



**mAD  
SAN**

MÜHENDİSLİK  
HİZMETLERİ  
LTD. ŞTİ.



# ÜRÜN KATALOĞU PRODUCT CATALOGUE

***Madencilikse MADSAN***

If mining it is **MADSAN**

## ABOUT US / HAKKIMIZDA

What are your sectoral needs with over 10 years of mining and geotechnical research and drilling experience awareness that it is. The most reliable foreign brand equipment in these areas, has gained confidence in the sector. To supply high quality world brands to its customers and to produce without any distance by realizing its production. Domestic and foreign trusted brands to the user firms in the mining and construction sectors by supplying the well and wellhead equipment.

Continues to serve. To meet the spare parts needed by rock drilling machines analyzing the needs of the industry and its customers in the best way with its constantly expanding product range.

MADSAN offers reliable, high performance and low cost solutions. Market and sales leader Thanks to their locations, it offers the best solutions in conditions suitable for customer satisfaction. Industry leading by supplying only high-class equipment by incoming manufacturers and global manufacturers, It aimed to directly participate in complex industrial rehabilitation.

10 yılı aşkın madencilik ve jeoteknik araştırma ve sondaj çalışmaları tecrübesi ile sektörel ihtiyaçların ne olduğu konusunda farkındalığı ortaya koymuştur. Bu alanlarda en güvenilir yabancı marka ekipmanları, temin ederek sektörde güven kazanmıştır. Firma müşterilerine yüksek kalitede dünya markalarını tedarik etmek ve üretimini gerçekleştirerek, mesafe gözetmeksizin hizmet vermektir. Yerli ve yabancı güvenilir markaların kuyu içi ve kuyu başı ekipmanlarını temin ederek madencilik ve inşaat sektörlerindeki kullanıcı firmalara hizmet etmeye devam etmektedir. Kaya delici makinalarının ihtiyaç duyduğu yedek parçaları karşılamak için sürekli genişleyen ürün yelpazesi ile sektörünün ve müşterilerinin ihtiyaçlarını en iyi şekilde analiz eden MADSAN güvenilir, yüksek performanslı ve düşük maliyetli çözümler sunmaktadır. Pazar ve satıştaki lider konumları sayesinde müşteri memnuniyetine uygun koşullarda en iyi çözümleri sunmaktadır. Sektörün önde gelen üreticileri ve küresel üreticileri tarafından sadece yüksek sınıf ekipman temin edilerek yerli fabrikaların kompleks endüstriyel rehabilitasyonuna doğrudan katılmayı hedeflemiştir.

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## Standard

Madsan core barrel kits and innertube groups are available in A, B, N, H and P, as well as two standard lengths of 1.5 M / 5.0 FT and 3.0 M / 10.0 FT. These lengths refer to the inner-tube length which dictates the maximum amount of core that can be retrieved in one drilling run before the innertube must be retrieved.

Note that optional couplings and adapters are available, for Q and QTK systems, to extend the core barrel in 1.5 M / 5.0 FT or 3.0 M / 10.0 FT multiples. Also, optional innertube couplings and extensions are available to allow for extended length reaming shells.

## Standart

Madsan karotiye takım ve iç tüp grupları A, B, N, H ve P seri ve 1.5 M/ 5.0 FT ve 3.0 M / 10.0 FT olmak üzere iki standart uzunluk şeklinde mevcuttur. Bu uzunluklar, iç tüp uzunluklarına karşılık gelerek, maksimum karot miktarına ulaşmak üzere, her bir ilerlemede iç tüp geri alınmalıdır.

1.5 M / 5.0 FT veya 3.0 M / 10.0 FT katlarındaki karotiye takımlarını uzatmak üzere, QTM ve QTK sistemleri için isteğe bağlı kaplin(mañşon) ve adaptörler mevcuttur. Ayrıca, isteğe bağlı olarak içtüp kaplin( manşon) ve adaptörleri boyunca, portkron kullanıma izin verilmektedir.

## Full-hole

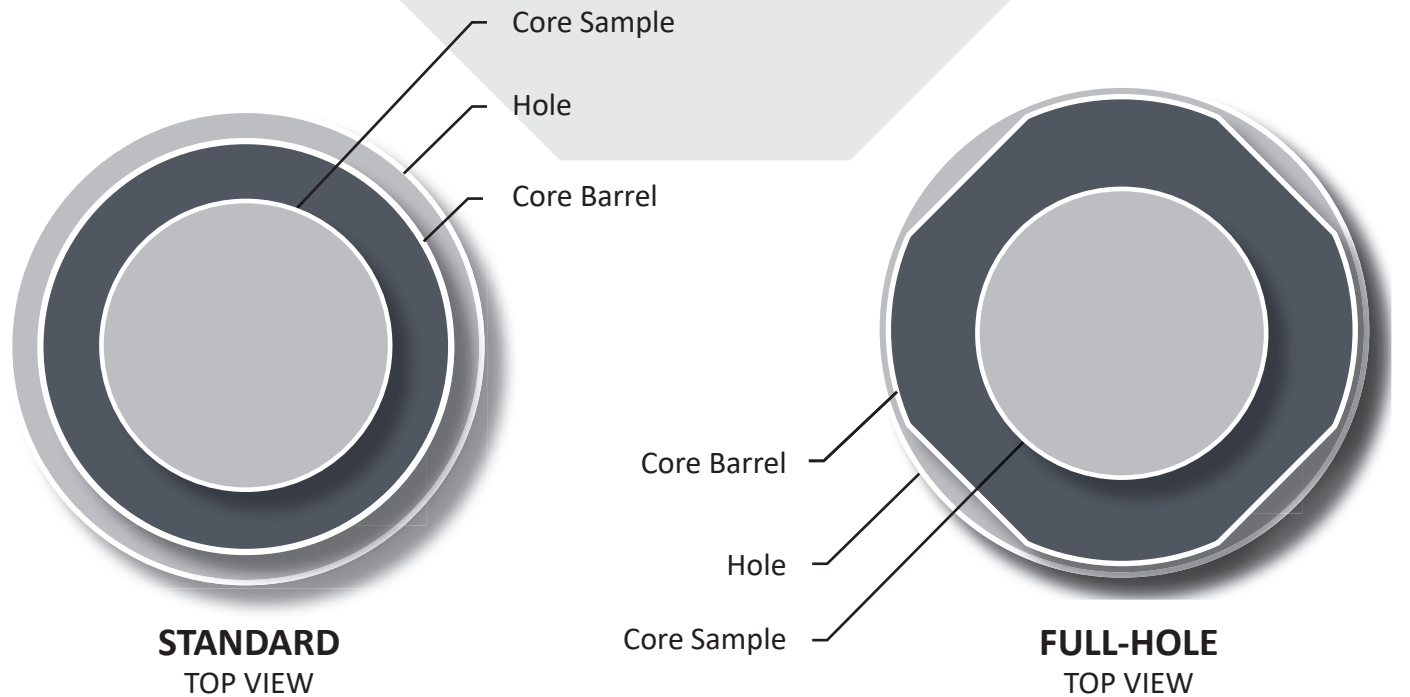
Full-hole systems are designed for operation in competent ground formations where hole accuracy is top priority. The oversized outer diameter and four-flat design keeps the core barrel system tight to the hole while allowing adequate cutting flow. This system is comprised of standard core barrel components, the full-hole induction-hardened locking coupling and the full-hole chromeplated outer-tube. When ordering a core barrel kit, these two optional full-hole items must be selected.

A, B, N, and H size core barrel systems can be configured as full-hole wireline coring systems. This system is comprised of standard core barrel components, the fullhole locking coupling and outer-tube. When ordering a core barrel kit, these two optional full hole items must be selected.

## WIRELINE SİSTEMLER

Wireline Sondaj Sistemleri, orta ve ultra derin kuyular için kullanılır ve sondaj takımının tamamını ilerlenen kuyu tabanından çekmeden en verimli karot örneğinin çıkartılmasını sağlar. Kaya örneği(karot numunesi), bir çelik halata bağlı olan overshotyardımı ile iç tüp düzeneğinin içinde, deliğin dibinden çıkartılması sağlanır.

A, B, N, H ve P ölçülerinde karotiye sistemleri, wireline karotiye sistemleri olarak isimlendirilir. Bu sistemde standart karotiye bileşenleri, zırh, zırh altı ve dış borudan oluşur. Bir karotiye kiti sipariş ederken, bu iki isteğe wireline ekipmanlar seçilmelidir.



## WIRELINE SYSTEM OVERVIEW / WIRELINE SİSTEMİNE GENEL BAKIŞ

Wireline system is composed of Overshot and Core Barrel.  
Wireline sistem Overshot ve Karotiye'den oluşur.

### 1 - OVERSHOT

2 - CORE BARREL / KAROTİYER: Consist of Inner Tube Group and Outer Tube Group/İç Tüp ve Dış Tüp Gruplarından oluşur

#### 2-1) Outer Tube Group / Dış Tüp Grubu

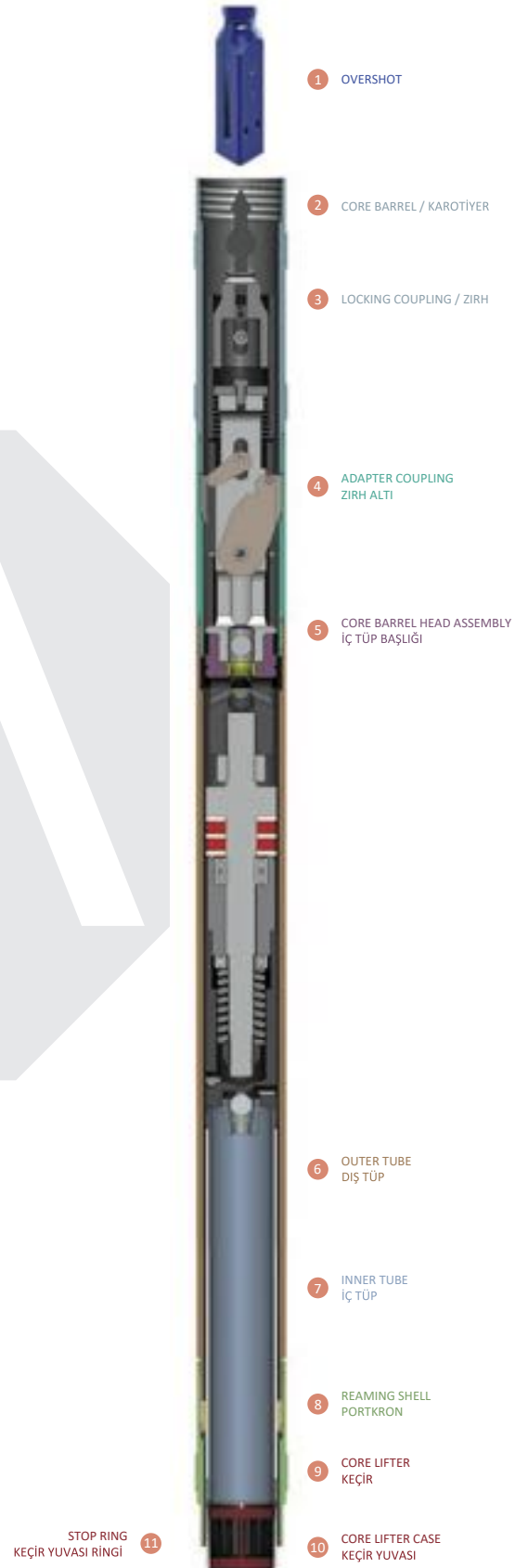
- Locking Coupling/Zırh
- Adapter Coupling/Zırh Altı
- Outer Tube/Dış Tüp
- Reaming Shell/Portkron

#### 2-2) Inner Tube Group / İç Tüp Grubu

- Head Assembly/İç Tüp Başlığı
- Inner Tube/İç Tüp
- Core Lifter/Keçir
- Core Lifter Case/Keçir Yuvası
- Stop Ring/Keçir Yuvası Ringi

### DIMENSIONS / ÖLÇÜLER

SIZE/EBAT	CORE DIAMETER/ KAROT ÇAPI	HOLE DIAMETER/ KUYU ÇAPI
BWL	36,4 mm	60,0 mm
BWLU	36,4 mm	60,0 mm
NWL	47,6 mm	75,7 mm
NWLU	47,6 mm	75,7 mm
NWLTK/NWL2	50,6 mm	75,7 mm
NWL3	45,0 mm	75,7 mm
HWL	63,5 mm	96,0 mm
HWL3	61,1 mm	96,0 mm
HWLU	63,5 mm	96,0 mm
PWL	85,0 mm	122,6 mm
PWL3	83,0 mm	122,6 mm





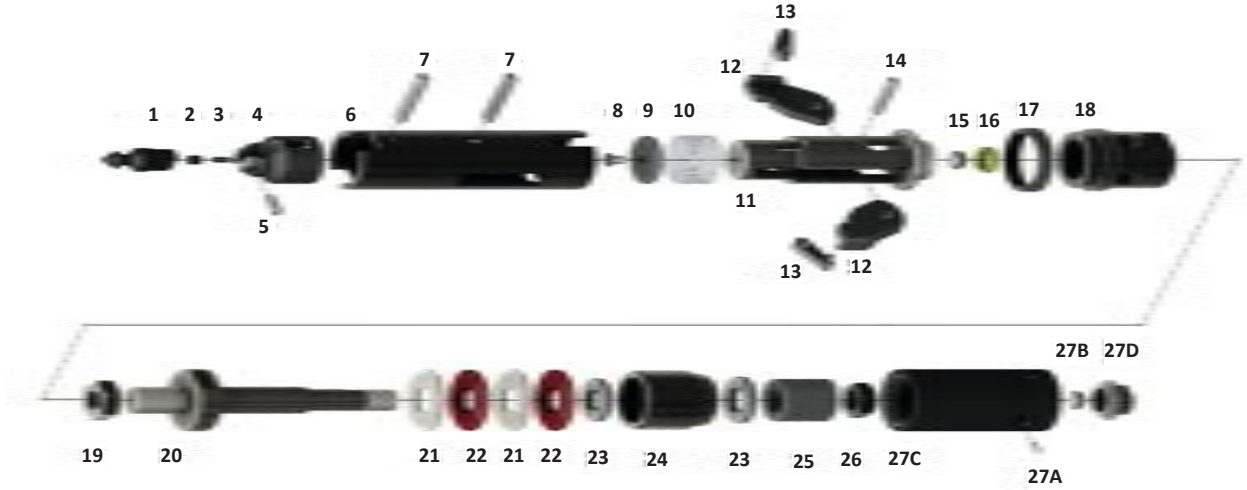


ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1-11	869 0001 4	BWL CORE BARREL 1,5M	BWL KAROTİYER 1,5M	1
1-5	869 0004 7	BWL INNER TUBE GROUP 1.5M	BWL İÇ TÜP 1,5M KOMPLE	1
1-11	869 0007 8	BWL CORE BARREL 3M	BWL KAROTİYER 3M	1
1-5	869 0010 1	BWL INNER TUBE GROUP 3M	BWL İÇ TÜP 3M KOMPLE	1
1	869 0013 5	BWL HEAD ASSEMBLY	BWL İÇ TÜP BAŞLIĞI	1
2	869 0016 9	BWL INNER TUBE 1,5M	BWL İÇ TÜP 1,5M	1
2	869 0019 2	BWL INNER TUBE 1,5M Cr. Plated	BWL İÇ TÜP 1,5M Kromajlı	1
2	869 0022 6	BWL INNER TUBE 3M	BWL İÇ TÜP 3M	1
2	869 0025 3	BWL INNER TUBE 3M Cr. Plated	BWL İÇ TÜP 3M Kromajlı	1
3	869 0028 4	BWL STOP RING	BWL KEÇİR YUVASI RİNGİ	1
4	869 0031 7	BWL CORE LIFTER	BWL KEÇİR	1
5	869 0034 8	BWL CORE LIFTER CASE	BWL KEÇİR YUVASI	1
6	869 0037 1	BWL LOCKING COUPLING FULL HOLE TANG	BWL ZIRH KÖŞELİ	1
6	869 0040 5	BWL TC* LOCKING COUPLING	BWL ZIRH V/T*	1
7	869 0043 9	BWL ADAPTER COUPLING	BWL ZIRH ALTI	1
8	869 0046 2	BWL LANDING RING	BWL DURDURUCU BİLEZİK	1
9	869 0049 6	BWL OUTER TUBE 1,5M	BWL DIŞ TÜP 1,5M	1
9	869 0052 3	BWL OUTER TUBE 1,5M Cr. Plated	BWL DIŞ TÜP 1,5M Kromajlı	1
9	869 0055 4	BWL OUTER TUBE 3M	BWL DIŞ TÜP 3M	1
9	869 0058 7	BWL OUTER TUBE 3M Cr. Plated	BWL DIŞ TÜP 3M Kromajlı	1
10	869 0061 8	BWL INNER TUBE STABILIZER	BWL İÇ TÜP MERKEZLEYİCİ SARI	1
11	869 0064 1	BWL TC* REAMING SHELL	BWL PORTKRON V/T*	1

\* TC: Tungsten Carbide

\* V/T: Vidye Takviyeli

# BWL INNER TUBE HEAD ASSEMBLY / BWL İÇ TÜP BAŞLIĞI



ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1	869 0067 5	WL SPEARHEAD POINT*	WL ÇAMBAŞI*	1
2	869 0070 9	WL DETENT PLUNGER	WL ÇAMBAŞI SUSTASI	1
3	869 0073 2	WL COMPRESSION SPRING	WL ÇAMBAŞI YAYI	1
4	869 0076 6	BWL SPEARHEAD BASE	BWL ÇAMBAŞI ALTI	1
5	869 0079 3	WL SPRING PIN	WL ÇAMBAŞI PİMİ	1
6	869 0082 4	BWL LATCH RETRACTING CASE	BWL BAŞLIK MUHAFAZASI	1
7	869 0085 7	BWL SPRING PIN	BWL BAŞLIK MUHAFAZA PİMİ	2
8	869 0088 8	WL BOLT	WL BAŞLIK VİDASI	1
9	869 0091 1	BWL WASHER	BWL BAŞLIK VİDA PULU	1
10	869 0094 5	BWL LATCH COMPRESSION SPRING	BWL BAŞLIK MUHAFAZA YAYI	1
11	869 0097 9	BWL UPPER LATCH BODY	BWL MANDAL ÜST GÖVDE	1
12	869 0100 2	BWL LATCH	BWL MANDAL	2
13	869 0103 6	BWL LINK	BWL MANDAL DESTEĞİ	2
14	869 0106 3	BWL SPRING PIN	BWL MANDAL PİMİ	1
15	869 0109 4	WL STEEL BALL	WL ÇELİK MİSKET	1
16	869 0112 7	WL LANDING INDICATOR BUSHING	WL PLASTİK MİSKET YUVASI	1
17	869 0115 8	BWL LANDING SHOULDER	BWL BAŞLIK DURDURUCU BİLEZİK	1
18	869 0118 1	BWL LOWER LATCH BODY	BWL MANDAL ALT GÖVDE	1
19	869 0121 5	BWL HEX NUT	BWL BOY AYAR MİLİ SOMUNU	1
20	869 0124 9	BWL SPINDLE	BWL BOY AYAR MİLİ	1
21	869 0127 2	BWL VALVE ADJUSTING WASHER	BWL İÇ TÜP LASTİK AYARLAMA PULU	2
22	869 0130 6	BWL SHUT OFF VALVE, HARD	BWL LASTİK	2
23	869 0133 3	BWL THRUST-HANGER BEARING	BWL ZARFLI-ALIN RULMAN	2
24	869 0136 4	BWL SPINDLE BUSHING	BWL RULMAN BASKI SOMUNU	1
25	869 0139 7	BWL COMPRESSION SPRING	BWL BASKI YAYI	1
26	869 0142 8	BWL NYLOC NUT	BWL BASKI YAYI SOMUNU	1
27	869 0145 1	BWL INNER TUBE CAP ASSEMBLY (27 A, B, C, D)	BWL İÇ TÜP KEP BAŞLIĞI (27 A, B, C, D)	
27A	869 0148 5	GREASE FITTING	GRESÖRLÜK	1
27B	869 0151 9	STEEL BALL	KEP MİSKETİ	1
27C	869 0154 2	BWL INNER TUBE CAP	BWL İÇ TÜP KEPİ	1
27D	869 0157 6	BWL CHECK VALVE BODY	BWL KEP MİSKET YUVASI	1



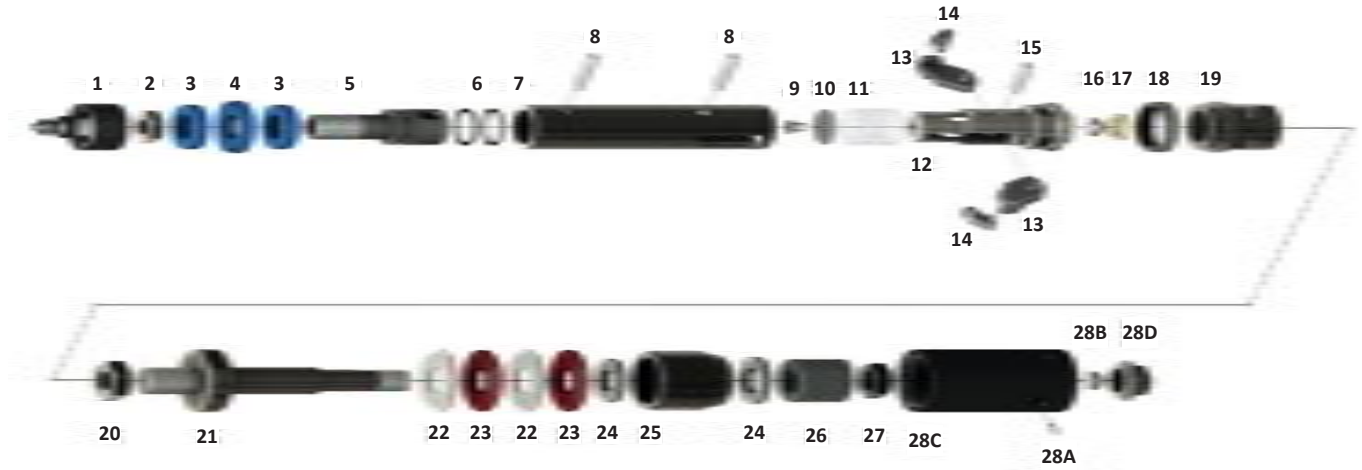


ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1-11	869 0160 3	BWL CORE BARREL 1,5M	BWL KAROTİYER 1,5M	1
1-5	869 0163 4	BWL INNER TUBE GROUP 1.5M	BWL İÇ TÜP 1,5M KOMPLE	1
1-11	869 0166 7	BWL CORE BARREL 3M	BWL KAROTİYER 3M	1
1-5	869 0169 8	BWL INNER TUBE GROUP 3M	BWL İÇ TÜP 3M KOMPLE	1
1	869 0172 1	BWL HEAD ASSEMBLY	BWL İÇ TÜP BAŞLIĞI	1
2	869 0016 9	BWL INNER TUBE 1,5M	BWL İÇ TÜP 1,5M	1
2	869 0019 2	BWL INNER TUBE 1,5M Cr. Plated	BWL İÇ TÜP 1,5M Kromajlı	1
2	869 0022 6	BWL INNER TUBE 3M	BWL İÇ TÜP 3M	1
2	869 0025 3	BWL INNER TUBE 3M Cr. Plated	BWL İÇ TÜP 3M Kromajlı	1
3	869 0028 4	BWL STOP RING	BWL KEÇİR YUVASI RİNGİ	1
4	869 0031 7	BWL CORE LIFTER	BWL KEÇİR	1
5	869 0034 8	BWL CORE LIFTER CASE	BWL KEÇİR YUVASI	1
6	869 0037 1	BWL LOCKING COUPLING FULL HOLE TANG	BWL ZIRH KÖŞELİ	1
6	869 0040 5	BWL TC* LOCKING COUPLING	BWL ZIRH V/T*	1
7	869 0043 9	BWL ADAPTER COUPLING	BWL ZIRH ALTI	1
8	869 0046 2	BWL LANDING RING	BWL DURDURUCU BİLEZİK	1
9	869 0049 6	BWL OUTER TUBE 1,5M	BWL DIŞ TÜP 1,5M	1
9	869 0052 3	BWL OUTER TUBE 1,5M Cr. Plated	BWL DIŞ TÜP 1,5M Kromajlı	1
9	869 0055 4	BWL OUTER TUBE 3M	BWL DIŞ TÜP 3M	1
9	869 0058 7	BWL OUTER TUBE 3M Cr. Plated	BWL DIŞ TÜP 3M Kromajlı	1
10	869 0061 8	BWL INNER TUBE STABILIZER	BWL İÇ TÜP MERKEZLEYİCİ SARI	1
11	869 0064 1	BWL TC* REAMING SHELL	BWL PORTKRON V/T*	1

\* TC: Tungsten Carbide

\* V/T: Vidye Takviyeli

# BWLU INNER TUBE HEAD ASSEMBLY / BWLU İÇ TÜP BAŞLIĞI



ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1	869 0175 5	BWLU SPEARHEAD POINT	BWLU ÇAMBAŞI	1
2	869 0178 9	BWLU HEX NUT	BWLU ÇAMBAŞI AYAR SOMUNU	1
3	869 0181 2	BWLU PUMP-IN SEAL WASHER	BWLU LASTİK PUL	2
4	869 0184 6	BWLU PUMP-IN SEAL	BWLU LASTİK KEÇE	1
5	869 0187 3	BWLU SPAREHEAD BASE	BWLU ÇAMBAŞI ALTI	1
6	869 0190 4	BWLU O-RING	BWLU O-RING	2
7	869 0193 7	BWLU LATCH RETRACTING CASE	BWLU BAŞLIK MUHAFAZASI	1
8	869 0085 7	BWL SPRING PIN	BWL BAŞLIK MUHAFAZA PİMİ	2
9	869 0196 8	BWLU BOLT	BWLU BAŞLIK VİDASI	1
10	869 0199 1	BWLU WASHER	BWLU BAŞLIK VİDA PULU	1
11	869 0202 5	BWLU LATCH COMPRESSION SPRING	BWLU BAŞLIK MUHAFAZA YAYI	1
12	869 0205 9	BWLU UPPER LATCH BODY	BWLU MANDAL ÜST GÖVDE	1
13	869 0208 2	BWLU LATCH	BWLU MANDAL	2
14	869 0211 6	BWLU LINK	BWLU MANDAL DESTEĞİ	2
15	869 0085 7	BWLU SPRING PIN	BWLU MANDAL PİMİ	1
16	869 0214 3	BWLU STEEL BALL	BWLU ÇELİK MİSKET	1
17	869 0217 4	BWLU LANDING INDICATOR BUSHING	BWLU PLASTİK MİSKET YUVASI	1
18	869 0220 7	BWLU LANDING SHOULDER	BWLU BAŞLIK DURDURUCU BİLEZİK	1
19	869 0223 8	BWLU LOWER LATCH BODY	BWLU MANDAL ALT GÖVDE	1
20	869 0121 5	BWL HEX NUT	BWL BOY AYAR MİLİ SOMUNU	1
21	869 0124 9	BWL SPINDLE	BWL BOY AYAR MİLİ	1
22	869 0127 2	BWL VALVE ADJUSTING WASHER	BWL İÇ TÜP LASTİK AYARLAMA PULU	2
23	869 0130 6	BWL SHUT OFF VALVE, HARD	BWL LASTİK	2
24	869 0133 3	BWL THRUST-HANGER BEARING	BWL ZARFLI-ALIN RULMAN	1
25	869 0136 4	BWL SPINDLE BUSHING	BWL RULMAN BASKI SOMUNU	1
26	869 0139 7	BWL COMPRESSION SPRING	BWL BASKI YAYI	1
27	869 0142 8	BWL NYLOC NUT	BWL BASKI YAYI SOMUNU	1
28	869 0226 1	BWL INNER TUBE CAP ASSEMBLY (28 A, B, C, D)	BWL İÇ TÜP KEP BAŞLIĞI (28 A, B, C, D)	
28A	869 0148 5	GREASE FITTING	GRESÖRLÜK	1
28B	869 0151 9	STEEL BALL	KEP MİSKETİ	1
28C	869 0154 2	BWL INNER TUBE CAP	BWL İÇ TÜP KEPİ	1
28D	869 0157 6	BWL CHECK VALVE BODY	BWL KEP MİSKET YUVASI	1

