#### **V SERIES BIT**

## Low price · Long life · High performance



# **Tri-Cone Bit Insert Type**

## **Drilling up to 200m**

EX3V bits are developed for the use in water well drilling and urban construction, etc., produced at low cost, having long life, efficiently excavating soft ground to medium hard rock formation. Product line-up has been extended from the popular sizes of 5 5/8" and 5 7/8" to 7 5/8" and 9 5/8".

#### Features of EX3V

### [1] Long Life Bearing

Double seal structure (7 5/8 or more) prevents wear and damage of the bearing seal.

#### [2] Improvement of wear resistance

A wide range of hard-faced surface with inserts are applied in the shirttail part.

#### [3] Improvement of drilling performance

Insert height is increased and interdental space is enlarged to improve drilling performance in the medium hard formation.

### [4] Wear resistance and breakage resistance of inserts

The insert is made of optimum material, having large diameter for each inner line and heel line.

### [5] Gauge strengthening

A large number of inserts are placed on the cone gauge surface to strengthen the gauge by trimming action.





Photo: 5 7/8-EX3V Bit



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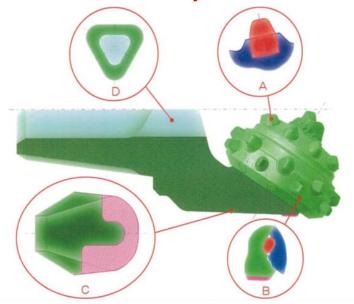
NLC CO., LTD.



Wide Range of Hard-faced Surface



## Features that have never existed in ordinary Tri-cone Bits.



Increased insert diameter, height and width of cone.

- A High efficiency with enlarged spaces between insert teeth and enlarged cone offset. (Increased Insert diameter by 14% and Insert height by 33%)
- B Shirt tail part with improved wear resistance preventing damage to the bearing seal.
- Improved wear resistance by extended hard-faced shirt tail and leg part. (400% increase in hard faced areas in comparison with ordinary models)
- Improved cleaning effect on cones by installing the nozzle to the bit center.

  (20% increase in cutter cleaning effect in comparison with the ones in ordinary models)

Improved sealing performance by narrowing the interval between bearings in the cone axial direction.

\* Above advantages have been verified in a drilling test covering 1000 meters in total.

#### 1 Long life bearing

Main bearing seals are installed inside the bearing. Further, a double seal structure with dust seal prevents wear and damages caused by abrasion of the base metal and realizes long life.

#### ② Wear resistance

With insert tips and a wide range of hard-face treatment on the shirt tail part improves wear resistance and reduce damage against the bearing seal.

#### 3 Improvement of drilling performance

By increasing the insert height and the space between inserts, efficient drilling from soft to medium hard formation can be performed.

#### 4 Wear resistance and breakage resistance of the insert

Optimum material is selected for inserts on each inner line and the heel line, which enhances wear / breakage resistance.

#### ⑤ Gauge reinforcement

A large number of flat inserts are installed on the surface of cutter gauge, maintaining and strengthening the gauge by trimming action (scraping off).

## **Bit Specifications**

#### For Soft to Medium Hard Rock Formation

Description	Size	Connection Thread	Max. Load	Rotaion Speed	Bearing Seal
	in (mm)		ton	rpm	Туре
5-1/8 EX3V	5-1/8 (130.18)	2-7/8 REG	5	40 ~ 80	Single Seal
5-5/8 EX3V	5-5/8 (142.88)	3-1/2 REG	6		
5-7/8 EX3V	5-7/8 (149.23)				
6 EX3V	6 (152.4)	· 4-1/2 REG			
7-5/8 EX3V	7-5/8 (193.68)		8		Double Seal
7-7/8 EX3V	7-7/8 (200.03)				
8-1/2 EX3V	8-1/2 (215.9)		9		
9-5/8 EX3V	9-5/8 (244.48)	6-5/8 REG	10		
9-7/8 EX3V	9-7/8 (250.83)				
12-1/4 EX3V	12-1/4 (311.15)		12		

<sup>\*</sup>EX3V Series Bits are close to IADC Code [517]



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