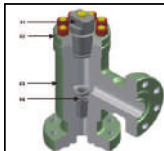


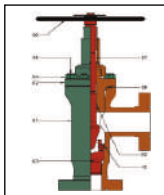
NTB Adjustable choke parts and components exhibit these features:

- Conventional tried and tested Carbide or Ceramic Needle and Seat design available with Orifice sizes of 3/4" to 2"
- The stems are Stainless Steel with Carbide Cone tips
- Parts are interchangeable to construct a positive, adjustable or combination Choke
- Bonnet nuts have rugged forged lugs that can be hammered loose.



Positive Choke

Part N°	Description
01	Plug
02	Bonnet
03	Body
04	Choke Bean



Adjustable Choke

Part N°	Description
01	Body
02	Bonnet
03	Seat
04	Body studs nuts
05	Body studs
06	Handwheel
07	Stem + Needle
08	Body/Bonnet Gasket
09	Stem Gasket
10	Seat Gasket



NTB HITECH CERAMICS

(A Division of NTB International Pvt. Ltd.)

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NTB CHOKES

NTB Hitech Positive or Adjustable Choke parts are built to the highest standards using advanced techniques and material in pressure ratings upto 15,000 psi. this ensures optimal performance and reliability.

NTB Chokes and Valve components are line with Cobalt/Nickel bonded Tungsten Carbide hard metals of fine/medium grain carbides sintered to 95-99% theoretical density.

NTB Choke and Valve components conform to NACE standards.

NTB Positive Chokes-NTB Positive Chokes accept replaceable fixed orifice flow beans (Ceramic or Carbide Lined for severe applications) that are measured in 64th of an inch. All adjustable Chokes can be converted into Positive Chokes by replacing the bonnet assembly with an appropriate blanking plug and Choke bean assembly. Positive Choke beans range from 4/64" to 48/64" for 3/4" beans and from 50/64" to 64/64" for the 1" Positive Choke. NTB Positive Chokes are manufactured with SS 410 and are brazed with highly wear resistant Tungsten Carbide Cores with suitable orifices.



NTB Adjustable Chokes – NTB Adjustable Choke parts and components exhibit these features:

Conventional tried and tested Carbide or Ceramic Needle and Seat design available with Orifice sizes of 3/4" to 2"

Parts are interchangeable to construct a positive, adjustable or combination choke.

Bonnet nuts have rugged forged lugs that can be hammered loose.



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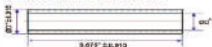
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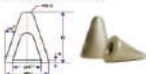
NTB TUNGSTEN CARBIDE PRODUCTS FOR OIL AND GAS

POSITIVE CHOKE CARBIDE TUBES *



Ø0.75, Ø0.75	0.575	0.5	0.625	0.75
Ø0.75, Ø0.75	3/04-0.754 ± 0.004	3/04-0.754 ± 0.004	Ø7/04-24/04 ± 0.004	25/04-32/04 ± 0.005
Ø0.75, Ø0.75	0.875	1	1.125	1.25
Ø0.75, Ø0.75	33/04-02/04 ± 0.007	41/04-07/04 ± 0.007	45/04-55/04 ± 0.010	55/04-06/04 ± 0.010

STEM CARBIDE NEEDLES *

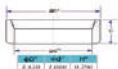


Ø0.5	Ø0.25	1.5	1.5
2.22	1.47	0.10	1.92



Ø0.5	1.5	1.5	Ø0.25	1.5
2.04	1.90	0.13	0.30	0.90
2.10	1.90	0.13	0.30	0.90

CHOKE CARBIDE LINER SLEEVES*, PARTIAL/STEP/STRAIGHT (active)



Ø0.75	Ø1.0	2.0
2.430	2.000	0.290



Ø0.75	Ø1.0	Ø0.75	1.0	1.0
1.175	0.750	1.000	0.815	1.000
1.175	0.750	1.000	0.800	1.000



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NTB TUNGSTEN CARBIDE PLUGS, CAGES AND DISCS

NTB Hitech Ceramics, India is an ISO-9001:2015 certified organization, managed by a team of qualified professionals with 25 plus years of experience in this business. We are conveniently located at Chakan Pune, a leading hub of Automotive and Hitech-Engineering Industry. NTB offers Machined, Diamond Ground parts and components designed to reliably control the flow rate of fluids discharged from an Oil and Gas well.