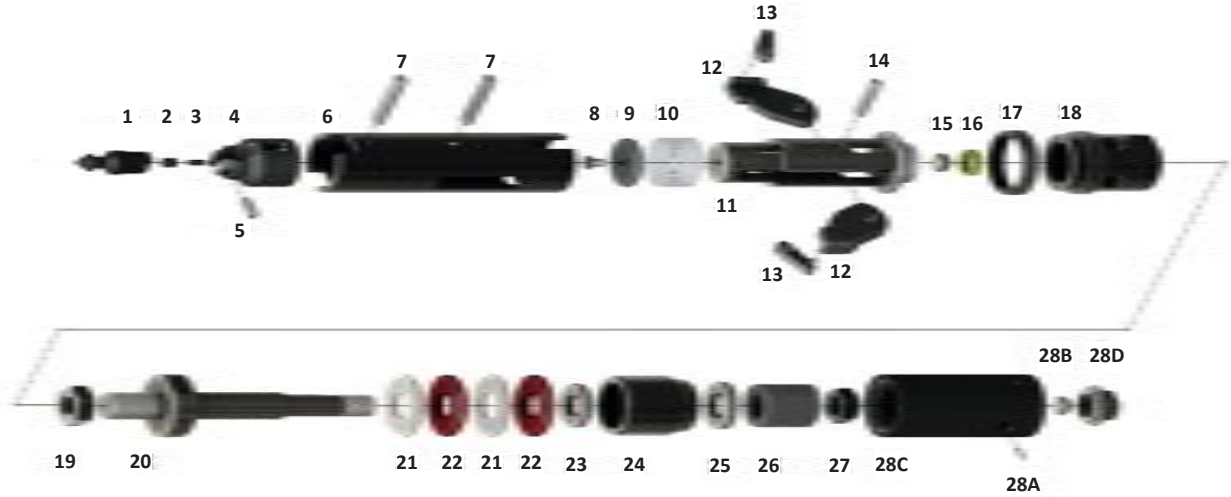


ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1-11	869 0229 5	NWL CORE BARREL 1,5M	NWL KAROTİYER 1,5M	1
1-5	869 0232 9	NWL INNER TUBE GROUP 1.5M	NWL İÇ TÜP 1,5M KOMPLE	1
1-11	869 0235 2	NWL CORE BARREL 3M	NWL KAROTİYER 3M	1
1-5	869 0238 6	NWL INNER TUBE GROUP 3M	NWL İÇ TÜP 3M KOMPLE	1
1	869 0241 3	NWL HEAD ASSEMBLY	NWL İÇ TÜP BAŞLIĞI	1
2	869 0244 4	NWL INNER TUBE 1,5M	NWL İÇ TÜP 1,5M	1
2	869 0247 7	NWL INNER TUBE 1,5M Cr. Plated	NWL İÇ TÜP 1,5M Kromajlı	1
2	869 0250 8	NWL INNER TUBE 3M	NWL İÇ TÜP 3M	1
2	869 0253 1	NWL INNER TUBE 3M Cr. Plated	NWL İÇ TÜP 3M Kromajlı	1
3	869 0256 5	NWL STOP RING	NWL KEÇİR YUVASI RİNGİ	1
4	869 0259 9	NWL CORE LIFTER	NWL KEÇİR	1
5	869 0262 2	NWL CORE LIFTER CASE	NWL KEÇİR YUVASI	1
6	869 0265 6	NWL LOCKING COUPLING FULL HOLE TANG	NWL ZIRH KÖŞELİ	1
6	869 0268 3	NWL TC* LOCKING COUPLING	NWL ZIRH V/T*	1
7	869 0271 4	NWL ADAPTER COUPLING	NWL ZIRH ALTI	1
8	869 0274 7	NWL LANDING RING	NWL DURDURUCU BİLEZİK	1
9	869 0277 8	NWL OUTER TUBE 1,5M	NWL DIŞ TÜP 1,5M	1
9	869 0280 1	NWL OUTER TUBE 1,5M Cr. Plated	NWL DIŞ TÜP 1,5M Kromajlı	1
9	869 0283 5	NWL OUTER TUBE 3M	NWL DIŞ TÜP 3M	1
9	869 0286 9	NWL OUTER TUBE 3M Cr. Plated	NWL DIŞ TÜP 3M Kromajlı	1
10	869 0289 2	NWL INNER TUBE STABILIZER	NWL İÇ TÜP MERKEZLEYİCİ SARI	1
11	869 0292 6	NWL TC* REAMING SHELL	NWL PORTKRON V/T*	1

\* TC: Tungsten Carbide

\* V/T: Vidye Takviyeli

# NWL INNER TUBE HEAD ASSEMBLY / NWL İÇ TÜP BAŞLIĞI



ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1	869 0067 5	WL SPEARHEAD POINT	WL ÇAMBAŞI	1
2	869 0070 9	WL DETENT PLUNGER	WL ÇAMBAŞI SUSTASI	1
3	869 0073 2	WL COMPRESSION SPRING	WL ÇAMBAŞI YAYI	1
4	869 0295 3	NWL SPEARHEAD BASE	NWL ÇAMBAŞI ALTI	1
5	869 0079 3	WL SPRING PIN	WL ÇAMBAŞI PİMİ	1
6	869 0298 4	NWL LATCH RETRACTING CASE	NWL BAŞLIK MUHAFAZASI	1
7	869 0301 7	NWL SPRING PIN	NWL BAŞLIK MUHAFAZA PİMİ	2
8	869 0088 8	WL BOLT	WL BAŞLIK VİDASI	1
9	869 0304 8	NWL WASHER	NWL BAŞLIK VİDA PULU	1
10	869 0307 1	NWL LATCH COMPRESSION SPRING	NWL BAŞLIK MUHAFAZA YAYI	1
11	869 0310 5	NWL UPPER LATCH BODY	NWL MANDAL ÜST GÖVDE	1
12	869 0313 9	NWL LATCH	NWL MANDAL	2
13	869 0316 2	NWL LINK	NWL MANDAL DESTEĞİ	2
14	869 0319 6	NWL SPRING PIN	NWL MANDAL PİMİ	1
15	869 0109 4	WL STEEL BALL	WL ÇELİK MİSKET	1
16	869 0112 7	WL LANDING INDICATOR BUSHING	WL PLASTİK MİSKET YUVASI	1
17	869 0322 3	NWL LANDING SHOULDER	NWL BAŞLIK DURDURUCU BİLEZİK	1
18	869 0325 4	NWL LOWER LATCH BODY	NWL MANDAL ALT GÖVDE	1
19	869 0328 7	NWL HEX NUT	NWL BOY AYAR MİLİ SOMUNU	1
20	869 0331 8	NWL SPINDLE	NWL BOY AYAR MİLİ	1
21	869 0334 1	NWL VALVE ADJUSTING WASHER	NWL İÇ TÜP LASTİK AYARLAMA PULU	2
22	869 0337 5	NWL SHUT OFF VALVE, HARD	NWL LASTİK	2
23	869 0340 9	NWL THRUST BEARING	NWL ZARFLI RULMAN	1
24	869 0343 2	NWL SPINDLE BUSHING	NWL RULMAN BASKI SOMUNU	1
25	869 0346 6	NWL HANGER BEARING	NWL ALIN RULMANI	1
26	869 0349 3	NWL COMPRESSION SPRING	NWL BASKI YAYI	1
27	869 0352 4	NWL NYLOC NUT	NWL BASKI YAYI SOMUNU	1
28	869 0355 7	NWL INNER TUBE CAP ASSEMBLY (28 A, B, C, D)	NWL İÇ TÜP KEP BAŞLIĞI (28 A, B, C, D)	
28A	869 0148 5	GREASE FITTING	GRESÖRLÜK	1
28B	869 0151 9	STEEL BALL	KEP MİSKETİ	1
28C	869 0358 8	NWL INNER TUBE CAP	NWL İÇ TÜP KEPİ	1
28D	869 0361 1	NWL CHECK VALVE BODY	NWL KEP MİSKET YUVASI	1



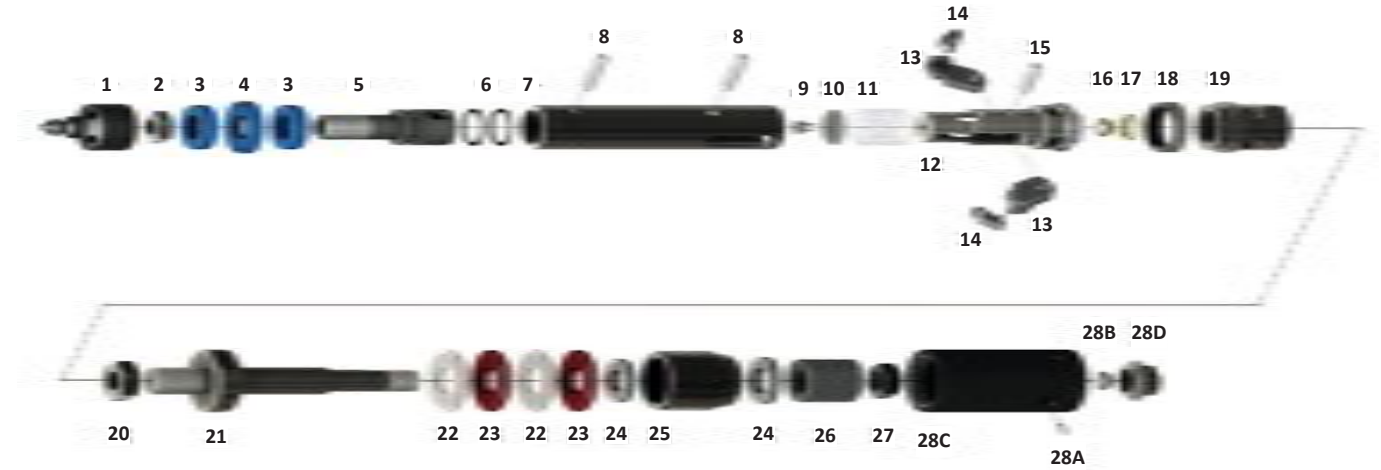
ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1-11	869 0364 5	NWLU CORE BARREL 1,5M	NWLU KAROTİYER 1,5M	1
1-5	869 0367 9	NWLU INNER TUBE GROUP 1.5M	NWLU İÇ TÜP 1,5M KOMPLE	1
1-11	869 0370 2	NWLU CORE BARREL 3M	NWLU KAROTİYER 3M	1
1-5	869 0373 6	NWLU INNER TUBE GROUP 3M	NWLU İÇ TÜP 3M KOMPLE	1
1	869 0376 3	NWLU HEAD ASSEMBLY	NWLU İÇ TÜP BAŞLIĞI	1
2	869 0244 4	NWL INNER TUBE 1,5M	NWL İÇ TÜP 1,5M	1
2	869 0247 7	NWL INNER TUBE 1,5M Cr. Plated	NWL İÇ TÜP 1,5M Kromajlı	1
2	869 0250 8	NWL INNER TUBE 3M	NWL İÇ TÜP 3M	1
2	869 0253 1	NWL INNER TUBE 3M Cr. Plated	NWL İÇ TÜP 3M Kromajlı	1
3	869 0256 5	NWL STOP RING	NWL KEÇİR YUVASI RİNGİ	1
4	869 0259 9	NWL CORE LIFTER	NWL KEÇİR	1
5	869 0262 2	NWL CORE LIFTER CASE	NWL KEÇİR YUVASI	1
6	869 0265 6	NWL LOCKING COUPLING FULL HOLE TANG	NWL ZİRH KÖŞELİ	1
6	869 0268 3	NWL TC* LOCKING COUPLING	NWL ZİRH V/T*	1
7	869 0271 4	NWL ADAPTER COUPLING	NWL ZİRH ALTI	1
8	869 0274 7	NWL LANDING RING	NWL DURDURUCU BİLEZİK	1
9	869 0277 8	NWL OUTER TUBE 1,5M	NWL DIŞ TÜP 1,5M	1
9	869 0280 1	NWL OUTER TUBE 1,5M Cr. Plated	NWL DIŞ TÜP 1,5M Kromajlı	1
9	869 0283 5	NWL OUTER TUBE 3M	NWL DIŞ TÜP 3M	1
9	869 0286 9	NWL OUTER TUBE 3M Cr. Plated	NWL DIŞ TÜP 3M Kromajlı	1
10	869 0289 2	NWL INNER TUBE STABILIZER	NWL İÇ TÜP MERKEZLEYİCİ SARI	1
11	869 0292 6	NWL TC* REAMING SHELL	NWL PORTKRON V/T*	1

\* TC: Tungsten Carbide

\* V/T: Vidye Takviyeli



# NWLU INNER TUBE HEAD ASSEMBLY / NWLU İÇ TÜP BAŞLIĞI



ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1	869 0379 4	NWLU SPEARHEAD POINT	NWLU ÇAMBAŞI	1
2	869 0382 7	NWLU HEX NUT	NWLU ÇAMBAŞI AYAR SOMUNU	1
3	869 0385 8	NWLU PUMP-IN SEAL WASHER	NWLU LASTİK PUL	2
4	869 0388 1	NWLU PUMP-IN SEAL	NWLU LASTİK KEÇE	1
5	869 0391 5	NWLU SPAREHEAD BASE	NWLU ÇAMBAŞI ALTI	1
6	869 0394 9	NWLU O-RING	NWLU O-RING	2
7	869 0397 2	NWLU LATCH RETRACTING CASE	NWLU BAŞLIK MUHAFAZASI	1
8	869 0301 7	NWL SPRING PIN	NWL BAŞLIK MUHAFAZA PİMİ	2
9	869 0400 6	NWLU BOLT	NWLU BAŞLIK VİDASI	1
10	869 0403 3	NWLU WASHER	NWLU BAŞLIK VİDA PULU	1
11	869 0406 4	NWLU LATCH COMPRESSION SPRING	NWLU BAŞLIK MUHAFAZA YAYI	1
12	869 0409 7	NWLU UPPER LATCH BODY	NWLU MANDAL ÜST GÖVDE	1
13	869 0412 8	NWLU LATCH	NWLU MANDAL	2
14	869 0415 1	NWLU LINK	NWLU MANDAL DESTEĞİ	2
15	869 0319 6	NWLU SPRING PIN	NWLU MANDAL PİMİ	1
16	869 0418 5	NWLU STEEL BALL	NWLU ÇELİK MİSKET	1
17	869 0421 9	NWLU LANDING INDICATOR BUSHING	NWLU PLASTİK MİSKET YUVASI	1
18	869 0424 2	NWLU LANDING SHOULDER	NWLU BAŞLIK DURDURUCU BİLEZİK	1
19	869 0427 6	NWLU LOWER LATCH BODY	NWLU MANDAL ALT GÖVDE	1
20	869 0328 7	NWL HEX NUT	NWL BOY AYAR MİLİ SOMUNU	1
21	869 0331 8	NWL SPINDLE	NWL BOY AYAR MİLİ	1
22	869 0334 1	NWL VALVE ADJUSTING WASHER	NWL İÇ TÜP LASTİK AYARLAMA PULU	2
23	869 0337 5	NWL SHUT OFF VALVE, HARD	NWL LASTİK	2
24	869 0430 3	NWL THRUST-HANGER BEARING	NWL ZARFLI-ALIN RULMAN	1
25	869 0343 2	NWL SPINDLE BUSHING	NWL RULMAN BASKI SOMUNU	1
26	869 0349 3	NWL COMPRESSION SPRING	NWL BASKI YAYI	1
27	869 0352 4	NWL NYLOC NUT	NWL BASKI YAYI SOMUNU	1
28	869 0355 7	NWL INNER TUBE CAP ASSEMBLY (28 A, B, C, D)	NWL İÇ TÜP KEP BAŞLIĞI (28 A, B, C, D)	
28A	869 0148 5	GREASE FITTING	GRESÖRLÜK	1
28B	869 0151 9	STEEL BALL	KEP MİSKETİ	1
28C	869 0358 8	NWL INNER TUBE CAP	NWL İÇ TÜP KEPİ	1
28D	869 0361 1	NWL CHECK VALVE BODY	NWL KEP MİSKET YUVASI	1



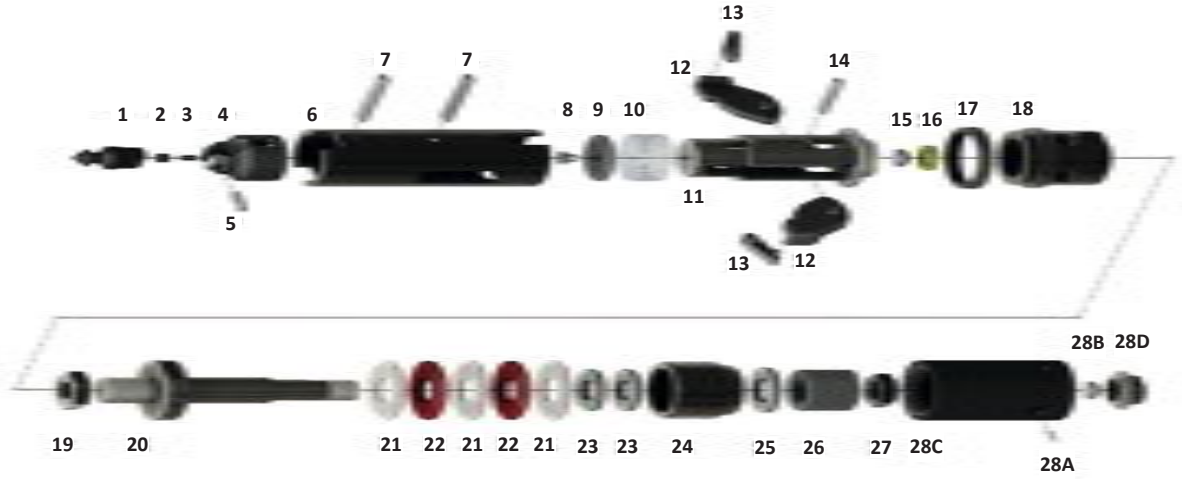


ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1-11	869 0433 4	HWL CORE BARREL 1,5M	HWL KAROTİYER 1,5M	1
1-5	869 0436 7	HWL INNER TUBE GROUP 1.5M	HWL İÇ TÜP 1,5M KOMPLE	1
1-11	869 0439 8	HWL CORE BARREL 3M	HWL KAROTİYER 3M	1
1-5	869 0442 1	HWL INNER TUBE GROUP 3M	HWL İÇ TÜP 3M KOMPLE	1
1	869 0445 5	HWL HEAD ASSEMBLY	HWL İÇ TÜP BAŞLIĞI	1
2	869 0448 9	HWL INNER TUBE 1,5M	HWL İÇ TÜP 1,5M	1
2	869 0451 2	HWL INNER TUBE 1,5M Cr. Plated	HWL İÇ TÜP 1,5M Kromajlı	1
2	869 0454 6	HWL INNER TUBE 3M	HWL İÇ TÜP 3M	1
2	869 0457 3	HWL INNER TUBE 3M Cr. Plated	HWL İÇ TÜP 3M Kromajlı	1
3	869 0460 4	HWL STOP RING	HWL KEÇİR YUVASI RİNGİ	1
4	869 0463 7	HWL CORE LIFTER	HWL KEÇİR	1
5	869 0466 8	HWL CORE LIFTER CASE	HWL KEÇİR YUVASI	1
6	869 0469 1	HWL LOCKING COUPLING FULL HOLE TANG	HWL ZIRH KÖŞELİ	1
6	869 0472 5	HWL TC* LOCKING COUPLING	HWL ZIRH V/T*	1
7	869 0475 9	HWL ADAPTER COUPLING	HWL ZIRH ALTI	1
8	869 0478 2	HWL LANDING RING	HWL DURDURUCU BİLEZİK	1
9	869 0481 6	HWL OUTER TUBE 1,5M	HWL DIŞ TÜP 1,5M	1
9	869 0484 3	HWL OUTER TUBE 1,5M Cr. Plated	HWL DIŞ TÜP 1,5M Kromajlı	1
9	869 0487 4	HWL OUTER TUBE 3M	HWL DIŞ TÜP 3M	1
9	869 0490 7	HWL OUTER TUBE 3M Cr. Plated	HWL DIŞ TÜP 3M Kromajlı	1
10	869 0493 8	HWL INNER TUBE STABILIZER	HWL İÇ TÜP MERKEZLEYİCİ SARI	1
11	869 0496 1	HWL TC* REAMING SHELL	HWL PORTKRON V/T*	1

\* TC: Tungsten Carbide

\* V/T: Vidye Takviyeli

# HWL INNER TUBE HEAD ASSEMBLY / HWLU İÇ TÜP BAŞLIĞI



ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1	869 0067 5	WL SPEARHEAD POINT	WL ÇAMBAŞI	1
2	869 0070 9	WL DETENT PLUNGER	WL ÇAMBAŞI SUSTASI	1
3	869 0073 2	WL COMPRESSION SPRING	WL ÇAMBAŞI YAYI	1
4	869 0499 5	HWL SPEARHEAD BASE	HWL ÇAMBAŞI ALTI	1
5	869 0079 3	WL SPRING PIN	WL ÇAMBAŞI PİMİ	1
6	869 0502 9	HWL LATCH RETRACTING CASE	HWL BAŞLIK MUHAFAZASI	1
7	869 0505 2	HWL SPRING PIN	HWL BAŞLIK MUHAFAZA PİMİ	2
8	869 0088 8	WL BOLT	WL BAŞLIK VİDASI	1
9	869 0508 6	HWL WASHER	HWL BAŞLIK VİDA PULU	1
10	869 0511 3	HWL LATCH COMPRESSION SPRING	HWL BAŞLIK MUHAFAZA YAYI	1
11	869 0514 4	HWL UPPER LATCH BODY	HWL MANDAL ÜST GÖVDE	1
12	869 0517 7	HWL LATCH	HWL MANDAL	2
13	869 0520 8	HWL LINK	HWL MANDAL DESTEĞİ	2
14	869 0523 1	HWL SPRING PIN	HWL MANDAL PİMİ	1
15	869 0109 4	WL STEEL BALL	WL ÇELİK MİSKET	1
16	869 0112 7	WL LANDING INDICATOR BUSHING	WL PLASTİK MİSKET YUVASI	1
17	869 0526 5	HWL LANDING SHOULDER	HWL BAŞLIK DURDURUCU BİLEZİK	1
18	869 0529 9	HWL LOWER LATCH BODY	HWL MANDAL ALT GÖVDE	1
19	869 0532 2	HWL HEX NUT	HWL BOY AYAR MİLİ SOMUNU	1
20	869 0535 6	HWL SPINDLE	HWL BOY AYAR MİLİ	1
21	869 0538 3	HWL VALVE ADJUSTING WASHER	HWL İÇ TÜP LASTİK AYARLAMA PULU	3
22	869 0541 4	HWL SHUT OFF VALVE, HARD	HWL LASTİK	2
23	869 0544 7	HWL THRUST BEARING	HWL ZARFLI RULMAN	2
24	869 0547 8	HWL SPINDLE BUSHING	HWL RULMAN BASKI SOMUNU	1
25	869 0550 1	HWL HANGER BEARING	HWL ALIN RULMANI	1
26	869 0553 5	HWL COMPRESSION SPRING	HWL BASKI YAYI	1
27	869 0556 9	HWL NYLOC NUT	HWL BASKI YAYI SOMUNU	1
28	869 0559 2	HWL INNER TUBE CAP ASSEMBLY (28 A, B, C, D)	HWL İÇ TÜP KEP BAŞLIĞI (28 A, B, C, D)	
28A	869 0148 5	GREASE FITTING	GRESÖRLÜK	1
28B	869 0151 9	STEEL BALL	KEP MİSKETİ	1
28C	869 0562 6	HWL INNER TUBE CAP	HWL İÇ TÜP KEPİ	1
28D	869 0565 3	HWL CHECK VALVE BODY	HWL KEP MİSKET YUVASI	1

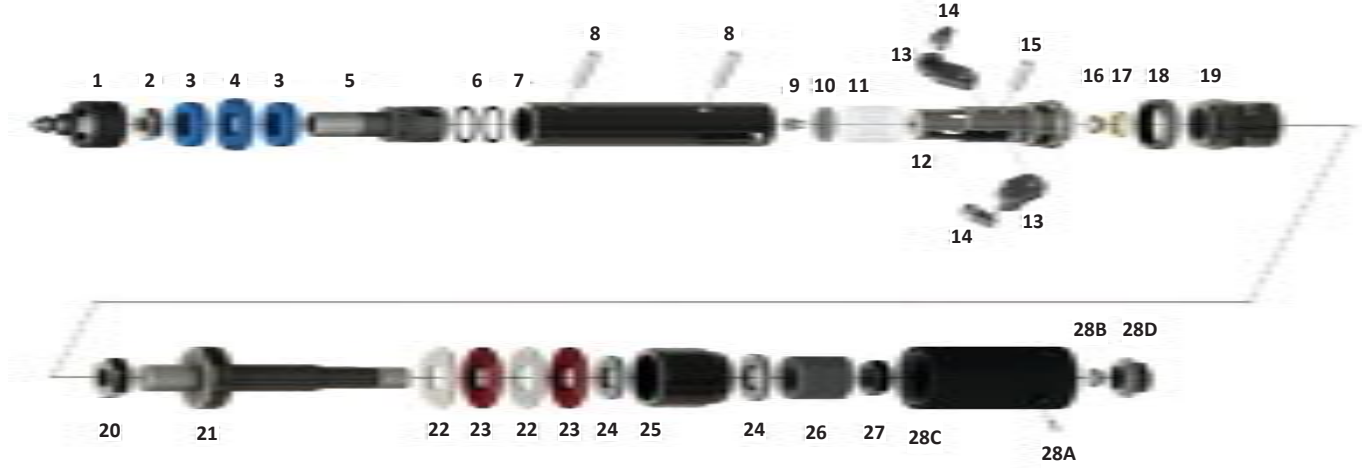


ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1-11	869 0568 4	HWLU CORE BARREL 1,5M	HWLU KAROTİYER 1,5M	1
1-5	869 0571 7	HWLU INNER TUBE GROUP 1.5M	HWLU İÇ TÜP 1,5M KOMPLE	1
1-11	869 0574 8	HWLU CORE BARREL 3M	HWLU KAROTİYER 3M	1
1-5	869 0577 1	HWLU INNER TUBE GROUP 3M	HWLU İÇ TÜP 3M KOMPLE	1
1	869 0580 5	HWLU HEAD ASSEMBLY	HWLU İÇ TÜP BAŞLIĞI	1
2	869 0448 9	HWL INNER TUBE 1,5M	HWL İÇ TÜP 1,5M	1
2	869 0451 2	HWL INNER TUBE 1,5M Cr. Plated	HWL İÇ TÜP 1,5M Kromajlı	1
2	869 0454 6	HWL INNER TUBE 3M	HWL İÇ TÜP 3M	1
2	869 0457 3	HWL INNER TUBE 3M Cr. Plated	HWL İÇ TÜP 3M Kromajlı	1
3	869 0460 4	HWL STOP RING	HWL KEÇİR YUVASI RİNGİ	1
4	869 0463 7	HWL CORE LIFTER	HWL KEÇİR	1
5	869 0466 8	HWL CORE LIFTER CASE	HWL KEÇİR YUVASI	1
6	869 0469 1	HWL LOCKING COUPLING FULL HOLE TANG	HWL ZIRH KÖŞELİ	1
6	869 0472 5	HWL TC* LOCKING COUPLING	HWL ZIRH V/T*	1
7	869 0475 9	HWL ADAPTER COUPLING	HWL ZIRH ALTI	1
8	869 0478 2	HWL LANDING RING	HWL DURDURUCU BİLEZİK	1
9	869 0481 6	HWL OUTER TUBE 1,5M	HWL DIŞ TÜP 1,5M	1
9	869 0484 3	HWL OUTER TUBE 1,5M Cr. Plated	HWL DIŞ TÜP 1,5M Kromajlı	1
9	869 0487 4	HWL OUTER TUBE 3M	HWL DIŞ TÜP 3M	1
9	869 0490 7	HWL OUTER TUBE 3M Cr. Plated	HWL DIŞ TÜP 3M Kromajlı	1
10	869 0493 8	HWL INNER TUBE STABILIZER	HWL İÇ TÜP MERKEZLEYİCİ SARI	1
11	869 0496 1	HWL TC* REAMING SHELL	HWL PORTKRON V/T*	1

\* TC: Tungsten Carbide

\* V/T: Vidye Takviyeli

# HWLU INNER TUBE HEAD ASSEMBLY / HWLU İÇ TÜP BAŞLIĞI



ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1	869 0583 9	HWLU SPEARHEAD POINT	HWLU ÇAMBAŞI	1
2	869 0586 2	HWLU HEX NUT	HWLU ÇAMBAŞI AYAR SOMUNU	1
3	869 0589 6	HWLU PUMP-IN SEAL WASHER	HWLU LASTİK PUL	2
4	869 0592 3	HWLU PUMP-IN SEAL	HWLU LASTİK KEÇE	1
5	869 0595 4	HWLU SPAREHEAD BASE	HWLU ÇAMBAŞI ALTI	1
6	869 0598 7	HWLU O-RING	HWLU O-RING	2
7	869 0601 8	HWLU LATCH RETRACTING CASE	HWLU BAŞLIK MUHAFAZASI	1
8	869 0505 2	HWLU SPRING PIN	HWLU BAŞLIK MUHAFAZA PİMİ	2
9	869 0604 1	HWLU BOLT	HWLU BAŞLIK VİDASI	1
10	869 0607 5	HWLU WASHER	HWLU BAŞLIK VİDA PULU	1
11	869 0610 9	HWLU LATCH COMPRESSION SPRING	HWLU BAŞLIK MUHAFAZA YAYI	1
12	869 0613 2	HWLU UPPER LATCH BODY	HWLU MANDAL ÜST GÖVDE	1
13	869 0616 6	HWLU LATCH	HWLU MANDAL	2
14	869 0619 3	HWLU LINK	HWLU MANDAL DESTEĞİ	2
15	869 0523 1	HWLU SPRING PIN	HWLU MANDAL PİMİ	1
16	869 0622 4	HWLU STEEL BALL	HWLU ÇELİK MİSKET	1
17	869 0625 7	HWLU LANDING INDICATOR BUSHING	HWLU PLASTİK MİSKET YUVASI	1
18	869 0628 8	HWLU LANDING SHOULDER	HWLU BAŞLIK DURDURUCU BİLEZİK	1
19	869 0631 1	HWLU LOWER LATCH BODY	HWLU MANDAL ALT GÖVDE	1
20	869 0532 2	HWLU HEX NUT	HWLU BOY AYAR MİLİ SOMUNU	1
21	869 0535 6	HWLU SPINDLE	HWLU BOY AYAR MİLİ	1
22	869 0538 3	HWLU VALVE ADJUSTING WASHER	HWLU İÇ TÜP LASTİK AYARLAMA PULU	2
23	869 0541 4	HWLU SHUT OFF VALVE, HARD	HWLU LASTİK	2
24	869 0634 5	HWLU THRUST-HANGER BEARING	HWLU ZARFLI-ALIN RULMAN	1
25	869 0547 8	HWLU SPINDLE BUSHING	HWLU RULMAN BASKI SOMUNU	1
26	869 0553 5	HWLU COMPRESSION SPRING	HWLU BASKI YAYI	1
27	869 0556 9	HWLU NYLOC NUT	HWLU BASKI YAYI SOMUNU	1
28	869 0559 2	HWLU INNER TUBE CAP ASSEMBLY (28 A, B, C, D)	HWLU İÇ TÜP KEP BAŞLIĞI (28 A, B, C, D)	
28A	869 0148 5	GREASE FITTING	GRESÖRLÜK	1
28B	869 0151 9	STEEL BALL	KEP MİSKETİ	1
28C	869 0562 6	HWLU INNER TUBE CAP	HWLU İÇ TÜP KEPİ	1
28D	869 0565 3	HWLU CHECK VALVE BODY	HWLU KEP MİSKET YUVASI	1



