

Fishing & Workover Tools

Selection Guide for Recovery, Remedial & Workover Operations

Heverda Drilling Tools

Powering Oilfields, Above & Below the Ground

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1. Why Fishing & Workover Tools

Stuck pipe. Lost tools. Debris in the hole. Every workover and drilling campaign faces the moment when something has to come back out of the well — and how fast it comes out decides the cost of the entire operation.

- **A fishing job can cost days and hundreds of thousands of dollars** — every extra trip on a workover rig is measured in rig days, not hours
- **Wrong tool selection means more than delay** — an overshot run for a spear job, or a grapple matched to the wrong casing weight, can push the fish deeper or damage the wellbore
- **Documentation matters as much as hardware** — traceability, dimensional verification and material certificates are what let operators run recovery tools with confidence

Heverda supplies **fishing tools, jars, mills and workover accessories** engineered to API standards, with **catch sizes precision-matched to the casing program** and **full quality documentation with every shipment** — field-proven in active workover projects across North Africa.

2. Product Range at a Glance

Tool Family	Primary Function	Typical Application
Spears (Releasing)	Engage the fish from inside its bore; release on command	Recovery of pipe, drill collars, tubing with accessible internal bore
Overshots	Engage the fish from the outside	Recovery of pipe, tool joints, collars where the OD is accessible
Grapples / Slips	Interchangeable gripping elements for spears & overshots	Precision catch matching to casing and fish sizes
Jars	Deliver controlled impact loads to free stuck fish	Jarring after engagement to break stuck pipe free
Mills	Dress, cut or grind fish and debris	Junk milling, packer milling, fish dressing

Tool Family	Primary Function	Typical Application
Die Collars	Recover fish by external die-cutting engagement	Quick recovery of smooth fish, pipe and casing sections
Impression Blocks	Record the top shape of a fish	Pre-fishing survey to select the correct tool
Circulating Subs	Establish circulation above the fish	Washover, debris cleanout, float-off operations
Accessories & On-Request Tools	Baskets, magnets, washover shoes, and custom items	Junk recovery and special conditions (built to order)

Every Heverda fishing tool is **configured per well** — fish size, casing program, and release requirements define the tool, not a generic catalog page.

3. Tool Families in Detail

3.1 Releasing Spears

- **What it does:** Engages the fish internally, grips by expansion against the fish bore, and releases on command without rotation or destructive force.
- **Why it matters:** The ability to release and re-engage turns a one-shot gamble into a controlled, repeatable operation.
- **Selection inputs:** Fish internal diameter, connection type, required pull capacity, release method.

3.2 Overshots

- **What it does:** Engages the fish externally with a grapple and guide — the workhorse for recovering pipe, tool joints and collars.
- **Why it matters:** External engagement works when the fish bore is blocked, collapsed or inaccessible.
- **Selection inputs:** Fish OD range, clearance to casing, grapple type, optional mill/lead extension for dressing.

3.3 Grapples / Slips

- **What it does:** The gripping element that transfers pull and jarring loads between tool and fish.
- **Why it matters: One catch size = one part number.** Each grapple is matched to a precise casing weight and ID — a 0.1–0.2" ID difference between adjacent casing weights means a wrong grapple either slips or refuses to engage.
- **Selection inputs:** Exact casing weight (e.g. 7" 26 lb/ft), fish ID/OD, material and hardness requirements.

Reference — 7" Casing Grapple Matching (API casing weights):

Casing Nominal Weight (lb/ft)	OD (in)	ID (in)	Catch Size Range (in)
7" 22#	7.000	6.398	6.350 – 6.398
7" 26#	7.000	6.276	6.220 – 6.276
7" 29#	7.000	6.184	6.130 – 6.184

Casing Nominal Weight (lb/ft)	OD (in)	ID (in)	Catch Size Range (in)
7" 32#	7.000	6.094	6.050 – 6.094
7" 38#	7.000	5.920	5.870 – 5.920

Full matching tables available for **4-1/2" to 13-5/8" casing** on request. Each grapple is dimensionally verified before shipment — see Section 5.

