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the spoken kalite...
quality...*

DİŞ AÇMA

DİŞ AÇMA TAKIMLARI
THREADING TOOLHOLDERS





S **E** **R** **25 25** **M** **16** **C**

1 Sıkma Tipi
Method of Mounting of Insert

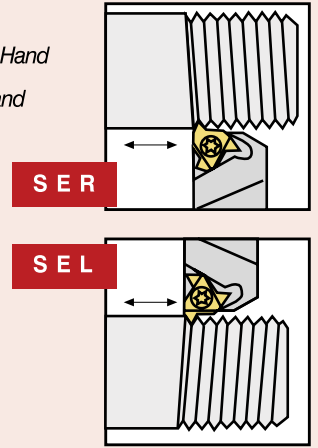
S: Vida Sıkmalı
S: Screw Clamping
T: Vida Sıkmalı Helis Açılı
T: Screw Clamping with Helix Angle

2 İşlem Tipi
Application

E: Dış / External
I: İç / Internal

3 Kesme Yönü
Cutting Direction

R: Sağ Yan / Right - Hand
L: Sol Yan / Left - Hand



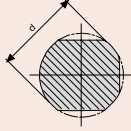
4 Takım Malzemesi / Type of Boring Bar

"A" Yekpare çelik gövde soğutma suyu kanallı / "A" Solid steel with coolant hole
"E" Çelik başlıkla sert metal gövde ve soğutma suyu kanallı /
"E" Carbide bar with fixed steel head and coolant hole
"C" Karbür Şaft / "C" Carbide shank
"S" Çelik Şaft / "S" Steel shank

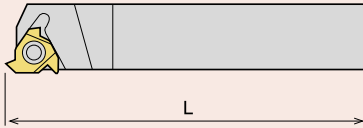
4-5 Dış Çap Şaft Ölçüleri
External Shank Size

Şaft : hxb / Shank : hxb
2525 - 25 x 25 mm

5 Şaft Çapı / Shank Diameter

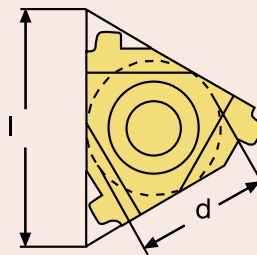


6 Şaft Boyu / Shank Length



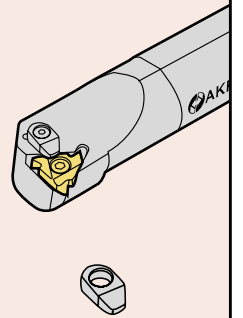
A - 32	H - 100	Q - 180	x-special
B - 40	J - 110	R - 200	
C - 50	K - 125	S - 250	
D - 60	L - 140	T - 300	
E - 70	M - 150	U - 350	
F - 80	N - 160	V - 400	
G - 90	P - 170	W - 450	

7 Elmas Ölçüsü
Insert Size



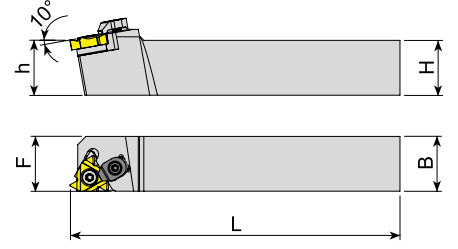
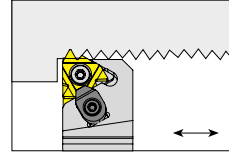
l (mm)	d
06	5/32"
08	3/16"
11	1/4"
16	3/8"
22	1/2"
27	5/8"

8 Baskı Pabucu
Wedge Clamp



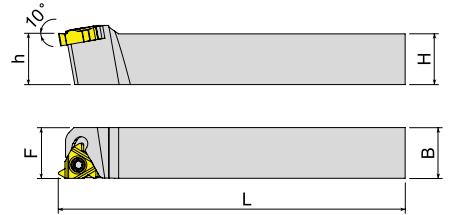
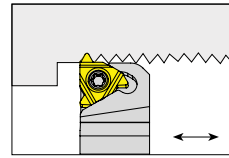
S **I** **R** **S** **25** **R** **16** **C**