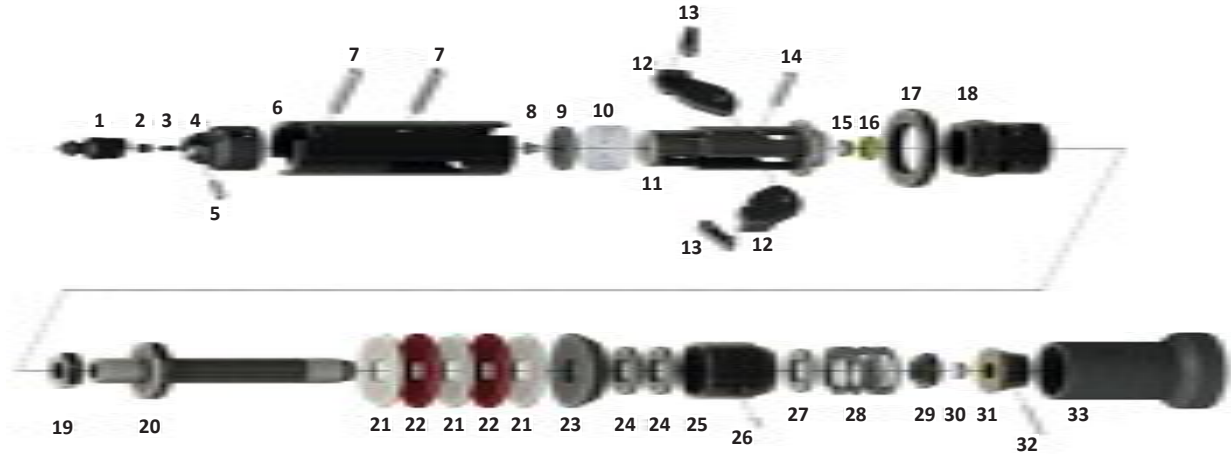
ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1-11	869 0637 9	PWL CORE BARREL 1,5M	PWL KAROTİYER 1,5M	1
1-5	869 0640 2	PWL INNER TUBE GROUP 1.5M	PWL İÇ TÜP 1,5M KOMPLE	1
1-11	869 0643 6	PWL CORE BARREL 3M	PWL KAROTİYER 3M	1
1-5	869 0646 3	PWL INNER TUBE GROUP 3M	PWL İÇ TÜP 3M KOMPLE	1
1	869 0649 4	PWL HEAD ASSEMBLY	PWL İÇ TÜP BAŞLIĞI	1
2	869 0652 7	PWL INNER TUBE 1,5M	PWL İÇ TÜP 1,5M	1
2	869 0655 8	PWL INNER TUBE 1,5M Cr. Plated	PWL İÇ TÜP 1,5M Kromajlı	1
2	869 0658 1	PWL INNER TUBE 3M	PWL İÇ TÜP 3M	1
2	869 0661 5	PWL INNER TUBE 3M Cr. Plated	PWL İÇ TÜP 3M Kromajlı	1
3	869 0664 9	PWL STOP RING	PWL KEÇİR YUVASI RİNGİ	1
4	869 0667 2	PWL CORE LIFTER	PWL KEÇİR	1
5	869 0670 6	PWL CORE LIFTER CASE	PWL KEÇİR YUVASI	1
6	869 0673 3	PWL LOCKING COUPLING FULL HOLE TANG	PWL ZİRH KÖŞELİ	1
6	869 0676 4	PWL TC* LOCKING COUPLING	PWL ZİRH V/T*	1
7	869 0679 7	PWL ADAPTER COUPLING	PWL ZİRH ALTI	1
8	869 0682 8	PWL LANDING RING	PWL DURDURUCU BİLEZİK	1
9	869 0685 1	PWL OUTER TUBE 1,5M	PWL DIŞ TÜP 1,5M	1
9	869 0688 5	PWL OUTER TUBE 1,5M Cr. Plated	PWL DIŞ TÜP 1,5M Kromajlı	1
9	869 0691 9	PWL OUTER TUBE 3M	PWL DIŞ TÜP 3M	1
9	869 0694 2	PWL OUTER TUBE 3M Cr. Plated	PWL DIŞ TÜP 3M Kromajlı	1
10	869 0697 6	PWL INNER TUBE STABILIZER	PWL İÇ TÜP MERKEZLEYİCİ SARI	1
11	869 0700 3	PWL TC* REAMING SHELL	PWL PORTKRON V/T*	1

\* TC: Tungsten Carbide

\* V/T: Vidye Takviyeli

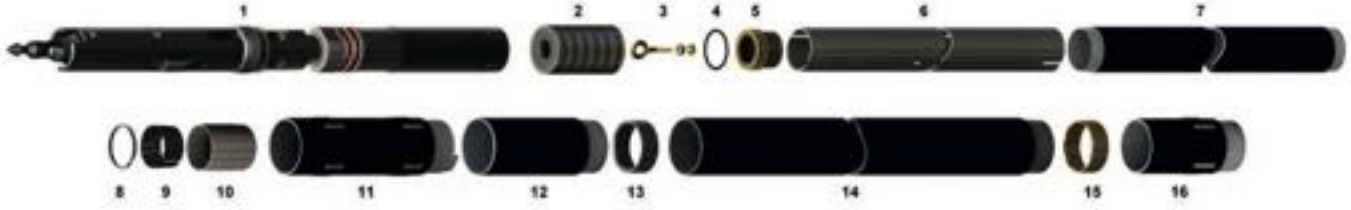


# PWL INNER TUBE HEAD ASSEMBLY / PWL İÇ TÜP BAŞLIĞI



ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1	869 0067 5	WL SPEARHEAD POINT	WL ÇAMBAŞI	1
2	869 0070 9	WL DETENT PLUNGER	WL ÇAMBAŞI SUSTASI	1
3	869 0073 2	WL COMPRESSION SPRING	WL ÇAMBAŞI YAYI	1
4	869 0499 5	HWL SPEARHEAD BASE	HWL ÇAMBAŞI ALTI	1
5	869 0079 3	WL SPRING PIN	WL ÇAMBAŞI PİMİ	1
6	869 0502 9	HWL LATCH RETRACTING CASE	HWL BAŞLIK MUHAFAZASI	1
7	869 0505 2	HWL SPRING PIN	HWL BAŞLIK MUHAFAZA PİMİ	2
8	869 0088 8	WL BOLT	WL BAŞLIK VİDASI	1
9	869 0508 6	HWL WASHER	HWL BAŞLIK VİDA PULU	1
10	869 0511 3	HWL LATCH COMPRESSION SPRING	HWL BAŞLIK MUHAFAZA YAYI	1
11	869 0514 4	HWL UPPER LATCH BODY	HWL MANDAL ÜST GÖVDE	1
12	869 0703 4	PWL LATCH	PWL MANDAL	2
13	869 0520 8	HWL LINK	HWL MANDAL DESTEĞİ	2
14	869 0523 1	HWL SPRING PIN	HWL MANDAL PİMİ	1
15	869 0109 4	WL STEEL BALL	WL ÇELİK MİSKET	1
16	869 0112 7	WL LANDING INDICATOR BUSHING	WL PLASTİK MİSKET YUVASI	1
17	869 0706 7	PWL LANDING SHOULDER	PWL BAŞLIK DURDURUCU BİLEZİK	1
18	869 0529 9	HWL LOWER LATCH BODY	HWL MANDAL ALT GÖVDE	1
19	869 0532 2	HWL HEX NUT	HWL BOY AYAR MİLİ SOMUNU	1
20	869 0709 8	PWL SPINDLE	PWL BOY AYAR MİLİ	1
21	869 0712 1	PWL VALVE ADJUSTING WASHER	PWL İÇ TÜP LASTİK AYARLAMA PULU	3
22	869 0715 5	PWL SHUT OFF VALVE, HARD	PWL LASTİK	2
23	869 0718 9	PWL TAPERED SHUT OFF WASHER	PWL KONİK LASTİK PULU	1
24	869 0721 2	PWL THRUST BEARING	PWL ZARFLI RULMAN	2
25	869 0724 6	PWL SPINDLE BUSHING	PWL RULMAN BASKI SOMUNU	1
26	869 0148 5	GREASE FITTING	GRESÖRLÜK	1
27	869 0727 3	PWL HANGER BEARING	PWL ALIN RULMANI	1
28	869 0730 4	PWL COMPRESSION SPRING	PWL BASKI YAYI	1
29	869 0733 7	PWL NYLOC NUT	PWL BASKI YAYI SOMUNU	1
30	869 0151 9	STEEL BALL	KEP MİSKETİ	1
31	869 0736 8	PWL CHECK VALE BODY	PWL KEP MİSKET YUVASI	1
32	869 0739 1	PWL SPRING PIN	PWL KEP MİSKET YUVASI PİMİ	1
33	869 0742 5	PWL INNER TUBE CAP	PWL İÇ TÜP KEPİ	1





ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1-16	869 0745 9	HWL3 CORE BARREL 1,5M	HWL3 KAROTİYER 1,5M	1
1-10	869 0748 2	HWL3 INNER TUBE GROUP 1.5M	HWL3 İÇ TÜP 1,5M KOMPLE	1
1-16	869 0751 6	HWL3 CORE BARREL 3M	HWL3 KAROTİYER 3M	1
1-10	869 0754 3	HWL3 INNER TUBE GROUP 3M	HWL3 İÇ TÜP 3M KOMPLE	1
1	869 0445 5	HWL HEAD ASSEMBLY	HWL İÇ TÜP BAŞLIĞI	1
2	869 0757 4	HWL3 PUMP OUT ADAPTER ASSEMBLY	HWL3 KAROT ÇIKARMA ADAPTÖRÜ	1
3	869 0760 7	HWL3 PISTON PLUG	HWL3 PİSTON FİŞİ	1
4	869 0763 8	HWL3 PISTON O-RING	HWL3 PİSTON O-RİNG	1
5	869 0766 1	HWL3 CORE EJECTION PISTON	HWL3 KAROT ÇIKARMA PİSTONU	1
6	869 0769 5	HWL3 SPLIT TUBE 1,5M	HWL3 SPLIT TÜP 1,5M	1
6	869 0772 9	HWL3 SPLIT TUBE 3M	HWL3 SPLIT TÜP 3M	1
7	869 0448 9	HWL INNER TUBE 1,5M	HWL İÇ TÜP 1,5M	1
7	869 0454 6	HWL INNER TUBE 3M	HWL İÇ TÜP 3M	1
8	869 0775 2	HWL3 STOP RING	HWL3 KEÇİR YUVASI RİNGİ	1
9	869 0778 6	HWL3 CORE LIFTER	HWL3 KEÇİR	1
10	869 0781 3	HWL3 CORE LIFTER CASE	HWL3 KEÇİR YUVASI	1
11	869 0469 1	HWL LOCKING COUPLING FULL HOLE TANG	HWL ZIRH KÖŞELİ	1
11	869 0472 5	HWL TC* LOCKING COUPLING	HWL ZIRH V/T*	1
12	869 0475 9	HWL ADAPTER COUPLING	HWL ZIRH ALTI	1
13	869 0478 2	HWL LANDING RING	HWL DURDURUCU BİLEZİK	1
14	869 0481 6	HWL OUTER TUBE 1,5M	HWL DIŞ TÜP 1,5M	1
14	869 0484 3	HWL OUTER TUBE 1,5M Cr. Plated	HWL DIŞ TÜP 1,5M Kromajlı	1
14	869 0487 4	HWL OUTER TUBE 3M	HWL DIŞ TÜP 3M	1
14	869 0490 7	HWL OUTER TUBE 3M Cr. Plated	HWL DIŞ TÜP 3M Kromajlı	1
15	869 0493 8	HWL INNER TUBE STABILIZER	HWL İÇ TÜP MERKEZLEYİCİ SARI	1
16	869 0496 1	HWL TC* REAMING SHELL	HWL PORTKRON V/T*	1

\* TC: Tungsten Carbide

\* V/T: Vidye Takviyeli

# BWL CORE BARREL SPARE KIT / BWL KAROTİYER YEDEKLERİ



ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1	869 0067 5	WL SPEARHEAD POINT	WL ÇAMBAŞI	1
2	869 0079 3	WL SPRING PIN	WL ÇAMBAŞI PİMİ	1
3	869 0070 9	WL DETENT PLUNGER	WL ÇAMBAŞI SUSTASI	1
4	869 0073 2	WL COMPRESSION SPRING	WL ÇAMBAŞI YAYI	2
5	869 0085 7	BWL SPRING PIN	BWL BAŞLIK MUHAFAZA PİMİ	2
6	869 0088 8	WL BOLT	WL BAŞLIK VİDASI	2
7	869 0094 5	BWL LATCH COMPRESSION SPRING	BWL BAŞLIK MUHAFAZA YAYI	1
8	869 0100 2	BWL LATCH	BWL MANDAL	4
9	869 0103 6	BWL LINK	BWL MANDAL DESTEĞİ	4
10	869 0106 3	BWL SPRING PIN	BWL MANDAL PİMİ	2
11	869 0109 4	WL STEEL BALL	WL ÇELİK MİSKET	1
12	869 0112 7	WL LANDING INDICATOR BUSHING	WL PLASTİK MİSKET YUVASI	2
13	869 0115 8	BWL LANDING SHOULDER	BWL BAŞLIK DURDURUCU BİLEZİK	1
14	869 0121 5	BWL HEX NUT	BWL BOY AYAR MİLİ SOMUNU	1
15	869 0130 6	BWL SHUT OFF VALVE, HARD	BWL LASTİK	4
16	869 0133 3	BWL THRUST-HANGER BEARING	BWL ZARFLI-ALIN RULMAN	2
17	869 0136 4	BWL SPINDLE BUSHING	BWL RULMAN BASKI SOMUNU	1
18	869 0142 8	BWL NYLOC NUT	BWL BASKI YAYI SOMUNU	1
19	869 0148 5	GREASE FITTING	GRESÖRLÜK	2
20	869 0028 4	BWL STOP RING	BWL KEÇİR YUVASI RİNGİ	2
21	869 0031 7	BWL CORE LIFTER	BWL KEÇİR	20
22	869 0034 8	BWL CORE LIFTER CASE	BWL KEÇİR YUVASI	4
23	869 0046 2	BWL LANDING RING	BWL DURDURUCU BİLEZİK	2
24	869 0061 8	BWL INNER TUBE STABILIZER	BWL İÇ TÜP MERKEZLEYİCİ SARI	2



ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1	869 0067 5	WL SPEARHEAD POINT	WL ÇAMBAŞI	1
2	869 0079 3	WL SPRING PIN	WL ÇAMBAŞI PİMİ	1
3	869 0070 9	WL DETENT PLUNGER	WL ÇAMBAŞI SUSTASI	1
4	869 0073 2	WL COMPRESSION SPRING	WL ÇAMBAŞI YAYI	2
5	869 0301 7	NWL SPRING PIN	NWL BAŞLIK MUHAFAZA PİMİ	2
6	869 0088 8	WL BOLT	WL BAŞLIK VİDASI	2
7	869 0307 1	NWL LATCH COMPRESSION SPRING	NWL BAŞLIK MUHAFAZA YAYI	1
8	869 0313 9	NWL LATCH	NWL MANDAL	4
9	869 0316 2	NWL LINK	NWL MANDAL DESTEĞİ	4
10	869 0319 6	NWL SPRING PIN	NWL MANDAL PİMİ	2
11	869 0109 4	WL STEEL BALL	WL ÇELİK MİSKET	1
12	869 0112 7	WL LANDING INDICATOR BUSHING	WL PLASTİK MİSKET YUVASI	2
13	869 0322 3	NWL LANDING SHOULDER	NWL BAŞLIK DURDURUCU BİLEZİK	1
14	869 0328 7	NWL HEX NUT	NWL BOY AYAR MİLİ SOMUNU	1
15	869 0337 5	NWL SHUT OFF VALVE, HARD	NWL LASTİK	4
16	869 0430 3	NWL THRUST-HANGER BEARING	NWL ZARFLI-ALIN RULMAN	2
17	869 0343 2	NWL SPINDLE BUSHING	NWL RULMAN BASKI SOMUNU	1
18	869 0352 4	NWL NYLOC NUT	NWL BASKI YAYI SOMUNU	1
19	869 0148 5	GREASE FITTING	GRESÖRLÜK	2
20	869 0256 5	NWL STOP RING	NWL KEÇİR YUVASI RİNGİ	2
21	869 0259 9	NWL CORE LIFTER	NWL KEÇİR	20
22	869 0262 2	NWL CORE LIFTER CASE	NWL KEÇİR YUVASI	4
23	869 0274 7	NWL LANDING RING	NWL DURDURUCU BİLEZİK	2
24	869 0289 2	NWL INNER TUBE STABILIZER	NWL İÇ TÜP MERKEZLEYİCİ SARI	2

# HWL CORE BARREL SPARE KIT / HWL KAROTİYER YEDEKLERİ



ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1	869 0067 5	WL SPEARHEAD POINT	WL ÇAMBAŞI	1
2	869 0079 3	WL SPRING PIN	WL ÇAMBAŞI PİMİ	1
3	869 0070 9	WL DETENT PLUNGER	WL ÇAMBAŞI SUSTASI	1
4	869 0073 2	WL COMPRESSION SPRING	WL ÇAMBAŞI YAYI	2
5	869 0505 2	HWL SPRING PIN	HWL BAŞLIK MUHAFAZA PİMİ	2
6	869 0088 8	WL BOLT	WL BAŞLIK VİDASI	2
7	869 0511 3	HWL LATCH COMPRESSION SPRING	HWL BAŞLIK MUHAFAZA YAYI	1
8	869 0517 7	HWL LATCH	HWL MANDAL	4
9	869 0520 8	HWL LINK	HWL MANDAL DESTEĞİ	4
10	869 0523 1	HWL SPRING PIN	HWL MANDAL PİMİ	2
11	869 0109 4	WL STEEL BALL	WL ÇELİK MİSKET	1
12	869 0112 7	WL LANDING INDICATOR BUSHING	WL PLASTİK MİSKET YUVASI	2
13	869 0526 5	HWL LANDING SHOULDER	HWL BAŞLIK DURDURUCU BİLEZİK	1
14	869 0532 2	HWL HEX NUT	HWL BOY AYAR MİLİ SOMUNU	1
15	869 0541 4	HWL SHUT OFF VALVE, HARD	HWL LASTİK	4
16	869 0634 5	HWL THRUST-HANGER BEARING	HWL ZARFLI-ALIN RULMAN	2
17	869 0547 8	HWL SPINDLE BUSHING	HWL RULMAN BASKI SOMUNU	1
18	869 0556 9	HWL NYLOC NUT	HWL BASKI YAYI SOMUNU	1
19	869 0148 5	GREASE FITTING	GRESÖRLÜK	2
20	869 0460 4	HWL STOP RING	HWL KEÇİR YUVASI RİNGİ	2
21	869 0463 7	HWL CORE LIFTER	HWL KEÇİR	20
22	869 0466 8	HWL CORE LIFTER CASE	HWL KEÇİR YUVASI	4
23	869 0478 2	HWL LANDING RING	HWL DURDURUCU BİLEZİK	2
24	869 0493 8	HWL INNER TUBE STABILIZER	HWL İÇ TÜP MERKEZLEYİCİ SARI	2



ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1	869 0067 5	WL SPEARHEAD POINT	WL ÇAMBAŞI	1
2	869 0079 3	WL SPRING PIN	WL ÇAMBAŞI PİMİ	2
3	869 0070 9	WL DETENT PLUNGER	WL ÇAMBAŞI SUSTASI	1
4	869 0073 2	WL COMPRESSION SPRING	WL ÇAMBAŞI YAYI	1
5	869 0505 2	HWL SPRING PIN	HWL BAŞLIK MUHAFAZA PİMİ	2
6	869 0088 8	WL BOLT	WL BAŞLIK VİDASI	2
7	869 0511 3	HWL LATCH COMPRESSION SPRING	HWL BAŞLIK MUHAFAZA YAYI	1
8	869 0703 4	PWL LATCH	PWL MANDAL	4
9	869 0520 8	HWL LINK	HWL MANDAL DESTEĞİ	4
10	869 0523 1	HWL SPRING PIN	HWL MANDAL PİMİ	2
11	869 0109 4	WL STEEL BALL	WL ÇELİK MİSKET	1
12	869 0112 7	WL LANDING INDICATOR BUSHING	WL PLASTİK MİSKET YUVASI	1
13	869 0706 7	PWL LANDING SHOULDER	PWL BAŞLIK DURDURUCU BİLEZİK	1
14	869 0532 2	HWL HEX NUT	HWL BOY AYAR MİLİ SOMUNU	1
15	869 0715 5	PWL SHUT OFF VALVE, HARD	PWL LASTİK	4
16	869 0721 2	PWL THRUST BEARING	PWL ZARFLI RULMAN	2
17	869 0724 6	PWL SPINDLE BUSHING	PWL RULMAN BASKI SOMUNU	1
18	869 0148 5	GREASE FITTING	GRESÖRLÜK	2
19	869 0727 3	PWL HANGER BEARING	PWL ALIN RULMANI	1
20	869 0733 7	PWL NYLOC NUT	PWL BASKI YAYI SOMUNU	1
21	869 0664 9	PWL STOP RING	PWL KEÇİR YUVASI RİNGİ	2
22	869 0667 2	PWL CORE LIFTER	PWL KEÇİR	20
23	869 0670 6	PWL CORE LIFTER CASE	PWL KEÇİR YUVASI	4
24	869 0682 8	PWL LANDING RING	PNWL DURDURUCU BİLEZİK	2
25	869 0697 6	PWL INNER TUBE STABILIZER	PWL İÇ TÜP MERKEZLEYİCİ SARI	2



# BWLU CORE BARREL SPARE KIT / BWLU KAROTİYER YEDEKLERİ



ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1	869 0175 5	BWLU SPEARHEAD POINT	BWLU ÇAMBAŞI	1
2	869 0178 9	BWLU HEX NUT	BWLU ÇAMBAŞI AYAR SOMUNU	1
3	869 0181 2	BWLU PUMP-IN SEAL WASHER	BWLU LASTİK PUL	2
4	869 0184 6	BWLU PUMP-IN SEAL	BWLU LASTİK KEÇE	2
5	869 0190 4	BWLU O-RING	BWLU O-RİNG	4
6	869 0085 7	BWL SPRING PIN	BWL BAŞLIK MUHAFAZA PİMİ	2
7	869 0196 8	BWLU BOLT	BWLU BAŞLIK VİDASI	2
8	869 0202 5	BWLU LATCH COMPRESSION SPRING	BWLU BAŞLIK MUHAFAZA YAYI	1
9	869 0211 6	BWLU LINK	BWLU MANDAL DESTEĞİ	4
10	869 0208 2	BWLU LATCH	BWLU MANDAL	4
11	869 0085 7	BWLU SPRING PIN	BWLU MANDAL PİMİ	1
12	869 0214 3	BWLU STEEL BALL	BWLU ÇELİK MİSKET	1
13	869 0217 4	BWLU LANDING INDICATOR BUSHING	BWLU PLASTİK MİSKET YUVASI	4
14	869 0220 7	BWLU LANDING SHOULDER	BWLU BAŞLIK DURDURUCU BİLEZİK	2
15	869 0121 5	BWL HEX NUT	BWL BOY AYAR MİLİ SOMUNU	1
16	869 0130 6	BWL SHUT OFF VALVE, HARD	BWL LASTİK	4
17	869 0133 3	BWL THRUST-HANGER BEARING	BWL ZARFLI-ALIN RULMAN	2
18	869 0136 4	BWL SPINDLE BUSHING	BWL RULMAN BASKI SOMUNU	1
19	869 0142 8	BWL NYLOC NUT	BWL BASKI YAYI SOMUNU	1
20	869 0148 5	GREASE FITTING	GRESÖRLÜK	2
21	869 0028 4	BWL STOP RING	BWL KEÇİR YUVASI RİNGİ	2
22	869 0031 7	BWL CORE LIFTER	BWL KEÇİR	20
23	869 0034 8	BWL CORE LIFTER CASE	BWL KEÇİR YUVASI	4
24	869 0046 2	BWL LANDING RING	BWL DURDURUCU BİLEZİK	2
25	869 0061 8	BWL INNER TUBE STABILIZER	BWL İÇ TÜP MERKEZLEYİCİ SARI	2





ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1	869 0379 4	NWLU SPEARHEAD POINT	NWLU ÇAMBAŞI	1
2	869 0382 7	NWLU HEX NUT	NWLU ÇAMBAŞI AYAR SOMUNU	1
3	869 0385 8	NWLU PUMP-IN SEAL WASHER	NWLU LASTİK PUL	2
4	869 0388 1	NWLU PUMP-IN SEAL	NWLU LASTİK KEÇE	2
5	869 0394 9	NWLU O-RING	NWLU O-RİNG	4
6	869 0301 7	NWL SPRING PIN	NWL BAŞLIK MUHAFAZA PİMİ	2
7	869 0400 6	NWLU BOLT	NWLU BAŞLIK VİDASI	2
8	869 0406 4	NWLU LATCH COMPRESSION SPRING	NWLU BAŞLIK MUHAFAZA YAYI	1
9	869 0415 1	NWLU LINK	NWLU MANDAL DESTEĞİ	4
10	869 0412 8	NWLU LATCH	NWLU MANDAL	4
11	869 0319 6	NWLU SPRING PIN	NWLU MANDAL PİMİ	1
12	869 0418 5	NWLU STEEL BALL	NWLU ÇELİK MİSKET	1
13	869 0421 9	NWLU LANDING INDICATOR BUSHING	NWLU PLASTİK MİSKET YUVASI	4
14	869 0424 2	NWLU LANDING SHOULDER	NWLU BAŞLIK DURDURUCU BİLEZİK	2
15	869 0328 7	NWL HEX NUT	NWL BOY AYAR MİLİ SOMUNU	1
16	869 0337 5	NWL SHUT OFF VALVE, HARD	NWL LASTİK	4
17	869 0430 3	NWL THRUST-HANGER BEARING	NWL ZARFLI-ALIN RULMAN	2
18	869 0343 2	NWL SPINDLE BUSHING	NWL RULMAN BASKI SOMUNU	1
19	869 0352 4	NWL NYLOC NUT	NWL BASKI YAYI SOMUNU	1
20	869 0148 5	GREASE FITTING	GRESÖRLÜK	2
21	869 0256 5	NWL STOP RING	NWL KEÇİR YUVASI RİNGİ	2
22	869 0259 9	NWL CORE LIFTER	NWL KEÇİR	20
23	869 0262 2	NWL CORE LIFTER CASE	NWL KEÇİR YUVASI	4
24	869 0274 7	NWL LANDING RING	NWL DURDURUCU BİLEZİK	2
25	869 0289 2	NWL INNER TUBE STABILIZER	NWL İÇ TÜP MERKEZLEYİCİ SARI	2

## HWLU CORE BARREL SPARE KIT / HWLU KAROTİYER YEDEKLERİ



ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1	869 0583 9	HWLU SPEARHEAD POINT	HWLU ÇAMBAŞI	1
2	869 0586 2	HWLU HEX NUT	HWLU ÇAMBAŞI AYAR SOMUNU	1
3	869 0589 6	HWLU PUMP-IN SEAL WASHER	HWLU LASTİK PUL	2
4	869 0592 3	HWLU PUMP-IN SEAL	HWLU LASTİK KEÇE	2
5	869 0598 7	HWLU O-RING	HWLU O-RİNG	4
6	869 0505 2	HWL SPRING PIN	HWL BAŞLIK MUHAFAZA PİMİ	2
7	869 0604 1	HWLU BOLT	HWLU BAŞLIK VİDASI	2
8	869 0610 9	HWLU LATCH COMPRESSION SPRING	HWLU BAŞLIK MUHAFAZA YAYI	1
9	869 0619 3	HWLU LINK	HWLU MANDAL DESTEĞİ	4
10	869 0616 6	HWLU LATCH	HWLU MANDAL	4
11	869 0523 1	HWLU SPRING PIN	HWLU MANDAL PİMİ	1
12	869 0622 4	HWLU STEEL BALL	HWLU ÇELİK MİSKET	1
13	869 0625 7	HWLU LANDING INDICATOR BUSHING	HWLU PLASTİK MİSKET YUVASI	4
14	869 0628 8	HWLU LANDING SHOULDER	HWLU BAŞLIK DURDURUCU BİLEZİK	2
15	869 0532 2	HWL HEX NUT	HWL BOY AYAR MİLİ SOMUNU	1
16	869 0541 4	HWL SHUT OFF VALVE, HARD	HWL LASTİK	4
17	869 0634 5	HWL THRUST-HANGER BEARING	HWL ZARFLI-ALIN RULMAN	2
18	869 0547 8	HWL SPINDLE BUSHING	HWL RULMAN BASKI SOMUNU	1
19	869 0556 9	HWL NYLOC NUT	HWL BASKI YAYI SOMUNU	1
20	869 0148 5	GREASE FITTING	GRESÖRLÜK	2
21	869 0460 4	HWL STOP RING	HWL KEÇİR YUVASI RİNGİ	2
22	869 0463 7	HWL CORE LIFTER	HWL KEÇİR	20
23	869 0466 8	HWL CORE LIFTER CASE	HWL KEÇİR YUVASI	4
24	869 0478 2	HWL LANDING RING	HWL DURDURUCU BİLEZİK	2
25	869 0493 8	HWL INNER TUBE STABILIZER	HWL İÇ TÜP MERKEZLEYİCİ SARI	2



ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1	869 0067 5	WL SPEARHEAD POINT	WL ÇAMBAŞI	1
2	869 0079 3	WL SPRING PIN	WL ÇAMBAŞI PİMİ	2
3	869 0070 9	WL DETENT PLUNGER	WL ÇAMBAŞI SUSTASI	1
4	869 0073 2	WL COMPRESSION SPRING	WL ÇAMBAŞI YAYI	1
5	869 0301 7	NWL SPRING PIN	NWL BAŞLIK MUHAFAZA PİMİ	2
6	869 0088 8	WL BOLT	WL BAŞLIK VİDASI	2
7	869 0307 1	NWL LATCH COMPRESSION SPRING	NWL BAŞLIK MUHAFAZA YAYI	1
8	869 0316 2	NWL LINK	NWL MANDAL DESTEĞİ	4
9	869 0313 9	NWL LATCH	NWL MANDAL	4
10	869 0319 6	NWL SPRING PIN	NWL MANDAL PİMİ	2
11	869 0109 4	WL STEEL BALL	WL ÇELİK MİSKET	1
12	869 0112 7	WL LANDING INDICATOR BUSHING	WL PLASTİK MİSKET YUVASI	2
13	869 0322 3	NWL LANDING SHOULDER	NWL BAŞLIK DURDURUCU BİLEZİK	1
14	869 0328 7	NWL HEX NUT	NWL BOY AYAR MİLİ SOMUNU	1
15	869 0337 5	NWL SHUT OFF VALVE, HARD	NWL LASTİK	4
16	869 0340 9	NWL THRUST BEARING	NWL ZARFLI RULMAN	1
17	869 0343 2	NWL SPINDLE BUSHING	NWL RULMAN BASKI SOMUNU	1
18	869 0346 6	NWL HANGER BEARING	NWL ALIN RULMANI	1
19	869 0352 4	NWL NYLOC NUT	NWL BASKI YAYI SOMUNU	1
20	869 0148 5	GREASE FITTING	GRESÖRLÜK	2
21	869 0784 4	NWL3 STOP RING	NWL3 KEÇİR YUVASI RİNGİ	2
22	869 0787 7	NWL3 CORE LIFTER	NWL3 KEÇİR	20
23	869 0790 8	NWL3 CORE LIFTER CASE	NWL3 KEÇİR YUVASI	4
24	869 0793 1	NWL3 O-RING	NWL3 O-RİNG	5
25	869 0274 7	NWL LANDING RING	NWL DURDURUCU BİLEZİK	2
26	869 0289 2	NWL INNER TUBE STABILIZER	NWL İÇ TÜP MERKEZLEYİCİ SARI	2

## HWL3 CORE BARREL SPARE KIT / HWL3 KAROTİYER YEDEKLERİ



ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1	869 0067 5	WL SPEARHEAD POINT	WL ÇAMBAŞI	1
2	869 0079 3	WL SPRING PIN	WL ÇAMBAŞI PİMİ	2
3	869 0070 9	WL DETENT PLUNGER	WL ÇAMBAŞI SUSTASI	1
4	869 0073 2	WL COMPRESSION SPRING	WL ÇAMBAŞI YAYI	1
5	869 0505 2	HWL SPRING PIN	HWL BAŞLIK MUHAFAZA PİMİ	2
6	869 0088 8	WL BOLT	WL BAŞLIK VİDASI	2
7	869 0511 3	HWL LATCH COMPRESSION SPRING	HWL BAŞLIK MUHAFAZA YAYI	1
8	869 0520 8	HWL LINK	HWL MANDAL DESTEĞİ	4
9	869 0517 7	HWL LATCH	HWL MANDAL	4
10	869 0523 1	HWL SPRING PIN	HWL MANDAL PİMİ	2
11	869 0109 4	WL STEEL BALL	WL ÇELİK MİSKET	1
12	869 0112 7	WL LANDING INDICATOR BUSHING	WL PLASTİK MİSKET YUVASI	2
13	869 0526 5	HWL LANDING SHOULDER	HWL BAŞLIK DURDURUCU BİLEZİK	1
14	869 0532 2	HWL HEX NUT	HWL BOY AYAR MİLİ SOMUNU	1
15	869 0541 4	HWL SHUT OFF VALVE, HARD	HWL LASTİK	4
16	869 0544 7	HWL THRUST BEARING	HWL ZARFLI RULMAN	2
17	869 0547 8	HWL SPINDLE BUSHING	HWL RULMAN BASKI SOMUNU	1
18	869 0550 1	HWL HANGER BEARING	HWL ALIN RULMANI	1
19	869 0556 9	HWL NYLOC NUT	HWL BASKI YAYI SOMUNU	1
20	869 0148 5	GREASE FITTING	GRESÖRLÜK	2
21	869 0775 2	HWL3 STOP RING	HWL3 KEÇİR YUVASI RİNGİ	2
22	869 0778 6	HWL3 CORE LIFTER	HWL3 KEÇİR	20
23	869 0781 3	HWL3 CORE LIFTER CASE	HWL3 KEÇİR YUVASI	4
24	869 0763 8	HWL3 PISTON O-RING	HWL3 PİSTON O-RİNG	5
25	869 0478 2	HWL LANDING RING	HWL DURDURUCU BİLEZİK	2
26	869 0493 8	HWL INNER TUBE STABILIZER	HWL İÇ TÜP MERKEZLEYİCİ SARI	2





ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1	869 0067 5	WL SPEARHEAD POINT	WL ÇAMBAŞI	1
2	869 0079 3	WL SPRING PIN	WL ÇAMBAŞI PİMİ	2
3	869 0070 9	WL DETENT PLUNGER	WL ÇAMBAŞI SUSTASI	1
4	869 0073 2	WL COMPRESSION SPRING	WL ÇAMBAŞI YAYI	1
5	869 0505 2	HWL SPRING PIN	HWL BAŞLIK MUHAFAZA PİMİ	2
6	869 0088 8	WL BOLT	WL BAŞLIK VİDASI	2
7	869 0511 3	HWL LATCH COMPRESSION SPRING	HWL BAŞLIK MUHAFAZA YAYI	1
8	869 0520 8	HWL LINK	HWL MANDAL DESTEĞİ	4
9	869 0703 4	PWL LATCH	PWL MANDAL	4
10	869 0523 1	HWL SPRING PIN	HWL MANDAL PİMİ	2
11	869 0109 4	WL STEEL BALL	WL ÇELİK MİSKET	1
12	869 0112 7	WL LANDING INDICATOR BUSHING	WL PLASTİK MİSKET YUVASI	1
13	869 0706 7	PWL LANDING SHOULDER	PWL BAŞLIK DURDURUCU BİLEZİK	1
14	869 0532 2	HWL HEX NUT	HWL BOY AYAR MİLİ SOMUNU	1
15	869 0715 5	PWL SHUT OFF VALVE, HARD	PWL LASTİK	4
16	869 0721 2	PWL THRUST BEARING	PWL ZARFLI RULMAN	2
17	869 0724 6	PWL SPINDLE BUSHING	PWL RULMAN BASKI SOMUNU	1
18	869 0148 5	GREASE FITTING	GRESÖRLÜK	2
19	869 0727 3	PWL HANGER BEARING	PWL ALIN RULMANI	1
20	869 0733 7	PWL NYLOC NUT	PWL BASKI YAYI SOMUNU	1
21	869 0796 5	PWL3 STOP RING	PWL3 KEÇİR YUVASI RİNGİ	2
22	869 0799 9	PWL3 CORE LIFTER	PWL3 KEÇİR	20
23	869 0802 2	PWL3 CORE LIFTER CASE	PWL3 KEÇİR YUVASI	4
24	869 0805 6	PWL3 PISTON O-RING	PWL3 PİSTON O-RİNG	1
25	869 0682 8	PWL LANDING RING	PWL DURDURUCU BİLEZİK	1
26	869 0697 6	PWL INNER TUBE STABILIZER	PWL İÇ TÜP MERKEZLEYİCİ SARI	1

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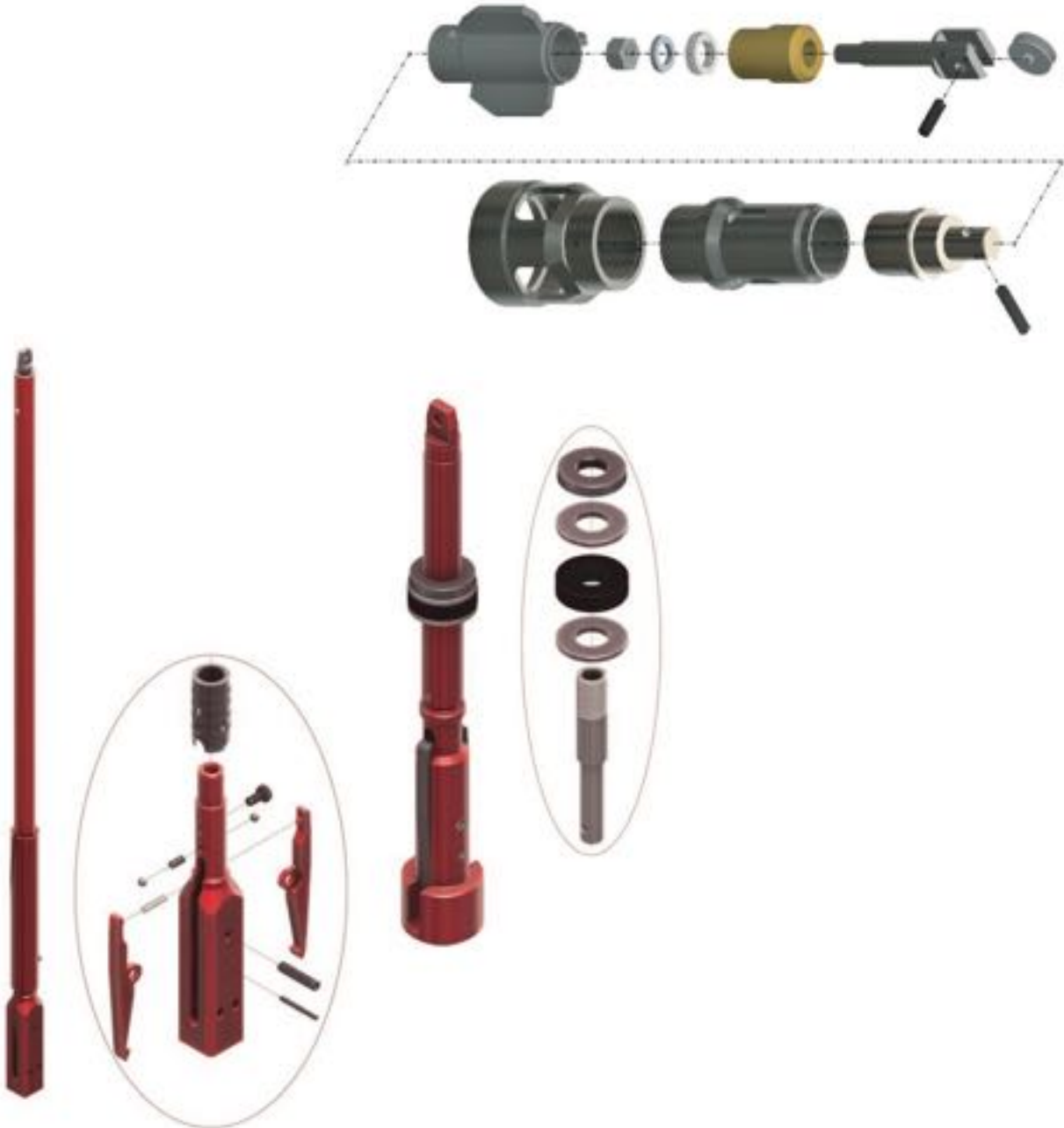


As an integral part of wireline system MADSAN offers overshoot for surface drilling and underground drilling application separately as "WL" and "WLU".

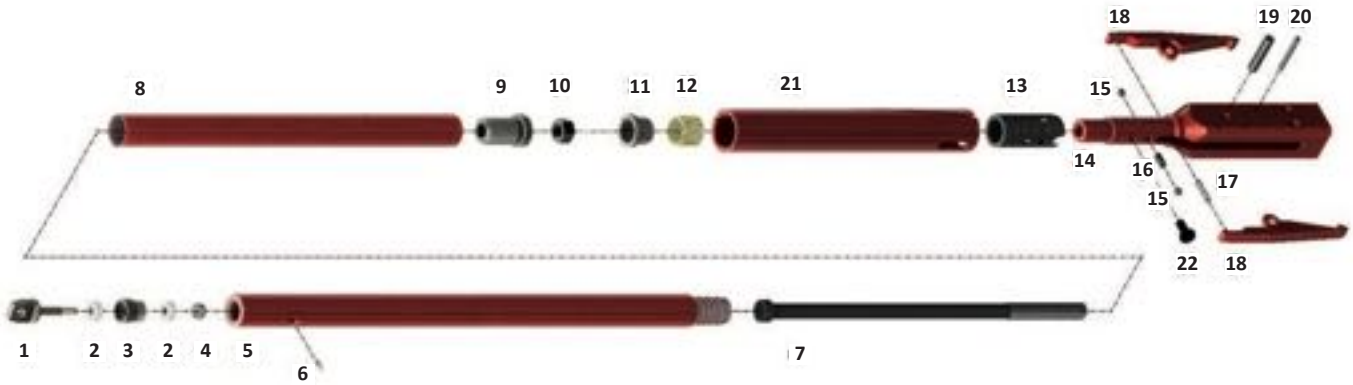
MADSAN also provides spare kits of consumable spare parts of overshoot to reduce the cost of equipment.

Wireline sistemin ayrılmaz bir parçası olan overshoot; yerüstü,yer altı sondaj uygulamaları için "WL" ve "WLU" olarak MADSAN ürün yelpazesinde yer almaktadır.

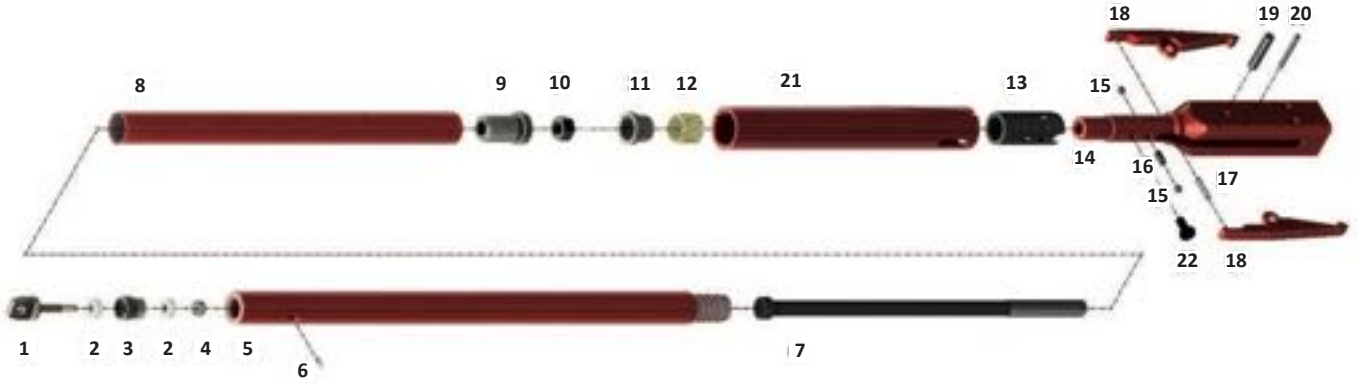
MADSAN ekipman maliyetlerini düşürmek için overshoot sarf malzemelerini yedek parça takımı olarak da sunmaktadır.



# BWL / BWLTK E-ZY LOCK OVERSHOT - BWL / BWLTK E-ZY KİLİTLİ OVERSHOT

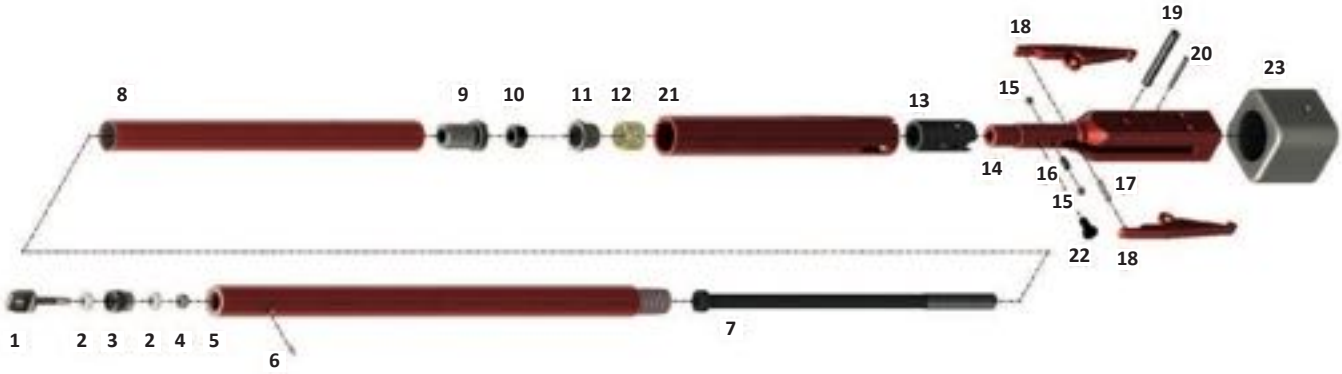


ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1	869 0808 3	BOLT CABLE SWIVEL EYE	BAĞLANTI CİVATASI	1
2	869 0811 4	HANGER BEARING	ALIN RULMANI	2
3	869 0814 7	CABLE SWIVEL COLLAR	RULMAN YATAĞI	1
4	869 0817 8	NYLOC NUT	SOMUN	1
5	869 0820 1	BWL CABLE SWIVEL BODY	BWL MİL	1
6	869 0148 5	GREASE FITTING	GRESÖRLÜK	1
7	869 0823 5	BWL JAR STAFF	BWL İÇ SAPLAMA	1
8	869 0826 9	BWL JAR TUBE	BWL SAPLAMA MUHAFAZA BORUSU	1
9	869 0829 2	BWL JAR STAFF SEAT	BWL SAPLAMA YATAĞI	1
10	869 0121 5	BWL HEX NUT	BWL SOMUN	1
11	869 0832 6	BWL CAP, E-ZY LOCK	BWL YAY YATAĞI	1
12	869 0835 3	BWL SPRING, E-ZY LOCK	BWL YAY	1
13	869 0838 4	BWL SLEEVE, E-ZY LOCK	BWL KİLİT MUHAFAZASI	1
14	869 0841 7	BWL OVERSHOT HEAD, E-ZY LOCK	BWL MAKAS YATAĞI	1
15	869 0109 4	WL STEEL BALL	WL MİSKET	2
16	869 0139 7	BWL COMPRESSION SPRING	BWL MİSKET YAYI	1
17	869 0844 8	BWL LIFTING DOG COMPRESSION SPRING	BWL MANDAL YAYI	1
18	869 0847 1	BWL LIFTING DOG	BWL MANDAL	2
19	869 0850 5	BWL LIFTING DOG SPRING PIN	BWL MANDAL PİMİ	1
20	869 0853 9	BWL SPRING PIN	BWL PİM	1
21	869 0856 2	BWL LOCKING SLEEVE	BWL KURTARICI	1
22	869 0859 6	WL BOLT, LOCKING SLEEVE	WL KURTARICI CİVATASI	1



ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1	869 0808 3	BOLT CABLE SWIVEL EYE	BAĞLANTI CİVATASI	1
2	869 0811 4	HANGER BEARING	ALIN RULMANI	2
3	869 0814 7	CABLE SWIVEL COLLAR	RULMAN YATAĞI	1
4	869 0817 8	NYLOC NUT	SOMUN	1
5	869 0862 3	WL CABLE SWIVEL BODY	WL MİL	1
6	869 0148 5	GREASE FITTING	GRESÖRLÜK	1
7	869 0865 4	WL JAR STAFF	WL İÇ SAPLAMA	1
8	869 0868 7	WL JAR TUBE	WL SAPLAMA MUHAFAZA BORUSU	1
9	869 0871 8	WL JAR STAFF SEAT	WL SAPLAMA YATAĞI	1
10	869 0874 1	WL HEX NUT	WL SOMUN	1
11	869 0877 5	WL CAP, E-ZY LOCK	WL YAY YATAĞI	1
12	869 0880 9	WL SPRING, E-ZY LOCK	WL YAY	1
13	869 0883 2	WL SLEEVE, E-ZY LOCK	WL KİLİT MUHAFAZASI	1
14	869 0886 6	NWL OVERSHOT HEAD, E-ZY LOCK	NWL MAKAS YATAĞI	1
15	869 0109 4	WL STEEL BALL	WL MİSKET	2
16	869 0073 2	WL COMPRESSION SPRING	WL MİSKET YAYI	1
17	869 0889 3	WL LIFTING DOG COMPRESSION SPRING	WL MANDAL YAYI	1
18	869 0892 4	WL LIFTING DOG	WL MANDAL	2
19	869 0895 7	NWL LIFTING DOG SPRING PIN	NWL MANDAL PİMİ	1
20	869 0301 7	NWL SPRING PIN	NWL PİM	1
21	869 0898 8	WL LOCKING SLEEVE	WL KURTARICI	1
22	869 0859 6	WL BOLT, LOCKING SLEEVE	WL KURTARICI CİVATASI	1

# PWL / PWL3 E-ZY LOCK OVERSHOT - PWL / PWL3 E-ZY KİLİTLİ OVERSHOT



ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1	869 0808 3	BOLT CABLE SWIVEL EYE	BAĞLANTI CİVATASI	1
2	869 0811 4	HANGER BEARING	ALIN RULMANI	2
3	869 0814 7	CABLE SWIVEL COLLAR	RULMAN YATAĞI	1
4	869 0817 8	NYLOC NUT	SOMUN	1
5	869 0862 3	WL CABLE SWIVEL BODY	WL MİL	1
6	869 0148 5	GREASE FITTING	GRESÖRLÜK	1
7	869 0865 4	WL JAR STAFF	WL İÇ SAPLAMA	1
8	869 0868 7	WL JAR TUBE	WL SAPLAMA MUHAFAZA BORUSU	1
9	869 0871 8	WL JAR STAFF SEAT	WL SAPLAMA YATAĞI	1
10	869 0874 1	WL HEX NUT	WL SOMUN	1
11	869 0877 5	WL CAP, E-ZY LOCK	WL YAY YATAĞI	1
12	869 0880 9	WL SPRING, E-ZY LOCK	WL YAY	1
13	869 0883 2	WL SLEEVE, E-ZY LOCK	WL KİLİT MUHAFAZASI	1
14	869 0886 6	NWL OVERSHOT HEAD, E-ZY LOCK	NWL MAKAS YATAĞI	1
15	869 0109 4	WL STEEL BALL	WL MİSKET	2
16	869 0073 2	WL COMPRESSION SPRING	WL MİSKET YAYI	1
17	869 0889 3	WL LIFTING DOG COMPRESSION SPRING	WL MANDAL YAYI	1
18	869 0892 4	WL LIFTING DOG	WL MANDAL	2
19	869 0901 1	PWL LIFTING DOG SPRING PIN	PWL MANDAL PİMİ	1
20	869 0739 1	PWL SPRING PIN	PWL PİM	1
21	869 0898 8	WL LOCKING SLEEVE	WL KURTARICI	1
22	869 0859 6	WL BOLT, LOCKING SLEEVE	WL KURTARICI CİVATASI	1
23	869 0904 5	PWL LOCKING SLEEVE RING	PWL KARE BURÇ	1



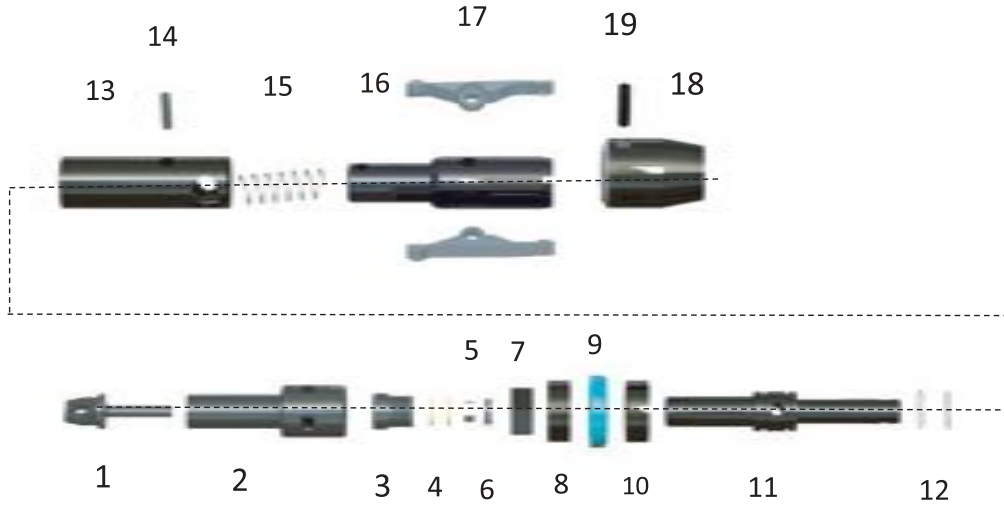
ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1	869 0808 3	BOLT CABLE SWIVEL EYE	BAĞLANTI CİVATASI	1
2	869 0811 4	HANGER BEARING	ALIN RULMANI	2
3	869 0814 7	CABLE SWIVEL COLLAR	RULMAN YATAĞI	1
4	869 0817 8	NYLOC NUT	SOMUN	1
5	869 0907 9	WLU CABLE SWIVEL BODY	WLU MİL	1
6	869 0910 2	BWLÜ THUMB NUT	BWLÜ SOMUN	1
7	869 0199 1	BWLÜ WASHER	BWLÜ PUL	1
8	869 0913 6	BWLÜ SEAL	BWLÜ KEÇE	1
9	869 0916 3	WLU JAR STAFF	WLU İÇ SAPLAMA	1
10	869 0919 4	WLU JAR TUBE	WLU SAPLAMA MUHAFAZA BORUSU	1
11	869 0922 7	BWLÜ OVERSHOT HEAD	BWLÜ MAKAS YATAĞI	1
12	869 0925 8	WLU CONNECTION SPRING PIN	WLU BAĞLANTI PİMİ	1
13	869 0847 1	BWL LIFTING DOG	BWL MANDAL	2
14	869 0139 7	BWL LIFTING DOG COMPRESSION SPRING	BWL MANDAL YAYI	1
15	869 0928 1	WLU LIFTING DOG SPRING PIN	WLU MANDAL PİMİ	1
16	869 0085 7	BWLÜ SPRING PIN	BWLÜ PİM	1



## NWLU OVERSHOT



ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1	869 0808 3	BOLT CABLE SWIVEL EYE	BAĞLANTI CİVATASI	1
2	869 0811 4	HANGER BEARING	ALIN RULMANI	2
3	869 0814 7	CABLE SWIVEL COLLAR	RULMAN YATAĞI	1
4	869 0817 8	NYLOC NUT	SOMUN	1
5	869 0907 9	WLU CABLE SWIVEL BODY	WLU MİL	1
6	869 0931 5	NWLU THUMB NUT	NWLU SOMUN	1
7	869 0403 3	NWLU WASHER	NWLU PUL	1
8	869 0934 9	NWLU SEAL	NWLU KEÇE	1
9	869 0916 3	WLU JAR STAFF	WLU İÇ SAPLAMA	1
10	869 0919 4	WLU JAR TUBE	WLU SAPLAMA MUHAFAZA BORUSU	1
11	869 0937 2	NWLU OVERSHOT HEAD	NWLU MAKAS YATAĞI	1
12	869 0925 8	WLU CONNECTION SPRING PIN	WLU BAĞLANTI PİMİ	1
13	869 0892 4	WL LIFTING DOG	WL MANDAL	2
14	869 0889 3	WL LIFTING DOG COMPRESSION SPRING	WL MANDAL YAYI	1
15	869 0928 1	WLU LIFTING DOG SPRING PIN	WLU MANDAL PİMİ	1
16	869 0319 6	NWLU SPRING PIN	NWLU PİM	1



ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1	869 0940 6	U-TYPE BOLT CABLE SWIVEL EYE	U-TİP BAŞLIK BAĞLANTISI	1
2	869 0943 3	U-TYPE SHAFT	U-TİP OVERSHOT SAPI	1
3	869 0946 4	U-TYPE CONNECTION BOLT	U-TİP BAĞLANTI CİVATASI	1
4	869 0949 7	U-TYPE WASHER	U-TİP BAŞLIK PULU	2
5	869 0952 8	U-TYPE RING NUT	U-TİP BAŞLIK SOMUNU	1
6	869 0955 1	U-TYPE BEARING	U-TİP BAŞLIK RULMANI	1
7	869 0958 5	U-TYPE LOCK NUT	U-TİP BAĞLANTI SOMUNU	1
8	869 0961 9	U-TYPE TOP SEAL CHOCK	U-TİP ÜST KEÇE TAKOZU	1
9	869 0964 2	U-TYPE SEAL	U-TİP KEÇE	1
10	869 0967 6	U-TYPE BOTTOM SEAL CHOCK	U-TİP ALT KEÇE TAKOZU	1
11	869 0970 3	U-TYPE SHAFT	U-TİP MİL	1
12	869 0973 4	U-TYPE O-RING	U-TİP O-RING	2
13	869 0976 7	U-TYPE SAFETY CATCH	U-TİP EMNİYET SUSTASI	1
14	869 0979 8	U-TYPE PIN	U-TİP PİM	1
15	869 0982 1	U-TYPE SPRING	U-TİP YAY	1
16	869 0985 5	U-TYPE LIFTING DOG BODY	U-TİP MANDAL YATAĞI	1
17	869 0988 9	U-TYPE LIFTING DOG	U-TİP MANDAL	2
18	869 0991 2	U-TYPE ADAPTER SLEEVE	U-TİP ADAPTÖR	1
19	869 0994 6	U-TYPE LIFTING DOG PIN	U-TİP MANDAL PİMİ	1

