



Baretti® 
EQUIPMENT FOR OIL AND CHEMICAL INDUSTRIES

TECHINICAL BROCHURE

Loading Arms

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Mistral - Heavy-Duty product line

Description & Technical Features

The Mistral model is a heavy-duty marine loading arm engineered for high-capacity fluid transfer in demanding marine environments. Making independent structural loads from fluid loads, the Mistral ensures maximum safety and mechanical integrity during dynamic vessel movements:

- **Separate Support Structure:** Absorbs all external forces and environmental loads, completely protecting the internal product line from mechanical stress while allowing easy integration of auxiliary vapor recovery, drain, or purging lines.
- **Dual-Component Hydraulic Drive:** Utilizes a hydraulic motor for smooth rotational movement and high performance hydraulic cylinders, not tought-rod for precise arm articulation.
- **Extreme Thermal & Process Versatility:** Constructed in Carbon Steel, Duplex, SS304L, SS316L, and other specialized alloys to withstand severe process requirements across a wide temperature spectrum from -198°C up to +230°C.



Technical Data

Diameter range 6" ÷ 24"

Pressure ratings 150# ÷ 900#

Design

It relies on a separate support structure to absorb all the main forces. Allowing the easy implementation of additional vapour recovery, drain, purging or additional product lines.

Drive systems

Operated via hydraulic motor for rotation and high-performance, non through-rod hydraulic cylinders for arm movements.

Product line materials

Available in Carbon Steel, Duplex, SS304L, SS316L, and other specialized alloys, ensuring our capability to meet any specific process requirement.

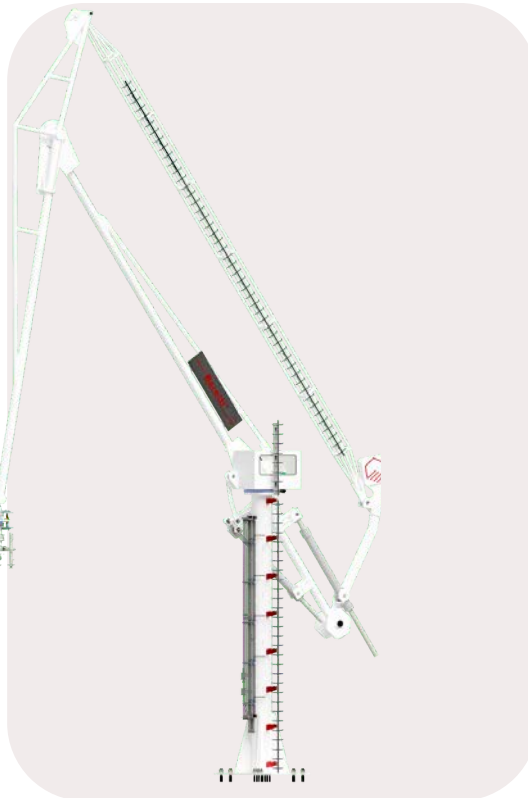
Product temperatures -198°C ÷ +230°C

Zephir - Lightway Arms product line

Description & Technical Features

The Zephir model is a lightweight, high-efficiency marine loading arm engineered to optimize jetty infrastructure costs without compromising on operational versatility. Designed for standard-to-medium diameter applications, the Zephir balances high performance with a heavily reduced physical and structural footprint.

- **Self-Supporting Design:** Built with a lightweight, self-supporting structure that minimizes overturning moments and civil foundation loads on the jetty dock. This eliminates the need for extensive dock reinforcement, significantly reducing overall project CAPEX.
- **Energy-Efficient Articulation:** Features an integrated bell-crank system paired with high-performance, through-rod hydraulic cylinders. This mechanical configuration drastically optimizes the arm's balance and movement, reducing both the Hydraulic Power Unit (HPU) footprint and operational energy consumption.
- **Extreme Thermal & Process Versatility:** Available in Carbon Steel, Duplex, SS304L, SS316L, and other specialized alloys to satisfy any process requirement across an extreme temperature spectrum ranging from cryogenic applications at -198°C up to +230°C.



