## **THE AVENEGR™**



### Description

The AVENGER<sup>™</sup> reamer shoe is an intelligent product designed to aid the running of casing, liners and screens application in severe hole conditions and where the client has concerns over potential difficult wellbore conditions such as swelling shales, ledges, crooked holes and tight spots.

TAKAMOL's reamer shoe type "THE AVENGER<sup>™</sup>" is commonly used in well bore conditions when reciprocating of casing is enough to keep the hole in guage while running in hole.



### Features

Integral clockwise blades with 360° cutting structure gurantee full reaming of the hole with or without rotation and minimize the torque and drag generated while reaming.

• Pointed Aluminum nose with 6 jet ports down and another 6 jet ports up with easy drill-out feature lead the casing through ledges and crooked hole.

• Integrated with our IIIC or 10K category TRUE-GUARD valve.

• Slick body design helps reduce ECD.

• Supplied threaded or with universal blank cover most common threads.



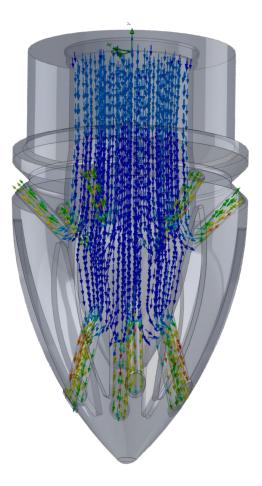
### Description

Revolutionary pointed aluminum nose with jetting ports incease the realiability of the reamer shoe and minimize the risk of being engaged with ledges and tight sports.

### Features

- Pointed aluminum nose with 360° up and down jetting ports gurantee full reaming of the hole with or without rotation and minimize the torque and drag generated while reaming.
- Enhanced removal of debris stuck at blades structure and increase reameing effeciency.
- High static load holding.
- Lotus structure enhance drillout time for the nose.
- Simulated jetting flow up and down help keep the casing at center away from side walls.

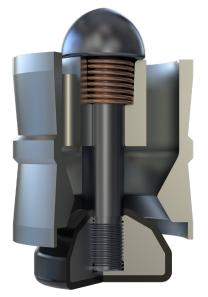




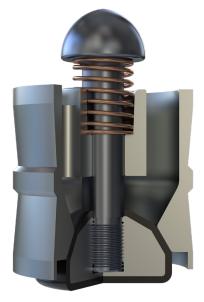


### **TRUE-GUARD<sup>™</sup> VALVE**

# VALVE IN OPEN POSITION



# VALVE IN CLOSED POSITION



VALVE SIZE	4"	2.5″
MINIMUM TFA THROUGH VALVE	4 sq.in	2.5 sq.in
MAXIMUM FLOW RATE	10 bbl/min	6 bbl/min
VALVE BODY MATERIAL	ALUMINUM 6061-T6	ALUMINUM 6061-T6
PLUNGER MATERIAL	ALUMINUM 6061-T6	ALUMINUM 6061-T6
PLUNGER SEAL MATERIAL	<b>RUBBER VITON/FKM</b>	<b>RUBBER VITON/FKM</b>
SPRING	PHOSPHOR BRONZE	PHOSPHOR BRONZE
PRESSURE REQUIRED TO UNSEAT PLUNGER	30 psi	30 psi
TEMPERATURE RATING	400 deg. F.	400 deg. F.
BACK PRESSURE	5000 psi	5000 psi
FLOW RATING AS PER API RP 10F	III	III
TEMPERATURE RATING AS PER API 10F	С	С



## THE AVENEGR™ AVAILABLE OPTIONS

#### Nose Types

Aluminum Bullet Nose, Aluminum Pointed Nose & Aluminum Eccentric Nose.



#### Steel Grades Types and Weight Range

We keep stock of common API 5-CT steel pipes grades (K-55, L-80 and P-110) for conventional sizes (5", 7", 9 5/8", 13 3/8", 18 5/8" & 20") and for all weight range. We also keep in stock AISI 4140 & 4145 mechanical pipes for special Casing mechnical specs requirements.

#### **Connection Type**

- API & most common premium connections are available.
- Blank for specific premium connections is available.
- Universal blank for the most common premium & API connections is available.

#### Number of Valves and API Category

- Single or Double valve is avialable.
- IIIC API 10F categoury for all sizes & 10K valve is available for size 7" and smaller.

#### **Ports Types**

Side ports, Down-jets, up-jets are available.