## OVERSHOT SPARE KITS / OVERSHOT YEDEKLERİ



### BWL/ BWLTK OVERSHOT SPARE KIT - BWL/BWLTK OVERSHOT YEDEKLERİ

ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ADET
1	869 0811 4	HANGER BEARING	ALIN RULMANI	1
2	869 0817 8	NYLOC NUT	SOMUN	1
3	869 0148 5	GREASE FITTING	GRESÖRLÜK	1
4	869 0121 5	BWL HEX NUT	BWL SOMUN	1
5	869 0109 4	WL STEEL BALL	WL MİSKET	2
6	869 0139 7	BWL COMPRESSION SPRING	BWL MİSKET YAYI	2
7	869 0139 7	BWL LIFTING DOG COMPRESSION SPRING	BWL MANDAL YAYI	1
8	869 0847 1	BWL LIFTING DOG	BWL MANDAL	2
9	869 0850 5	BWL LIFTING DOG SPRING PIN	BWL MANDAL PİMİ	1
10	869 0853 9	BWL SPRING PIN	BWL PİM	1
11	869 0859 6	WL BOLT, LOCKING SLEEVE	WL KURTARICI CİVATASI	1

### NWL/ NWLTK/NWL3 OVERSHOT SPARE KIT - NWL/ NWLTK/NWL3 OVERSHOT YEDEKLERİ

ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ADET
1	869 0811 4	HANGER BEARING	ALIN RULMANI	1
2	869 0817 8	NYLOC NUT	SOMUN	1
3	869 0148 5	GREASE FITTING	GRESÖRLÜK	1
4	869 0874 1	WL HEX NUT	WL SOMUN	1
5	869 0109 4	WL STEEL BALL	WL MİSKET	2
6	869 0073 2	WL COMPRESSION SPRING	WL MİSKET YAYI	2
7	869 0889 3	WL LIFTING DOG COMPRESSION SPRING	WL MANDAL YAYI	1
8	869 0892 4	WL LIFTING DOG	WL MANDAL	2
9	869 0895 7	NWL LIFTING DOG SPRING PIN	NWL MANDAL PİMİ	1
10	869 0301 7	NWL SPRING PIN	NWL PİM	1
11	869 0859 6	WL BOLT, LOCKING SLEEVE	WL KURTARICI CİVATASI	1

### HWL/HWL3/PWL/PWL3 OVERSHOT SPARE KIT - HWL/HWL3/PWL/PWL3 OVERSHOT YEDEKLERİ

ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ADET
1	869 0811 4	HANGER BEARING	ALIN RULMANI	1
2	869 0817 8	NYLOC NUT	SOMUN	1
3	869 0148 5	GREASE FITTING	GRESÖRLÜK	1
4	869 0874 1	WL HEX NUT	WL SOMUN	1
5	869 0109 4	WL STEEL BALL	WL MİSKET	2
6	869 0073 2	WL COMPRESSION SPRING	WL MİSKET YAYI	2
7	869 0889 3	WL LIFTING DOG COMPRESSION SPRING	WL MANDAL YAYI	1
8	869 0892 4	WL LIFTING DOG	WL MANDAL	2
9	869 0997 3	HWL LIFTING DOG SPRING PIN	HWL MANDAL PİMİ	1
10	869 0901 1	PWL LIFTING DOG SPRING PIN	PWL MANDAL PİMİ	1
11	869 0505 2	HWL SPRING PIN	HWL PİM	1
12	869 0739 1	PWL SPRING PIN	PWL PİM	1
13	869 0859 6	WL BOLT, LOCKING SLEEVE	WL KURTARICI CİVATASI	1



### BWLU OVERSHOT SPARE KIT - BWLU OVERSHOT YEDEKLERİ

ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ADET
1	869 0811 4	HANGER BEARING	ALIN RULMANI	1
2	869 0817 8	NYLOC NUT	SOMUN	1
3	869 0199 1	BWLU WASHER	BWLU PUL	1
4	869 0913 6	BWLU SEAL	BWLU KEÇE	1
5	869 0925 8	WLU CONNECTION SPRING PIN	WLU BAĞLANTI PİMİ	1
6	869 0847 1	BWL LIFTING DOG	BWL MANDAL	1
7	869 0139 7	BWL LIFTING DOG COMPRESSION SPRING	BWL MANDAL YAYI	2
8	869 0928 1	WLU LIFTING DOG SPRING PIN	WLU MANDAL PİMİ	1
9	869 0085 7	BWLU SPRING PIN	BWLU PİM	1

### NWLU OVERSHOT SPARE KIT - NWLU OVERSHOT YEDEKLERİ

ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ADET
1	869 0811 4	HANGER BEARING	ALIN RULMANI	1
2	869 0817 8	NYLOC NUT	SOMUN	1
3	869 0403 3	NWLU WASHER	NWLU PUL	1
4	869 0934 9	NWLU SEAL	NWLU KEÇE	1
5	869 0925 8	WLU CONNECTION SPRING PIN	WLU BAĞLANTI PİMİ	1
6	869 0892 4	WL LIFTING DOG	WL MANDAL	1
7	869 0889 3	WL LIFTING DOG COMPRESSION SPRING	WL MANDAL YAYI	2
8	869 0928 1	WLU LIFTING DOG SPRING PIN	WLU MANDAL PİMİ	1
9	869 0319 6	NWLU SPRING PIN	NWLU PİM	1

### HWLU OVERSHOT SPARE KIT - HWLU OVERSHOT YEDEKLERİ

ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ADET
1	869 0811 4	HANGER BEARING	ALIN RULMANI	1
2	869 0817 8	NYLOC NUT	SOMUN	1
3	869 0607 5	HWLU WASHER	HWLU PUL	1
4	869 1000 4	HWLU SEAL	HWLU KEÇE	1
5	869 0925 8	WLU CONNECTION SPRING PIN	WLU BAĞLANTI PİMİ	1
6	869 0892 4	WL LIFTING DOG	WL MANDAL	1
7	869 0889 3	WL LIFTING DOG COMPRESSION SPRING	WL MANDAL YAYI	2
8	869 0928 1	WLU LIFTING DOG SPRING PIN	WLU MANDAL PİMİ	1
9	869 0523 1	HWLU SPRING PIN	HWLU PİM	1

**CONTENTS / İÇİNDEKİLER (42-50)**

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## B SINGLE TUBE CORE BARREL / B TEK TÜPLÜ KAROTİYER



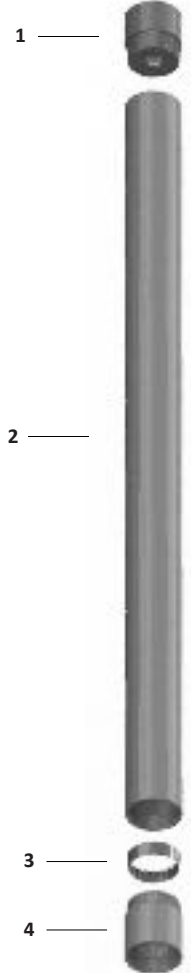
DESCRIPTION/ AÇIKLAMA	CORE DIAMETER/ KAROT ÇAPI	HOLE DIAMETER/ KUYU ÇAPI
B 46	32mm	46mm
B 56	42mm	56mm
B 66	52mm	66mm
B 76	62mm	76mm
B 86	72mm	86mm
B 101	87mm	101mm

## B 46

ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ADET
1-4	869 1003 7	1.5 m / 5 ft Core barrel complete / Conn. CR 42 box	1,5 METRE KOMPLE KAROTİYER CR42 DİŞİ	1
1-4	869 1006 8	3.0 m / 10 ft Core barrel complete / Conn. CR 42 box	3,0 METRE KOMPLE KAROTİYER CR42 DİŞİ	1
1	869 1009 1	Coupling, CR 42 box – 44/37 casing pin	BAŞLIK CR42 DİŞİ	1
2	869 1012 5	Casing, 44/37 x 500 mm	DİŞ BORU 500MM	1
2	869 1015 9	Casing, 44/37 x 1500 mm	DİŞ BORU 1500MM	1
2	869 1018 2	Casing, 44/37 x 3000 mm	DİŞ BORU 3000MM	1
3	869 1021 6	Reaming shell, blank	PORTKRON V/T	1
4	869 1024 3	Core lifter	SEGMAN	1

## B 56

ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ADET
1-4	869 1027 4	1.5 m / 5 ft Core barrel complete / Conn. CR 50 box	1,5 METRE KOMPLE KAROTİYER CR50 DİŞİ	1
1-4	869 1030 7	3.0 m / 10 ft Core barrel complete / Conn. CR 50 box	3,0 METRE KOMPLE KAROTİYER CR50 DİŞİ	1
1	869 1033 8	Coupling, CR 50 box – 54/47 casing pin	BAŞLIK CR42 DİŞİ	1
2	869 1036 1	Casing, 54/47 x 500 mm	DİŞ BORU 500MM	1
2	869 1039 5	Casing, 54/47 x 1500mm	DİŞ BORU 1500MM	1
2	869 1042 9	Casing, 54/47 x 3000 mm	DİŞ BORU 3000MM	1
3	869 1021 6	Reaming shell, blank	PORTKRON V/T	1
4	869 1024 3	Core lifter	SEGMAN	1



## B 66

ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ADET
1-4	869 1027 4	1.5 m / 5 ft Core barrel complete / Conn. CR 50 box	1,5 METRE KOMPLE KAROTİYER CR50 Dişi	1
1-4	869 1030 7	3.0 m / 10 ft Core barrel complete / Conn. CR 50 box	3,0 METRE KOMPLE KAROTİYER CR50 Dişi	1
1	869 1045 2	Coupling, CR 50 box – 64/57 casing pin	BAŞLIK CR42 Dişi	1
2	869 1048 6	Casing, 64/57 x 500 mm	DIŞ BORU 500MM	1
2	869 1051 3	Casing, 64/57 x 1500 mm	DIŞ BORU 1500MM	1
2	869 1054 4	Casing, 64/57 x 3000 mm	DIŞ BORU 3000MM	1
3	869 1021 6	Reaming shell, blank	PORTKRON V/T	1
4	869 1024 3	Core lifter	SEGMAN	1

## B 76

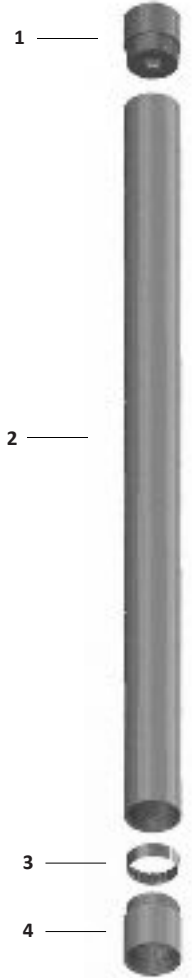
ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ADET
1-4	869 1027 4	1.5 m / 5 ft Core barrel complete / Conn. CR 50 box	1,5 METRE KOMPLE KAROTİYER CR50 Dişi	1
1-4	869 1030 7	3.0 m / 10 ft Core barrel complete / Conn. CR 50 box	3,0 METRE KOMPLE KAROTİYER CR50 Dişi	1
1	869 1057 7	Coupling, NWJ box – 74/67 casing pin	BAŞLIK CR42 Dişi	1
2	869 1060 8	Casing, 74/67 x 500 mm	DIŞ BORU 500MM	1
2	869 1063 1	Casing, 74/67 x 1500 mm	DIŞ BORU 1500MM	1
2	869 1066 5	Casing, 74/67 x 3000 mm	DIŞ BORU 3000MM	1
3	869 1021 6	Reaming shell, blank	PORTKRON V/T	1
4	869 1024 3	Core lifter	SEGMAN	1

## B 86

ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ADET
1-4	869 1027 4	1.5 m / 5 ft Core barrel complete / Conn. CR 50 box	1,5 METRE KOMPLE KAROTİYER CR50 Dişi	1
1-4	869 1030 7	3.0 m / 10 ft Core barrel complete / Conn. CR 50 box	3,0 METRE KOMPLE KAROTİYER CR50 Dişi	1
1	869 1069 9	Coupling, NWJ box – 84/77 casing pin	BAŞLIK CR42 Dişi	1
2	869 1072 2	Casing, 84/77 x 500 mm	DIŞ BORU 500MM	1
2	869 1075 6	Casing, 84/77 x 1500 mm	DIŞ BORU 1500MM	1
2	869 1078 3	Casing, 84/77 x 3000 mm	DIŞ BORU 3000MM	1
3	869 1021 6	Reaming shell, blank	PORTKRON V/T	1
4	869 1024 3	Core lifter	SEGMAN	1

## B 101

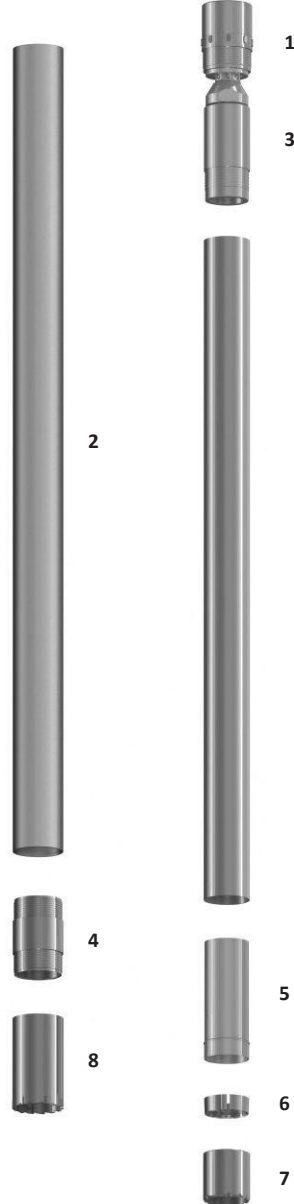
ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ADET
1-4	869 1027 4	1.5 m / 5 ft Core barrel complete / Conn. CR 50 box	1,5 METRE KOMPLE KAROTİYER CR50 Dişi	1
1-4	869 1030 7	3.0 m / 10 ft Core barrel complete / Conn. CR 50 box	3,0 METRE KOMPLE KAROTİYER CR50 Dişi	1
1	869 1081 4	Coupling, NWJ box – 98/89 casing pin	BAŞLIK CR42 Dişi	1
2	869 1084 7	Casing, 98/89 x 500 mm	DIŞ BORU 500MM	1
2	869 1087 8	Casing, 98/89 x 1500 mm	DIŞ BORU 1500MM	1
2	869 1090 1	Casing, 98/89 x 3000 mm	DIŞ BORU 3000MM	1
3	869 1021 6	Reaming shell, blank	PORTKRON V/T	1
4	869 1024 3	Core lifter	SEGMAN	1



## T DOUBLE TUBE CORE BARREL / T ÇİFT TÜPLÜ KAROTİYER



DESCRIPTION/ AÇIKLAMA	CORE DIAMETER/ KAROT ÇAPI	HOLE DIAMETER/ KUYU ÇAPI
T 46	32mm	46mm
T 56	42mm	56mm
T 66	52mm	66mm
T 76	62mm	76mm
T 86	72mm	86mm
T 101	84mm	101mm



## CONVENTIONAL SYSTEM CORE BARREL / DÜZ TAKIM KAROTİYER

## T 46

ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1-8	869 1093 5	1.5 m Core Barrel Complete	1,5 Metre Karotiye Komple	1
1-8	869 1096 9	3.0 m Core Barrel Complete	3.0 Metre Karotiye Komple	1
1	869 1099 2	Core barrel head complete	Karotiye Başlığı Komple	1
2	869 1102 6	Outer Tube 1500mm	Dış Tüp 1500mm	1
2	869 1105 3	Outer Tube 3000mm	Dış Tüp 3000mm	1
3	869 1108 4	Inner tube 1500mm	İç Tüp 1500mm	1
3	869 1111 7	Inner tube 3000mm	İç Tüp 3000mm	1
4	869 1114 8	Reamings shell blank	Portkron V/T	1
5	869 1117 1	Extension tube	Uzantı Tüpü	1
6	869 1024 3	Core lifter	Segman / Keçir	1
7	869 1120 5	Core lifter case	Segman/Keçir Yuvası	1
8	869 1123 9	Crone Bit	Vidye Matkap	1

## T 56

ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1-8	869 1093 5	1.5 m Core Barrel Complete	1,5 Metre Karotiye Komple	1
1-8	869 1096 9	3.0 m Core Barrel Complete	3.0 Metre Karotiye Komple	1
1	869 1099 2	Core barrel head complete	Karotiye Başlığı Komple	1
2	869 1102 6	Outer Tube 1500mm	Dış Tüp 1500mm	1
2	869 1105 3	Outer Tube 3000mm	Dış Tüp 3000mm	1
3	869 1108 4	Inner tube 1500mm	İç Tüp 1500mm	1
3	869 1111 7	Inner tube 3000mm	İç Tüp 3000mm	1
4	869 1114 8	Reamings shell blank	Portkron V/T	1
5	869 1117 1	Extension tube	Uzantı Tüpü	1
6	869 1024 3	Core lifter	Segman / Keçir	1
7	869 1120 5	Core lifter case	Segman/Keçir Yuvası	1
8	869 1123 9	Crone Bit	Vidye Matkap	1

## T 66

ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1-8	869 1093 5	1.5 m Core Barrel Complete	1,5 Metre Karotiye Komple	1
1-8	869 1096 9	3.0 m Core Barrel Complete	3.0 Metre Karotiye Komple	1
1	869 1099 2	Core barrel head complete	Karotiye Başlığı Komple	1
2	869 1102 6	Outer Tube 1500mm	Dış Tüp 1500mm	1
2	869 1105 3	Outer Tube 3000mm	Dış Tüp 3000mm	1
3	869 1108 4	Inner tube 1500mm	İç Tüp 1500mm	1
3	869 1111 7	Inner tube 3000mm	İç Tüp 3000mm	1
4	869 1114 8	Reamings shell blank	Portkron V/T	1
5	869 1117 1	Extension tube	Uzantı Tüpü	1
6	869 1024 3	Core lifter	Segman / Keçir	1
7	869 1120 5	Core lifter case	Segman/Keçir Yuvası	1
8	869 1123 9	Crone Bit	Vidye Matkap	1

## T 76

ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1-8	869 1093 5	1.5 m Core Barrel Complete	1,5 Metre Karotiye Komple	1
1-8	869 1096 9	3.0 m Core Barrel Complete	3.0 Metre Karotiye Komple	1
1	869 1099 2	Core barrel head complete	Karotiye Başlığı Komple	1
2	869 1102 6	Outer Tube 1500mm	Dış Tüp 1500mm	1
2	869 1105 3	Outer Tube 3000mm	Dış Tüp 3000mm	1
3	869 1108 4	Inner tube 1500mm	İç Tüp 1500mm	1
3	869 1111 7	Inner tube 3000mm	İç Tüp 3000mm	1
4	869 1114 8	Reamings shell blank	Portkron V/T	1
5	869 1117 1	Extension tube	Uzantı Tüpü	1
6	869 1024 3	Core lifter	Segman / Keçir	1
7	869 1120 5	Core lifter case	Segman/Keçir Yuvası	1
8	869 1123 9	Crone Bit	Vidye Matkap	1



## CONVENTIONAL SYSTEM CORE BARREL / DÜZ TAKIM KAROTİYER

## T 86

ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1-8	869 1093 5	1.5 m Core Barrel Complete	1,5 Metre Karotiye Komple	1
1-8	869 1096 9	3.0 m Core Barrel Complete	3.0 Metre Karotiye Komple	1
1	869 1099 2	Core barrel head complete	Karotiye Başlığı Komple	1
2	869 1102 6	Outer Tube 1500mm	Dış Tüp 1500mm	1
2	869 1105 3	Outer Tube 3000mm	Dış Tüp 3000mm	1
3	869 1108 4	Inner tube 1500mm	İç Tüp 1500mm	1
3	869 1111 7	Inner tube 3000mm	İç Tüp 3000mm	1
4	869 1114 8	Reamings shell blank	Portkron V/T	1
5	869 1117 1	Extension tube	Uzantı Tüpü	1
6	869 1024 3	Core lifter	Segman / Keçir	1
7	869 1120 5	Core lifter case	Segman/Keçir Yuvası	1
8	869 1123 9	Crone Bit	Vidye Matkap	1

## T 101

ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1-8	869 1093 5	1.5 m Core Barrel Complete	1,5 Metre Karotiye Komple	1
1-8	869 1096 9	3.0 m Core Barrel Complete	3.0 Metre Karotiye Komple	1
1	869 1099 2	Core barrel head complete	Karotiye Başlığı Komple	1
2	869 1102 6	Outer Tube 1500mm	Dış Tüp 1500mm	1
2	869 1105 3	Outer Tube 3000mm	Dış Tüp 3000mm	1
3	869 1108 4	Inner tube 1500mm	İç Tüp 1500mm	1
3	869 1111 7	Inner tube 3000mm	İç Tüp 3000mm	1
4	869 1114 8	Reamings shell blank	Portkron V/T	1
5	869 1117 1	Extension tube	Uzantı Tüpü	1
6	869 1024 3	Core lifter	Segman / Keçir	1
7	869 1120 5	Core lifter case	Segman/Keçir Yuvası	1
8	869 1123 9	Crone Bit	Vidye Matkap	1



## WL & WT THREAD OVERVIEW / WL & WT DİŞ PROFİLİNE GENEL BAKIŞ

WL & WT threads have been used for diamond core drilling rods for more than a decade and proven their quality and durability both in the local and the foreign market.

WL ve WT diş profilleri uzun yıllardan beri elmaslı sondaj tijlerinde kullanılmakta olup kalite ve dayanıklılık yönünden kendisini yurtiçi ve yurtdışı pazarlarda ispat etmiştir.

- WL thread profile is compatible with WL • thread profile
- WL diş profili WL • diş profili ile uyumludur.

WL



Threads are cut with CNC lathe machines with the best tools available in the market by an experienced crew. After threading, rods are induction hardened to prolong their service time. MADSAN is one of the few manufacturers that provide this service to their customers.

Dişler tecrübeli operatörlerce CNC tezgahlarda mevcut en iyi takımlar kullanılarak açılmakta, daha sonra indüksiyon sertleştirilmesi uygulanarak servis ömürleri uzatılmaktadır. MADSAN bu işlemi uygulayan ender üreticilerdendir.

WT



RWL



- RWL thread profile is compatible with RWL • thread.
- RWL diş profili RWL • diş profili ile uyumludur.

**BWL DRILL ROD SPECIFICATIONS / BWL TİJ BİLGİLERİ**

ID#	DESCRIPTION/ AÇIKLAMA	WEIGHT (kg)/ AĞIRLIK (kg)	OD (mm)/ DIŞ ÇAP (mm)	ID (mm)/ İÇ ÇAP (mm)	PITCH (TPI)/ HATVE (diş/in)	PIN LENGTH (mm)/ DIŞ BOYU (mm)
1	DRILL ROD/ TİJ 1,5M	9,7	55,6	46,1	3	44,4
2	DRILL ROD/ TİJ 3,0M	19,4				

**BWL BUNDLE SPECIFICATIONS / BWL BAĞ BİLGİLERİ**

ROD TYPE/ TİJ TİPİ	PCS/ADET	WEIGHT (kg)/ AĞIRLIK (kg)	LENGTH (mm)/ UZUNLUK (mm)	WIDTH (mm)/ GENİŞLİK (mm)	HEIGHT (mm)/ YÜKSEKLİK (mm)	VOLUME (m³)/ HACİM (m³)
BWL 1,5M	40	392	1600	480	420	0,32
BWL 3,0M	40	781	3150			0,64

**NWL DRILL ROD SPECIFICATIONS / NWL TİJ BİLGİLERİ**

ID#	DESCRIPTION/ AÇIKLAMA	WEIGHT (kg)/ AĞIRLIK (kg)	OD (mm)/ DIŞ ÇAP (mm)	ID (mm)/ İÇ ÇAP (mm)	PITCH (TPI)/ HATVE (diş/in)	PIN LENGTH (mm)/ DIŞ BOYU (mm)
1	DRILL ROD/ TİJ 1,5M	11,9	69,9	60,3	3	44,4
2	DRILL ROD/ TİJ 3,0M	23,8				

**NWL BUNDLE SPECIFICATIONS / NWL BAĞ BİLGİLERİ**

ROD TYPE/ TİJ TİPİ	PCS/ADET	WEIGHT (kg)/ AĞIRLIK (kg)	LENGTH (mm)/ UZUNLUK (mm)	WIDTH (mm)/ GENİŞLİK (mm)	HEIGHT (mm)/ YÜKSEKLİK (mm)	VOLUME (m³)/ HACİM (m³)
NWL 1,5M	19	230	1600	380	330	0,20
NWL 3,0M	19	457	3150			0,40

**HWL DRILL ROD SPECIFICATIONS / HWL TİJ BİLGİLERİ**

ID#	DESCRIPTION/ AÇIKLAMA	WEIGHT (kg)/ AĞIRLIK (kg)	OD (mm)/ DIŞ ÇAP (mm)	ID (mm)/ İÇ ÇAP (mm)	PITCH (TPI)/ HATVE (diş/in)	PIN LENGTH (mm)/ DIŞ BOYU (mm)
1	DRILL ROD/ TİJ 1,5M	17,5	88,9	77,8	3	44,4
2	DRILL ROD/ TİJ 3,0M	34,9				

**HWL BUNDLE SPECIFICATIONS / HWL BAĞ BİLGİLERİ**

ROD TYPE/ TİJ TİPİ	PCS/ADET	WEIGHT (kg)/ AĞIRLIK (kg)	LENGTH (mm)/ UZUNLUK (mm)	WIDTH (mm)/ GENİŞLİK (mm)	HEIGHT (mm)/ YÜKSEKLİK (mm)	VOLUME (m³)/ HACİM (m³)
HWL 1,5M	19	337	1600	480	420	0,32
HWL 3,0M	19	668	3150			0,64

**PWL / HWT DRILL ROD SPECIFICATIONS/PWL / HWT TİJ BİLGİLERİ**

ID#	DESCRIPTION/ AÇIKLAMA	WEIGHT (kg)/ AĞIRLIK (kg)	OD (mm)/ DIŞ ÇAP (mm)	ID (mm)/ İÇ ÇAP (mm)	PITCH (TPI)/ HATVE (diş/in)	PIN LENGTH (mm)/ DIŞ BOYU (mm)
1	DRILL ROD/ TİJ 1,5M	26,3	114,3	101,6	2,5	63
2	DRILL ROD/ TİJ 3,0M	52,4				

**PWL / HWT BUNDLE SPECIFICATIONS/PWL / HWT BAĞ BİLGİLERİ**

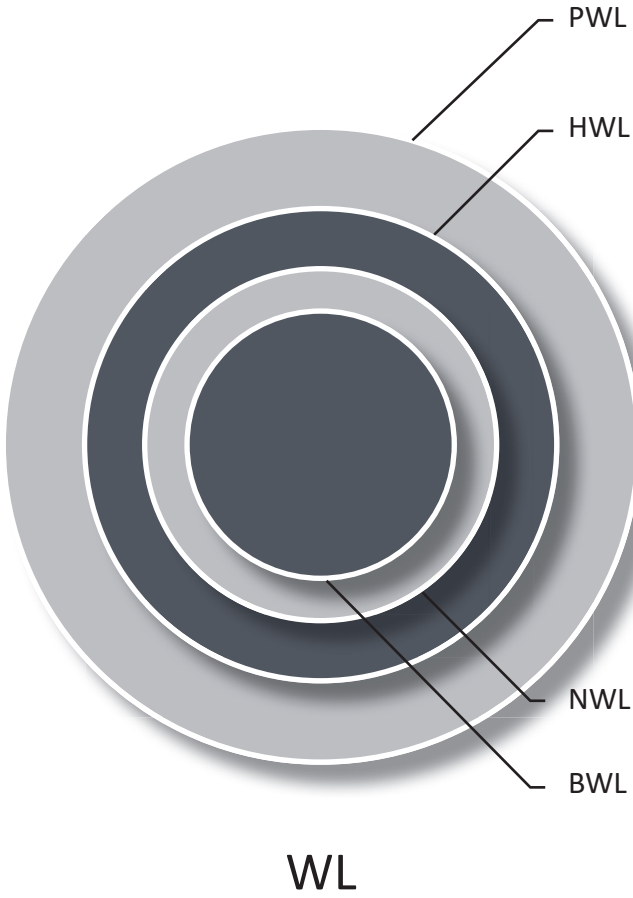
ROD TYPE/ TİJ TİPİ	PCS/ADET	WEIGHT (kg)/ AĞIRLIK (kg)	LENGTH (mm)/ UZUNLUK (mm)	WIDTH (mm)/ GENİŞLİK (mm)	HEIGHT (mm)/ YÜKSEKLİK (mm)	VOLUME (m³)/ HACİM (m³)
PWL/HWT 1,5M	7	188	1600	360	340	0,20
PWL/HWT 3,0M	7	372	3200			0,39

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WL (Standard)				
SIZE/ EBAT	CORE DIAMETER		HOLE DIAMETER	
	Metric (mm)	U.S. (in)	Metric (mm)	U.S. (in)
BWL	36.4	1-7/16	60.0	2-23/64
NWL	47.6	1-7/8	75.7	2-63/64
HWL	63.5	2-1/2	96.0	3-25/32
PWL	85.0	3-11/32	122.6	4-53/64

WLTK (Thin Kerf)				
AWLTK	30.5	1-13/64	48.0	1-57/64
BWLTK	40.7	1-39/64	60.0	2-23/64
NWLTK**	50.6	2	75.7	2-63/64

WL3 (Triple Tube)				
NWL3	45.0	1-25/32	75.7	2-63/64
HWL3	61.1	2-13/32	96.0	3-25/32
PWL3	83.0	3-9/32	122.6	4-53/64

