ● : Std. Stock

E (C) -SWUB (P) -A형(초경 방진바) 은 다음페이지를 확인하여 주십시오. For E (C) -SWUB (P) -A type Carbide Shank Bar, see next page.

E (C) -SWUB (P) -A형 초경 방진바 (내경가공) Carbide Shank Bar (Boring)

최대 돌출량 L/D=~7 Max. Overhang Length L/D=~7



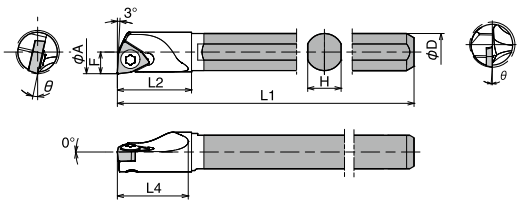
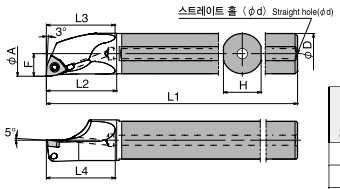


그림-5 Fig.5



E08L-SWUB ℅08-10A, E10N-SWUB ℅08-12A,
E10N-SWUB ℅08-12A-2/3, E10N-SWUB ℅08-12A-1/2는 0°

그림-6 Fig.6

샹크경 ØD Shank Dia. øD	스트레이트 홀경 Ød Straight hole Dia. ød
Ø5	-
Ø6	
Ø7	
Ø8	Ø3
Ø10	
Ø12	Ø4
Ø16	
Ø20	Ø6

• 본 그림은 우승수 (R) 를 나타냅니다 .
Right-hand Shown

우승수 (R) 홀더에는 좌승수 (L) 팁 , 좌승수 (L) 홀더에는 우승수 (R) 팁이 적합합니다 .
Left-hand Insert for Right-hand Toolholder, Right-hand Insert for Left-hand Toolholder

● 홀더 치수 Toolholder Dimensions

규 격 Description		재고 Stock R	재고 Stock L	최소 가공경 Min. Bore Dia. ØA	치 수 (mm) Dimension ØD	H	L1	L2	L3	L4	F	S	θ	기준코너R (rε) Std. Corner-R (rε)	쿨런트홀 Coolant Hole	형 상 Shape	부 품 Spare Parts 클램프 스크류 Clamp Screw	렌치 Wrench	적합 팁 Applicable Inserts
초경 Carbide	C05H-SWUB&06-06A	●	●	6	5	4.4	100	11	-	11	3	-	13°	0.2	무 No	그림-5 Fig.5	SB-2035TR	FT-6	WB..0602..
	C06J-SWUB&06-07A	●	●	7	6	5.4	110	12	-	12	3.5	-	13°						
	C07K-SWUB&08-08A	●	●	8	7	6.4	125	13	-	13	4	-	13°						
	E08L-SWUB&08-10A	●	●	10	8	7	140	16	15	15	5	-	13°		유 Yes	그림-6 Fig.6	SB-2050TR		WB..0802..
	E10N-SWUB&08-12A	●	●	12	10	9	160	20	19	19	6	-	10°						
	E10N-SWUB&08-12A-2/3	●					105					-							
	E10N-SWUB&08-12A-1/2	●					80					-							
	E12Q-SWUP&11-14A	●	●	14	12	11	180	23	22	22	7	-	4°	0.4			SB-2545TR	FT-8	WP..1102..
	E12Q-SWUP&11-14A-2/3	●					120					-							
	E12Q-SWUP&11-14A-1/2	●					90					-							
	E16X-SWUP&11-18A	●	●	18	16	15	220	28	27	27	9	-	1°						
	E16X-SWUP&11-18A-2/3	●					145					-							
	E16X-SWUP&11-18A-1/2	●					110					-							
	E16X-SWUP&16-18A	●	●				220					-	3.5°	0.8			SB-4065TR	FT-15	WP..1603..
	E16X-SWUP&16-18A-2/3	●					145					-							
	E16X-SWUP&16-18A-1/2	●					110					-							
	E20S-SWUP&16-22A	●	●	22	20	19	250	32	31	31	11	-	2°						
	E20S-SWUP&16-22A-2/3	●					165					-							
	E20S-SWUP&16-22A-1/2	●					125					-							

