

Hercules™

High-Deposition Automated Welding System

Quick Specs

Applications

High-deposition automated welding
Long welds
Flat or horizontal welding position

Process

Hercules high-deposition
single-wire MIG (GMAW)

Wire Diameter and Type

.052 and 1/16 in. steel

Input Power

Auto-Continuum™ 500
Auto-Line™ 230–575 V,
3-phase, 50/60 Hz

XMT® 450

230/460 V,
3-phase, 60 Hz

Rated Output at 104°F (40°C)

Auto-Continuum™ 500
500 A at 39 V, 100% duty cycle

Power Source Output Range

Auto-Continuum™ 500
20–600 A, 10–44 V

Duty Cycle Rating

Tregaskiss® Hercules Water-Cooled Torch
100%: 600 A with mixed gases
Ratings are based on tests that comply with IEC 60974-7 standards

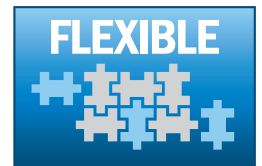
Robots

ABB®, Yaskawa® Motoman®, FANUC®,
Kawasaki®, KUKA®, and Panasonic®

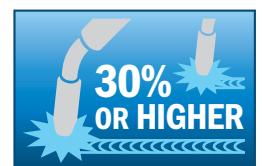
You need to weld faster to unlock pent up capacity elsewhere in your operations. You want to avoid major capital investment, requiring more floor space, and shutting down production to rearrange and install new technology. Hercules customers have enjoyed **up to 30 percent and often higher deposition rates**, without requiring more square footage on their factory floor and re-using much of their existing capital.



Easy to set up and install
for EtherNet/IP™, DeviceNet
or Analog protocols



Easy to add capabilities—
integrates with your
existing operations



Get farther faster with
higher deposition rate



Power sources are warranted for three years, parts and labor.



Miller Welding Automation

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Hercules™ System

Hercules high-deposition welding is made possible by a combination of Hobart®, Tregaskiss® and Miller®.

Hobart FabCOR® Hercules cored filler metal wire was developed to achieve the high-deposition rates possible. This unique Hobart filler metal was specially formulated to maintain arc stability at these high-deposition rates whereas other wire formulations lose arc stability and seize up over time.

Tregaskiss Hercules water-cooled torch technology provides a secondary contact for the Hercules process, enabling power input from both Miller® Auto-Continuum™ and XMT® power sources.

Hercules drive is a unique wire drive providing the speed and precision required for high-deposition welding that enables the Hercules process.

Hercules process controls the power input from the Auto-Continuum and the secondary XMT power source.

Coordination of all the components along with the unique formulation of the filler metal wire is what makes the Hercules process work.

Hercules customers have enjoyed up to 30 percent and often higher deposition rate improvement over welding processes they previously considered best in class, raising the bar for state-of-the-art, high-deposition-rate welding productivity.



Hobart FabCOR Hercules cored filler metal

- Unique formulation for Hercules
- Available in drums



Tregaskiss Hercules water-cooled torch

- Water-cooled
- Tregaskiss consumables
- High duty cycle enables Hercules process
- Automatic water shut-off valves prevent leakage



Hercules Drive

- Controlled by Auto-Continuum
- Provides the speed and precision for Hercules wire



Auto-Continuum power source

- Stacks atop Continuum Cooler
- Welding processes include Accu-Pulse® and Versa-Pulse™ with profile-pulse modification
- Coordinates with XMT to enable Hercules process