DIŞ ÇAP DIŞ AÇMA KATERLERİ
EXTERNAL THREADING TOOLHOLDERS



Takım Kodu Ordering Code	Stok Stock		Takım Ölçüleri (mm) Dimension (mm)				Kesici Uç Insert	Yedek Parçaları Spare Parts					
	R	L	h=H	B	L	F		Sıkma Vidası Screw	Altık Shim	Altık Vidası Shim Screw	Baskı Parçası Wedge Clamp	Baskı Vidası Clamp Screw	Tork Anahtar Torx Key
SER/L 0808 E11	●	●	08	08	70	11	11 ER/EL	4008-M2.5x6	-	-	-	-	80-T08
SER/L 1010 E11	●	●	10	10	70	11							
SER/L 1212 F11	●	●	12	12	80	12							
SER/L 1616 H11	●	●	16	16	100	16	16 ER/EL (0.35 - 3) ISO METRIC	4015-M3.5x14	AATN-2-0020	AAV-06-M3.5x11	-	-	80-T15
SER/L 1616 H16C	●	●	16	16	100	16							
SER/L 2020 K16C	●	●	20	20	125	20							
SER/L 2525 M16C	●	●	25	25	150	25	22 ER/EL (3.5 - 4.5) ISO METRIC	1020-M4.5x16	AATN-2-0004	AAV-07-M4.5x13	ACK-05	1515 M4x11	80-T20
SER/L 3232 P16C	●	●	32	32	170	32							
SER/L 2525 M22C	●	●	25	25	150	25							
SER/L 3232 P22C	●	●	32	32	170	32	16 ER/L (1.5-3 TR)	4015-M3.5x14	-	-	-	-	80-T15
SER/L 4040 S22C	●	●	40	40	250	40							
SER/L 2525 M16C-T	●	●	25	25	150	25							
SER/L 2525 M22C-T	●	●	25	25	150	25	22 ER/L (4-6 TR)	1020-M4.5x16	-	-	-	-	80-T20
SER/L 2020 K16C-S	●	●	20	20	125	25	SNDVK 166 ER/L16	4015-M3.5x14	AATN-2-0020	AAV-06-M3.5x11	-	-	80-T15
SER/L 2525 M16C-S	●	●	25	25	150	31							
SER/L 3232 P16C-S	●	●	32	32	170	38.5							

DIŞ ÇAP DIŞ AÇMA İSVİÇRE TİPİ KAYAR OTOMAT MAKİNA KATERLERİ
EXTERNAL THREADING TOOLHOLDERS FOR SWISS TYPE SLIDING AUTOMATIC LATHES

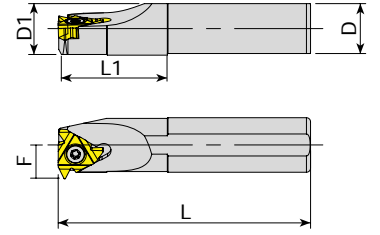
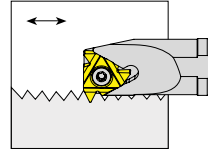


Takım Kodu Ordering Code	Stok Stock		Takım Ölçüleri (mm) Dimension (mm)				Kesici Uç Insert	Yedek Parçaları Spare Parts					
	R	L	h=H	B	L	F		Sıkma Vidası Screw	Altık Shim	Altık Vidası Shim Screw	Baskı Parçası Wedge Clamp	Baskı Vidası Clamp Screw	Tork Anahtar Torx Key
SER/L 1010 K11-S	●	●	10	10	125	10	11 ER/EL	4008-M2.5x6	-	-	-	-	80-T08
SER/L 1212 K11-S	●	●	12	12	125	12							

R: Sağ/Right L: Sol/Left ● Stokta/In Stock ○ Stokta Yok/Non Stock Item / Takımlar standart 1.5° helis açılı olarak üretilir. / The tools have a built in 1.5° helix angle.
UYARI / WARNING : Sayfa 106'deki B ve D figürleri uygulanamaz. / The operation for B and D on page 106 can not be applied.

