

FusionDisk™

Metal-to-Metal Well Barrier



FusionDisk™ is an advanced metal-to-metal well barrier engineered to form a reliable, integral seal under demanding well conditions.

Developed by NEFTCORE, FusionDisk™ utilizes a precision-engineered expansion and sealing architecture that creates a circumferential metal barrier against the casing ID, delivering exceptional sealing integrity, debris tolerance, and long-term operational reliability in demanding well conditions.

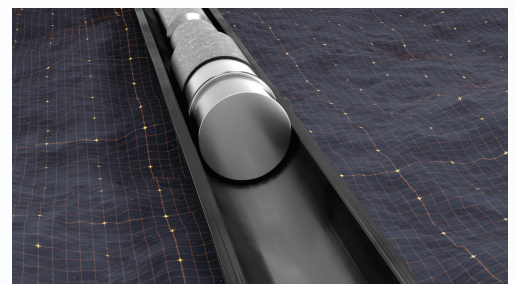
Specifications

Pressure Rating	Up to 15,000 psi
Temperature Rating	Up to 350°F
Seal Type	Metal-to-Metal Barrier
Deployment Methods	Wireline / Slickline / Tubing
Application Type	Well Abandonment, Temporary P&A
Sealing Material	Corrosion-Resistant Super Alloys
Design Configuration	Compact Expansion System
Environment	HPHT / Sour Service Compatible



Applications

- Permanent Well Abandonment
- HPHT zonal isolation
- Completion integrity testing
- Downhole pressure containment
- Intervention and remediation operations
- Sour Gas Wells
- Metal-to-metal sealing in corrosive environments



Features

- True metal-to-metal sealing barrier
- High-pressure / High-temperature environments
- Precision-engineered expansion geometry
- Enhanced resistance to thermal cycling
- Eliminates elastomer degradation concerns
- High structural integrity after setting
- Optimized for debris-tolerant operation
- Corrosion-resistant super-alloys
- Engineered for fast milling (less than 3 minutes)





Technology Overview

FusionDisk™ is engineered around a controlled radial expansion system that activates a reinforced metal sealing interface against the casing wall. The system is designed to maximize sealing contact while minimizing casing stress concentration and deformation during deployment.

The sealing architecture provides:

- Full circumferential contact area
- Stable sealing performance under differential pressure
- Improved resistance to extrusion and thermal relaxation
- High reliability in HPHT and chemically aggressive environments



FusionDisk™ provides a mechanically energized metal sealing interface capable of maintaining integrity in extreme downhole conditions where elastomer systems may fail.

CASING				FusionDisk™		
SIZE IN (mm)	WEIGHT LB/FT (kg/m)	MIN. I.D. IN (mm)	MAX. I.D. IN (mm)	PRESSURE RATING PSI (bar)	O.D. IN (mm)	SET FORCE LB (daN)
4-1/2 (114.30)	9.5-15.1 (14.14-22.47)	3.826 (97.18)	4.090 (103.89)	15.000 (689.48)	3.846 (97.77)	33.000 (14.678)
5 (127.00)	11.5-20.8 (17.11-30.95)	4.154 (105.51)	4.560 (115.82)	15.000 (689.48)	4.224 (107.30)	33.000 (14.678)
5-1/2 (139.70)	13.0-23.0 (19.34-34.22)	4.580 (116.33)	5.044 (128.12)	15.000 (689.48)	4.524 (114.90)	33.000 (14.678)
5-3/4 (146.00)	14.0-25.2 (20.83-37.50)	4.890 (124.37)	5.290 (134.37)	15.000 (689.48)	4.987 (126.68)	33.000 (14.678)
6-5/8 (168.30)	17.0-32.0 (25.30-48.00)	5.595 (142.11)	6.135 (155.83)	15.000 (689.48)	5.663 (143.83)	50.000 (22.240)
7 (177.80)	17.0-35.0 (25.30 - 52.08)	6.000 (152.40)	6.538 (166.07)	15.000 (689.48)	5.894 (149.70)	50.000 (22.240)
7-5/8 (193.68)	20.0-39.0 (29.80-58.00)	6.625 (168.28)	7.125 (180.98)	15.000 (689.48)	6.599 (167.62)	50.000 (22.240)
8-5/8 (219.08)	24.0-49.0 (35.70-72.90)	7.310 (185.67)	8.097 (205.66)	10.000 (689.48)	7.413 (188.28)	50.000 (22.240)
9-5/8 (244.48)	29.3-58.4 (43.60-56.90)	8.297 (210.74)	9.063 (230.20)	8.000 (551.58)	8.413 (213.68)	50.000 (22.240)
10-3/4 (273.05)	32.7-60.70 (48.70-90.30)	9.525 (241.94)	10.325 (262.26)	5,000 (344.74)	9.728 (247.08)	50.000 (22.240)
11-3/4 (298.45)	54.0-53.0 (80.4-123.5)	10.641 (270.28)	11.284 (286.61)	4,000 (275.79)	10.350 (262.90)	50.000 (22.240)
13-3/8 (339.70)	48.0-84.5 (71.40-125.7)	12.202 (309.90)	12.879 (327.13)	3,000 (206.84)	12.167 (309.05)	50.000 (22.240)