Continuum Cooler

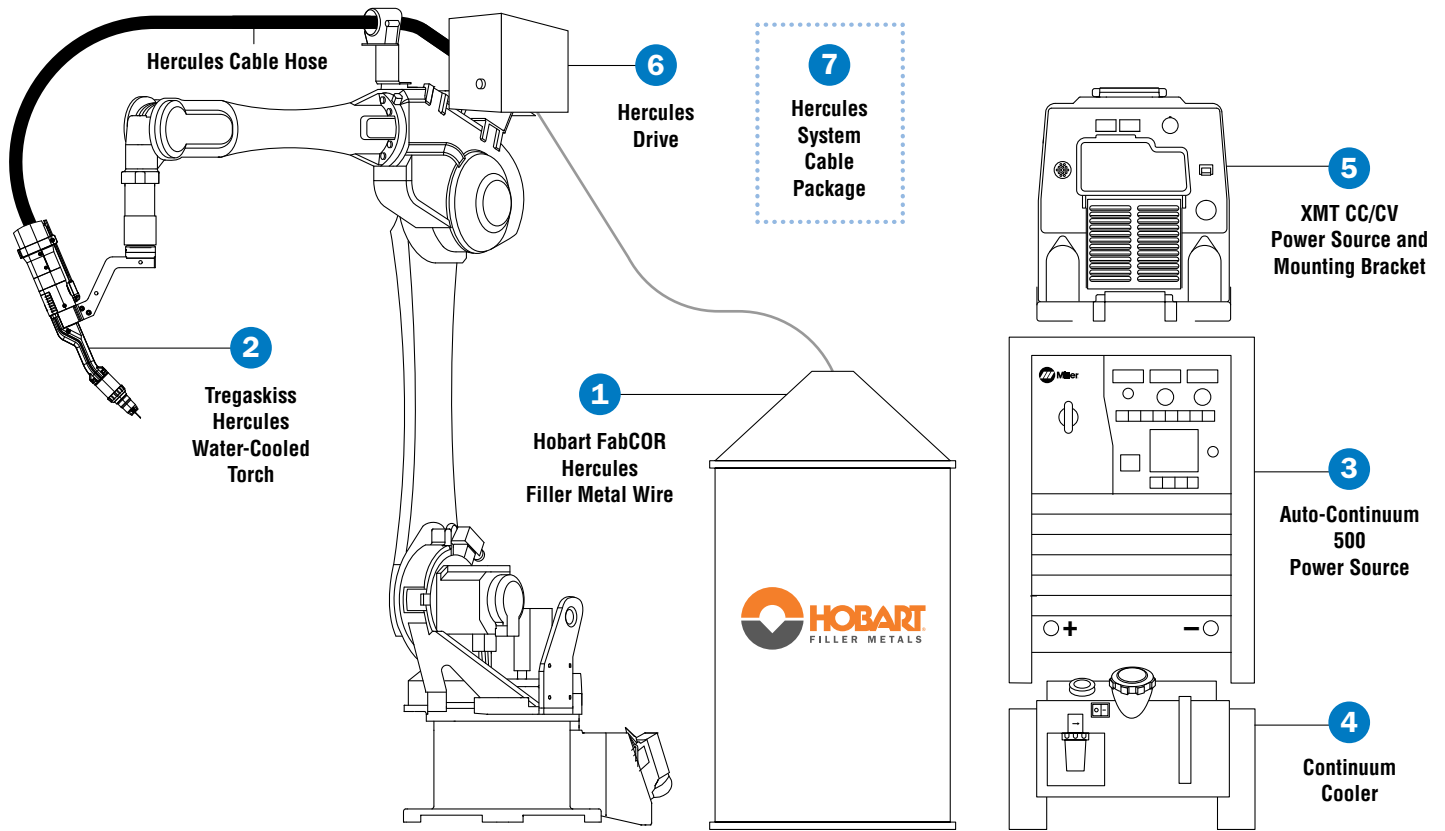
- Space-saving design operates on integrated power — turns on and off with the system
- Flow and temperature direction protection — protection from overheating
- Run-on-Demand — pump shuts off after delay when welding stops
- Options to use Coolmate™ or other coolers



XMT CC/CV power source

- Controlled by Auto-Continuum
- Provides secondary power input to enable Hercules process

Hercules™ System Components



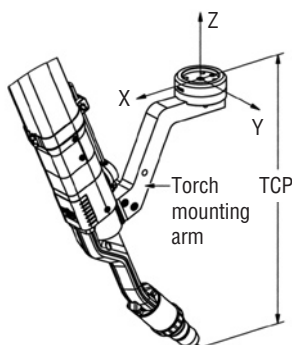
- 1 Hobart® FabCOR® Hercules Filler Metal Wire**
See Hobart FabCOR Hercules Product Data Sheet for sizes and types of wire. FabCOR Hercules is a unique and proprietary formulation developed to achieve the Hercules deposition-rate improvements.
- 2 Tregaskiss® Hercules Water-Cooled Torch**
Available in solid mount and clutch over-the-arm configurations. See Tregaskiss Hercules spec sheet HRC/1.9 for additional details.
- 3 Auto-Continuum™ 500 Power Source**
Rated at 500 amps at 100-percent duty cycle.
- 4 Continuum™ Cooler**
- 5 XMT® CC/CV Power Source**
Provides secondary power source required for Hercules process. Requires mounting bracket.

- 6 Hercules Drive**
Mounting hardware available depending on robot model and brand. Work with Miller Welding Automation to assist with your robot cable dress needs.
- 7 Hercules System Cable Package**
See schematics in Hercules Drive operating manual OM282962B for Hercules System cable package.
Hercules robot cell configuration is determined by your cable package requirements, including lengths, connectors, fittings and communication protocols. Work with Miller Welding Automation to assist with your needs.