NTB Choke and Valve components are lined with 6-10% Cobalt/Nickel bonded Tungsten Carbide hard-metals, with fine/medium grain carbides of 0.8-2 μm and sintered to 95-99% Theoretical Density with Hardness=88-91 HRA & TR5=1800-2200 N/mm². NTB also offers above wear components, Liners and Discs in Alumina, Zirconia and SiC Ceramics.

Tungsten Carbide Valve Seats & Balls

These are used in high wear assemblies of Gas Lift Valves, Wire Line Retrievable (WLR) & Injection Pressure Operated (IPO) Gas Lift Valves. Seats are made to perfect sizes and surface finish and balls to high roundness & polish, to insure leak-proof assembly.



Tungsten Carbide Flow Cages & Plugs

Some newer designs of Choke Valves use Flow Cages & Plugs for accurate and precise flow control. These are manufactured in high wear-resistant carbide grades with 6-8% Cobalt. The location and dimensions of the holes are maintained within close tolerances with precise machining. Highly polished mating faces provide leak-proof shut-off at high temperatures and pressures



Tungsten Carbide Stabilizer Discs

This Special product used in the Oil & Gas Industry is manufactured from a high Nickel (27%) Bonded Tungsten Carbide grade. They are typically offered in four sizes and can also be customized.



Tungsten Carbide Flow Trims

Flow Trims are manufactured with high accuracy and close tolerances. The location, dimensions of the holes and pockets is tightly controlled. Special Carbide grades with fine size grains provide high toughness and hardness and result in maximum operating life in tough Oil & Gas applications.



Tungsten Carbide Choke Sleeves (Tubes)

NTB Positive Chokes accept replaceable fixed orifice flow beans (Ceramic or Carbide lined for severe applications) that are measured in 64th. of an inch. Positive Choke beans range from 4/64" to 48/64" for 3/8" beans, 50/64" to 64/64" for the 1" beans and higher sizes customized upto 128/64". NTB positive bean chokes use highly wear resistant Tungsten Carbide Tubes (Sleeves) of suitable orifices that are high temperature brazed within the housing manufactured with SS410 or other Steels.



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NTB CHOKES, STEMS & SEATS

NTB CHOKES ARE AVAILABLE FROM 4/64" TO 64/64". These are manufactured in Tungsten Carbide Core with Stainless Steel Housing.



NTB STEMS are offered in various sizes 3/4", 1", 2", 3 1/16" These are available in stainless Steel. These Stems are tested for V Notch Impact Charpy Test at 20°F (-29°C) for US Markets and -50°F (-46°C) for Canada Markets.



NTB SEATS are offered in sizes 3/4", 1", 2". These are offered in either fully Lined TC or Partially Lined TC. With Stainless Steel Housing. Are tested for V-Notch Impact Charpy Test at -20°F (-29°C) for US Markets and -50°F (-46°C) for Canada Markets.



ALL NTB PRODUCTS ARE MANUFACTURED AS PER NACE STANDARDS



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PROCESS SEQUENCE

WO₃

REDUCTION

TUNGSTEN METAL (W)

BLENDING

CARBURISING

TUNGSTEN CARBIDE (WC)

BALL MILLING

SPRAY DRYING

MIXED POWDER

PRESSING

PRE-SINTERING

SHAPING

SINTER HIPING

SINTERED PRODUCT

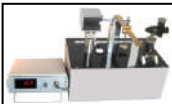
FINISHED PRODUCT



COLD ISOSTATIC PRESS



SINTER-HIP FURNACE



YOUNG'S MODULUS



THERMAL CONDUCTIVITY



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