● : 표준재고 ● : Std. Stock

Substitute Item Description for Boring Bar

기존 보링바 Previous Boring Bar				대체품 규격 Substitute Item Description					
				다이나믹바 (추천1) Dynamic Bar (1st.Recommendation)			다이나믹바 (추천2) Dynamic Bar (2nd.Recommendation)		
샹크 Shank	팁 형상 Applicable Inserts	쿨런트 홀 Coolant Hole	규격 Description	쿨런트 홀 Coolant Hole	규격 Description	참조 페이지 Ref. Page	쿨런트 홀 Coolant Hole	규격 Description	참조 페이지 Ref. Page
엑셀런트바 Excellent Bar	CC..	무 No	S08X-SCLC&06-10E	유 Yes	A08X-SCLC&06-10AE	P5	무 No	S08X-SCLC&06-10A	P5
			S10H-SCLC&03-05E	무 No	S10H-SCLC&03-05AE		–	-	-
			S10H-SCLC&03-06E		S10H-SCLC&03-06AE				
			S10J-SCLC&04-07E		S10H-SCLC&04-07AE				
			S10J-SCLC&04-08E		S10H-SCLC&04-08AE				
		유 Yes	A08H-SCLC&06-10E	유 Yes	A08X-SCLC&06-10AE		무 No	S08X-SCLC&06-10A	P5
	CP..	무 No	S10M-SCLP&08-12E	유 Yes	A10L-SCLP&08-12AE	P6	무 No	S10L-SCLP&08-12A	P6
			S12M-SCLP&08-14E		A12M-SCLP&08-14AE			S12M-SCLP&08-14A	
			S12M-SCLP&09-16E		A12M-SCLP&09-16AE			S12M-SCLP&09-16A	
			S16Q-SCLP&09-18E		A16Q-SCLP&09-18AE			S16Q-SCLP&09-18A	
			S16R-SCLP&09-20E						
			S20X-SCLP&09-25E		A20R-SCLP&09-22AE			S20R-SCLP&09-22A	
		유 Yes	A10X-SCLP&08-12E	유 Yes	A10L-SCLP&08-12AE	P6	무 No	S10L-SCLP&08-12A	P6
			A12X-SCLP&08-14E		A12M-SCLP&08-14AE			S12M-SCLP&08-14A	
			A12X-SCLP&09-16E		A12M-SCLP&09-16AE			S12M-SCLP&09-16A	
			A16M-SCLP&09-18E		A16Q-SCLP&09-18AE			S16Q-SCLP&09-18A	
			A16M-SCLP&09-20E						
			A20Q-SCLP&09-25E		A20R-SCLP&09-22AE			S20R-SCLP&09-22A	
	DC..	무 No	S10M-SDUC&07-14E	유 Yes	A10L-SDUC&07-14AE	P7	무 No	S10L-SDUC&07-14A	P7
			S12M-SDUC&07-16E		A12M-SDUC&07-16AE			S12M-SDUC&07-16A	
			S16Q-SDUC&07-20E		A16Q-SDUC&07-20AE			S16Q-SDUC&07-20A	
			S16Q-SDUC&11-25E		A16Q-SDUC&11-23AE			S16Q-SDUC&11-23A	
			S20Q-SDUC&11-32E		A20R-SDUC&11-27AE			S20R-SDUC&11-27A	