Additional Hercules Reference Materials

Hobart FabCOR Hercules Product Data Sheet
Tregaskiss Hercules Spec Sheet – HRC/1.9

Hercules™ Torch Configurations and Center of Mass



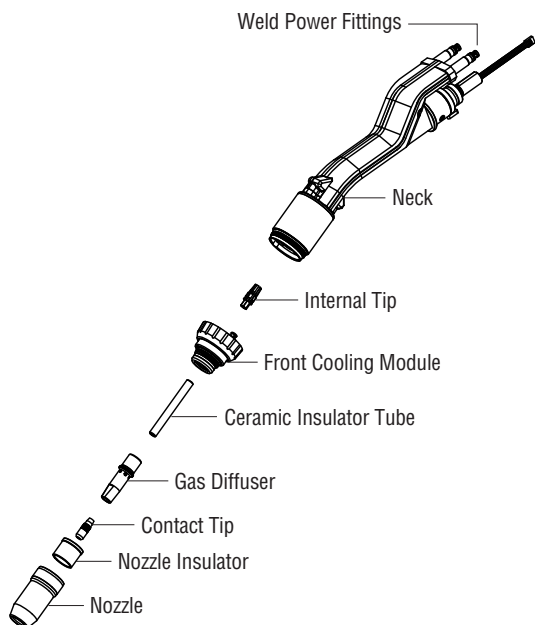
Hercules torch comes in two over the arm configurations. One with a clutch and the other a solid mount.

Neck	Tool Center Point (mm)	Torch Mounting Arm	X (mm)	Y (mm)	Z (mm)	Weight (kg)
GHA-22L1	400	CAHC2203 (clutch mount)	161.48	-.83	-43.51	5.55
		CAHS2203 (solid mount)	182.85	-.90	-73.27	4.48

Filler Metal, Spare Parts and Wear Items

Refer to the following literature for more detailed schematics showing spare parts and wear items:

Hobart® FabCOR® Hercules™ Product Data Sheet
 Tregaskiss® Hercules™ Spec Sheet – HRC/1.9
 Hercules™ Drive Operating Manual – OM282962B
 Miller® Auto-Continuum™ Spec Sheet – AU/10.0



Hobart Filler Metals		
Item	Stock Number	Description
FabCOR Hercules Wire	S279715-058	0.052 in., 1,000 lb. RX-Pk
Tregaskiss Hercules Gun Components (see gun spec sheet for availability in other quantities)		
Nozzle	N-H58T3-10	5/8 in. (15.9 mm) bore, flush, tapered (long), qty. 10
Contact Tip	T-H052WA-10 T-H052CA-10 T-H116WA-10 T-H116CA-10	0.052 in., HDP, qty. 10 0.052 in., Cu, qty. 10 1/16 in., HDP, qty. 10 1/16 in., Cu, qty. 10
Internal Tip	T-H052WB-10 T-H116WB-10	0.052 in., HDP, qty. 10 1/16 in., HDP, qty. 10
Gas Diffuser	D-HTL2-5	Long, qty. 5
Nozzle Insulator	P-HA16-10	Qty. 10
Ceramic Insulator Tube	P-HA22-10	1/16 in. (1.6 mm), long, qty. 10
Conventional Liner	415-116-6	0.052–1/16 in. (1.3–1.6 mm), 6 ft. (1.8 m), qty. 1
	415-116-10	0.052–1/16 in. (1.3–1.6 mm), 10 ft. (3 m), qty. 1
	415-116-15	0.052–1/16 in. (1.3–1.6 mm), 15 ft. (5 m), qty. 1
Jump Liner	P-HA17	0.052–1/16 in. (1.3–1.6 mm), qty. 1
Torch Neck	GHA-22L1	22 degree, medium length, qty. 1
Front Cooling Module	P-HA02	For Hercules
Torch Checking Fixture	G-405CAH	Hercules 22L1, requires pointer below, qty. 1
Pointer	G-GHA-7	Required with G-405CAH above, qty. 1
Tregaskiss TOUGH GUN® Reamer Components		
Cutter Blade	RCT-01	For 5/8 in. (15.9 mm) bore, qty. 1
4-Sided V-Block	TR-2150	Qty. 1
Wire Cutter	WC-400	For TOUGH GUN TT4 reamer, qty. 1
Hercules Drive		
Drive Roll Kit	151054	.052 V-Knurled, 4 rolls
	151028	.052 V-Groove, 4 rolls
Volt Sense Cable	284375	For Hercules Drive (torch to drive), qty. 1
Extension Cable	282902020	For Hercules Drive (drive to XMT), 20 ft. (6 m). Note: Requires 242208xxx 14-pin extension for lengths longer than 20 feet, qty. 1

Contact Us

Miller Welding Automation is your single point of contact for configuring and ordering your Hercules system.

Continued technical support can be counted on from Miller Welding Automation in Carol Stream, Illinois. Please call our hotline number: (630) 653-6819.

Spare parts, wear items and torch consumables are provided in your initial purchase of Hercules. Use the tables provided to order these items from Miller Welding Automation or your local distributor.

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