Sipariş Örneği/Ordering Example : 1 ad./pcs. SER 0808 E11





Takım Kodu Ordering Code	Stok Stock		Takım Ölçüleri (mm) Dimension (mm)					Kesici Uç Insert	Yedek Parçaları Spare Parts						
	R	L	D	D1	L	L1	F		D min	Sıkma Vidası Screw	Altlık Shim	Altlık Vidası Shim Screw	Baskı Parçası Wedge Clamp	Baskı Vidası Clamp Screw	Tork Anahtar Torx Key
SIR/L S12X05H 06	●	○	12	05	100	15	4.3	6.4	06 IR/L	3006-M2x4	-	-	-	-	80-T06
SIR/L S16X07M 08	●	●	16	07	150	18	5.3	7.8	08 IR/L	3007-M2.2x5	-	-	-	-	80-T07
SIR/L S10H 11	●	●	10	10	100	-	7.4	12	11 IR/L	4008-M2.5x6	-	-	-	-	80-T08
SIR/L S12K 11	●	●	12	12	125	-	8.4	16							
SIR/L S16X10M 11	●	●	16	10	150	25	7.4	12							
SIR/L S16X13M 11	●	●	16	13	150	32	8.9	15	16 IR/L (0.35 - 3) ISO METRIC	4015-M3.5x9	-	-	-	-	80-T15
SIR/L S16M 11	●	●	16	16	150	-	11.7	19							
SIR/L S16X13M 16	●	●	16	13	150	32	10.2	16							
SIR/L S16M 16	●	●	16	16	150	-	11.7	19							
SIR/L S20X16P 16	●	●	20	16	170	40	11.7	19							
SIR/L S20P 16	●	●	20	20	170	-	13.7	24							
SIR/L S25R 16C	●	●	25	25	200	-	16.2	29	22 IR/L (3.5 - 4.5) ISO METRIC	4015-M3.5x14	AATN-2-0020	AAV-06-M3.5x11	ACK-05	1515-M4x11	80-T20
SIR/L S32S 16C	●	●	32	32	250	-	19.7	36							
SIR/L S40T 16C	●	●	40	40	300	-	23.7	44							
SIR/L S50U 16C	●	●	50	50	350	-	28.7	54							
SIR/L S20P 22	●	●	20	20	170	-	14	24	16 IR/L (1.5-3 TR)	4015-M3.5x14	-	-	-	-	80-T15
SIR/L S25R 22C	●	●	25	25	200	-	18.1	29							
SIR/L S32S 22C	●	●	32	32	250	-	21.6	38							
SIR/L S40T 22C	●	●	40	40	300	-	25.6	46	22 IR/L (4-6 TR)	1020-M4.5x16	AATN-2-0004	AAV-07-M4.5x13	ACK-05	1515-M4x11	80-T20
SIR/L S50U 22C	●	●	50	50	350	-	30.6	58							
SIR/L S25R 16C-T	●	●	25	25	200	-	16.2	29	16 IR/L (1.5-3 TR)	4015-M3.5x14	-	-	-	-	80-T15
SIR/L S32S 16C-T	●	●	32	32	250	-	19.7	36							
SIR/L S25R 22C-T	●	●	25	25	200	-	18.1	29							
SIR/L S32S 22C-T	●	●	32	32	250	-	21.6	38	22 IR/L (4-6 TR)	1020-M4.5x16	-	-	-	-	80-T20
SIR/L S25R 16C-T	●	●	25	25	200	-	16.2	29							

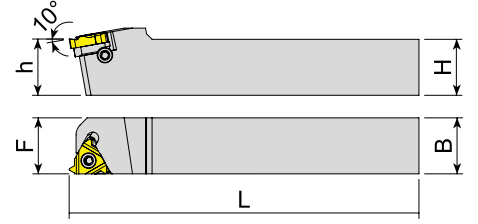
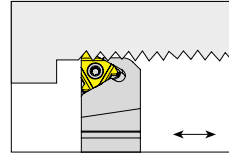
R: Sağ/Right L: Sol/Left ● Stokta/In Stock ○ Stokta Yok/Non Stock Item

Takımlar standart 1.5° helis açılı olarak üretilir. / The tools have a built in 1.5° helix angle.

UYARI / WARNING

Sayfa 107'deki B ve D figürleri uygulanamaz. / The operation for B and D on page 107 can not be applied.