Technical Data

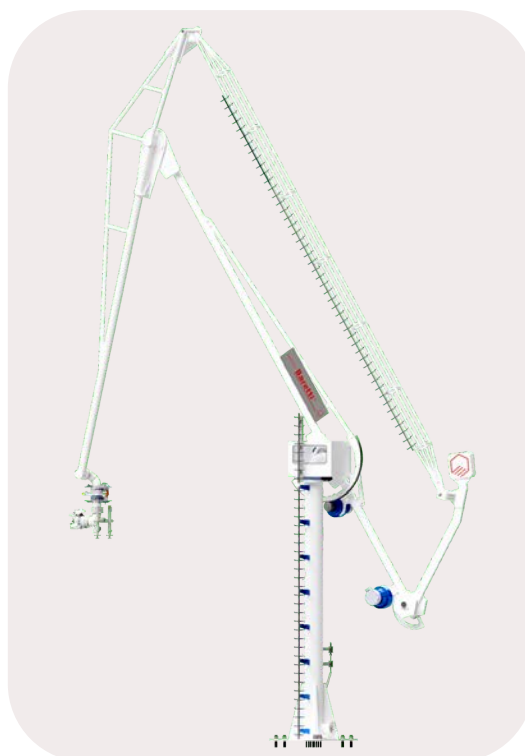
Diameter range	6" ÷ 12"
Pressure ratings	150# ÷ 900#
Design	Built with a self-supporting construction optimized to minimize civil foundation loads on the jetty. It features an integrated bell-crank system paired with through-rod hydraulic cylinders, significantly reducing both the Hydraulic Power Unit (HPU) footprint and energy consumption during operation.
Drive systems	Operated via hydraulic motor for rotation and high-performance, through-rod hydraulic cylinders for arm movements.
Product line materials	Available in Carbon Steel, Duplex, SS304L, SS316L, and other specialized alloys, ensuring our capability to meet any specific process requirement.
Product temperatures	-198°C ÷ +230°C

Alisee - Electrical Operated Arms product line

Description & Technical Features

The Model Alisee represents the new frontier in terminal automation and environmental sustainability. Engineered as a fully electric, lightweight marine loading arm, the Alisee replaces traditional hydraulics with advanced electro-mechanical drives, offering a zero-emission solution that drastically lowers total cost of ownership for modern eco-conscious ports.

- **Self-Supporting Eco-Design:** Built with a self-supporting construction optimized to minimize civil foundation loads on the jetty, reducing initial structural CAPEX. By integrating all-electric actuation, it completely eliminates the risk of hydraulic fluid leaks into the marine environment while minimizing the terminal's overall power grid footprint.
- **Low-Maintenance Electric Drive:** Operated via high-efficiency electro-mechanical drive systems for both rotation and movements. This design effectively reduces routine maintenance activities, eliminates complex hydraulic piping and valve overhauls, and significantly lowers long-term operational costs.
- **Extreme Thermal & Process Versatility:** Available in Carbon Steel, Duplex, SS304L, SS316L, and other specialized alloys to ensure full compliance with any process fluid requirement across an extreme temperature spectrum from -198°C up to +230°C.



