Baretti®

EQUIPMENT FOR O L AND CHEMICAL INDUSTR ES

LOADING & UNLOADING ARMS

PRECISION ENGINEERING FOR GLOBAL TERMINALS

Baretti®
EQUIPMENT FOR OIL AND CHEMICAL INDUSTRIES

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ENGINEERED FLUID TRANSFER

Precision engineering for global terminals. Tailor-made systems, designed and manufactured in Italy.

A LEGACY OF FLUID TRANSFER EXCELLENCE SINCE 1890

1890

ENGINEERING MADE IN ITALY

With over 130 years of Engineering Made in Italy, Baretti is the strategic partner of choice for global Oil & Gas and Chemical leaders.

Since our 1944 debut as energy pioneers, we have evolved from traditional mechanical excellence to leading the digital efficiency revolution. Our mission remains constant: ensuring absolute integrity in fluid transfer through stability, flexibility, and unmatched technical expertise.

LEAN INNOVATION: POWER WITHOUT THE WEIGHT

To meet the speed of today's global market, Baretti engineered the Light Loading Arm Line.

This breakthrough design is built to:

- Optimize CAPEX: Drastically lower infrastructure costs through streamlined engineering.
- Simplify Infrastructure: Reduce foundation loads on modern terminals and piers.
- Guarantee Durability: Deliver maximum operational efficiency without compromising structural integrity.

MISSION: ZERO-IMPACT SAFETY

Technical performance is only superior when it protects both operators and the environment. We are committed to a "Zero Emission" goal through:

- Proprietary advanced sealing technologies.
- Redundant emergency release systems.
- Integrated environmental protection protocols.

Investing in Baretti means choosing a century of reliability where safety is the cornerstone of every technical solution.

PRECISION ENGINEERING: THE "SMART & LIGHT" ADVANTAGE

Baretti's "Smart & Light" philosophy maximizes ROI by optimizing the entire project lifecycle. We slash CAPEX through intelligent design and reduce OPEX through rapid installation and streamlined maintenance.

INFRASTRUCTURE OPTIMIZATION: HEAVY SAVINGS

The LightLine is engineered to minimize civil engineering and infrastructure costs:

- **Load Reduction**: High strength materials and optimized weight distribution significantly reduce stress on foundations and pier reinforcements.
- **Structural Simplicity**: An agile, redundancy-free design that redefines high-end performance and market competitiveness.

MECHANICAL INNOVATION: ACCURACY & PERFORMANCE

Our architecture utilizes cutting-edge solutions to maximize reliability:

- **Hollow Rod Cylinders:** Compact Hydraulic Power Units (HPUs) reduce energy consumption, equipment footprint, and plant overhead.
- **Bell Crank System:** Advanced linkages minimize cylinder stroke and wear while ensuring millimetric maneuvering precision.