# ARDRILLA DIAMOND BIT CHOOSE SELECTION TABLE / ARDRILLA EMPRENYE MATKAP SEÇİM TABLOSU

STD SERİE DIAMOND BIT	SCH SERİE DIAMOND BIT	SCALE	ROCK TYPE	ROCK HARDNESS	ABRASSIVE
STD SERİSİ EMPRENYE MATKAP	SCH SERİ EMPRENYE MATKAP	ÖLÇEKLİ	KAYAÇ CİNSİ	KAYAÇ SERTLİĞİ	AŞINDIRICILIK
#1	H1.1		CLAY, SHALE, SILTONE, GYPSUM KİL, ŞEYL, SİLT TAŞI, JİPS	SOFT YUMUŞAK	MEDIUM ORTA
#2	H1		ASH STONE, COAL, ARGILITE, VOLCAN- ICKS, SANDY PEBBLE	SOFT	VERY HIGH
#3	H2		VOLKANİK KÜL TAŞI, KÖMÜR, ARJİLİT, VOLKANİK, KUMLU ÇAKIL	YUMUŞAK	ÇOK YÜKSEK
#4	H3		SANDSTONE, SANDY SHALE, LATHERID, LIMESTONE	MEDIUM SOFT	VERY HIGH
#5	H4		KUM TAŞI, KUMMLU ŞEYL, LATERİT, KALKER	ORTA YUMUŞAK- LIK	ÇOK YÜKSEK
#6	H5		MEDIUM-HARD LIMESTONE, MEDI- UM-HARD SHALE, MEDIUM-HARD ASH STONE	MEDIUM	HIGH
#7	H6		ORTA-SERT KİREÇ TAŞI(KALKER), OR- TA-SERT ŞEYL, ORTA-SERT VOLKANİK KÜL TAŞI	ORTA	YÜKSEK
#8	H7		MARBLE, HARD SCHIST, HARD STREAK ST ONE	MEDIUM	MEDIUM
#9	H8		MERMER, SERT ŞİŞT, SERT DAMAR KATAÇLARI(DİYABAZ,DİYORİT, DAYK)	ORTA	ORTA
#10	H9		DIABASE, ANDESITE, GNEISS DİYABAZ, ANDEZİT, GNAYS	MEDIUM-HARD ORTA-SERT	MEDIUM ORTA
#11	H10		GRANODIOTE, LIMESTONE GRANODİYORİT, KİREÇ TAŞI(KALKER)	MEDIUM ORTA	MEDIUM ORTA
			GRANITE, BASALT, HARD STREAK STONE	HARD	MEDIUM TO LOW
			GRANİT, BAZALT, SERT DAMAR KATAÇLARI(DİYABAZ,DİYORİT, DAYK)	SERT	ORTA VE DÜŞÜK
			RHYOLITE, GNEISS, QUARTZ PORPHYRY	HARD	MEDIUM TO LOW
			RİYOLİT, GNAYS, GRANİT PORFİRİ	SERT	ORTA VE DÜŞÜK
			SLICIOUS STONE, HARD SANDSTONE	EXTRA HARD	MEDIUM TO LOW
			SİLİKA KAYAÇLARI, SERT KUMTAŞI	İLAVE SERT	ORTA VE DÜŞÜK
			RHYOLITE, DENSE QUARTZITE, IRON STONE	ULTRA HARD	LOW
			RİYOLİT, YOĞUN KUVARSLI KAYAÇ(SÜT KUVARS VB), DEMİRLİ KAYAÇLAR	EN SERT	DÜŞÜK

ID#	SIZE/ EBAT	DESCRIPTION/AÇIKLAMA	HARDNESS-SPC/ SERTLİK - ELMAS SAYISI/ KARAT	NO.OF WATERWAYS/ SUKANALSAYISI	WATERWAYS WIDTH/ SUKANAL GENİŞLİĞİ
1	PWL	Impregnated Diamond Bit / Emprenye Matkap	H1.1	12 / FD*/ASK**	8mm
2	PWL	Impregnated Diamond Bit / Emprenye Matkap	H1	12 / FD/ASK	8mm
3	PWL	Impregnated Diamond Bit / Emprenye Matkap	H2	12 / FD/ASK	8mm
4	PWL	Impregnated Diamond Bit / Emprenye Matkap	H3	12 / FD/ASK	8mm
5	PWL	Impregnated Diamond Bit / Emprenye Matkap	H4	12 / FD/ASK	8mm
6	PWL	Impregnated Diamond Bit / Emprenye Matkap	H5	12 / FD/ASK	8mm
7	PWL	Impregnated Diamond Bit / Emprenye Matkap	H6	12 / FD/ASK	8mm
8	PWL	Impregnated Diamond Bit / Emprenye Matkap	H7	12 / FD/ASK	8mm
9	PWL	Impregnated Diamond Bit / Emprenye Matkap	H8	12 / FD/ASK	8mm
10	PWL	Impregnated Diamond Bit / Emprenye Matkap	H9	12 / FD/ASK	8mm
11	PWL	Impregnated Diamond Bit / Emprenye Matkap	H10	12 / FD/ASK	8mm
12	HWL	Impregnated Diamond Bit / Emprenye Matkap	H1.1	10 / FD/ASK	8mm
13	HWL	Impregnated Diamond Bit / Emprenye Matkap	H1	10 / FD/ASK	8mm
14	HWL	Impregnated Diamond Bit / Emprenye Matkap	H2	10 / FD/ASK	8mm
15	HWL	Impregnated Diamond Bit / Emprenye Matkap	H3	10 / FD/ASK	8mm
16	HWL	Impregnated Diamond Bit / Emprenye Matkap	H4	10 / FD/ASK	8mm
17	HWL	Impregnated Diamond Bit / Emprenye Matkap	H5	10 / FD/ASK	8mm
18	HWL	Impregnated Diamond Bit / Emprenye Matkap	H6	10 / FD/ASK	8mm
19	HWL	Impregnated Diamond Bit / Emprenye Matkap	H7	10 / FD/ASK	8mm
20	HWL	Impregnated Diamond Bit / Emprenye Matkap	H8	10 / FD/ASK	8mm
21	HWL	Impregnated Diamond Bit / Emprenye Matkap	H9	10 / FD/ASK	8mm
22	HWL	Impregnated Diamond Bit / Emprenye Matkap	H10	10 / FD/ASK	8mm

\* FD:Face Discharged

\*\* ASK: Alından Su Kanallı

## ARDRILLA IMPREGNATED DIAMOND BITS / EMPRENYE ELMAS MATKAPLAR

ID#	SIZE/ EBAT	DESCRIPTION/AÇIKLAMA	HARDNESS-SPC/ SERTLİK - ELMAS SAYISI/ KARAT	NO.OF WATERWAYS/ SUKANALSAYISI	WATERWAYS WIDTH/ SUKANAL GENİŞLİĞİ
23	NWL	Impregnated Diamond Bit / Emprenye Matkap	H1.1	8 / FD/ASK	12mm
24	NWL	Impregnated Diamond Bit / Emprenye Matkap	H1	8 / FD/ASK	12mm
25	NWL	Impregnated Diamond Bit / Emprenye Matkap	H2	8 / FD/ASK	12mm
26	NWL	Impregnated Diamond Bit / Emprenye Matkap	H3	8 / FD/ASK	12mm
27	NWL	Impregnated Diamond Bit / Emprenye Matkap	H4	8 / FD/ASK	12mm
28	NWL	Impregnated Diamond Bit / Emprenye Matkap	H5	8 / FD/ASK	12mm
29	NWL	Impregnated Diamond Bit / Emprenye Matkap	H6	8 / FD/ASK	12mm
30	NWL	Impregnated Diamond Bit / Emprenye Matkap	H7	8 / FD/ASK	12mm
31	NWL	Impregnated Diamond Bit / Emprenye Matkap	H8	8 / FD/ASK	12mm
32	NWL	Impregnated Diamond Bit / Emprenye Matkap	H9	8 / FD/ASK	12mm
33	NWL	Impregnated Diamond Bit / Emprenye Matkap	H10	8 / FD/ASK	12mm
45	BWL	Impregnated Diamond Bit / Emprenye Matkap	H1.1	6 / FD/ASK	12mm
46	BWL	Impregnated Diamond Bit / Emprenye Matkap	H1	6 / FD/ASK	12mm
47	BWL	Impregnated Diamond Bit / Emprenye Matkap	H2	6 / FD/ASK	12mm
48	BWL	Impregnated Diamond Bit / Emprenye Matkap	H3	6 / FD/ASK	12mm
49	BWL	Impregnated Diamond Bit / Emprenye Matkap	H4	6 / FD/ASK	12mm
50	BWL	Impregnated Diamond Bit / Emprenye Matkap	H5	6 / FD/ASK	12mm
51	BWL	Impregnated Diamond Bit / Emprenye Matkap	H6	6 / FD/ASK	12mm
52	BWL	Impregnated Diamond Bit / Emprenye Matkap	H7	6 / FD/ASK	12mm
53	BWL	Impregnated Diamond Bit / Emprenye Matkap	H8	6 / FD/ASK	12mm
54	BWL	Impregnated Diamond Bit / Emprenye Matkap	H9	6 / FD/ASK	12mm
55	BWL	Impregnated Diamond Bit / Emprenye Matkap	H10	6 / FD/ASK	12mm

ID#	SIZE/ EBAT	DESCRIPTION/ AÇIKLAMA	HARD- NESS-SPC/ SERTLİK - ELMAS SAYISI/ KARAT	IMPREG- NATION HEIGHT/ EMPRENYE YÜKSEKLİĞİ	NO.Of WATER- WAYS/ SU KANAL SAYISI	WATER- WAYS WIDTH/ SU KANAL GENİŞLİĞİ
1	PW	Impregnated Casing Shoe / Emprenye Çarık	6	7mm	14	4,7 mm
2	PW	Impregnated Casing Shoe / Emprenye Çarık	9	7mm	14	4,7 mm
3	HW	Impregnated Casing Shoe / Emprenye Çarık	6	7mm	6	4,7 mm
4	HW	Impregnated Casing Shoe / Emprenye Çarık	9	7mm	6	4,7 mm
5	NW	Impregnated Casing Shoe / Emprenye Çarık	6	7mm	4	4,7 mm
6	NW	Impregnated Casing Shoe / Emprenye Çarık	9	7mm	4	4,7 mm
7	BW	Impregnated Casing Shoe / Emprenye Çarık	6	7mm	6	4,7 mm
8	BW	Impregnated Casing Shoe / Emprenye Çarık	9	7mm	6	4,7 mm
9	AW	Impregnated Casing Shoe / Emprenye Çarık	6	7mm	3	5 mm
10	AW	Impregnated Casing Shoe / Emprenye Çarık	9	7mm	3	5 mm
11	PW	Surface Set Casing Shoe / Taneli Çarık	40/60	/	12	5 mm
12	HW	Surface Set Casing Shoe / Taneli Çarık	40/60	/	8	5 mm
13	NW	Surface Set Casing Shoe / Taneli Çarık	40/60	/	6	5 mm
14	BW	Surface Set Casing Shoe / Taneli Çarık	40/60	/	6	5 mm
15	AW	Surface Set Casing Shoe / Taneli Çarık	40/60	/	3	6 mm
16	PWL	Impregnated Casing Shoe / Emprenye Çarık	6	7mm	6	4,7 mm
17	PWL	Impregnated Casing Shoe / Emprenye Çarık	9	7mm	6	4,7 mm
18	HWL	Impregnated Casing Shoe / Emprenye Çarık	6	7mm	4	4,7 mm
19	HWL	Impregnated Casing Shoe / Emprenye Çarık	9	7mm	4	4,7 mm
20	NWL	Impregnated Casing Shoe / Emprenye Çarık	6	7mm	6	4,7 mm
21	NWL	Impregnated Casing Shoe / Emprenye Çarık	9	7mm	6	4,7 mm
22	PWL	Surface Set Casing Shoe / Taneli Çarık	40/60	/	8	5 mm
23	HWL	Surface Set Casing Shoe / Taneli Çarık	40/60	/	8	5 mm
24	NWL	Surface Set Casing Shoe / Taneli Çarık	40/60	/	6	5 mm

ID#	SIZE/ EBAT	DESCRIPTION/ AÇIKLAMA	IMPREGNA- TION WIDTH/ EMPRENYE GENİŞLİĞİ	IMPREG- NATION HEIGHT/ EMPRENYE YÜKSEK- LİĞİ	NO.Of WATER- WAYS/ SU KANAL SAYISI	WATER- WAYS WIDTH/ SU KANAL GENİŞLİĞİ
1	PWL	Diamond Reaming Shell / Elmaslı Portkron	13,7 mm	45 mm	8	14 mm
2	HWL	Diamond Reaming Shell / Elmaslı Portkron	14,1 mm	45 mm	6	14 mm
3	NWL	Diamond Reaming Shell / Elmaslı Portkron	12,9 mm	38 mm	5	14 mm
4	BWL	Diamond Reaming Shell / Elmaslı Portkron	11,1 mm	35 mm	5	13 mm

## ARDRILLA DIAMOND LOCKING COUPLINGS / ELMASLI ZIRHLAR

ID#	SIZE/ EBAT	DESCRIPTION/ AÇIKLAMA	IMPREGNA- TION WIDTH/ EMPRENYE GENİŞLİĞİ	IMPREG- NATION HEIGHT/ EMPRENYE YÜKSEKLİĞİ	NO.Of WATER- WAYS/ SU KANAL SAYISI	WATER- WAYS WIDTH/ SU KANAL GENİŞLİĞİ
1	PWL	Locking Coupling / Elmaslı Zırh	45.5mm	44 mm	8	14 mm
2	HWL	Locking Coupling / Elmaslı Zırh	22,5 mm	70 mm	8	14 mm
3	NWL	Locking Coupling / Elmaslı Zırh	26,3 mm	47 mm	6	15 mm
4	BWL	Locking Coupling / Elmaslı Zırh	21,2 mm	50 mm	4	13 mm

## CONVENTIONAL SYSTEM DOUBLE TUBE DIAMOND REAMING SHELLS ÇİFT TÜPLÜ DÜZ TAKIM ELMASLI PORTKRONLAR

ID#	SIZE/ EBAT	DESCRIPTION/ AÇIKLAMA	HEIGHT/ YÜKSEKLİK	IMPREG- NATION HEIGHT/ EMPRENYE YÜKSEKLİĞİ	NO.Of WATER- WAYS/ SU KANAL SAYISI	WATER- WAYS WIDTH/ SU KANAL GENİŞLİĞİ
1	T46	Diamond Reaming Shell / Elmaslı Portkron	/	30mm	4	14 mm
2	T56	Diamond Reaming Shell / Elmaslı Portkron	/	30mm	4	14 mm
3	T66	Diamond Reaming Shell / Elmaslı Portkron	/	26 mm	5	14 mm
4	T76	Diamond Reaming Shell / Elmaslı Portkron	/	30mm	6	14 mm
5	T86	Diamond Reaming Shell / Elmaslı Portkron	/	30mm	6	14 mm
6	T2 101	Diamond Reaming Shell / Elmaslı Portkron	/	30mm	6	14 mm
7	T48	Diamond Reaming Shell / Elmaslı Portkron	/	30mm	4	14 mm

## CONVENTIONAL SYSTEM SINGLE TUBE DIAMOND REAMING SHELLS TEK TÜPLÜ DÜZ TAKIM ELMASLI PORTKRONLAR

ID#	SIZE/ EBAT	DESCRIPTION/ AÇIKLAMA	HEIGHT/ YÜKSEKLİK	IMPREG- NATION HEIGHT/ EMPRENYE YÜKSEKLİĞİ	NO.Of WATER- WAYS/ SU KANAL SAYISI	WATER- WAYS WIDTH/ SU KANAL GENİŞLİĞİ
1	B46	Diamond Reaming Shell / Elmaslı Portkron	/	26mm	4	14 mm
2	B56	Diamond Reaming Shell / Elmaslı Portkron	/	26mm	4	14 mm
3	B66	Diamond Reaming Shell / Elmaslı Portkron	/	26mm	5	14 mm
4	B76	Diamond Reaming Shell / Elmaslı Portkron	/	30mm	6	14 mm
5	B101	Diamond Reaming Shell / Elmaslı Portkron	/	30mm	6	14 mm



## ARDRILLA - CONVENTIONAL DOUBLE TUBE DIAMOND BITS / ÇİFT TÜPLÜ DÜZ TAKIM ELMAS MATKAPLAR

ID#	SIZE/EBAT	DESCRIPTION/AÇIKLAMA	HARD-NESS-SPC/ SERTLİK - ELMAS SAYISI/ KARAT	IMPREG-NATION HEIGHT/ EMPRENYE YÜKSEKLİĞİ	NO.Of WATER- WAYS/SU KANAL SAYISI	WATER- WAYS WIDTH/ SU KANAL GENİŞLİĞİ
1	T46	Impregnated Diamond Bit / Emprenye Matkap	#6	7mm	4	4,7 mm
2	T46	Impregnated Diamond Bit / Emprenye Matkap	#9	7mm	4	4,7 mm
3	T46	Impregnated Diamond Bit / Emprenye Matkap	#11	7mm	6	4,7 mm
4	T46	Impregnated Diamond Bit / Emprenye Matkap	#13	7mm	6	4,7 mm
5	T56	Impregnated Diamond Bit / Emprenye Matkap	#6	7mm	4	4,7 mm
6	T56	Impregnated Diamond Bit / Emprenye Matkap	#9	7mm	4	4,7 mm
7	T66	Impregnated Diamond Bit / Emprenye Matkap	#6	7mm	4	4,7 mm
8	T66	Impregnated Diamond Bit / Emprenye Matkap	#9	7mm	4	4,7 mm
9	T76	Impregnated Diamond Bit / Emprenye Matkap	#6	7mm	6	4,7 mm
10	T76	Impregnated Diamond Bit / Emprenye Matkap	#9	7mm	6	4,7 mm
11	T86	Impregnated Diamond Bit / Emprenye Matkap	#6	7mm	6	4,7 mm
12	T101	Impregnated Diamond Bit / Emprenye Matkap	#6	7mm	12	4,7 mm
13	T46	Surface Set Diamond Bit / Taneli Elmas Matkap	40/60	/	4	5 mm
14	T56	Surface Set Diamond Bit / Taneli Elmas Matkap	40/60	/	6	5 mm
15	T66	Surface Set Diamond Bit / Taneli Elmas Matkap	40/60	/	6	5 mm
16	T76	Surface Set Diamond Bit / Taneli Elmas Matkap	40/60	/	6	5 mm
17	T86	Surface Set Diamond Bit / Taneli Elmas Matkap	40/60	/	6	5 mm
18	T101	Surface Set Diamond Bit / Taneli Elmas Matkap	40/60	/	8	5 mm

## CONVENTIONAL SYSTEM SINGLE TUBE DIAMOND BITS / TEK TÜPLÜ DÜZ TAKIM ELMAS MATKAPLAR

ID#	SIZE/EBAT	DESCRIPTION/AÇIKLAMA	HARD-NESS-SPC/ SERTLİK - ELMAS SAYISI/ KARAT	IMPREG-NATION HEIGHT/ EMPRENYE YÜKSEKLİĞİ	NO.Of WATER- WAYS/ SU KANAL SAYISI	WATER- WAYS WIDTH/ SU KANAL GENİŞLİĞİ
1	B46	Impregnated Diamond Bit / Emprenye Matkap	#6	7mm	4	4,7 mm
2	B46	Impregnated Diamond Bit / Emprenye Matkap	#9	7mm	4	4,7 mm
3	B56	Impregnated Diamond Bit / Emprenye Matkap	#6	7mm	4	4,7 mm
4	B56	Impregnated Diamond Bit / Emprenye Matkap	#9	7mm	4	4,7 mm
5	B66	Impregnated Diamond Bit / Emprenye Matkap	#6	7mm	4	4,7 mm
6	B66	Impregnated Diamond Bit / Emprenye Matkap	#9	7mm	4	4,7 mm
7	B76	Impregnated Diamond Bit / Emprenye Matkap	#6	7mm	6	4,7 mm
8	B76	Impregnated Diamond Bit / Emprenye Matkap	#9	7mm	6	4,7 mm
9	B86	Impregnated Diamond Bit / Emprenye Matkap	#6	7mm	6	4,7 mm
10	B101	Impregnated Diamond Bit / Emprenye Matkap	#6	7mm	12	4,7 mm
11	B46	Surface Set Diamond Bit / Taneli Elmas Matkap	40/60	/	4	5 mm
12	B56	Surface Set Diamond Bit / Taneli Elmas Matkap	40/60	/	6	5 mm
13	B66	Surface Set Diamond Bit / Taneli Elmas Matkap	40/60	/	6	5 mm
14	B76	Surface Set Diamond Bit / Taneli Elmas Matkap	40/60	/	6	5 mm
15	B86	Surface Set Diamond Bit / Taneli Elmas Matkap	40/60	/	6	5 mm
16	B101	Surface Set Diamond Bit / Taneli Elmas Matkap	40/60	/	8	5 mm

# ARDRILLA WM - WG SERIES DIAMOND BITS / WM-WG SERİSİ ELMAS MATKAPLAR

ID#	SIZE/ EBAT	DESCRIPTION/ AÇIKLAMA	HARD- NESS-SPC/ SERTLİK - ELMAS SAYISI/ KARAT	IMPREG- NATION HEIGHT/ EMPRENYE YÜKSEKLİĞİ	NO.Of WATER- WAYS/ SU KANAL SAYISI	WATER- WAYS WIDTH/SU KANAL GENİŞLİĞİ
1	NWM	Impregnated Diamond Bit / Emprenye Matkap	#6	7mm	10	4,8 mm
2	NWG	Impregnated Diamond Bit / Emprenye Matkap	#6	7mm	10	4,8 mm
3	BWM	Impregnated Diamond Bit / Emprenye Matkap	#6	7mm	8	5 mm
4	BWG	Impregnated Diamond Bit / Emprenye Matkap	#6	7mm	8	5 mm
5	NWM	Surface Set Diamond Bit / Taneli Elmas Matkap	40/60	/	6	5 mm
6	NWG	Surface Set Diamond Bit / Taneli Elmas Matkap	40/60	/	6	5 mm
7	BWM	Surface Set Diamond Bit / Taneli Elmas Matkap	40/60	/	6	5 mm
8	BWG	Surface Set Diamond Bit / Taneli Elmas Matkap	40/60	/	6	4,5 mm



Much can be learned from examining impregnated bits when they are pulled from the hole. The illustrations and observations in this section can help identify and remedy many common field problems.

Normal retirement or discarding of an impregnated bit should take place only after it has been totally consumed. Most Ardrilla impregnated bits have full-depth waterways to allow the bit to be fully consumed. The first indicator that a bit is nearing normal retirement is a rise or kick in pump pressure due to the diminishing depth of waterways. Ideally, an impregnated bit drills steadily with the matrix and diamond wearing away at the same rate.

Emprenye matkaplarda delgi çapı gözlemlenerek bir çok durum öğrenilebilir. Bu bölümdeki çizimler ve gözlemler, ortak olan problemleri birçok kişinin tanımlanmasına ve düzeltilmesine yardımcı olabilir.

Emprenye bir bitin kullanılmaması veya atılması, yalnızca tamamen tüketildikten sonra yapılmalıdır. Ardrilla emprenye matkapların çoğu, bitin tamamen tüketilmesini sağlamak için tam derinlikte su yollarına sahiptir. bitin kullanılamaz duruma yaklaştığının ilk göstergesi, su yollarının azalan derinliği nedeniyle pompa basıncında bir artış veya sarsıntı. İdeal olarak, emprenye matkap, matris ve elmasın aynı oranda yıpranmasıyla sabit bir şekilde aşınma yapar.

## NORMAL WEAR PATTERNS



**NEW CONDITION /  
YENİ EMPRENYE MATKAP**



**IDEAL WEAR PATTERN**

The face wear pattern of an impregnated bit should be relatively flat with slightly chamfered sides. Bit feels sharp, comet tails have formed to support diamonds. Diamonds release from matrix as they are worn. Gauge stays within tolerance.

### İDEAL YÜZEY AŞINMASI

Emprenye bitin yüzey aşınma modeli, hafif yivli kenarla nisbeten düz olmalıdır. Matkap keskinliği elmasları desteklemek için takviye oluşturulmuştur. Kenar kalınlığı tolerans dahilinde kalır.



**NORMAL RETIREMENT**

Full depth of impregnation evenly consumed. Gauge stays within tolerance.

### NORMAL BİTİŞ

Eşit biten emprenye derinliği. Kenar kalınlığı tolerans dahilinde kalır

## IRREGULAR WEAR PATTERNS



### CONCAVE FACE WEAR (Rounded to Inner Diameter) / İç Bükey Yüz Aşınması (İç Çap Aşınmış)

- **Cause:** Often caused by excessive penetration rate for the RPM used. This can also be caused by core grinding, overdrilling.
- **Solution:** Reduce penetration rate or increase RPM
- **Neden:** Genellikle kullanılan RPM den titreşim kaynaklıdır. Bunun nedeni merkez aşındırma, aşırı delgi hızı olabilir.
- **Çözüm:** Penetrasyonu azaltmak ya da RPM düşürmek.



### CONCAVE FACE WEAR (Rounded to Outer Diameter) / İç Bükey Yüz Aşınması (Dış Çap Aşınmış)

- **Cause:** Insufficient water flow
- **Solution:** Check pump and rod string for leaks; increase pump output.
- **Neden:** Yetersiz su akışı.
- **Çözüm:** Pompa ve hortumda sızıntı kontrol edil ve pompa çıkışını artırın.

**GAUGE LOSS ID**

**Cause:** (A) Overfeeding (B) Broken formations (C) Drilling over lost core (D) Insufficient drilling fluid

**Solution:** (A) Reduce penetration rate (B) Cement or change to a lower series bit (C) Check core barrel/core lifter/core lifter case (D) Check inner tube length adjustment; check pump and rod string for leaks – increase pump output

**NEDEN:** (A) Aşırı besleme/yüklemeye (B) Kırıkları formasyonlar (C) Delgi Üzerinde Karot kaybı (D) Yetersiz Sondaj Sıvısı

**ÇÖZÜM:** (A) Penetrasyon oranını azaltınız, (B) Daha düşük çimento veya seriye sahip bit değişikliği yapınız, (C) Karotiye/ segman / segman tutucuyu kontrol ediniz (D) İç tüp uzun-

luk ayarını kontrol ediniz ; pompayı kontrol ediniz ve çubuk gerginliğini sızıntı açısından kontrol ediniz – Pompa çıkış gücünü artırınız.

**GAUGE LOSS OUTER DIAMETER**

**Cause:** (A) Lack of circulation (B) Bit being reamed down under-size hole (C) Vibration

**Solution:** (A) Increase coolant flow rate (B) Check reamer shell gauge and replace if under-sized (C) Alter RPM

**Dış Çapta Gösterge Kaybı**

**NEDEN:** (A) Sirkülasyon Eksikliği, (B) Bitin aşağıya, oymalı şekilde delik çapından düşük ilerlemesi, (C) Titreşim.

**ÇÖZÜM:** (A) Düşük soğutucu oranını artırınız, (B) Portkrongöstergesini kontrol edin ve çapının içerisine konumlandırınız. (C) RPM'yi (dakikadaki devir sayısı) değiştirin.

**EXCESSIVE DIAMOND EXPOSURE**

Matrix abrades away before diamonds have worn sufficiently, resulting in high diamond exposure and low bit life.

**Cause:** Caused by overfeeding/over drilling

**Solution:** Increase RPM, change to a lower series bit, or reduce bit weight

**Aşırı Elmas Açığa Çıkarma**

Matris, elmaslar yeterince aşınmadan önce kısmi aşınır ve sonuçta yüksek elmas yüzey ortaya çıkarır. Bu da bit ömrünü azaltır.

**NEDEN:** Aşırı besleme / aşırı delme nedeniyle

**ÇÖZÜM:** Devir sayısını artırınız, daha düşük bir seri bit olarak değiştirin veya bit yükünü/ baskısını azaltınız.



#### FACE GLAZED (Diamond Polished and Metal Bound)

Bit does not feel sharp; diamonds flush w matrix; no significant "comet tails" behind each diamond.

Sand blast face or use other recommended methods to re-expose diamond. If the face glazes repeatedly, change to a higher bit.

#### Camsı Yüzey (Parlak Elmas ve Metalik Yapı)

Bit keskin hissedilmez; elmaslar yemyeşil w matris; Birbirini takip eden elmas taneler yok.

**ÇÖZÜM:** Bit kumlama yapılmalı veya tekrar bu yüzey ile karşılaşılması için önerilen diğer yöntemleri kullanınız.

Yüz art arda parlarsa, daha sert bir bit tercih ediniz.



#### CRACKED WATERWAYS (Diamonds Polished)

**Cause:** (A) Excessive bit load; dropped rods; free fall of (wireline) inner tube in dry hole; (B) bit crushed by rod holder, foot clamp or pipe wrench; (C) Pushed down an undersized hole (i.e., reaming shell worn out).

**Solution:** Review proper operating procedures.

#### Çatlak Su Yolları (Cilalı Elmaslar)

**NEDEN:** (A) Aşırı bit yükü; düşen tüp takım; kuru delik dibine düşen Wireline iç tüpler, (B) Karotiyer, kelepçe veya boru anahtarı ile ezilmiş; (C) Küçük boyutlu bir deliğin matkabı aşağı itmesi (yani portkron yıpranmış).

**ÇÖZÜM:** Uygun çalıştırma prosedürlerini gözden geçirerek portkron değişikliği yapınız.



#### BURNT

**Cause:** (A) Lack of fluid. (B) Too high of weight on bit being used

**Solution:** Check pump and rod string for leaks, check inner tube adjustment, maintain coolant flow rates

#### Yanık Yüzey

**NEDEN:** (A) Sıvı eksikliği. (B) Kullanılan bitte çok yüksek ağırlık / baskı

**ÇÖZÜM:** Pompa ve tij takımında sızıntı olup olmadığını kontrol ediniz, iç tüp kontrol ediniz-ayarlayınız, soğutucu düşük oranları koruyunuz.