Technical Data

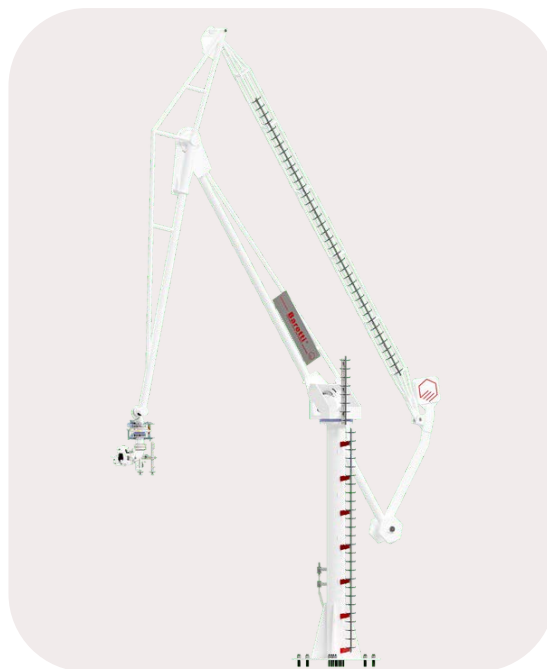
Diameter range	6" ÷ 12"
Pressure ratings	150# ÷ 900#
Design	Built with a self-supporting construction optimized to minimize civil foundation loads on the jetty. It features an integrated electro-mechanical drive systems, completely eliminating hydraulic fluid risks while significantly reducing both the terminal's power grid footprint and energy consumption during operation.
Drive systems	Operated via electro-mechanical drive systems, effectively reducing maintenance activity and costs.
Product line materials	Available in Carbon Steel, Duplex, SS304L, SS316L, and other specialized alloys, ensuring our capability to meet any specific process requirement.
Product temperatures	-198°C ÷ +230°C

Levante - Manual Operated Arms product line

Description & Technical Features

The Model Levante is a manually operated marine loading arm engineered specifically to replace traditional, very huge flexible piping and hose systems at coastal and river terminals. By combining structural agility with a completely autonomous mechanical design, the Levante provides a vastly safer, faster, and more reliable fluid transfer solution for small-to-medium capacity operations.

- **Self-Supporting Utility Design:** Built with a self-supporting construction optimized to minimize civil foundation loads on the jetty, allowing for simple installation on minimal footprints. Because it relies entirely on a perfectly balanced mechanical counterweight system, it completely eliminates the need for a Hydraulic Power Unit (HPU), hydraulic lines, or electrical power supplies.
- **Hose-Replacement Efficiency:** Engineered as a direct, high-safety alternative to flexible hose configurations. This manual system eliminates the lifting, tripping hazards, and sudden bursting risks inherent to heavy hoses, enabling operators to quickly and effortlessly connect the rigid loading arm to the vessel manifold.
- **Extreme Thermal & Process Versatility:** Available in Carbon Steel, Duplex, SS304L, SS316L, and other specialized alloys, ensuring full capability to meet any process requirement across a versatile operating temperature spectrum ranging from -49°C up to +230°C.



Technical Data

Diameter range 4" ÷ 10"

Pressure ratings 150# ÷ 300#

Design

Built with a self-supporting construction optimized to minimize civil foundation loads on the jetty. It features a perfectly balanced mechanical counterweight system that completely eliminates the need for an HPU, hydraulic lines, or electrical power.

Drive systems Manually operated.

Product line materials

Available in Carbon Steel, Duplex, SS304L, SS316L, and other specialized alloys, ensuring our capability to meet any specific process requirement.

Product temperatures -49°C ÷ +230°C

SPARE PARTS AND ACCESSORIES

| Swivel Joints

Our Swivel Joint line consists of high-performance components engineered for reliable fluid transfer in demanding operational environments. Featuring an accessible configuration optimized for rapid, in-situ seal replacement, these joints ensure maximum operational uptime and mechanical longevity under dynamic loads.

- **Dual-Configuration Structural Architecture:** Divided into Standard single-raceway and Heavy Duty double-raceway models, spanning a comprehensive range of diameters from 4" to 24" and pressure ratings from 150# to 900#.
- **Advanced Multi-Barrier Sealing:** Integrates four individual O-rings alongside a specialized proprietary gasket that effectively decouples process media from the raceway, providing absolute bearing shielding and leak-proof performance.
- **Extreme Material & Thermal Versatility:** Constructed in ASTM A350 LF2 Normalized, Duplex (ASTM A182 F51), Solution-annealed AISI 316L, and Solution-annealed AISI 304L to withstand severe process requirements across a wide temperature spectrum from -198°C up to +230°C.

Diameter range 4" ÷ 10"

Pressure ratings 150# ÷ 900#

Design

Designed with an accessible configuration optimized for rapid, in-situ seal replacement. The product line is divided into Standard single-raceway models and Heavy Duty variants featuring a more robust double raceway design.