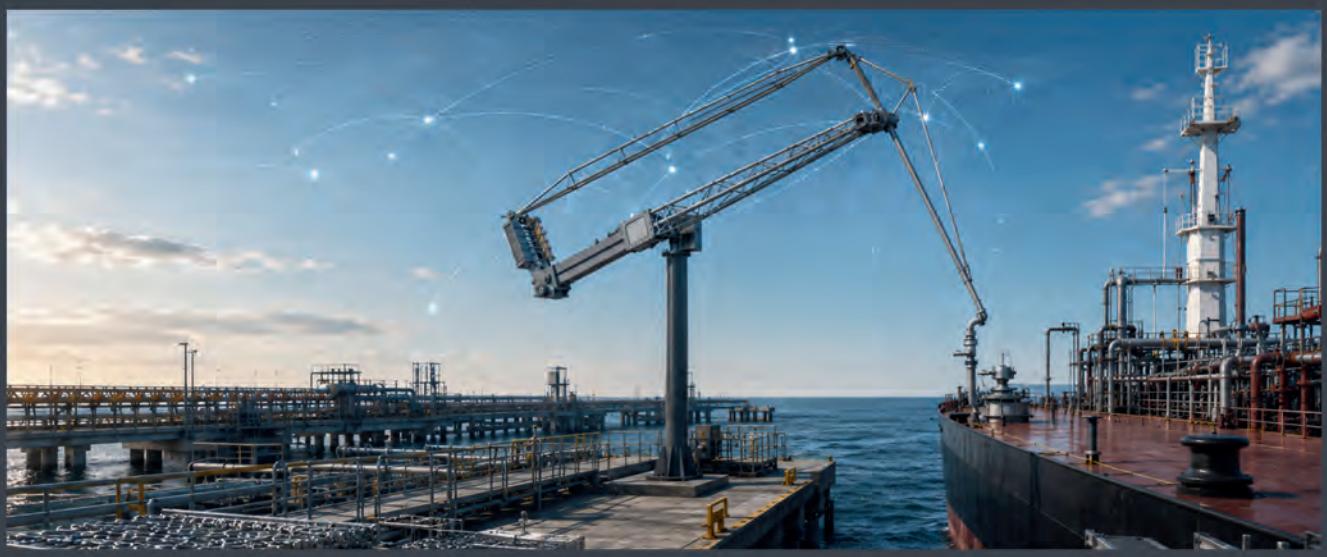
OPERATIONAL EASE: DESIGNED WITH FIELD-READY FEATURES

We eliminate the costs of down time through specific site-friendly features:

- **Rapid Deployment:** Intuitive interfaces and engineered lifting points ensure fast on-site commissioning.
- **Simplified Maintenance:** Direct access to critical components without heavy machinery drastically lowers long-term operating expenses.

Rigorous engineering ensures absolute safety and full compliance with international standards: OCIMF, PED, ATEX, ASME, and ISO.

HYDRAULIC TECHNOLOGY: EFFICIENCY & CONTROL



Baretti's Light Line utilizes a complete kinematic redesign to deliver superior control with minimal energy consumption and reduced structural impact.

BALANCED POWER: THROUGH-ROD CYLINDERS

Our strategic Through-Rod design ensures identical pressure areas for:

- Perfect Balance: Symmetrical and fluid movements in every operational phase.
- Optimized HPU: Compact units that reduce oil consumption, equipment footprint, and maintenance costs.

KINEMATIC EXCELLENCE: THE BELL CRANK SYSTEM

Integrated Bell Crank linkages maximize performance while eliminating unnecessary weight:

- Dimensional Efficiency: Full working radius achieved with shorter, lighter components.
- Torque Optimization: Force multiplication at critical points to minimize stress on joints and structures.

SMART MONITORING: AUTOMATED PRECISION

Two levels of intelligent monitoring ensure absolute operational safety:

- Standard: Robust proximity sensors for reliable limit and parking detection.
- Advanced: High-precision encoders for Smart Docking and real-time Working Envelope control-ideal for automated terminals.

TERMINAL 4.0: THE ELECTRIC REVOLUTION (SMART & GREEN)

EX-RATED REMOTE CONTROL / MONITORED LINK / FAIL-SAFE STOP

Baretti's electric range merges digitalization and sustainability, delivering millimetric precision with a drastic reduction in operational costs and environmental impact.

INNOVATION & SMART CONTROL

- Automated Docking: Secure connections via encoder-programmed trajectories and high-precision brushless technology.
- Full Connectivity: Seamless integration with SCADA/DCS systems for real-time monitoring and advanced data analysis.

MAINTENANCE & RELIABILITY

- **Field Independence**: Maintenance is performed directly on the structure, reducing the need for cranes or scaffolding.
- **Extended Service Life**: Solid-state technology minimizes wear and maximizes uptime compared to traditional hydraulic systems.

ESG EXCELLENCE

- Zero Leakage: No oil circuits mean zero spill risk, ensuring maximum protection of the marine ecosystem.
- Efficiency & Silence: Minimal energy consumption and silent operations to improve the working environment on the pier.

The smart, green choice for next-generation global terminals.

SAFETY & CRITICAL COMPONENTS: TOTAL PROTECTION

Baretti's in-house manufacturing ensures uncompromising quality,transforming safety into a high-performance asset for global terminals.

ZERO-IMPACT SAFETY

EMERGENCY RELEASE

SECURE CONNECTION

PEOPLE & ENVIRONMENT

ERC-EMERGENCY RELEASE COUPLING

The terminal's ultimate defense against accidental vessel departure:

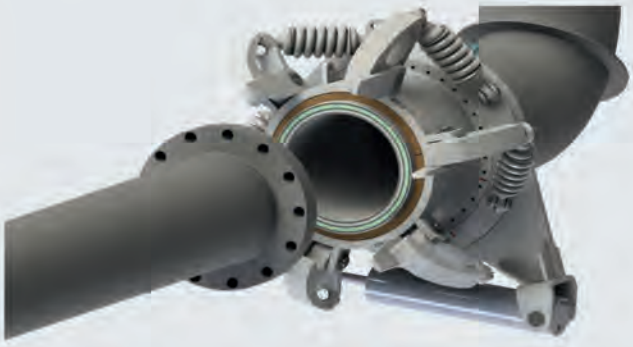
- **Instant Disconnection**: Redundant activation systems ensure fail-safe reliability in any emergency.
- **Zero Spill**: Immediate valve closure prevents toxic or cryogenic (LNG) leakage, protecting personnel and the environment.