		무 No	S10M-SDZC&07-14E	유 Yes	A10L-SDZC&07-14AE	P9	무 No	S10L-SDZC&07-14A	P9
			S12M-SDZC&07-16E		A12M-SDZC&07-16AE			S12M-SDZC&07-16A	
			S16Q-SDZC&07-20E		A16Q-SDZC&07-20AE			S16Q-SDZC&07-20A	
			S16Q-SDZC&11-25E		A16Q-SDZC&11-23AE			S16Q-SDZC&11-23A	
			S20Q-SDZC&11-32E		A20R-SDZC&11-27AE			S20R-SDZC&11-27A	
	TB..	무 No	S06H-STUB&06-08E	무 No	S06H-STLB&06-08AE	P12	무 No	S06H-STLB&06-08A	P12
	TP..	무 No	S08K-STUP&08-10E	유 Yes	A08X-STLP&09-10AE	P12	무 No	S08X-STLP&09-10A	P12
			S10M-STUP&09-12E		A10L-STLP&09-12AE			S10L-STLP&09-12A	
			S10M-STUP&11-12E		A10L-STLP&11-12AE			S10L-STLP&11-12A	
			S12M-STUP&11-14E		A12M-STLP&11-14AE			S12M-STLP&11-14A	
			S12M-STUP&09-16E						
			S12M-STUP&11-16E						
			S16R-STUP&11-18E		A16Q-STLP&11-18AE			S16Q-STLP&11-18A	
			S16R-STUP&11-20E						
			S20X-STUP&11-25E		A20R-STLP&11-22AE			S20R-STLP&11-22A	
			S20X-STUP&16-25E						
			S25X-STUP&16-32E		A25S-STLP&16-27AE			S25S-STLP&16-27A	
		유 Yes	A08H-STUP&08-10E	유 Yes	A08X-STLP&09-10AE	P12	무 No	S08X-STLP&09-10A	P12
			A10X-STUP&09-12E		A10L-STLP&09-12AE			S10L-STLP&09-12A	
			A10X-STUP&11-12E		A10L-STLP&11-12AE			S10L-STLP&11-12A	
			A12X-STUPR09-16E		A12M-STLPR11-14AE			S12M-STLPR11-14A	
			A12X-STUPR11-16E						
			A12X-STUP&11-14E		A12M-STLP&11-14AE			S12M-STLP&11-14A	
			A16M-STUP&11-18E		A16Q-STLP&11-18AE			S16Q-STLP&11-18A	
			A16M-STUP&11-20E						
			A20Q-STUP&11-25E		A20R-STLP&11-22AE			S20R-STLP&11-22A	
			A20Q-STUP&16-25E						
			A25R-STUP&16-32E		A25S-STLP&16-27AE			S25S-STLP&16-27A	
	VB..	무 No	S20R-SVJB&11-25E	유 Yes	A20R-SVJB&11-25AE	P13	무 No	S20R-SVJB&11-25A	P13
			S25S-SVJB&11-30E		A25S-SVJB&11-30AE			S25S-SVJB&11-30A	
			S32S-SVJB&16-40EN		A32S-SVJB&16-40AE			S32S-SVJB&16-40A	
			S40T-SVJB&16-50EN		A40T-SVJB&16-50AE			S40T-SVJB&16-50A	