Sealing technologies

Integrates a robust multi-barrier architecture utilizing four individual O-rings alongside a specialized proprietary gasket. This mechanical arrangement effectively decouples the process media from the raceway, providing absolute bearing shielding and leak-proof performance.

Available materials

Available in ASTM A350 LF2 Normalized, Duplex (ASTM A182 F51), Solution-annealed AISI 316L, and Solution-annealed AISI 304L, ensuring our capability to meet any specific process requirement.

Product temperatures -198°C ÷ +230°C



SPARE PARTS AND ACCESSORIES

Emergency Release System (ERS)

The Emergency Release System (ERS) integrates specialized safety units developed by highly specialized partners for immediate terminal shutdown within rigorous marine settings. Utilizing a fail-safe engineering approach for rapid, autonomous decoupling, these systems provide critical risk management and equipment safeguard during emergency events.

- **Safety Decoupling Framework:** Features high-integrity Double Valves paired with an Emergency Release Collar employing a proprietary dual-section separation design, available in diameters ranging from 2" to 24" and pressure classes from 150# to 400#, plus bespoke configurations.
- **Flexible Isolation Solutions:** Accommodates advanced Ball, Butterfly, and Disc valve architectures developed to meet various operational needs and ensure total flow cessation throughout an active disconnection cycle.
- **Broad Material & Thermal Range:** Fabricated from Carbon Steel, Stainless Steel, and high-performance alloys to manage difficult process conditions across a thermal spectrum from cryogenic -198C up to +230C.

Diameter range	2" ÷ 24"
Pressure ratings	150# ÷ 400# & Customized
Design	Engineered with a fail-safe architecture optimized for instantaneous, automated terminal isolation. This system integrates high-performance Double Valves and an Emergency Release Collar featuring a proprietary dual-half separation mechanism for immediate decoupling.
Sealing technologies	ERS configuration supports various valve technologies, including High-Performance Ball, Butterfly, and Disc types, to satisfy different operational requirements.
Available materials	Available in Carbon Steel, Stainless Steel and Special Alloys, ensuring our capability to meet any specific process requirement.
Product temperatures	-198°C ÷ +230°C



SPARE PARTS AND ACCESSORIES

Quick Connect / Disconnect Coupler (QCDC)

BARETTI Quick Connect / Disconnect Coupler (QCDC) technology comprises advanced joining systems engineered for accelerated manifold linking within demanding offshore environments. By utilizing high-efficiency mechanical designs for instantaneous and dependable attachment, these units deliver significant operational time savings and enhanced security during vessel connection procedures.

- **High-Speed Joining Architecture:** Features specialized mechanical clamping jaws integrated with a heavy-duty alignment frame using a proprietary locking mechanism. Available in a diameter range from 2" up to 24" and pressure ratings from 150# to 400#, with bespoke engineering for unique applications.
- **Multifaceted Actuation Technology:** Supports a variety of manual and high-performance hydraulic drive configurations engineered to satisfy diverse jetty operational requirements and ensure immediate mechanical engagement throughout the connection sequence.
- **Exceptional Process & Thermal Flexibility:** Manufactured using Carbon Steel, Stainless Steel, and specialized alloys to withstand aggressive process media across an extreme thermal range from cryogenic -198C up to +230C.

Diameter range	2" ÷ 24"
Pressure ratings	150# ÷ 400# & Customized
Design	Engineered with a high-efficiency architecture optimized for rapid manifold connection. This technology integrates specialized clamping jaws and a robust alignment framework featuring a proprietary mechanical locking design for rapid vessel coupling.
Sealing technologies	QCDC architecture accommodates diverse drive technologies, ranging from robust manual systems to high-efficiency hydraulic units, engineered to satisfy multifaceted terminal operational needs
Available materials	Available in Carbon Steel, Stainless Steel and Special Alloys, ensuring our capability to meet any specific process requirement.
Product temperatures	-198°C ÷ +230°C