Sipariş Örneği/Ordering Example : 1 ad./pcs. SIR S12X05H 06

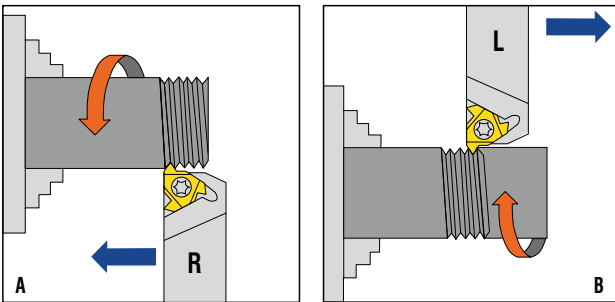


Takım Kodu Ordering Code	Stok Stock		Takım Ölçüleri (mm) Dimension (mm)				Kesici Uç Insert	Yedek Parçaları Spare Parts						
	R	L	h=H	B	L	F		Sıkma Vidası Screw	Sağ Altık Right Shim	Sol Altık Left Shim	Altık Vidası Shim Screw	Baskı Parçası Wedge Clamp	Baskı Vidası Clamp Screw	Tork Anahtar Torx Key
TER/L 1616 H16	●	●	16	16	100	16	16 ER/EL	1710-U5-40x12.2	ATS-16E	ATS-16I	AAV-11-U5-40x4.5	-	-	80-T10
TER/L 2020 K16	●	●	20	20	125	20								
TER/L 2525 M16	●	●	25	25	150	25								
TER/L 3232 P16	●	●	32	32	170	32								
TER/L 2525 M22	●	●	25	25	150	25	22 ER/EL	1720-U8-32x15	ATS-22E	ATS-22I	AAV-12-U8-32x5.5	-	-	80-T20
TER/L 3232 P22	●	●	32	32	170	32								
TER/L 4040 S22	●	●	40	40	250	40								
TER/L 2525 M27	●	●	25	25	150	25	27 ER/EL	1620-M5x22	ATS-27E	ATS-27I	AAV-15-M5x5.7	-	-	80-T20
TER/L 3232 P27	●	●	32	32	170	32								
TER/L 4040 S27	●	●	40	40	250	40								

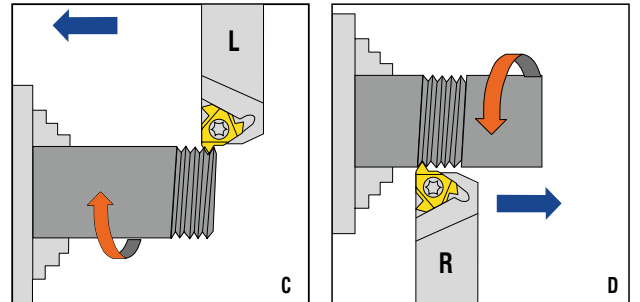
R: Sağ/Right L: Sol/Left ● Stokta/In Stock ○ Stokta Yok/Non Stock Item
Takımlar standart 1.5° helis açılı olarak üretilir. / The tools have a built in 1.5° helix angle.

Sipariş Örneği/Ordering Example : 1 ad./pcs. TER 1616 H16

DIŞ ÇAP SAĞ YÖNDE VİDA AÇMA
EXTERNAL RIGHT HAND THREADING OPERATION

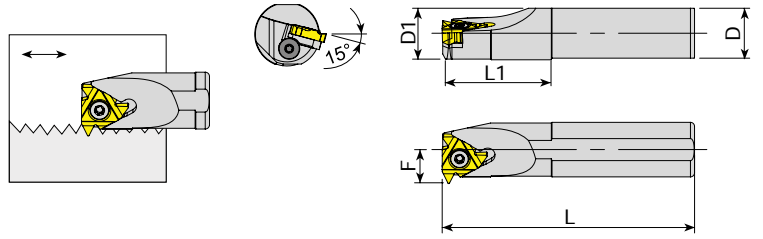


DIŞ ÇAP SOL YÖNDE VİDA AÇMA
EXTERNAL LEFT HAND THREADING OPERATION



UYARI / WARNING

Figür B ve D için; negatif açılı altık kullanılmalıdır. / For figure B and D; negative shim must be used.
Altıksız katerlerde B ve D figürü uygulanamaz. / B and D figures can not be applied on tools without shim.

