

GEOHERMAL EXPANDING & SLAB GATE VALVES

PROVIDES SAFE AND RELIABLE FLOW CONTROL
FOR GEOHERMAL APPLICATIONS

M&J VALVE®



At Celeros Flow Technology (Celeros FT), we are committed to delivering safe, reliable flow control solutions for every type of geothermal well – from the casing head all the way to the power plant. Our valves are purpose-built for geothermal applications that include liquid or vapor-dominated systems, hot rock formations, or geopressured reservoirs. Every component is engineered to meet the highest industry standards (API 6D) and tailored to your specific project requirements.

With our M&J Valve (M&J) brand, we offer slab and expanding gate valves, each precision-engineered to withstand extreme temperatures, abrasive flow, and high-pressure conditions — ensuring uninterrupted performance and reduced maintenance.

Celeros FT: Proven. Reliable. Ready for any geothermal flow control challenge.

EXPANDING GATE VALVE

Few valves are better suited to critical geothermal flow than the M&J Expanding Gate valve. With its proven parallel expanding gate and segment design, it delivers bi-directional closure that resists turbulence and vibration. The higher the stem torque, the tighter the seal, ensuring reliable shutoff even under demanding conditions. In the open position, the valve provides full bore, unrestricted flow, while the protected seat faces remain shielded from abrasives and erosion.

API 6D Expanding Gate Valves – commonly selected for wellhead master, wing, flowline, and casing side applications — are available in rising stem designs from 2” to 24”.



BENEFITS

LOW MAINTENANCE REQUIREMENTS

- Robust construction with cast or fabricated bodies
- Protected seat faces reduce wear from abrasives and erosion
- Simplified valve operation minimizes risk of damage

HIGH PERFORMANCE & RELIABILITY

- Bi-directional sealing ensures tight shut-off under varying flow conditions
- Expanding gate and segment design delivers a mechanical seal unaffected by turbulence or vibration
- Through Conduit valves allow unrestricted flow, improving system efficiency
- API 6D compliance guarantees industry-standard performance

ECONOMIC EFFICIENCY

- Extended service life reduces replacement frequency and downtime
- Pressure-energized seals optimize performance at low pressures
- Modular designs allow for easier upgrades and replacements
- Leak-tight rupture disc systems prevent costly thermal expansion failures

VERSATILITY & CUSTOMIZATION

- Available in a wide range of sizes (2” to 36”) and pressure ratings (150 to 1500 psi)
- Multiple valve models (Expanding Gate & Slab Gate) tailored to specific geothermal applications
- Global support network ensures fast service and technical assistance



RUPTURE DISC

In geothermal systems, managing thermal expansion safely is critical. M&J's rupture discs provide leak-tight protection by relieving excess pressure within the valve body, helping to prevent damage and ensure system integrity.

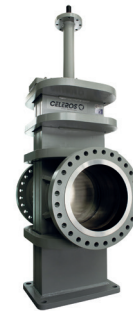
Our dual-disc assembly features an integrated shuttle valve that allows pressure to be redirected from one disc to the other, making replacement quick, safe, and efficient – a smart, reliable solution designed to keep geothermal operations running smoothly.



Rupture Disc



C303



M303

SLAB GATE VALVES

The M&J M303 and C303 Slab Gate valves are engineered to deliver full bore flow, featuring a rising stem and a floating gate/seat configuration for reliable performance in demanding environments.

These thru-conduit valves incorporate two steel floating seats that press against a flat gate, forming a pressure-energized seal effective in both upstream and downstream directions. The C303 and M303 models rely on wave springs, offering tailored sealing solutions based on system requirements.

Like our expanding gate valves, both seat seal faces are positioned outside the flow path, helping to protect them from abrasion and erosion. The C303 model is built with a cast steel body, while the M303 is fully fabricated from steel for added strength and durability. Both are available in a wide range of sizes, pressure ratings, and with geothermal-specific trims to suit your operational needs.

Product	Characteristics
Expanding Gate Valves	<ul style="list-style-type: none"> • Full bore, rising stem design • Parallel expanding gate and segment for tight mechanical seal • Bi-directional shut-off unaffected by turbulence and vibration
Slab Gate Valves (C303 & M303)	<ul style="list-style-type: none"> • Through Conduit, rising stem design • Floating gate/seat combination for pressure-energized seal • C303 cast body with O-ring seat energization • M303 fabricated body with spring-loaded seats
Rupture Discs	<ul style="list-style-type: none"> • Leak-tight protection against thermal expansion • Integral diverter valve for disc replacement

All valve models are available in a range of sizes, pressure ratings, and with geothermal-specific trims.

VALVE TRIMS FOR GEOTHERMAL SERVICE

VALVE MODEL	NPS	PRESSURE CLASS	TRIM CODE	BODY	BONNET	GATE	SEATS	STEM	STEM PACKING
Expanding Gate	2 to 4	300 to 900	G01	ASTM A216 WCC		ASTM A216 WCC/ENP	AISI 1018 Hardface	17-4 PH RC33	Filled TFE
			G02						
Expanding Gate	6 to 24		G01	ASTM A216 WCC	ASTM A516 Gr. 70				
			G02						
C303 Slab Gate	6 to 12		G01						
			G02						
M303 Slab Gate	6 to 36 or larger		G01	ASTM A516 Gr. 70					
			G02						

TOTAL LIFECYCLE SUPPORT FROM CELEROS FT

Specifying and installing equipment is just the beginning. Celeros Flow Technology goes beyond that, focusing on providing customers with the ongoing support they need to maximize performance and value.

As a trusted lifecycle partner, we help ensure your flow control equipment continues to deliver optimum performance throughout its operational life. Our services cover everything from managing installed assets to supplying parts and engineered replacements, all backed by expert technical advice.

Our total lifecycle services include:

- Commissioning, installation and product training
- Industry-leading field service
- Service and maintenance agreements
- Engineered valve solutions, refurbishment and upgrades
- Repair, maintenance and overhaul

Our extensive global network of service centers offer timely, effective support – wherever your operations are located.





GEOTHERMAL EXPANDING & SLAB GATE VALVES

- | SPEED
- | EXCELLENCE
- | PARTNERSHIP



ABOUT M&J VALVE

Through its M&J brand, Celeros Flow Technology is a key technology partner to companies across the globe that are involved in the storage, transportation, production or processing of gases and liquids. Founded in 1962, the M&J brand has an established history of product innovation and provides a wide variety of flow control solutions to the liquid, geothermal and gas markets.

The extensive M&J range includes control valves, gate valves, check valves, diverter valves and surge valves, plus flow loops for valve testing purposes. M&J valves make use of an array of different shut-off mechanisms (slab, piston, swing, rotary and axial) to satisfy a wide range of application characteristics. They are suitable for incorporation into overland and subsea pipelines, storage facilities, offshore platforms and pumping stations.

Thanks to high grade engineering and quality of manufacture, M&J valves can deal with a broad range of different pressure conditions and a large number of cycles, as well as offering ease of use, ongoing reliable operation and prolonged seal life. Comprehensive aftermarket services, accessible through the global network of Celeros FT service centers, help customers to maintain lifecycle performance and optimize return on investment.

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Celeros Flow Technology reserves the right to incorporate our latest design and material changes without notice or obligations. Design features, materials of construction and dimensional data, as described in this bulletin, are provided for your information only and should not be relied upon unless confirmed in writing. Please contact your local sales representative for product availability in your region. For more information visit www.celerosft.com.

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