## TUNGSTEN CARBIDE BITS / VİDYE MATKAPLAR

CONVENTIONAL SYSTEM /  
KONVENSİYONEL SİSTEM

SIZE / EBAT	PART#
B46	869 1126 2
B56	869 1129 6
B66	869 1132 3
B76	869 1135 4

CONVENTIONAL SYSTEM /  
KONVENSİYONEL SİSTEM

SIZE / EBAT	PART#
T46	869 1138 7
T56	869 1141 8
T66	869 1144 1
T76	869 1147 5

## WIRELINE SYSTEM / WIRELINE SİSTEM

SIZE / EBAT	PART#
BOWL	869 1150 9
NOWL	869 1153 2
HOWL	869 1156 6
POWL	869 1159 3

## CASING SHOE / MUHAFAZA ÇARIKLARI

SIZE / EBAT	PART#
AW/BOWL	869 1162 4
BW/NOWL	869 1165 7
NW/HOWL	869 1168 8
HW/POWL	869 1171 1
PW	869 1174 5
SW	869 1177 9

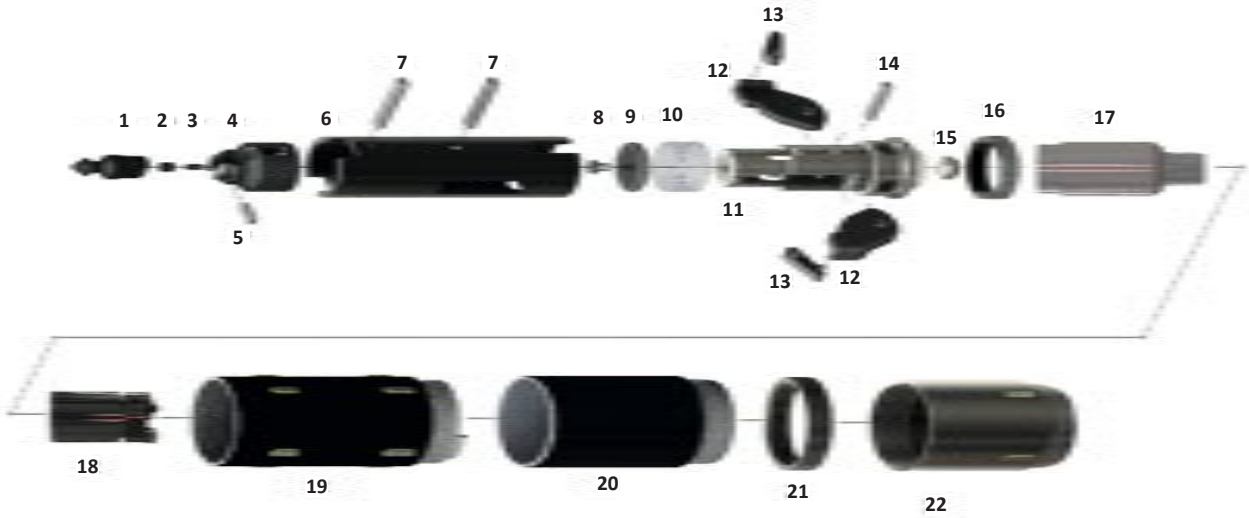


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# CASING ADVANCER ASSEMBLY / CASING ADVANCER MUHAFAZA İLERLETME BAŞLIĞI-MÜH. İLERLETİCİSİ YEDEKLER



ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1	869 0067 5	WL SPEARHEAD POINT	WL ÇAMBAŞI	1
2	869 0070 9	WL DETENT PLUNGER	WL ÇAMBAŞI SUSTASI	1
3	869 0073 2	WL COMPRESSION SPRING	WL ÇAMBAŞI YAYI	1
4	869 0076 6	BWL SPEARHEAD BASE	BWL ÇAMBAŞI ALTI	1
5	869 0079 3	WL SPRING PIN	WL ÇAMBAŞI PİMİ	1
6	869 0082 4	BWL LATCH RETRACTING CASE	BWL BAŞLIK MUHAFAZASI	1
7	869 0085 7	BWL SPRING PIN	BWL BAŞLIK MUHAFAZA PİMİ	2
8	869 0088 8	WL BOLT	WL BAŞLIK VİDASI	1
9	869 0091 1	BWL WASHER	BWL BAŞLIK VİDA PULU	1
10	869 0094 5	BWL LATCH COMPRESSION SPRING	BWL BAŞLIK MUHAFAZA YAYI	1
11	869 0097 9	BWL UPPER LATCH BODY	BWL MANDAL ÜST GÖVDE	1
12	869 0100 2	BWL LATCH	BWL MANDAL	2
13	869 0103 6	BWL LINK	BWL MANDAL DESTEĞİ	2
14	869 0106 3	BWL SPRING PIN	BWL MANDAL PİMİ	1
15	869 0109 4	WL STEEL BALL	WL ÇELİK MİSKET	1
16	869 1180 2	CASING ADVANCER ADAPTOR RING	CASING ADVANCER ADAPTÖR BİLEZİĞİ	1
17	869 1183 6	CASING ADVANCER ADAPTOR	CASING ADVANCER ADAPTÖRÜ	1
18	869 1186 3	PDC DRILL BIT	PDC MATKAP	1
19	869 0040 5	BWL TC* LOCKING COUPLING	BWL ZIRH V/T*	1
20	869 0043 9	BWL ADAPTER COUPLING	BWL ZIRH ALTI	1
21	869 0046 2	BWL LANDING RING	BWL DURDURUCU BİLEZİK	2
22	869 0064 1	BWL TC* REAMING SHELL	BWL TC* REAMING SHELL	2

\* TC: Tungsten Carbide

\* V/T: Vidye Takviyeli

## RECOVERY TOOLS / TAHLİSİYELER

In generally, right hand threads are manufactured. As per client's request left hand threads can also be manufactured.

Genel olarak sağ dişli tahlisiyeler üretilir. Kullanıcı isteğin e bağlı olarak sol dişli tahlisiyeler de üretilmektedir.

### RECOVERY TAPS / ERKEK TAHLİSİYELER

PART#	DESCRIPTION	AÇIKLAMA
869 1189 4	BWL DRILL ROD RECOVERY TAP	BWL TİJ ERKEK TAHLİSİYE
869 1192 7	NWL DRILL ROD RECOVERY TAP	NWL TİJ ERKEK TAHLİSİYE
869 1195 8	HWL DRILL ROD RECOVERY TAP	HWL TİJ ERKEK TAHLİSİYE
869 1198 1	PWL DRILL ROD RECOVERY TAP	PWL TİJ ERKEK TAHLİSİYE
869 1201 5	BW DRILL ROD RECOVERY TAP	BW TİJ ERKEK TAHLİSİYE
869 1204 9	NW DRILL ROD RECOVERY TAP	NW TİJ ERKEK TAHLİSİYE
869 1207 2	BW CASING RECOVERY TAP	BW MUHAFAZA ERKEK TAHLİSİYE
869 1210 6	NW CASING RECOVERY TAP	NW MUHAFAZA ERKEK TAHLİSİYE
869 1213 3	HW CASING RECOVERY TAP	HW MUHAFAZA ERKEK TAHLİSİYE
869 1216 4	PW CASING RECOVERY TAP	PW MUHAFAZA ERKEK TAHLİSİYE

### RECOVERY BELLS / DİŞİ TAHLİSİYELER

PART#	DESCRIPTION	AÇIKLAMA
869 1219 7	BWL DRILL ROD RECOVERY BELL	BWL TİJ DİŞİ TAHLİSİYE
869 1222 8	NWL DRILL ROD RECOVERY BELL	NWL TİJ DİŞİ TAHLİSİYE
869 1225 1	HWL DRILL ROD RECOVERY BELL	HWL TİJ DİŞİ TAHLİSİYE
869 1228 5	PWL DRILL ROD RECOVERY BELL	PWL TİJ DİŞİ TAHLİSİYE
869 1231 9	BW DRILL ROD RECOVERY BELL	BW TİJ DİŞİ TAHLİSİYE
869 1234 2	NW DRILL ROD RECOVERY BELL	NW TİJ DİŞİ TAHLİSİYE
869 1237 6	BW CASING RECOVERY BELL	BW MUHAFAZA DİŞİ TAHLİSİYE
869 1240 3	NW CASING RECOVERY BELL	NW MUHAFAZA DİŞİ TAHLİSİYE
869 1243 4	HW CASING RECOVERY BELL	HW MUHAFAZA DİŞİ TAHLİSİYE
869 1246 7	PW CASING RECOVERY BELL	PW MUHAFAZA DİŞİ TAHLİSİYE

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## WATER SWIVELS / SU BAŞLIĞI

### Overview

For continuous operation without downtime, Madsan offers a full selection of Water Swivels with replaceable V-ring packing style seal gland for standard drilling applications.

#### Water Swivel Features:

- Available in underground, compact, standard duty, and heavy duty versions with accordingly sized spindle porting and an NPT side fluid supply connection
- Spring loaded, self-adjusting gland packings ensure reliable seal.
- Easily replaceable hardened packing wear sleeves protect the spindle from packing wear.
- Weep holes prevent any leakage past the packing from reaching the bearing, and also indicate packing condition to the operator.
- Protected grease fitting to allow easy lubrication of bearings. Lubrication path conducts contaminants away from the bearing and relieves excess lubrication pressure.
- Easily disassembled with pipe wrenches, a screw driver, spanner wrench, and soft mallet, for easy packing or wear sleeve replacement.
- Suitable for use with water or drilling mud only. Packings and mating wear sleeves are subject to wear and generally operate with a small degree of leakage depending on rpm and vibration levels.

### Genel Bakış

Kesintisiz çalışma için Madsan standart delme uygulamaları için değiştirilebilir salmastrave keçeli olarak su başlığı seçenekleri sunmaktadır.

#### Su Başlık Özellikleri:

- Yeraltı, kompakt, standart hizmet tipi ve ağır hizmet tipi versiyonlarda uygun boyutta mil taşıyıcısı ve su girişi bağlantısı mevcuttur
- Yay yüklü, kendinden ayarlı salmastra bilezikleri güvenilir sızdırmazlık sağlar.
- Kolayca değiştirilebilen sertleştirilmiş geçiş adaptörleri, milleri aşınmadan korur.
- Su çıkışı delikleri, salmastra üzerindeki kaçakların yatağa ulaşmasını önler ve ayrıca operatöre salmastra durumunu gösterir.
- Yatakların kolay yağlanmasını sağlamak için korumalı gresörlük, yağlama yolu, kirleticileri yataktan uzaklaştırır ve aşırı yağlama basıncını azaltır.
- Keçe ve salmatradeliği için boru anahtarları, tornavida, ingilizanahtarı ve yumuşak tokmakla kolayca sökülebilir.
- Sadece su veya sondaj çamuru ile kullanım için uygundur. Salmastralar ve keçeler aşınmaya tabidir ve genellikle dev / dak ve titreşim seviyelerine bağlı olarak az miktarda sızıntı ile çalışır.
- Her türlü tij için uyumlu adaptörleri mevcuttur.

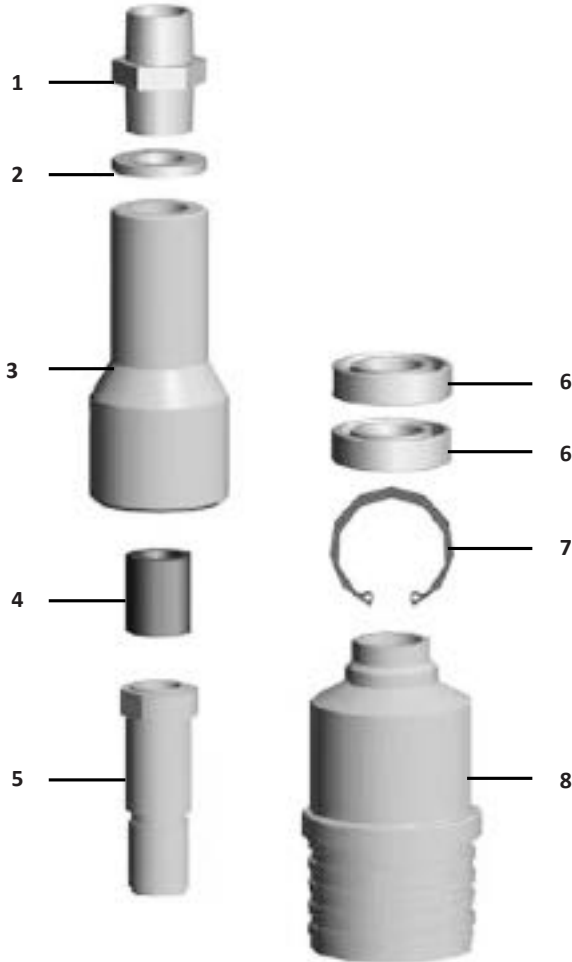
### WATER SWIVEL SELECTOR GUIDE - SURFACE SU BAŞLIĞI SEÇİM KRİTERLERİ

DYNAMIC LOAD RATING						
Load Rating		AWLTK	BWL	NWL	HWL	PWL
4 540 KG	10,000 LB					
5 000 KG	11,000 LB					
5 400 KG	12,000 LB					





ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ADET
1	869 1249 8	Nipple	NİPEL	1
2	869 1252 1	Seal ring	KEÇE RİNGİ	1
3	869 1255 5	Housing	GÖVDE	1
4	869 1258 9	Rotary seal	ÇAVUŞ KEÇE	1
5	869 1261 2	Rotart sleeve	MİL	1
6	869 1264 6	Ball bearing	RULMAN	1
7	869 1267 3	Circlip	SEGMAN	1
8	869 1270 4	Coupling	BAĞLANTI ADAPTÖRÜ	1



#### Conventional Water Swivel Features:

- #16 NPT hose connection
- AW rod box spindle connection
- 5/8" spindle fluid porting

#### Yeraltı Su Başlık Özellikleri:

- # 16 NPT hortum bağlantısı
- AW tije uygun mil bağlantısı

# STANDARD DUTY WATER SWIVEL / STANDART HİZMET SU BAŞLIĞI

ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ADET
1-15	869 1684 1	Standard Duty Water Swivel	Standart Hizmet Su Başlığı	
1	869 1273 7	Swivel Cap	BAŞLIK	1
2	869 1276 8	Compression Spring	BASKI YAYI	1
3	869 1279 1	Swivel Packing	KEÇE TAKIMI	1
4	869 1282 5	O-ring	O-RİNG	1
5	869 1285 9	Water Swivel Packing Housing	SU BAŞLIĞI KEÇE GÖVDESİ	1
6	869 1288 2	Water Swivel Spindle Nut	SU BAŞLIĞI SOMUNU	1
7	869 1291 6	Water Swivel Washer	SU BAŞLIĞI TUTUCU	1
8	869 1294 3	Water Swivel Spacer	SU BAŞLIĞI SEGMAN	1
9	869 1297 4	Retaining Ring	SEGMAN	1
10	869 1300 7	Angular Contact Ball Bearing	ÜST RULMAN	1
11	869 1303 8	Water Swivel Spindle Extender	SU BAŞLIK GENİŞLETİCİ	1
12	869 1306 1	Water Swivel Spindle	MİL	1
13	869 1309 5	Thrust Bearing	KORUMA RULMANI	1
14	869 1312 9	Water Swivel Body	SU BAŞLIK ALT GÖVDE	1
15	869 1315 2	Hydraulic Grease Fitting	GRESÖRLÜK	1



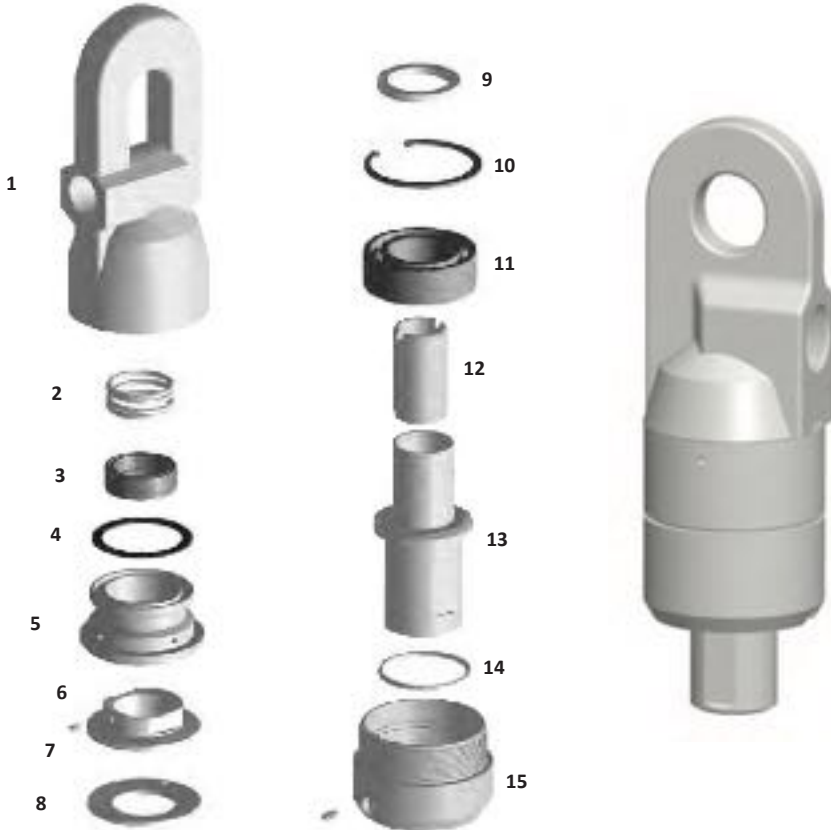
## Standard Duty Water Swivel Features:

- #20 NPT hose connection
- BW rod box spindle connection
- 1-1/4" spindle fluid porting

## Standart Hizmet Su Başlık Özellikleri:

- #20 NPT hortum bağlantısı
- Wirlinetije uygun Mil Bağlantısı
- 1-- 1 / 4 "süspansiyon halinde sondaj sıvısı taşıma

ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ADET
1-16	869 1687 5	Heavy Duty (40K) Water Swivel	AĞIR HİZMET SU BAŞLIĞI	
1	869 1318 6	Water Swivel Hoist Cap	BAŞLIK	1
2	869 1276 8	Compression Spring	YAY	1
3	869 1321 3	Packing	KEÇE	1
4	869 1282 5	O-ring	O-RING	1
5	869 1324 4	Packing Housing	KEÇE TAKIMI	1
6	869 1327 7	Loading Nut	SOMUN	1
7	869 1330 8	Grub Screw	SIKMA VİDASI	1
8	869 1333 1	Belleville Washer	BELLEVİLE PULU	1
9	869 1336 5	Thrust Washer	KORUYUCU PUL	1
10	869 1339 9	Internal Circlip	İÇ SEGMAN	1
11	869 1264 6	Ball Bearing	RULMAN	1
12	869 1342 2	Extension Spindle	DIŞ DÖNÜŞ MİLİ	1
13	869 1345 6	Swivel Spindle	BAŞLIK MİLİ	1
14	869 1348 3	Loading Washer	YÜK PULU	1
15	869 1312 9	Water Swivel Body	ALT GÖVDE	1
16	869 1315 2	Hydraulic Grease Fitting	GRESÖRLÜK	1



### Heavy Duty Water Swivel

#### Features:

- #20 NPT hose connection
- NW rod box spindle connection
- 1-1/2" spindle fluid porting

Note: The Belleville washer [ID# 8] must be installed oriented pointing down, with the small end mated against the thrust washer.

### Ağır Hizmet Tipi Su başlık

#### Özellikleri:

- #20 NPT hortum bağlantısı
- Wirelinetije uygun mil bağlantısı
- 1-1 / 2 "süspansiyon halinde sondaj sıvısı taşıma

Not: Belleville yıkayıcı [ID # 8], küçük ucu baskı rondelasına göre eşlenecek şekilde aşağıya bakacak şekilde monte edilmelidir.

## HIGH-SPEED WATER SWIVEL / HIGH SPEED SU BAŞLIĞI

### Overview

For continuous operation without downtime, offers a full selection of High Speed Water Swivels with replaceable mechanical “end-face” seals suited for operation with high rpm drills.

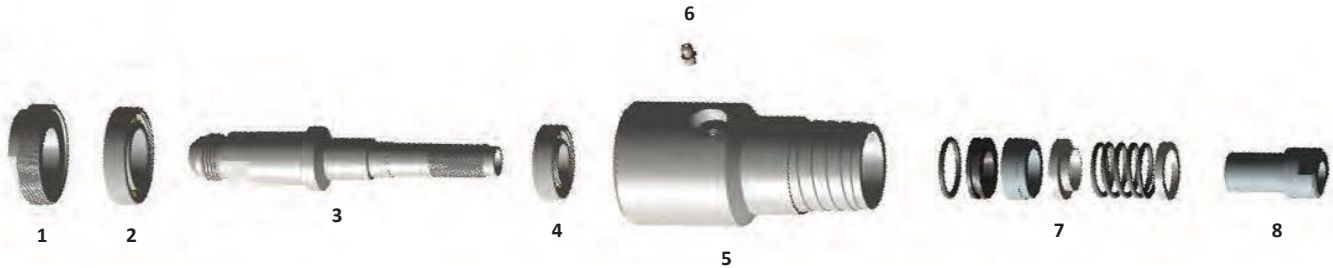
### High-speed Water Swivel Features:

- Available in sizes suited for wireline drill rods with accordingly sized spindle fluid porting and a #12 JIC rear fluid supply connection: ARWLMTK, BRWLTK, BWLTM, BRWL, NWL & NRWL.
- Spring loaded, self-adjusting and self-aligning end-face seals absorb vibration at high rpm (OEM rated to 600 psi at 1800 rpm).

- Weep holes prevent any leakage past the seal from reaching the bearing, and also indicate seal condition to the operator.
- Protected grease fitting to allow easy lubrication of bearings. Lubrication path conducts contaminants away from the bearing and relieves excess lubrication pressure.
- Easily disassembles with pipe wrenches, a screw driver, spanner wrench, and soft mallet, for easy seal or bearing replacement.
- Suitable for use with water or drilling mud.
- Mates directly to WLTM RWLTM, and RWLTK drill rods.

**WARNING :** Ensure the rough surface of the face seal is towards the bearing. Do not use hydrocarbon based liquids on the shaft bellows, and do not use grease (including silicon grease).

ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1-8	869 1690 9	Underground Hi-Speed Water Swivel NOWL	YERALTI Hİ-SPEED SU BAŞLIĞI	1
1	869 1273 7	Swivel Cap	BAŞLIK	1
2	869 1351 4	Seal Bearing	KEÇE RULMANI	1
3	869 1354 7	Swivel Stem	KEÇE MİLİ	1
4	869 1264 6	Ball Bearing	RULMAN	1
5	869 1357 8	Swivel Body	GÖVDE	1
6	869 0148 5	Grease Fitting	GRESÖRLÜK	1
7	869 1360 1	Swivel Seal	KEÇE	1
8	869 1363 5	Seal Retainer	KEÇE SIKIŞTIRICI	1



ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
1-14	869 1693 2	Underground Compact Water Swivel	YERALTİ KOMPAKT SU BAŞLIĞI	
1	869 1273 7	Swivel Cap	BAŞLIK	1
2	869 1366 9	Wavy Washer	O-RING	1
3	869 1282 5	O-ring	PUL TAKIMI	1
4	869 1279 1	Swivel Packing	KEÇE SIKIŞTIRICI	1
5	869 1369 2	Slotted Wear Sleeve	KEÇE TAKIMI	1
6	869 1372 6	Packing Cage	SIKMA VİDASI	1
7	869 1330 8	Grub Screw	SIKIŞTIRMA PULU	1
8	869 1375 3	Upper Swivel Body	ÜST GÖVDE	1
9	869 1378 4	Spindle	MİL	1
10	869 1282 5	O-ring	O-RING	1
11	869 1309 5	Thrust Bearing	KORUMA RULMANI	1
12	869 1381 7	Lower Swivel Body	ALT GÖVDE	1
13	869 1315 2	Hydraulic Grease Fitting	GRESÖRLÜK	1
14	869 1384 8	Felt Seal	KEÇE	1



#### Features:

- #16 NPT hose connection
- AW rod box spindle connection
- 5/8" spindle fluid porting

# WATER SWIVEL SPARE PARTS / SU BAŞLIĞI YEDEKLERİ

ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ ADET
4-7	869 1696 6	Spare parts kit complete	KONVENSİYONEL SU B. TAMİR KİTİ KOMPLE	1
4	869 1258 9	Rotary seal	ÇAVUŞ KEÇE	1
5	869 1387 1	Rotary sleeve	MİL	1
6	869 1264 6	Ball bearing	RULMAN	1
7	869 1267 3	Circlip	SEGMAN	1

## Conventional Water Swivel Spares



1-7	869 1699 3	Standard Water Swivel Spares		
1	869 1279 1	Swivel Packing	KEÇE TAKIMI	1
2	869 1282 5	O-ring	O-RİNG	1
3	869 1390 5	Lock Washer	KİTLEYİCİ PUL	1
4	869 1297 4	Retaining Ring	SU BAŞLIĞI TUTUCU	1
5	869 1264 6	Ball Bearing	RULMAN	1
6	869 1393 9	Spindle Extension Chrome Plated Spindle Extension	MİL KROMLU MİL	1
7	869 1309 5	Thrust Bearing	RULMAN	1

## Standard Water Swivel Spares



1-7	869 1702 4	Heavy Duty Water Swivel Spares		
1	869 1264 6	Ball Bearing	RULMAN	1
2	869 1339 9	Internal Circlip	SEGMAN	1
3	869 1282 5	O-ring	O-RİNG	1
4	869 1396 2	Water Swivel Packing	KEÇE TAKIMI	1
5	869 1336 5	Thrust Washer	KORUYUCU PUL	1
6	869 1324 4	Packing Housing	KEÇE YUVASI	1
7	869 1399 6	Swivel Extension	MİL	1

## Heavy Duty Water Swivel Spares



## U / G Hi-Speed Water Swivel Spares, BWL / NWL / HWL

1-3	869 1705 7	U / G Hi-Speed Water Swivel Spares, BWL / NWL / HWL		
1	869 1351 4	Seal Bearing	KEÇE RULMANI	1
2	869 1264 6	Ball Bearing	RULMAN	1
3	869 1402 3	Seal Assembly	KEÇE YEDEKLERİ	1





## HOISTING PLUG SELECTOR GUIDE

Load Rating	Safety Factor	AWLTK	BWL	PWL
15,000 LB	5 to 1			
25,000 LB	3 to 1			
30,000 LB	5 to 1			
50,000 LB	3 to 1			

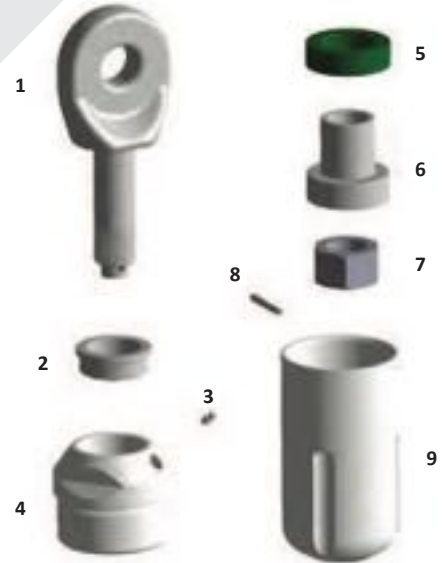
ID#	PART#	DESCRIPTION	AÇIKLAMA	D
1-9	869 1708 8	Hoist Plug, Standard	STANDART MANEVRA BAŞLIĞI	
1	869 1405 4	Eye Bolt	HALAT BAŞLIĞI	1
2	869 1408 7	Spring Pin, 1/4" x 1-3/4"	SIKMA SOMUNU 1/4"x1-3/4"	1
3	869 1411 8	Wear Sleeve	TUTUCU	1
4	869 1414 1	Bearing Housing	RULMAN YATAĞI	1
5	869 1315 2	Hydraulic Grease Fitting	GRESÖRLÜK	1
6	869 1417 5	Hoisting Plug Bearing	RULMAN	1
7	869 1420 9	Shaft Sleeve	SABİTLEYİCİ MİL	1
8	869 1423 2	Lock Nut	SOMUN	1
9	869 1426 6	Lower Housing	ALT GÖVDE	1
		Hoist Plug, Heavy Duty	AĞIR HİZMET SU BAŞLIĞI	
1	869 1405 4	Eye Bolt	HALAT BAŞLIĞI	1
2	869 1429 3	30K Hoist Plug Wear Sleeve	30K TUTUCU	1
3	869 1315 2	Hydraulic Grease Fitting	GRESÖRLÜK	1
4	869 1432 4	Hoist Plug Bearing Housing	RULMAN YUVASI	1
5	869 1309 5	Thrust Bearing	KORUMA RULMANI	1
6	869 1435 7	Hoist Plug Shaft Sleeve	SABİTLEYİCİ MİL	1
7	869 1423 2	Lock Nut	KİLİT SOMUNU	1
8	869 1438 8	Spring Pin, 1/4" x 2"	SIKMA SOMUNU 1/4"x2"	1
9	869 1441 1	Hoist Plug Lower Housing	ALT GÖVDE	1

## Hoist Plug Features:

- Long-life thrust bearing provides pivot for ease of connecting, and reduces hoisting cable winding during hoisting and lowering.
- 12.5 mm (0.5 in) diameter down-angled vent is incorporated into the body to eliminate side spray from pressurized drilling fluid.
- Ventless bearing chamber allows for optional oil bath for cold weather operation.
- NW rod box housing connection.

## Manevra Başlığı Özellikleri:

- Uzun ömürlü baskı yatağı, bağlantı kolaylığı için pivot sağlar ve kaldırma ve indirme sırasında kaldırma halatının sargısını azaltır.
- Basınçlı sondaj sıvısından yan sızmayı ortadan kaldırmak için gövdeye 12,5 mm (0,5 inç) çapında aşağı açılı havalandırma deliği yerleştirilmiştir.
- Havalandırmasız yatak ,soğuk havada çalışma için isteğe bağlı yağlamaya izin verir.
- Tij vemuhafaya uygun adaptör bağlantısı.