QCDC-QUICK CONNECT DISCONNECT COUPLING

High-performance couplers engineered to maximize pier productivity:

- **Rapid Turnaround**: Drastic reductionin connection times compared to traditional bolting (2" to 24" manifolds).
- **Built-in Security**: Designed to withstand unforeseen pressure spikes without compromising seal integrity.

ERC- EMERGENCY RELEASE COUPLING



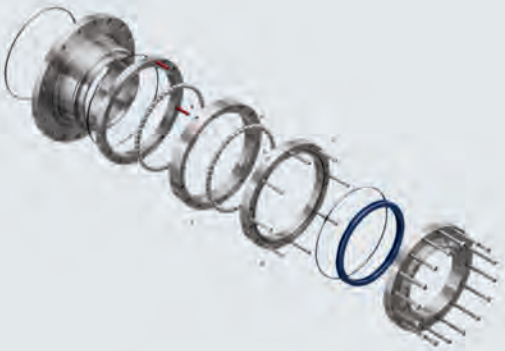
QCDC / ENGINEERED CONNECTION

THE HEART OF MOVEMENT

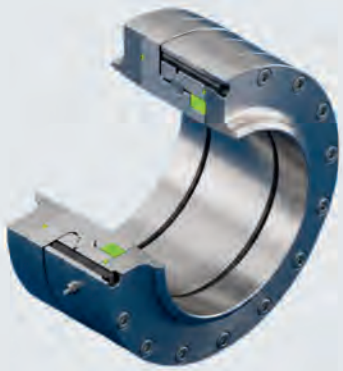
SWIVEL JOINTS: ENGINEERED TO PERFORM

The cornerstone of our "Site-Friendly" engineering, perfected over decades:

- **Fast Maintenance**: In-situ seal replacement without structural dismantling-reducing downtime from days to hours.
- **Extreme Durability**: Specialized alloys for Cryogenic and High-Temp operations with advanced multilayer seals.



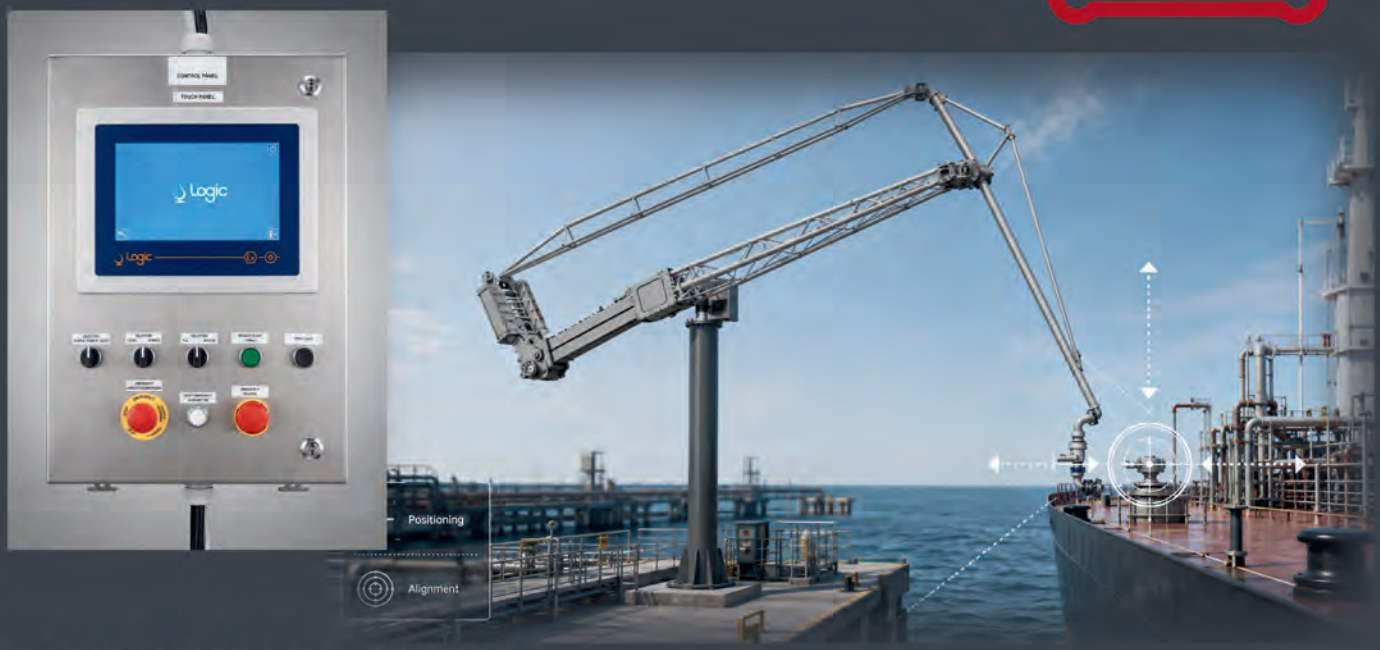
HEAVY-DUTY



SPECIAL APPLICATIONS

In-house manufacturing guarantees that every component meets Baretti's standards for safety and longevity.