주) 대조 규격에는 최소 가공경·적합팁 사이즈 등이 다른 경우의 것이므로, 카탈로그 등에서 홀더 사양의 확인을 부탁드립니다.
For some substitute item, minimum bore diameter and applicable insert size may be different. Please see the catalog for details.

보링바 대체품 규격 대조표 Substitute Item Description for Boring Bar

기존 보링바 Previous Boring Bar				대체품 규격 Substitute Item Description					
				다이나믹바 (추천1) Dynamic Bar (1st.Recommendation)			다이나믹바 (추천2) Dynamic Bar (2nd.Recommendation)		
샹크 Shank	팁 형상 Applicable Inserts	쿨런트 홀 Coolant Hole	규격 Description	쿨런트 홀 Coolant Hole	규격 Description	참조 페이지 Ref. Page	쿨런트 홀 Coolant Hole	규격 Description	참조 페이지 Ref. Page
엑셀런트바 Excellent Bar	VB..	무 No	S12M-SVPB&11-20E	유 Yes	A12M-SVPB&11-18AE	P15	무 No	S12M-SVPB&11-18A	P15
			S16Q-SVPB&11-25E		A16Q-SVPB&11-22AE			S16Q-SVPB&11-22A	
			S25X-SVPB&16-34EN		A25S-SVPB&16-31AE			S25S-SVPB&16-31A	
			S32S-SVPB&16-40EN		A32S-SVPB&16-40AE			S32S-SVPB&16-40A	
		무 No	S16Q-SVUB&11-20E	유 Yes	A16Q-SVUB&11-20AE	P16	무 No	S16Q-SVUB&11-20A	P16
			S20R-SVUB&11-25E		A20R-SVUB&11-25AE			S20R-SVUB&11-25A	
			S25X-SVUB&16-34EN		A25S-SVUB&16-34AE			S25S-SVUB&16-34A	
			S32S-SVUB&16-40EN		A32S-SVUB&16-40AE			S32S-SVUB&16-40A	
		무 No	S16Q-SVZB&11-20E	유 Yes	A16Q-SVZB&11-20AE	P17	무 No	S16Q-SVZB&11-20A	P17
			S20R-SVZB&11-25E		A20R-SVZB&11-25AE			S20R-SVZB&11-25A	
			S25X-SVZB&16-34EN		A25S-SVZB&16-34AE			S25S-SVZB&16-34A	
			S32S-SVZB&16-40EN		A32S-SVZB&16-40AE			S32S-SVZB&16-40A	
	VC..	무 No	S12M-SVJC&08-16E	유 Yes	A12M-SVJC&08-16AE	P13	무 No	S12M-SVJC&08-16A	P13
			S16Q-SVJC&08-20E		A16Q-SVJC&08-20AE			S16Q-SVJC&08-20A	
		무 No	S10M-SVPC&08-16E	유 Yes	A10L-SVPC&08-14AE	P15	무 No	S10L-SVPC&08-14A	P15
		무 No	S12M-SVUC&08-16E	유 Yes	A12M-SVUC&08-16AE	P16	무 No	S12M-SVUC&08-16A	P16
		무 No	S12M-SVZC&08-16E	유 Yes	A12M-SVZC&08-16AE	P17	무 No	S12M-SVZC&08-16A	P17
	VP..	무 No	S12M-SVJP&08-16E	유 Yes	A12M-SVJP&08-16AE	P13	무 No	S12M-SVJP&08-16A	P13
	WB..	무 No	S08K-SWUB&08-10E	유 Yes	A08X-SWUB&08-10AE	P18	무 No	S08X-SWUB&08-10A	P18