3.4 Jars

- **What it does:** Stores energy and delivers controlled impact loads to free a stuck fish when pull alone is not enough.
- **Why it matters:** Correct jarring force at the right moment is often the difference between a two-hour job and a two-day one.
- **Selection inputs:** Tool size (e.g. 4.75", 6.5", 8"), operating envelope, stroke, and jarring force requirements.
- **Service note:** Seal kits and service accessories available for major jar sizes — quick turnaround on refurbishment between runs.

3.5 Mills

- **What it does:** Dresses, cuts, or grinds the fish and downhole debris to enable recovery or sidetracking.
- **Why it matters:** A dressed fish is a recoverable fish — milling establishes a clean, stable profile before the fishing tool runs.
- **Selection inputs:** Fish type, material, target profile, casing clearance, mill body and insert configuration.

3.6 Die Collars

- **What it does:** Recovers smooth fish by cutting external threads into the fish body through the die.
- **Why it matters:** Simple, reliable engagement for smooth fish with no gripping points.
- **Selection inputs:** Fish OD, fish material, required pull capacity.

3.7 Impression Blocks

- **What it does:** Records a dimensional imprint of the fish top.
- **Why it matters:** One survey run replaces guesswork — the imprint determines the correct tool, saving trips and risk.
- **Selection inputs:** Wellbore size, expected fish profile, temperature rating.

3.8 Circulating Subs

- **What it does:** Establishes circulation above the fish for washover, debris cleanout, and float-off operations.
- **Why it matters:** Clean circulation before and during recovery protects both the fish and the wellbore.
- **Selection inputs:** Connection size, port configuration, flow requirements.

3.9 Accessories & On-Request Tools

Junk baskets, magnetic fishing tools, washover shoes, and custom recovery tools are available **built to order** — dimensions, material and connection per the operator's requirement.

4. Technical Specifications (Reference Range)

Parameter	Specification
Applicable wellbore / casing sizes	4-1/2" to 13-5/8" casing programs (larger on request)
Body material	AISI 4140 / 4145H (or equivalent) alloy steel, quenched & tempered
Hardness (heat treated)	Reported per part on material certificate
Connections	Per API Spec 7-2 / ISO 10424-2; custom connections on request
Surface treatment	Phosphating or blackening (standard); other finishes on request
Catch size accuracy	Dimensional verification per part; tolerance verified by CMM measurement
Temperature rating	Standard workover conditions; HPHT options on request

5. Materials & Quality

Every Heverda fishing tool ships with a **quality documentation package**:

1. **Dimensional verification** — catch sizes and critical dimensions inspected with calibrated CMM (Coordinate Measuring Machine); results reported per part
2. **Material certification** — EN 10204 3.1 material certificate with alloy grade, hardness test report (HRC) and heat-treatment status
3. **Surface treatment verification** — phosphating / blackening coverage and condition checked before packing
4. **Lot traceability** — each part laser-marked with a lot number for full traceability
5. **Batch sample test report** — dimensional, material and visual inspection summary included with each shipment
6. **Third-party inspection** — SGS / BV or other nominated inspection available on request

One catch size = one part number. Heverda maintains a precise catch-size ↔ part-number mapping across the spear and grapple range, so POs are unambiguous and field engagement is predictable.

6. Engineering & Service

- **Selection support** — provide fish type, casing program and operation objective; we confirm the tool, catch size and documentation package before you order
- **Custom manufacture** — non-standard sizes, materials and release configurations built to spec
- **Documentation package** — certificates, dimensional reports and packing lists prepared for export and customs compliance (COO, CBL / CIF documentation support per destination market)
- **After-sales** — jar seal kits and service accessories stocked for major sizes; re-dress and refurbishment support between runs

7. Field Experience

Heverda fishing and workover tools are **delivered and proven in active projects across North Africa**:

- **Spear & grapple sets** with precision-matched catch sizes, supplied under strict quality acceptance criteria
- **Jar seal kits** for multiple tool sizes, delivered on expedited schedules for workover operations
- **Multi-service circulating subs** and associated workover accessories supplied into ongoing operations

Reference deliveries and performance records are available under NDA for qualified operators.

8. Get in Touch

To configure the right tool for your operation, tell us:

1. **Fish type & size** (pipe / collar / tool / debris) and current wellbore depth
2. **Casing program** (size, weight, ID — for catch matching)
3. **Operation objective** (recover / washover / mill / sidetrack)
4. **Required documentation** (EN 10204 3.1, third-party inspection, export documentation)

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