MONITORING & DIGITALIZATION: TERMINAL INTELLIGENCE



POSITIONING / ALIGNMENT / REAL-TIME CONTROL

Baretti transforms raw data into operational safety, providing complete situational awareness to eliminate uncertainty and turn information into a strategic asset.

DYNAMIC WORKING ENVELOPE MANAGEMENT

Real-time monitoring to prevent over-extension and collisions:

- Live Tracking: Constant monitoring of the arm's position with visual and acoustic alarms.
- Intuitive HMI: A user-friendly interface designed to simplify control during complex docking phases.
- Path Automation: Pre-programmed sequences to standardize performance and reduce operator stress.

PREDICTIVE MAINTENANCE & DIAGNOSTICS

Transition from reactive to proactive management to protect your margins:

- Condition Monitoring: Continuous analysis of vital parameters to detect anomalies before they escalate.
- Event Logging: Detailed recording of every cycle for post-loading analysis and safety audits.
- Strategic OPEX: Maintenance based on actual wear, reducing costs and avoiding premature replacements.

Baretti's digital solutions ensure production continuity, transforming your asset into a smart, high-performance system.

SERVICE & REVAMPING: MAXIMIZING ROI

FIELD INSTALLATION / MARINE TERMINAL / ENGINEERED SITE SUPPORT

Baretti transforms maintenance shutdowns into modernization opportunities, optimizing CAPEX and extending the life of your critical assets.

MODERNIZATION & LIFE EXTENSION

Strategic solutions for Baretti and third-party OEM equipment:

- Technology Upgrades: Integration of Light technology, electric motorization, and digital controls.
- Asset Integrity: Structural restoration and analysis to avoid costly capital replacements.
- Compliance: Fast-track updates for OCIMF, ATEX, and PED standards.

FIELD ASSISTANCE & SUPPORT

Minimizing downtime through expert global intervention:

- Turnaround Excellence: Specialized coordination during shutdowns for a safe, rapid restart.
- Global Spare Parts: Strategic stock of critical components (ERCs, QCDCs, seals) ready for immediate shipping.
- Constatn Response: Remote digital diagnostics paired with on-site emergency response teams.

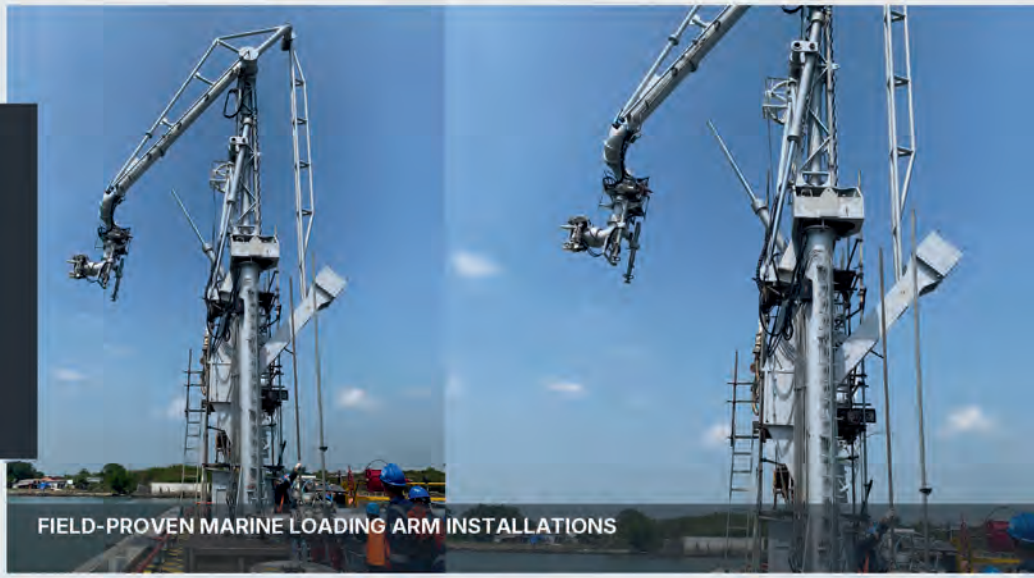
Decades of field expertise to ensure production continuity and protect your margins.