			S10M-SWUB&08-12E		A10L-SWUB&08-12AE			S10L-SWUB&08-12A	
			S10H-SWUB&06-06E	무 No	S10H-SWUB&06-06AE			S10H-SWUB&06-06A	
			S10H-SWUB&06-07E		S10H-SWUB&06-07AE			S10H-SWUB&06-07A	
			S10J-SWUB&08-08E		S10H-SWUB&08-08AE			S10H-SWUB&08-08A	
	WP..	무 No	S12M-SWUP&11-14E	유 Yes	A12M-SWUP&11-14AE	P18	무 No	S12M-SWUP&11-14A	P18
			S12M-SWUP&11-16E						
			S16N-SWUP&11-18E		A16Q-SWUP&11-18AE			S16Q-SWUP&11-18A	
			S16Q-SWUP&16-20E		A16Q-SWUP&16-18AE			S16Q-SWUP&16-18A	
			S20R-SWUP&16-25E		A20R-SWUP&16-22AE			S20R-SWUP&16-22A	
		유 Yes	A12X-SWUP&11-14E	유 Yes	A12M-SWUP&11-14AE	P18	무 No	S12M-SWUP&11-14A	P18
			A12X-SWUP&11-16E						
			A16M-SWUP&11-18E		A16Q-SWUP&11-18AE			S16Q-SWUP&11-18A	
			A16M-SWUP&16-20E		A16Q-SWUP&16-18AE			S16Q-SWUP&16-18A	
			A20Q-SWUP&16-25E		A20R-SWUP&16-22AE			S20R-SWUP&16-22A	
강바 Steel Bar	CC..	무 No	S08X-SCLC&06-10	무 No	S08X-SCLC&06-10A	P5	–	-	-
		유 Yes	A08H-SCLC&06-10				유 Yes	A08X-SCLC&06-10AE	P5
			A10X-SCLC&06-12		S10L-SCLC&06-12A			A10L-SCLC&06-12AE	
			A12X-SCLC&06-14		S12M-SCLC&06-14A			A12M-SCLC&06-14AE	
			A12X-SCLC&06-16						
			A12X-SCLC&09-16						
			A16M-SCLC&06-20		S16Q-SCLC&09-18A			A16Q-SCLC&09-18AE	
			A16M-SCLC&09-18						
			A16M-SCLC&09-20						
			A20Q-SCLC&09-25		S20R-SCLC&09-22A			A20R-SCLC&09-22AE	
	CP..	무 No	S10M-SCLP&08-12	무 No	S10L-SCLP&08-12A	P6	–	-	-
			S12M-SCLP&08-14		S12M-SCLP&08-14A				
			S12M-SCLP&09-16		S12M-SCLP&09-16A				
			S16N-SCLP&09-18		S16Q-SCLP&09-18A				
			S16Q-SCLP&09-20						
			S20R-SCLP&09-25		S20R-SCLP&09-22A				
			S25S-SCLP&09-30		S25S-SCLP&09-27A				
	DC..	무 No	S16Q-SDUC&07-14	무 No	S16Q-SDUC&07-14A	P7	–	-	-
			S16Q-SDUC&07-16						
			S20R-SDUC&11-20		S20R-SDUC&11-20A				
			S25X-SDUC&11-25		S16Q-SDUC&11-23A		무 No	S25S-SDUC&11-32A	P7
		무 No	S16Q-SDZC&07-14	무 No	S16Q-SDZC&07-14A	P9	–	-	-
			S16Q-SDZC&07-16						
			S20R-SDZC&11-20		S20R-SDZC&11-20A				
			S25X-SDZC&11-25		S16Q-SDZC&11-23A		무 No	S25S-SDZC&11-32A	P9

