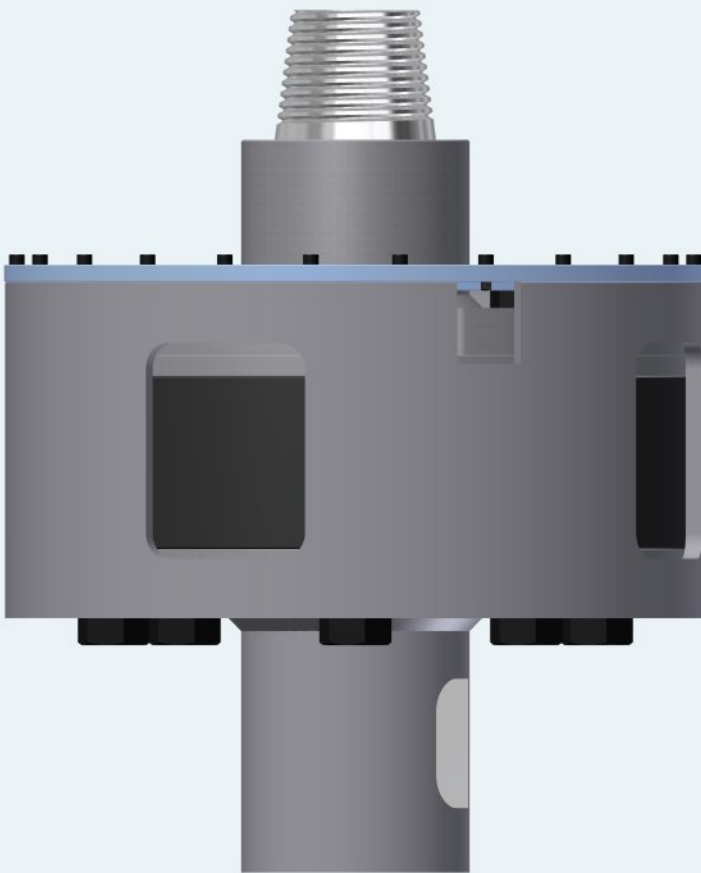


SHOCK ABSORBERS AND FLOATING CUSHION SUB

Shock Absorber

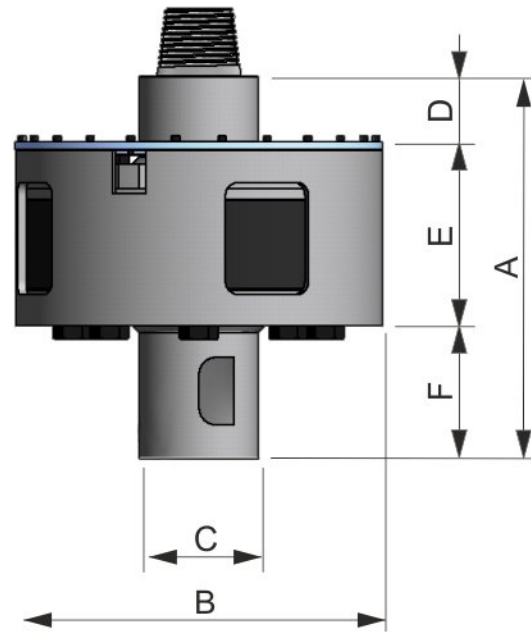


Floating Cushion Sub



SHOCK ABSORBER

Shock Absorbers are a coupling that protects blast hole drills against vertical and rotary vibrations by reducing their severity. These vibrations damage both the bit and the drill. Shock Absorbers help keep the bit more uniform contact with the formation. Since there are no moving parts, maintenance is minimal.



DIMENSIONS		
	VSA 10	VSA 20
A	30"	36"
B	26"	33"
C (maximum)	9.1/4"	13.3/8"
D	3"	4"
E	10"	13"
F	17"	19"
Pull down (Lbs)maximum	90,000	1,50,000
Torque (Ft.Lbs)maximum	20,000	30,000

Vulcan's Shock Absorbers / Cushion Advantages:

1. Less maintenance and repairable.
2. Increases penetration rates.
3. Increases the life of the rotary head gearbox .
4. Reduces drill downtime .
5. Increases bit life.
6. Efficient and reliable delivery times.
7. Reduces drill stem misalignment .
8. 40 years of experience in manufacturing and understanding of drilling requirements.
9. Adherence to the highest global quality standards.
 - ISO 9001:2008 certifications