GLOBAL RESPONSE

TRUSTED BY INDUSTRY LEADERS: **MISTRAL LINE - ZEPHIR LINE - LEVANTE LINE - ALISEE LINE**

1,000+

GLOBAL INSTALLATIONS



FIELD-PROVEN MARINE LOADING ARM INSTALLATIONS

With over a century of history and more than 1,000 installations across every continent,
Baretti is the partner of choice for global energy and chemical leaders. Our reputation is built on mechanical robustness and the ability to operate in the world's most extreme environments.

EXCELLENCE IN CRITICAL OPERATIONS

Baretti delivers high-performance solutions for the harshest logistical challenges:

- Cryogenic Products (LNG & Ethylene): Safe management of temperatures down to -120°C with ultra-reliable ERC systems.
- Petrochemicals & Specialty Chemicals: Zero-emission sealing technologies for toxic or aggressive fluids (Acrylonitrile, Methanol, TDI).
- Hydrocarbons (Crude & Refined): Dynamic balancing systems optimized for varying densities and storage temperatures.

Engineering Made in Italy with a Global Vision. We are the ideal partner for projects where operational continuity is the only acceptable standard.

BEYOND LOADING: INTEGRATED TERMINAL SOLUTIONS

Baretti Mefe S.r.l. supports your entire supply chain-from the fraction column to the point of embarkation. Our multidisciplinary expertise ensures technical coherence and reduces operational complexity across your assets.

MASS TRANSFER SOLUTIONS: PROCESS ENGINEERING

- We are a global leader in designing internals for fractionation columns:
- FRI Research Excellence: Member of Fractionation Research, Inc. since 1972, utilizing cutting-edge experimental data for maximum product purity and yield.
- Process Synergy: We calibrate loading arms based on the precise chemical and physical characteristics of the product being transferred.

SITE SERVICES & FIELD EXCELLENCE

- High-tier support directly at your production site to maximize reliability:
- Diagnostics & Optimization: Functional analysis to eliminate bottlenecks and provide data-driven strategies.
- Turnaround Support: Expert technical supervision during assembly and shutdowns to ensure safe, on-schedule restarts.

ONE PARTNER.
ONE ENGINEERED SYSTEM.

THE SINGLE-SOURCE PROVIDER ADVANTAGE

Integrating Mass Transfer and Fluid Management into a high-performance ecosystem:

- Simplified Management: One partner for the entire process chain.
- Margin Protection: Optimized energy efficiency and throughput to protect your bottom line.

A complete, reliable supply chain that simplifies your operations and protects your margins.

From process internals to terminal loading, Baretti integrates technology, execution and lifecycle expertise.

ENGINEERING DNA

Every solution is engineered to fit the process, the site and the operating challenge - with the character of Italian industrial excellence.

TAILOR-MADE

Configuration, materials and interfaces are developed around real operating conditions, never around a one- size-fits-all catalogue.

MADE IN ITALY

Engineering culture, manufacturing care and more than a century of industrial know-how, rooted in Italy since 1890.

SAFETY BY DESIGN

Protection of people, plant and environment is integrated into the architecture of every critical component.

LIFECYCLE PARTNER

Engineering, commissioning, service and revamping form one continuous commitment to long- term performance.

BUILT AROUND YOUR OPERATION / ENGINEERED TO BE UNIQUE

GLOBAL PRESENCE. LOCAL COMMITMENT.

EUROPEAN SUPPORT

GLOBAL NETWORK

INDUSTRIAL HUBS

GLOBAL PRESENCE

- **Baretti Sarl (France):** Dedicated technical and commercial support for European and Francophone markets.
- **Global Network:** A consolidated network of local agents and strategic partners present in all major Oil & Gas industrial hubs.

CERTIFICATIONS & AFFILIATIONS

- Member of FRI (Fractionation Research, Inc.) since 1972.
- ISO 9001 | ISO 14001

Engineering Made in Italy, Global Vision. Since 1890, your trusted partner.

SELECTED SUPPLY EXPERIENCE BY REGION

GLOBAL PRESENCE

The map shows the global influence of Baretti throughout its history.

Baretti has sold its products on every continent, building a portfolio of references that is hard to equal.

ENGINEERING MADE IN ITALY. GLOBAL VISION.

Baretti®
EQUIPMENT FOR OIL AND CHEMICAL INDUSTRIES

BARETTI supports its clients worldwide with engineering solutions of excellence.

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ENGINEERING MADE IN ITALY SINCE 1890