주) 대조 규격에는 최소 가공경·적합팁 사이즈 등이 다른 경우의 것이므로, 카탈로그 등에서 홀더 사양의 확인을 부탁드립니다.
For some substitute item, minimum bore diameter and applicable insert size may be different. Please see the catalog for details.

▦보링바 대체품 규격 대조표 Substitute Item Description for Boring Bar

기존 보링바 Previous Boring Bar				대체품 규격 Substitute Item Description					
				다이나믹바 (추천1) Dynamic Bar (1st.Recommendation)			다이나믹바 (추천2) Dynamic Bar (2nd.Recommendation)		
샹크 Shank	팁 형상 Applicable Inserts	쿨런트 홀 Coolant Hole	규격 Description	쿨런트 홀 Coolant Hole	규격 Description	참조 페이지 Ref. Page	쿨런트 홀 Coolant Hole	규격 Description	참조 페이지 Ref. Page
강바 Steel Bar	TB..	무 No	S06H-STUB&06-08	무 No	S06H-STLB&06-08A	P12	-	-	-
	TP..	무 No	S08K-STUP&08-10	무 No	S08X-STLP&09-10A	P12	-	-	-
			S10M-STUP&09-12		S10L-STLP&09-12A				
			S12M-STUP&09-16		S12M-STLP&11-14A				
			S16Q-STUP&11-20		S16Q-STLP&11-18A				
			S20R-STUP&11-25		S20R-STLP&11-22A				
			S25X-STUP&16-32		S25S-STLP&16-27A				
	WB..	무 No	S10H-SWUB&06-06	무 No	S10H-SWUB&06-06A	P18	-	-	-
			S10H-SWUB&06-06-15						
			S10H-SWUB&06-07		S10H-SWUB&06-07A				
			S10J-SWUB&08-08		S10H-SWUB&08-08A				
			S10J-SWUB&08-08-20						
초경 방진바 Carbide Shank Bar	CC..	무 No	C04G-SCLC&03-05	무 No	C04G-SCLC&03-05A	P5	-	-	-
			C05H-SCLC&03-06		C05H-SCLC&03-06A				
			C06J-SCLC&04-07		C06J-SCLC&04-07A				
			C07K-SCLC&04-08		C07K-SCLC&04-08A				
			C08L-SCLC&06-10	유 Yes	E08L-SCLC&06-10A				
		유 Yes	E08L-SCLC&06-10		E08L-SCLC&06-10A				
	CP..	무 No	C10N-SCLP&08-12	유 Yes	E10N-SCLP&08-12A	P6	-	-	-
			C10N-SCLPR08-12-1/2		E10N-SCLPR08-12A-1/2				
			C10N-SCLPR08-12-2/3		E10N-SCLPR08-12A-2/3				
			C12Q-SCLP&09-16		E12Q-SCLP&08-14A				
			C12Q-SCLPR09-16-1/2		E12Q-SCLPR08-14A-1/2				
			C12Q-SCLPR09-16-2/3		E12Q-SCLPR08-14A-2/3				
			C16X-SCLP&09-20		E16X-SCLP&09-18A				
			C16X-SCLPR09-20-1/2		E16X-SCLPR09-18A-1/2				
			C16X-SCLPR09-20-2/3		E16X-SCLPR09-18A-2/3				
			C20S-SCLP&09-25		E20S-SCLP&09-22A				
			C20S-SCLPR09-25-1/2		E20S-SCLPR09-22A-1/2				
			C20S-SCLPR09-25-2/3		E20S-SCLPR09-22A-2/3				
		유 Yes	E10N-SCLP&08-12	유 Yes	E10N-SCLP&08-12A	P6	-	-	-
			E12Q-SCLP&09-16		E12Q-SCLP&08-14A				
			E16X-SCLP&09-20		E16X-SCLP&09-18A				
			E20S-SCLP&09-25		E20S-SCLP&09-22A				
	DC..	무 No	C10N-SDUC&07-14	유 Yes	E10N-SDUC&07-14A	P7	-	-	-
			C12Q-SDUC&07-16		E12Q-SDUC&07-16A				
			C12Q-SDUC&11-20		E12Q-SDUC&07-16A				
			C16X-SDUC&11-25		E16X-SDUC&11-23A				
			C20S-SDUC&11-32		E20S-SDUC&11-27A				
	TB..	무 No	C10L-STUB&06-08	무 No	C06J-STLB&06-08A	P12	-	-	-
	TP..	무 No	C08L-STUP&08-10	유 Yes	E08L-STLP&09-10A				
			C10N-STUP&09-12		E10N-STLP&09-12A				
			C10N-STUPR09-12-1/2		E10N-STLPR09-12A-1/2				
			C10N-STUPR09-12-2/3		E10N-STLPR09-12A-2/3				
			C10N-STUP&11-12		E10N-STLP&11-12A				
			C10N-STUPR11-12-1/2		E10N-STLPR11-12A-1/2				
			C10N-STUPR11-12-2/3		E10N-STLPR11-12A-2/3				
			C12Q-STUP&11-14		E12Q-STLP&11-14A				
			C12Q-STUPR11-14-1/2		E12Q-STLPR11-14A-1/2				
			C12Q-STUPR11-14-2/3		E12Q-STLPR11-14A-2/3				
			C12Q-STUP&09-16		E12Q-STLP&11-14A				
			C12Q-STUPR09-16-1/2		E12Q-STLPR11-14A-1/2				
			C12Q-STUPR09-16-2/3		E12Q-STLPR11-14A-2/3				
			C12Q-STUP&11-16		E12Q-STLP&11-14A				
			C12Q-STUPR11-16-1/2		E12Q-STLPR11-14A-1/2				
			C12Q-STUPR11-16-2/3		E12Q-STLPR11-14A-2/3				

주) 대조 규격에는 최소 가공경·적합팁 사이즈 등이 다른 경우의 것이므로, 카탈로그 등에서 홀더 사양의 확인을 부탁드립니다.
For some substitute item, minimum bore diameter and applicable insert size may be different. Please see the catalog for details.