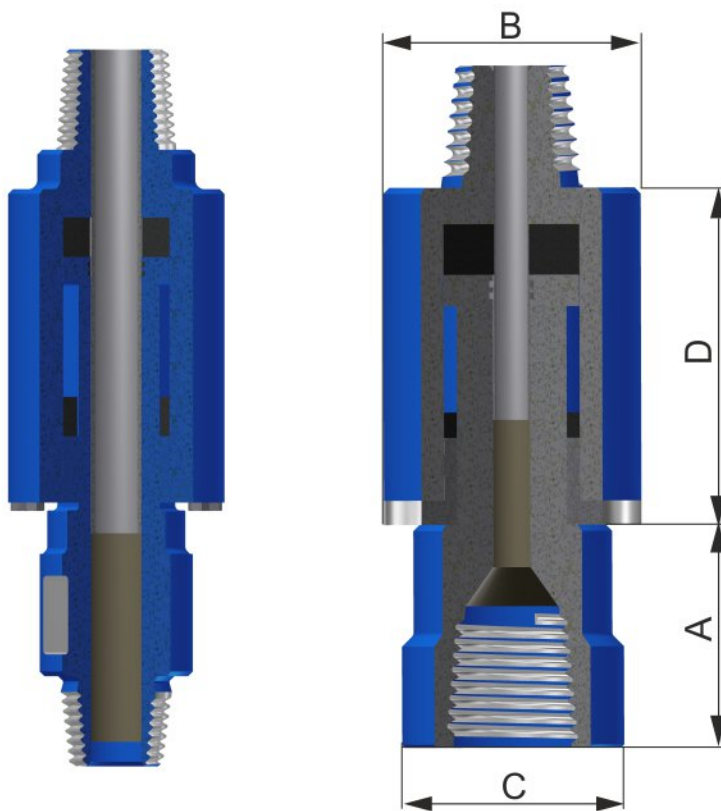
INQUIRIES:

Please specify the following:

- Type of shock sub
- Type of Vulcan offering
- Outside diameter
- Details of slotting required
- Pin and Box thread
- Any special features

FLOATING CUSHION SUB

Vulcan's floating cushion sub is used in drilling operations to reduce vibration and wear of the drill string and drill rig components. Vulcan offers FCS's for mining, construction and water well applications. The sliding spindle of the cushion sub permits the threads of the mating drill string components to float together or apart during rotation without any axial movement of the rotary drive. This decreases the impact on the rotary drive when the two mating threads are joined and decreases the load on the threads of the mating components.



DIMENSIONS			
	VFC10	VFC20	VFC30
B	10"	12"	15"
A* (minimum)	8.5/8"	5.3/4"	11.1/2"
C (maximum)	8.5/8"	8.5/8"	10.3/4" max.
D	13.1/8"	12.1/2"	13"
Movement	1.3/4"	2.1/2"	3"
Pulldown (Lbs)	60,000	1,25,000	2,00,000
Torque (Ft.Lbs) maximum	20,000	25,000	30,000



CERTIFICATE OF REGISTRATION

THIS IS TO CERTIFY THAT THE QUALITY MANAGEMENT SYSTEM OF

Vulcan Industrial Engineering Co. Limited

Site:- Unit-III, Survey No:1091, Sunav-Kasor Road, Piplay Dist. - Anand - 388460 Gujarat INDIA
Office:- A-2 / 440, G. I. D.C., V.U.Nagar Dist. - Anand - 388121, Gujarat INDIA

Has been assessed and registered as complying with the requirements of the International Standard shown above for the following Goods and Services. Further clarifications regarding the scope of this certificate and the applicability of ISO 9001:2008 requirements may be obtained by consulting the organization.

Design, Development, Manufacture and Supply of Drilling Accessories, Heavy Earth Moving Machine (HEMM) Spares, Industrial Gear Boxes and refurbishing of HEMM Equipment and Gear Boxes. (Originally certified by ISC on 26/Jun/2003 as per ISO 9001:2000 requirements)



Tom Wilde

Tom Wilde
CEO - Group Chairman
ISC Pty Ltd. A.B.N. 31 245 846 984

Registration Number: QACR91 0499
Original Registration Date: 26 Aug 2009
Re-verification Date: 22 Jul 2012
Expiry Date: 26 Jun 2015
Serial Number: 1903

ISC Pty Ltd., Unit 2/10 Gladstone Road, Castle Hill NSW 2154, Sydney, Australia.

This certificate is valid for 3 years from the date of certification on the condition that audits are conducted and paid for as per the Certification Agreement. Should this condition not be met, cancellation procedures will be initiated and the client will be assessed from the JAS-ANZ register. This Certificate remains the property of International Standards Certification Pty Ltd and must be returned upon request. It must not be altered in any way. Intentional misuse of this certificate will result in cancellation without prior notification. Certificates can be checked through certcheckjiso-worldwide.com

Vulcan's Floating Cushion Advantages:

- 1 Prevents damage to thread during and making and breaking.
- 2 Less maintenance and repairable.
- 3 Increased penetration rates and less repairs to rotary head gear box.
- 4 Greater Drill availability.
- 5 Longer bit life and drill pipe.



VULCAN
INDUSTRIAL
ENGG. CO. LTD
AN ISO 9001 COMPANY

Authorized Distributor

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