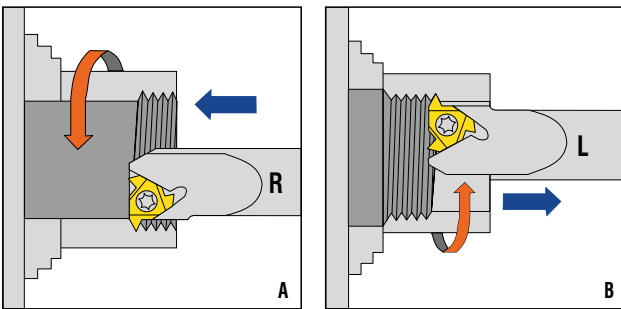


Takım Kodu Ordering Code	Stok Stock		Takım Ölçüleri (mm) Dimension (mm)					Kesici Uç Insert	Yedek Parçaları Spare Parts							
	R	L	D	D1	L	L1	F		D min	Sıkma Vidası Screw	Sol Altlık Left Shim	Sağ Altlık Right Shim	Altlık Vidası Shim Screw	Baskı Parçası Wedge Clamp	Baskı Vidası Clamp Screw	Tork Anahtar Torx Key
	●	○	●	○	●	○	●		○	●	○	●	○	●	○	●
TIR/L S25R 16	●	●	25	25	200	-	16.2	29	16 IR/L	1710-U5-40x12.2	ATS-16E	ATS-16I	AAV-11-U5-40x4.5	-	-	80-T10
TIR/L S32S 16	●	●	32	32	250	-	19.7	36								
TIR/L S40T 16	●	●	40	40	300	-	23.7	44								
TIR/L S50U 16	●	●	50	50	350	-	28.7	54								
TIR/L S25R 22	●	●	25	25	200	-	18.1	29	22 IR/L	1720-U8-32x15	ATS-22E	ATS-22I	AAV-12-U8-32x5.5	-	-	80-T20
TIR/L S32S 22	●	●	32	32	250	-	21.6	38								
TIR/L S40T 22	●	●	40	40	300	-	25.6	46								
TIR/L S50U 22	●	●	50	50	350	-	30.6	58								
TIR/L S32S 27	●	●	32	32	250	-	22.6	40	27 IR/L	1620-M5x18	ATS-27E	ATS-27I	AAV-15-M5x5.7	-	-	80-T20
TIR/L S40T 27	●	●	40	40	300	-	26.6	48		1620-M5x22						
TIR/L S50U 27	●	●	50	50	350	-	31.6	58								

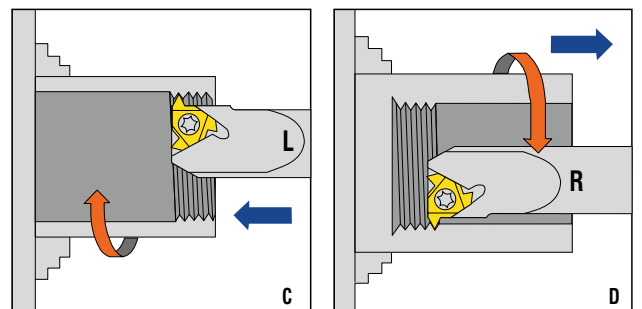
R: Sağ/Right L: Sol/Left ● Stokta/In Stock ○ Stokta Yok/Non Stock Item
Takımlar standart 1.5° helis açılı olarak üretilir. / The tools have a built in 1.5° helix angle.

Sipariş Örneği/Ordering Example : 1 ad./pcs. TIR S25R 16

DELİK İÇİ SAĞ YÖNDE VİDA AÇMA
INTERNAL RIGHT HAND THREADING OPERATION



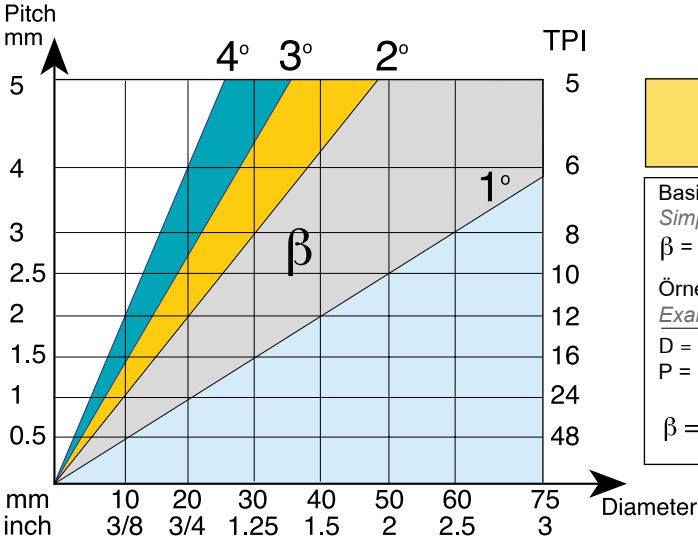
DELİK İÇİ SOL YÖNDE VİDA AÇMA
INTERNAL LEFT HAND THREADING OPERATION



UYARI / WARNING

Figür B ve D için; negatif açılı altlık kullanılmalıdır. / For figure B and D; negative shim must be used.
Altiksiz katerlerde B ve D figürü uygulanamaz. / B and D figures can not be applied on tools without shim.