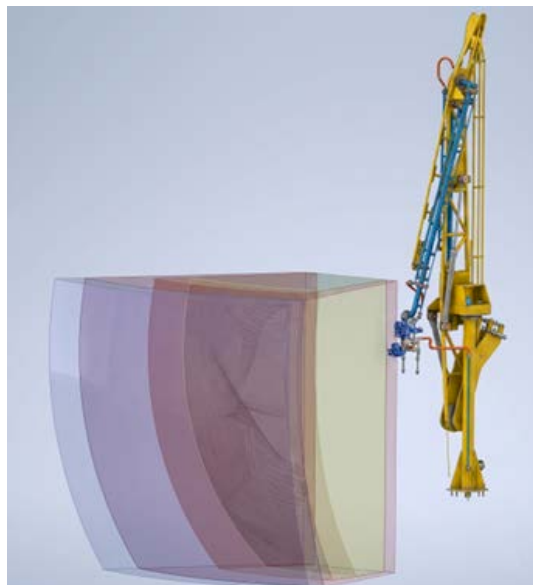


SPARE PARTS AND ACCESSORIES**| Seals & Gaskets**

Our high-performance sealing and gasket technologies consist of advanced containment architectures engineered for total process isolation in rigorous marine environments. By integrating high-specification O-rings, specialized spirothallic gaskets, and proprietary custom seals for robust pressure retention, these components ensure maximum operational longevity and leak-proof integrity across multifaceted fluid transfer applications.

**| PMS & Sensors**

Baretti's Position Monitoring System (PMS) represents the new frontier in spatial tracking and operational safety. Engineered as an advanced digital framework for absolute envelope control, the PMS replaces traditional monitoring with high-accuracy position transmitters and proximity sensors, offering an autonomous interlocking solution that provides a definitive safety barrier against unintended loading arm excursions in modern marine environments.



SPARE PARTS AND ACCESSORIES

Bearings

Our high-performance bearing and articulation architectures consist of advanced mechanical rotation frameworks engineered for maximum structural integrity in demanding fluid transfer environments. By integrating high-capacity spherical units and precision axial bearings for continuous multi-axis load distribution, these components ensure superior dynamic stability and enhanced operational longevity for marine loading arm configurations.



Heating and Insulation systems

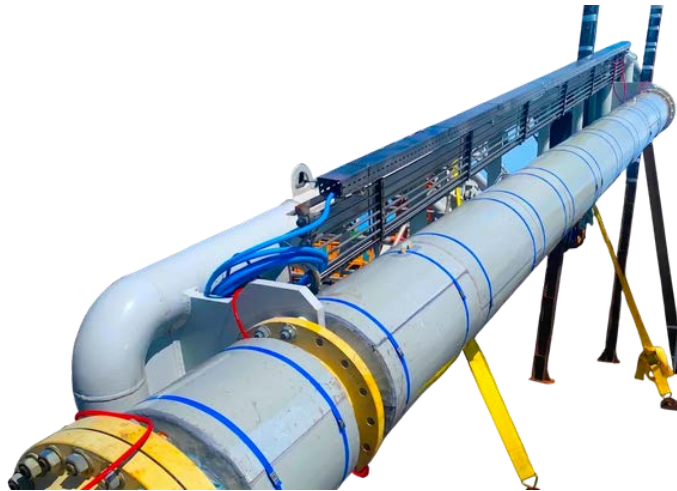
Our high-performance heating and insulation architectures consist of advanced thermal management frameworks engineered for maximum temperature integrity in demanding fluid transfer environments. By integrating self-regulating electric heat tracing, rigid cellular glass barriers, and protective UV-curable cladding for continuous moisture-proof heat retention, these components ensure superior process stability and enhanced operational longevity for marine loading arm configurations.



SPARE PARTS AND ACCESSORIES

Stairs and Platforms systems

Our access and platform architectures consist of advanced structural safety frameworks engineered for maximum operator accessibility in demanding fluid transfer environments. By integrating rigid rail-guided safety ladders, bespoke ergonomic maintenance platforms, and slip-resistant structural gratings for continuous all-weather fall protection, these components ensure superior operational security and enhanced mechanical longevity for marine loading arm configurations.





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