보링바 대체품 규격 대조표 Substitute Item Description for Boring Bar

기존 보링바 Previous Boring Bar				대체품 규격 Substitute Item Description					
				다이나믹바 (추천1) Dynamic Bar (1st.Recommendation)			다이나믹바 (추천2) Dynamic Bar (2nd.Recommendation)		
샹크 Shank	팁 형상 Applicable Inserts	쿨런트 홀 Coolant Hole	규격 Description	쿨런트 홀 Coolant Hole	규격 Description	참조 페이지 Ref. Page	쿨런트 홀 Coolant Hole	규격 Description	참조 페이지 Ref. Page
초경 방진바 Carbide Shank Bar	TP..	무 No	C16X-STUP&11-18	유 Yes	E16X-STLP&11-18A	P12	-	-	-
			C16X-STUPR11-18-1/2		E16X-STLPR11-18A-1/2				
			C16X-STUPR11-18-2/3		E16X-STLPR11-18A-2/3				
			C16X-STUP&11-20		E16X-STLP&11-18A				
			C16X-STUPR11-20-1/2		E16X-STLPR11-18A-1/2				
			C16X-STUPR11-20-2/3		E16X-STLPR11-18A-2/3				
			C20S-STUP&11-25		E20S-STLP&11-22A				
			C20S-STUPR11-25-1/2		E20S-STLPR11-22A-1/2				
			C20S-STUPR11-25-2/3		E20S-STLPR11-22A-2/3				
			C20S-STUP&16-25		E20S-STLP&11-22A				
			C20S-STUPR16-25-1/2		E20S-STLPR11-22A-1/2				
			C20S-STUPR16-25-2/3		E20S-STLPR11-22A-2/3				
		유 Yes	E08L-STUP&08-10	유 Yes	E08L-STLP&09-10A	P12	-	-	-
			E10N-STUP&09-12		E10N-STLP&09-12A				
			E10N-STUP&11-12		E10N-STLP&11-12A				
			E12Q-STUP&09-16		E12Q-STLP&11-14A				
			E12Q-STUP&11-14		E12Q-STLP&11-14A				
			E12Q-STUP&11-16		E12Q-STLP&11-14A				
			E16X-STUP&11-18		E16X-STLP&11-18A				
			E16X-STUP&11-20		E16X-STLP&11-18A				
			E20S-STUPR11-25		E20S-STLPR11-22A				
			E20S-STUPR16-25		E20S-STLPR11-22A				
	WB..	무 No	C05H-SWUB&06-06	무 No	C05H-SWUB&06-06A	P19	-	-	-
			C06J-SWUB&06-07		C06J-SWUB&06-07A				
			C07K-SWUB&08-08		C07K-SWUB&08-08A				
			C08L-SWUB&08-10	유 Yes	E08L-SWUB&08-10A				
			C10N-SWUB&08-12		E10N-SWUB&08-12A				
			C10N-SWUBR08-12-1/2		E10N-SWUBR08-12A-1/2				
			C10N-SWUBR08-12-2/3		E10N-SWUBR08-12A-2/3				
	WP..	무 No	C12Q-SWUP&11-14	유 Yes	E12Q-SWUP&11-14A	P19	-	-	-
			C12Q-SWUPR11-14-1/2		E12Q-SWUPR11-14A-1/2				
			C12Q-SWUPR11-14-2/3		E12Q-SWUPR11-14A-2/3				
			C12Q-SWUP&11-16		E12Q-SWUP&11-14A				
			C12Q-SWUPR11-16-1/2		E12Q-SWUPR11-14A-1/2				
			C12Q-SWUPR11-16-2/3		E12Q-SWUPR11-14A-2/3				
			C16X-SWUP&11-18		E16X-SWUP&11-18A				
			C16X-SWUPR11-18-1/2		E16X-SWUPR11-18A-1/2				
			C16X-SWUPR11-18-2/3		E16X-SWUPR11-18A-2/3				
			C16X-SWUP&16-20		E16X-SWUP&16-18A				
			C16X-SWUPR16-20-1/2		E16X-SWUPR16-18A-1/2				
			C16X-SWUPR16-20-2/3		E16X-SWUPR16-18A-2/3				
			C20S-SWUP&16-25		E20S-SWUP&16-22A				
			C20S-SWUPR16-25-1/2		E20S-SWUPR16-22A-1/2				
			C20S-SWUPR16-25-2/3		E20S-SWUPR16-22A-2/3				

주) 대조 규격에는 최소 가공경·적합팁 사이즈 등이 다른 경우의 것이므로, 카탈로그 등에서 홀더 사양의 확인을 부탁드립니다.
For some substitute item, minimum bore diameter and applicable insert size may be different. Please see the catalog for details.

절삭공구에 관한 기술적인 상담은
032-821-8365
FAX:032-821-8369
근무시간 9:00~12:30 · 13:30~17:30
토요일 · 일요일 · 공휴일 등은 쉽니다.
한국교세라정공(주) 영업본부

KYOCERA
한국교세라정공(주)
인천광역시 남동구 고잔동 638-1,
남동공단 69BL 2LT, 우:405-817
TEL:032-821-8365 FAX:032-821-8369
http://www.kptk.co.kr