Diş Helis Açısı Thread Helix Angle



$$\tan \beta = \frac{P}{\pi \times D}$$

Basitleştirilmiş formül
Simplified formula

$$\beta = 20 P/D$$

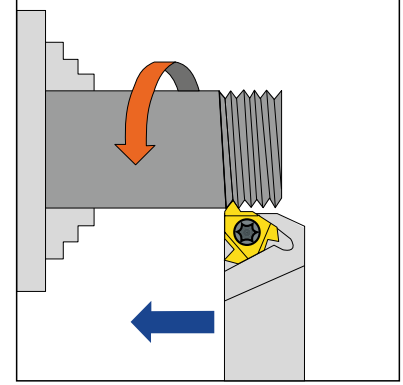
Örnek :

Example:

$$D = 25 \text{ mm (0.98")}$$

$$P = 1.5 \text{ mm (16 TPI)}$$

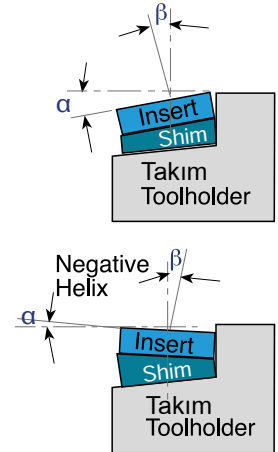
$$\beta = \frac{25 \times 1.5}{40} = 1.25^\circ$$



Standart ve Eğik Altıklar Standard and Slanted Shim

Akko diş açma takımlarının, uç yuvaları 1.5° helis açılı olarak üretilir. Farklı helis açılı diş açmak isteyenler altlığı değiştirerek istedikleri dereceyi elde edebilirler. Negatif helis genellikle sol katerde sağ diş çekmek için kullanılır ya da sağ katerde sol diş çekmek için kullanılır.

Akko Toolholders Pockets have a built in 1.5° helix angle. This angle may be adjusted to better match the thread helix angle by simply changing the shim. Negative helix is usually used when threading RH thread with LH Holder or LH thread with RH Holder.



L	IC	Takım Tipi Tool Type	Uç Yuvasının Açısı (α) Pocket's Angle (α)						-0.5°	-1.5°
			4.5°	3.5°	2.5°	1.5°	0.5°			
16	3/8	EX-RH or IN-LH	ATS-16E+4.5	ATS-16E+3.5	ATS-16E+2.5	ATS-16E	ATS-16E+0.5	ATS-16E-0.5	ATS-16E-1.5	
16	3/8	EX-LH or IN-RH	ATS-16I+4.5	ATS-16I+3.5	ATS-16I+2.5	ATS-16I	ATS-16I+0.5	ATS-16I-0.5	ATS-16I-1.5	
22	1/2	EX-RH or IN-LH	ATS-22E+4.5	ATS-22E+3.5	ATS-22E+2.5	ATS-22E	ATS-22E+0.5	ATS-22E-0.5	ATS-22E-1.5	
22	1/2	EX-LH or IN-RH	ATS-22I+4.5	ATS-22I+3.5	ATS-22I+2.5	ATS-22I	ATS-22I+0.5	ATS-22I-0.5	ATS-22I-1.5	
27	5/8	EX-RH or IN-LH	ATS-27E+4.5	ATS-27E+3.5	ATS-27E+2.5	ATS-27E	ATS-27E+0.5	ATS-27E-0.5	ATS-27E-1.5	
27	5/8	EX-LH or IN-RH	ATS-27I+4.5	ATS-27I+3.5	ATS-27I+2.5	ATS-27I	ATS-27I+0.5	ATS-27I-0.5	ATS-27I-1.5	

Altılık Değişirme Öneri Tablosu / Shim Change Recommendation

