

# INNOMAG® HD STRING MAGNETS

Heavy duty string magnets for milling and wellbore cleaning operations

## APPLICATIONS

- Cleaning during or after milling
- During casing exits
- Prior to running completions to clean the well
- Run as a part of drill string when doing a washing or circulation run

## FEATURES

- One-piece mandrel, no weak service connection
- Large fluid bypass
- No moving parts
- No internal bearings or wear parts
- Full 360° stabilization
- Magnet elements integrated in the tool
- Extreme magnetic area, magnets covered in stainless steel to make cleaning easy
- Stabilizer sleeves locked in place using patent pending technology
- Available in size 5,75" and 8,30" OD

## BENEFITS

- Custom made for milling operations
- Full drill pipe strength
- Excellent cleaning capabilities due to extreme magnet range
- Multiple Innomag® HD on one string decrease number of runs
- Easy cleaning and low maintenance

The heavy-duty Innovar Innomag® string magnet is a wellbore clean-up tool especially designed for casing exits and milling operations. A robust design with no moving parts and a solid mandrel ensure that the Innomag HD is capable of withstanding the extreme downhole conditions experienced during milling operations. Built on the proven design of the Innovar magnet technology, the heavy-duty Innomag provides efficient removal of ferrous debris.

### Dimensional data

| Model              | IM 58 HD | IM 83 HD |
|--------------------|----------|----------|
| Max OD, inch       | 5,75     | 8,36     |
| Min ID, inch       | 1,75     | 3        |
| Fish neck OD, inch | 4,75     | 7        |
| Length, mm         | 2160     | 2291     |

### Material properties

| Body material                    | AISI 4145         | AISI 4145         |
|----------------------------------|-------------------|-------------------|
| Tensile Yield strength, lbs      | 562 000           | 1 409 000         |
| Torsional Yield strength, ft-lbs | 18 400            | 94 000            |
| Magnet Ribs on stabilizer        | 5                 | 5                 |
| Magnet type                      | Innovar specified | Innovar specified |

### Operational data

|                               |        |              |
|-------------------------------|--------|--------------|
| Flow by area, sq.in           | 4,8    | 5,6          |
| Inside                        | 7" 29# | 9 5/8" 53,5# |
| Connection                    | NC38*  | MT57         |
| Max rotation, rpm             | 150    | 150          |
| Swarf collection cap (ltrs)   | 11,4   | 17,4         |
| Swarf collection cap (kgs) ** | 45,6   | 69,6         |

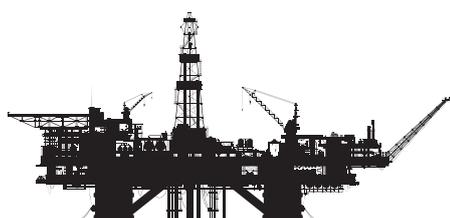
### Transport Data

|                 |     |     |
|-----------------|-----|-----|
| Tool weight, kg | 158 | 345 |
|-----------------|-----|-----|



\* Different connection at request

\*\* At a swarf bulk density of 4 SG.



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