## WATER SWIVEL ADAPTER SUBS / SU BAŞLIĞI ADAPTÖRLERİ

DESCRIPTION
Compact Water Swivel
AW Rod Pin to ARWLTK Rod Pin
AW Rod Pin to BRWL Rod Pin
AW Rod Pin to BRWLTK Rod Pin
AW Rod Pin to BWL Rod Pin
AW Rod Pin to NRWL Rod Pin
AW Rod Pin to NWL Rod Pin
AW Rod Pin to HRWL Rod Pin
AW Rod Pin to HWL Rod Pin
Standard Duty Water Swivel
BW Rod Pin to BRWL Rod Pin
BW Rod Pin to BRWLTK Rod Pin
BW Rod Pin to BWL Rod Pin
BW Rod Pin to NWL Rod Pin
BW Rod Pin to HRWL Rod Pin
BW Rod Pin to HWL Rod Pin
BW Rod Pin to PHD Rod Pin

Heavy Duty Water Swivel
NW Rod Pin to BRWL Rod Pin
NW Rod Pin to BRWLTK Rod Pin
NW Rod Pin to BWL Rod Pin
NW Rod Pin to NRWL Rod Pin
NW Rod Pin to NWL Rod Pin
NW Rod Pin to HRWL Rod Pin
NW Rod Pin to HP Rod Pin
NW Rod Pin to PHD Rod Pin

### Water Swivel Adapter Sub Features:

- The rod pin threads are electric induction hardened to ensure long life and minimize rod box thread galling, extending drill rod thread-life and joint performance.
- Identification groove supplied on ARWL

### Su Başlık Adaptör Alt Özellikleri:

- Adaptörler bağlantı dişlerinde aşınmayı azaltmak ve kullanım ömrünü uzatılması için kalitesi yüksek çelikten imal edilmiş olup ısıtım işlemi uygulanabilmektedir.
- Kullanılan tiyada muhafazaya uygun su geçişdeliğine sahiptir.



PART#	DESCRIPTION
869 1711 1	Light Duty Plug to Rod
869 1444 5	AW Rod Pin to ARWLTK Rod Pin
869 1447 9	AW Rod Pin to BRWL Rod Pin
869 1450 2	AW Rod Pin to BRWLTK Rod Pin
869 1453 6	AW Rod Pin to BWL Rod Pin
869 1456 3	AW Rod Pin to NRWL Rod Pin
869 1459 4	AW Rod Pin to NWL Rod Pin
869 1714 5	Standard Duty / Heavy Duty Plug to Rod / Bullnose
869 1462 7	NW Rod Pin to BRWL Rod Pin
869 1465 8	NW Rod Pin to BRWLTK Rod Pin
869 1468 1	NW Rod Pin to BWL Rod Pin
869 1471 5	NW Rod Pin to NRWL Rod Pin
869 1474 9	NW Rod Pin to NWL Rod Pin
869 1477 2	NW Rod Pin to HRWL Rod Pin
869 1480 6	NW Rod Pin to HP Rod Pin
869 1483 3	NW Rod Pin to PHD Rod Pin
869 1717 9	Standard Duty / Heavy Duty / Plug to Rod
869 1486 4	NW Rod Pin to PHD Rod Pin
869 1489 7	NW Rod Pin to PWT Casing Pin

**Hoisting Plug Adapter Features:**

- The rod pin threads are electric induction case hardened to ensure long life and minimize rod box thread galling, extending drill rod thread life and joint performance.
- Identification groove supplied on ARWL TK and BRWL TK subs.

**Manevra Başlığı Adaptörü Özellikleri:**

- Adaptörler bağlantı dişlerinde aşınmayı azaltmak ve kullanım ömrünü uzatılması için kalitesi yüksek çelikten imal edilmiş olup ısıtıl işlem uygulanabilmektedir.
- Kullanılan tiyada muhafazaya uygun su geçişdeliğine sahiptir.

Hoisting Plug Adapter



## CASING ADAPTER SUBS / MUHAFAZA ADAPTÖRLERİ

ID#	PART#	DESCRIPTION
1	869 1492 8	BOWL Rod Box to BW Casing Pin
2	869 1495 1	NOWL Rod Box to BW Casing Pin
3	869 1498 5	NOWL Rod Box to NW Casing Pin
4	869 1501 9	NOWL Rod Box to HW Casing Pin
5	869 1504 2	NOWL Rod Box to HWT Casing Pin
6	869 1507 6	HOWL Rod Box to NW Casing Pin
7	869 1510 3	HOWL Rod Box to HW Casing Pin
8	869 1513 4	HOWL Rod Box to HWT Casing Pin
9	869 1516 7	PW Casing Box to PWT Casing Pin
10	869 1519 8	PWT Casing Box to PW Casing Pin

**Casing Adapter Subs Features:**

- The rod pin threads are electric induction case hardened to ensure long life and minimize rod box thread galling, extending drill rod thread-life and joint performance.
- Identification groove supplied on ARWL TK and BRWL TK subs.

**Muhafaza Adaptörü Özellikleri:**

- Tij bağlantı dişi, uzun ömür sağlamak ve tij gevşemesini en aza indirmek, matkap çubuğu diş ömrünü ve geçiş yeri performansını uzatmak için elektrikli indüksiyon ile sertleştirilmiştir.
- Kullanılan tiyada muhafaza uygun olarak imal edilmektedir.

ID#	PART#	DESCRIPTION
1	869 1522 1	ARWLTK Rod Box to AW Rod Pin
2	869 1525 5	BRWL Rod Box to AW Rod Pin
3	869 1528 9	BRWLTK Rod Box to AW Rod Pin
4	869 1531 2	BWL Rod Box to AW Rod Pin
5	869 1534 6	BRWL Rod Box to BW Rod Pin
6	869 1537 3	BRWLTK Rod Box to BW Rod Pin
7	869 1540 4	BWL Rod Box to BW Rod Pin
8	869 1543 7	NRWL Rod Box to BW Rod Pin
9	869 1546 8	NWL Rod Box to BW Rod Pin
10	869 1549 1	NRWL Rod Box to NW Rod Pin
11	869 1552 5	NWL Rod Box to NW Rod Pin
12	869 1555 9	HRWL Rod Box to NW Rod Pin
13	869 1558 2	HWL Rod Box to NW Rod Pin
14	869 1561 6	PHD Rod Box to NW Rod Pin



#### Recovery Tool Adapter Subs Features:

- Identification groove supplied on ARWL TK and BRWL TK subs.

#### Tahlisiye Adaptörü Özellikleri:

- Kullanıma uygun çap ve nitelikte geçiş için dış açılmaktadır.
- Isıl işlem gerilmelerinden dolayı büzülmeyi önlemek için 25 mm'den (1 inç) büyük katı pim ucu alt deliklerini delmeyin.





ID#	PART#	DESCRIPTION	QTY/ADET
1-7	869 1720 2	AW Casing Cutter Assembly	
1	869 1564 3	Piston	1
2	869 1567 4	Plunger	1
3	869 1276 8	Compression Spring	1
4	869 1570 7	Body	1
5	869 1573 8	Spring Pin, 1/8" x 1-3/4"	1
6	869 1576 1	Casing Cutter Lug	2
7	869 1579 5	Spring Pin, 1/4" x 1"	2

#### AW Casing Cutter Applications:

- Used for cutting AW casing or "B" rod at any point in a drill hole when the entire string cannot be retrieved.
- ARWL TK rod box connection.

#### AW Muhafaza Kesici Uygulamaları:

- "B" tij yada "AW" muhafazanın alınamadığı zaman bir delikte herhangi bir noktadan tiji kesmek için kullanılır.
- Awl TK tij bağlantısı.



ID#	PART#	DESCRIPTION	QTY/ADET
1-12	869 1723 6	BW Casing Cutter Assembly	
1	869 1297 4	Retaining Ring	1
2	869 1582 9	Plunger Case	1
3	869 1585 2	Stainless Steel Ball, 15/16"	1
4	869 1588 6	Water Tube	1
5	869 1567 4	Plunger	1
6	869 1591 3	Coil Pin, 3/16" x 1-3/8" LG	1
7	869 1594 4	Spring	1
8	869 1597 7	Spring Rest	1
9	869 1570 7	Body	1
10	869 1576 1	Casing Cutter Lug	2
11	869 1600 8	Casing Cutter Pin	2
12	869 1603 1	Set Screw, 1/4" UNC x 3/8"	1

#### BW Casing Cutter Applications:

- Used for cutting BW casing or "N" rods at any point in a drill hole when the entire string cannot be retrieved.
- BWL rod box connection.

#### BW Muhafaza Kesici Uygulamaları:

- "N" tij yada "BW" muhafazanın alınamadığı zaman bir delikte herhangi bir noktadan tiji kesmek için kullanılır.
- Bwl tij bağlantısı.

## CASING CUTTERS / ROD KESİCİLER

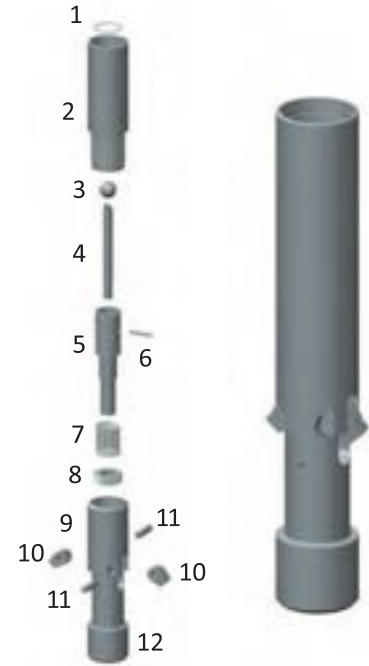
ID#	PART#	DESCRIPTION	QTY/ADET
1-12	869 1726 3	NW Casing Rod Cutter Assembly	
1	869 1297 4	Retaining Ring	1
2	869 1582 9	Plunger Case	1
3	869 1606 5	Stainless Steel Ball, 1-1/8"	1
4	869 1588 6	Water Tube	1
5	869 1567 4	Plunger	1
6	869 1609 9	Coil Pin, 3/16" x 1-5/8" LG	1
7	869 1594 4	Spring	1
8	869 1597 7	Spring Rest	1
9	869 1570 7	Body	1
10	869 1576 1	Casing Cutter Lug	2
11	869 1600 8	Casing Cutter Pin	2
12	869 1612 2	Set Screw, 1/4" x 3/8" UNC	1

### NW Casing Cutter Applications:

- Used for cutting NW casing or "H" rod at any point in a drill hole when the entire string cannot be retrieved.
- NWL rod box connection.

### NW Muhafaza Kesici Uygulamaları:

- "H" tij yada "NW" muhafazanın alınamadığı zaman bir delikte herhangi bir noktadan tiji kesmek için kullanılır.
- Nwl tij bağlantısı.



ID#	PART#	DESCRIPTION	QTY/ADET
1-8	869 1729 4	HW / HWT Casing Cutter Assembly	
1	869 1297 4	Retaining Ring	1
2	869 1606 5	Stainless Steel Ball, 1-1/8"	1
3	869 1567 4	Plunger	1
4	869 1609 9	Coil Pin, 3/16" x 1-5/8" LG	1
5	869 1594 4	Spring	1
6	869 1570 7	Body	1
7	869 1576 1	Casing Cutter Lug	2
8	869 1615 6	Spring Pin, 7/16" x 3"	2

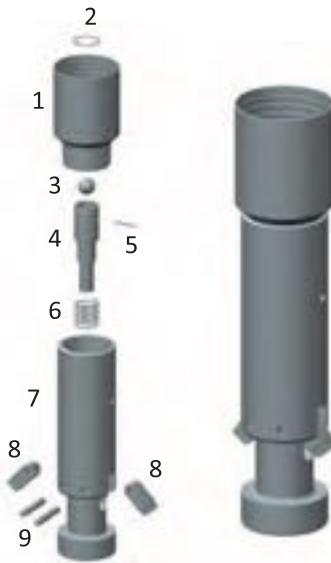
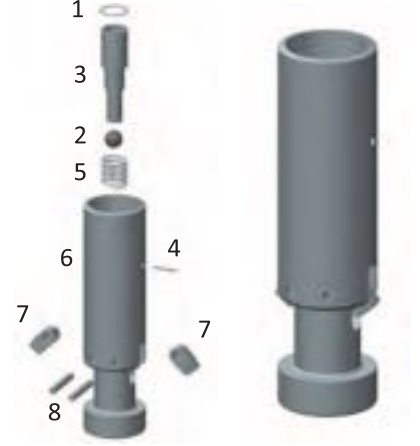
### HW Casing Cutter Applications:

- Used for cutting HW / HWT casing or PHD rod at any point in a drill hole when the entire string cannot be retrieved.
- HWL rod box connection.

### HW Muhafaza Kesici Uygulamaları:

- Tijyada muhafazanın alınamadığı zaman bir delikte herhangi bir noktada HW / HWT gövdesini veya PHD tiji kesmek için kullanılır.
- Howltij bağlantısı.

ID#	PART#	DESCRIPTION	QTY/ADET
1-9	869 1732 7	PW / PWT Casing Cutter Assembly	
1	869 1618 3	Sub, PHD / HWT R / B to HQ R / P	1
2	869 1297 4	Retaining Ring	1
3	869 1606 5	Stainless Steel Ball, 1-1/8"	1
4	869 1567 4	Plunger	1
5	869 1609 9	Coil Pin, 3/16" x 1-5/8" LG	1
6	869 1594 4	Spring	1
7	869 1570 7	Body	1
8	869 1576 1	Casing Cutter Lug	2
9	869 1615 6	Spring Pin, 7/16" x 3"	2



#### PW Casing Cutter Applications:

- Use for cutting PW / PWT casing at any point in a drill hole when the entire string cannot be retrieved.
- POWLrod box connection.

#### PW Muhafaza Kesici Uygulamaları:

- Tijyada muhafazanın alınamadığı zaman bir delikte herhangi bir noktada PW / PWT gövdesini kesmek için kullanın.
- Powltij bağlantısı.

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ID#	PART#	DESCRIPTION	KG	LB
1-6	869 1735 8	BW Casing Drive Shoe		
1	869 1621 4	ARWLTK Rod Recovery Tap	2.30	5.00
2	869 1624 7	BWL Rod Recovery Tap	2.60	5.70
3	869 1627 8	BRWLTK Rod Recovery Tap	2.30	5.10
4	869 1630 1	NWL Rod Recovery Tap	3.90	8.50
5	869 1633 5	HWL / HRWL Rod Recovery Tap	5.50	12.10
6	869 1636 9	HW / HWT Rod Recovery Tap	11.34	24.95
1-3	869 1738 1	Rod Recovery Taps Pilot Bits		
1	869 1639 2	N Pilot Bit	1.02	2.25
2	869 1642 6	H Pilot Bit	2.00	4.50
3	869 1645 3	B Pilot Bit	0.70	1.54
1-8	869 1741 5	Rod Recovery Taps Adapter Subs		
1	869 1525 5	BRWL Rod Box to AW Rod Pin	2.30	5.00
2	869 1528 9	BRWLTK Rod Box to AW Rod Pin	2.00	4.30
3	869 1531 2	BWL Rod Box to AW Rod Pin	2.30	5.00
4	869 1543 7	NRWL Rod Box to BW Rod Pin	3.30	7.20
5	869 1546 8	NWL Rod Box to BW Rod Pin	3.30	7.20
6	869 1555 9	HRWL Rod Box to NW Rod Pin	7.80	17.20
7	869 1558 2	HWL Rod Box to NW Rod Pin	7.80	17.20
8	869 1648 4	PHD / HWT Rod Box to NW Rod Pin	3.92	8.64

#### Rod Recovery Taps Features:

- Offers rod recovery taps that have parallel walls, and self-tapping threads for full penetration, improved recovery connection and longer tap life
- Right hand thread
- Connection for optional pilot bit is supplied as standard

#### Tij Kurtarma Bağlantı Özellikleri:

- Paralel duvarlara sahip tijkurtarmatahlisiyesi, tam penetrasyon, gelişmiş kurtarma bağlantısı ve daha uzun tahlisiye ömrü için kendinden kılavuzlu dişler sunulmaktadır.
- Sağ diş
- Opsiyonel olarak pilot bit bağlantısı Standart olarak verilebilir.



## ROD RECOVERY TAPS / MUHAFAZA KURTARICI BAŞLIKLARI

ID#	PART#	DESCRIPTION	KG	LB
1-6	869 1744 9	BW Casing Drive Shoe		
1	869 1621 4	ARWLTK Rod Recovery Tap	2.30	5.00
2	869 1624 7	BWL Rod Recovery Tap	2.60	5.70
3	869 1627 8	BRWLTK Rod Recovery Tap	2.30	5.10
4	869 1630 1	NWL Rod Recovery Tap	3.90	8.50
5	869 1633 5	HWL / HRWL Rod Recovery Tap	5.50	12.10
6	869 1636 9	HW / HWT Rod Recovery Tap	11.34	24.95
1-3	869 1747 2	Rod Recovery Taps Pilot Bits		
1	869 1639 2	N Pilot Bit	1.02	2.25
2	869 1642 6	H Pilot Bit	2.00	4.50
3	869 1645 3	B Pilot Bit	0.70	1.54
1-8	869 1750 6	Rod Recovery Taps Adapter Subs		
1	869 1525 5	BRWL Rod Box to AW Rod Pin	2.30	5.00
2	869 1528 9	BRWLTK Rod Box to AW Rod Pin	2.00	4.30
3	869 1531 2	BWL Rod Box to AW Rod Pin	2.30	5.00
4	869 1543 7	NRWL Rod Box to BW Rod Pin	3.30	7.20
5	869 1546 8	NWL Rod Box to BW Rod Pin	3.30	7.20
6	869 1555 9	HRWL Rod Box to NW Rod Pin	7.80	17.20
7	869 1558 2	HWL Rod Box to NW Rod Pin	7.80	17.20
8	869 1648 4	PHD / HWT Rod Box to NW Rod Pin	3.92	8.64



### Casing Recovery Taps Features:

- Offers casing recovery taps that have parallel walls, and selftapping threads for full penetration, improved recovery connection and longer tap life
- Right hand thread

### Muhafaza Kurtarma Bağlantı Özellikleri:

- Paralel duvarlara sahip muhafaza kurtarma tahlisiyesi, tam penetrasyon, iyileştirilmiş kurtarma bağlantısı ve daha uzun tahlisiye ömrü için kendinden kılavuzlu dişler sunar
- Sağ diş

## OUTER-TUBE RECOVERY TAPS

ID#	PART#	DESCRIPTION	KG	LB
	869 1753 3	Outer-tube Recovery Taps		
1	869 1651 7	AWLTK Outer-tube Recovery Tap	2.30	5.07

### Outer-tube Recovery Taps Features:

- Parallel wall, self-tapping thread allows for full penetration, improved recovery connection and longer tap life.
- Right hand thread.
- Identification groove supplied on ARWL TK rod recovery tap box end.

### Dış Tüp Kurtarma Bağlantı Özellikleri:

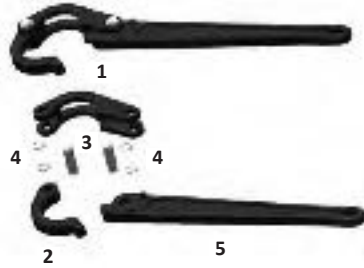
- Paralel duvar, kendiliğinden kılavuzlanan dış tam penetrasyon, iyileştirilmiş kurtarma bağlantısı ve daha uzun tahlisiye ömrü sağlar.
- Sağ diş
- Aowlitje uygun imaledildir.



ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ADET
1-5	869 1756 4	Full Grip POWL Inner-Tube Wrench	BOWL İÇ TÜP ANAHTARI	
1	869 1654 8	Stationary Jaw	SABİT ÇENE	1
2	869 1657 1	Swing Jaw	OYNAR ÇENE	1
3	869 1660 5	Pin	YARIKLI PİM	2
4	869 1297 4	Retaining Ring	PUL	4
5	869 1663 9	Wrench Handle	ANAHTAR KOLU	1

1-7	869 1759 7	Full Grip POWL Outer-tube Wrench	BOWL DIŞ TÜP ANAHTARI	
1	869 1654 8	Stationary Jaw	SABİT ÇENE	2
2	869 1657 1	Swing Jaw	OYNAR ÇENE	1
3	869 1666 2	Pin, 5/8" x 4"	YARIKLI PİM 5/8"X4"	1
4	869 1669 6	Pin, 5/8" x 2-3/4"	YARIKLI PİM 5/8"X2-3/4"	1
5	869 1297 4	Retaining Ring	PUL	4
6	869 1594 4	Spring	YAY	1
7	869 1663 9	Wrench Handle	ANAHTAR KOLU	1

## INNER-TUBE / OUTER-TUBE WRENCH



ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ADET
1-5	869 1762 8	Full Grip HOWL Inner-Tube Wrench	NOWL İÇ TÜP ANAHTARI	
1	869 1654 8	Stationary Jaw	SABİT ÇENE	1
2	869 1657 1	Swing Jaw	OYNAR ÇENE	1
3	869 1660 5	Pin	YARIKLI PİM	2
4	869 1297 4	Retaining Ring	PUL	4
5	869 1663 9	Wrench Handle	ANAHTAR KOLU	1

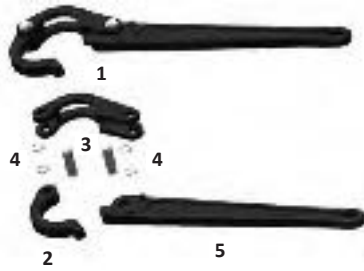
1-7	869 1765 1	Full Grip HOWL Outer-tube Wrench	NOWL DIŞ TÜP ANAHTARI	
1	869 1654 8	Stationary Jaw	SABİT ÇENE	2
2	869 1657 1	Swing Jaw	OYNAR ÇENE	1
3	869 1666 2	Pin, 5/8" x 4"	YARIKLI PİM 5/8"X4"	1
4	869 1669 6	Pin, 5/8" x 2-3/4"	YARIKLI PİM 5/8"X2-3/4"	1
5	869 1297 4	Retaining Ring	PUL	4
6	869 1594 4	Spring	YAY	1
7	869 1663 9	Wrench Handle	ANAHTAR KOLU	1

## CORING WRENCHES / KAROTİYER ANAHTARLARI

ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ADET
1-5	869 1768 5	Full Grip NOWL Inner-Tube Wrench	HOWL İÇ TÜP ANAHTARI	
1	869 1654 8	Stationary Jaw	SABİT ÇENE	1
2	869 1657 1	Swing Jaw	OYNAR ÇENE	1
3	869 1660 5	Pin	YARIKLI PİM	2
4	869 1297 4	Retaining Ring	PUL	4
5	869 1663 9	Wrench Handle	ANAHTAR KOLU	1

1-7	869 1771 9	Full Grip NOWL Outer-tube Wrench	HOWL DIŞ TÜP ANAHTARI	
1	869 1654 8	Stationary Jaw	SABİT ÇENE	2
2	869 1657 1	Swing Jaw	OYNAR ÇENE	1
3	869 1666 2	Pin, 5/8" x 4"	YARIKLI PİM 5/8"X4"	1
4	869 1669 6	Pin, 5/8" x 2-3/4"	YARIKLI PİM 5/8"X2-3/4"	1
5	869 1297 4	Retaining Ring	PUL	4
6	869 1594 4	Spring	YAY	1
7	869 1663 9	Wrench Handle	ANAHTAR KOLU	1

## INNER-TUBE / OUTER-TUBE WRENCH



ID#	PART#	DESCRIPTION	AÇIKLAMA	QTY/ADET
1-5	869 1774 2	Full Grip BOWL Inner-Tube Wrench	POWL İÇ TÜP ANAHTARI	
1	869 1654 8	Stationary Jaw	SABİT ÇENE	1
2	869 1657 1	Swing Jaw	OYNAR ÇENE	1
3	869 1660 5	Pin	YARIKLI PİM	2
4	869 1297 4	Retaining Ring	PUL	4
5	869 1663 9	Wrench Handle	ANAHTAR KOLU	1

1-7	869 1777 6	Full Grip BOWL Outer-tube Wrench	POWL DIŞ TÜP ANAHTARI	
1	869 1654 8	Stationary Jaw	SABİT ÇENE	2
2	869 1657 1	Swing Jaw	OYNAR ÇENE	1
3	869 1666 2	Pin, 5/8" x 4"	YARIKLI PİM 5/8"X4"	1
4	869 1669 6	Pin, 5/8" x 2-3/4"	YARIKLI PİM 5/8"X2-3/4"	1
5	869 1297 4	Retaining Ring	PUL	4
6	869 1594 4	Spring	YAY	1
7	869 1663 9	Wrench Handle	ANAHTAR KOLU	1

**MECHANICAL DRIVE HAMMER / MEKANİK ŞAHMERDAN**

63,5kg Drive Hammer made from high quality cast iron forged steel eyebolts and extra heavy chain provide safety and wearing qualities.

Yüksek kaliteli döküm çelikten üretilmiş gövde ile dövme çelikten imal edilmiş mapaları ve ekstra ağır zinciri ile 63.5 kg. lık şahmerdan olup emniyet ve aşınmaya karşı önlemleri alınmıştır.



Drive Hammer / Şahmerdan



Drive Head / Çakma Başlığı

**AUTOMATIC DRIVE HAMMER / OTOMATİK ŞAHMERDAN**

Spt Split Tube driven into the ground by the falling weight of 63.5 kg complete mechanism by automatically. The overall length of the hammer is 2.6 m extended and 1.8 m without extended. The total weight of the hammer is 107 kg.

SPT çakma tijleri ve split tüp numune alıcı otomatik şahmerdanın alt mesnedine bağlanarak 63.5 ağırlık otomatik olarak düşürülerek zemine çakılır. Otomatik şahmerdan boyu uzatılmadan 1.8 m, uzatılır ise 2.6 m olup toplam ağırlığı 107 kg. dır.

## SPT SPLIT & SHELBY TUBE SAMPLER / SPT & SHELBY TÜP NUMUNE ALICI

SPT Head Adapter  
SPT Kafa Adaptörü

SPT Tube  
SPT Tüpü

SPT Shoe  
SPT Çarık

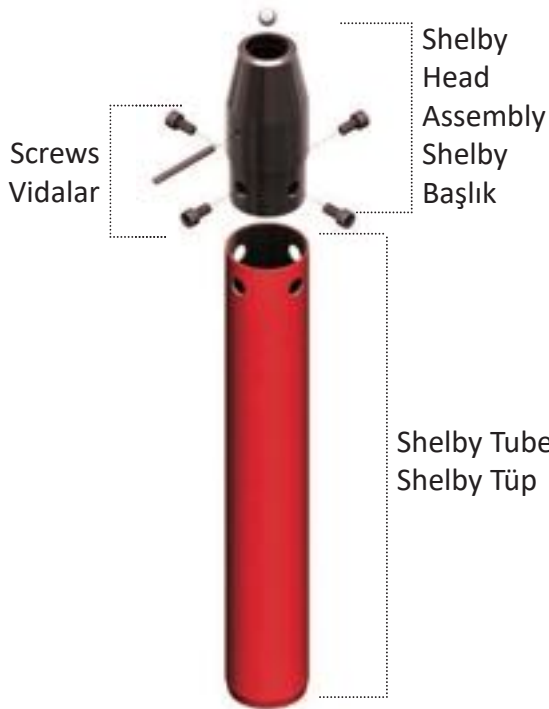


### SPT SPLIT TUBE SAMPLER / SPT NUMUNE ALICI

ID#	PART#	OD of SAMPLER / TÜP DIŞ ÇAP	ROD CONNECTION / TİJ BAĞLANTISI
1	869 1672 3	2" (50.8 mm)	AW-BW
2	869 1675 4	2 ½" (60.3 mm)	AW-BW
3	869 1678 7	3" (76.2 mm)	AW-BW
4	869 1681 8	3 1/2" (88.9 mm)	AW-BW

Other diameters and rod connections can also be manufactured upon request. Both rod connections are available at each SPT Split Tube Sampler as AW-BW rod.

Kullanıcı isteğine bağlı olarak diğer çaplarda tüp ve adaptörler üretilebilir. Her çaptaki SPT KAROTİYER'E AW-BW tij adaptörü ile verilir.



### SHELBY TUBE SAMPLER / SHELBY TÜP NUMUNE ALICI

ID#	PART#	OD of SAMPLER TÜP DIŞ ÇAP	ROD CONNECTION TİJ BAĞLANTISI
1	869 1672 3	2" (50.8 mm)	AW
2	869 1675 4	2 ½" (60.3 mm)	AW
3	869 1678 7	3" (76.2 mm)	NW
4	869 1681 8	3 1/2" (88.9 mm)	NW

Material is cold-drawn seamless carbon steel and in stainless steel.

Shelby tüp soğuk çekilmiş dikişsiz carbon çeliği ve paslanmaz çelikten imal edilir.

Shelby Tube Sampler is utilized in the 'Standard Practice for Thin-Walled Tube Sampling of Soils for Geotechnical Purposes', used for sampling undisturbed samples of cohesive silts and soft clays. Shelby Tube Sampler is composed of Shelby Tube, Screw and Shelby Head Assembly.

Shelby tüp "Standart Practice for Thin-Walled Tube Sampling of Soils for Geotechnical Purposes" 'a göre kohezyonlu silt ve yumuşak killerde bozunmamış numune almak için kullanılırlar. Shelby tüp numune alıcı, vidalar ve shelby başlıktan oluşur.

## RDT GRUBU

BENCH TOP HAMMER KAYA DELGİ EKİPMANLARI  
TÜNEL & YERALTI TOPHAMMER KAYA DELGİ EKİPMANLARI

\*R25 SİSTEM\*T38 SİSTEM  
\*R32 SİSTEM\*T45 SİSTEM  
\*R38 SİSTEM\*T51 SİSTEM



Yarımküre



Parabolik Butonlar



Konik Balistik Butonlar



Yarı Balistik Butonlar



## ROD

R Diş Tipi (Rope)



HM (T) Diş Tipi



EL Diş Tipi



BE (ST) Diş Tipi



## KAPLIN/MANŞON

\*R25 SİSTEM  
\*R32 SİSTEM  
\*R38 SİSTEM



\* Yarı-Köprü Manşon\*

\*Tam-Köprü Manşonlar\*

\*Manşon Adaptörler\*

## ŞANK ADAPTÖR

\*R32& R38 ve T38 & T45 SİSTEM İÇİN GELİŞTİRİLMİŞ,  
\*ATLAS COPCO KAYA DELGİ SİSTEMLERİİÇİN GELİŞTİRİLMİŞ,  
\*FRUKAWA KAYA DELGİ SİSTEMLERİ İÇİN GELİŞTİRİLMİŞ,  
\*MINEMASTER KAYA DELGİ SİSTEMLERİİÇİN GELİŞTİRİLMİŞ.





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