

Tregaskiss[®] Hercules[™]

Robotic MIG Gun

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MIG (GMAW)
Robotic Welding

Quick Specs

Duty Cycle Rating

100%: 600 amp with Mixed Gases
Ratings are based on tests that comply with IEC 60974-7 standards

Processes

MIG (GMAW) Welding

Applications

High Deposition Robotic Welding
Long Welds
Flat or Horizontal Welding Position

Robots

ABB®, Motoman®,
FANUC®, KUKA®,
Panasonic®,

The Tregaskiss[®] Hercules[™] Robotic MIG Gun is a key component of the Hercules system, an **innovative single-arc solution that increases deposition rates by 30% or more without sacrificing weld quality or aesthetics.**

Like other Tregaskiss products, the **Hercules Robotic Gun is designed to maximize performance, longevity, accuracy, and ease of maintenance.**

Maximized Performance

- The system provides maximized electrical conductivity and optimized filler metal delivery to the weld puddle
- Lightweight, durable cable jacket protects the uncable, power cable and coolant lines from wear

Long Life

- Water-cooled module delivers superior cooling to the front-end consumables

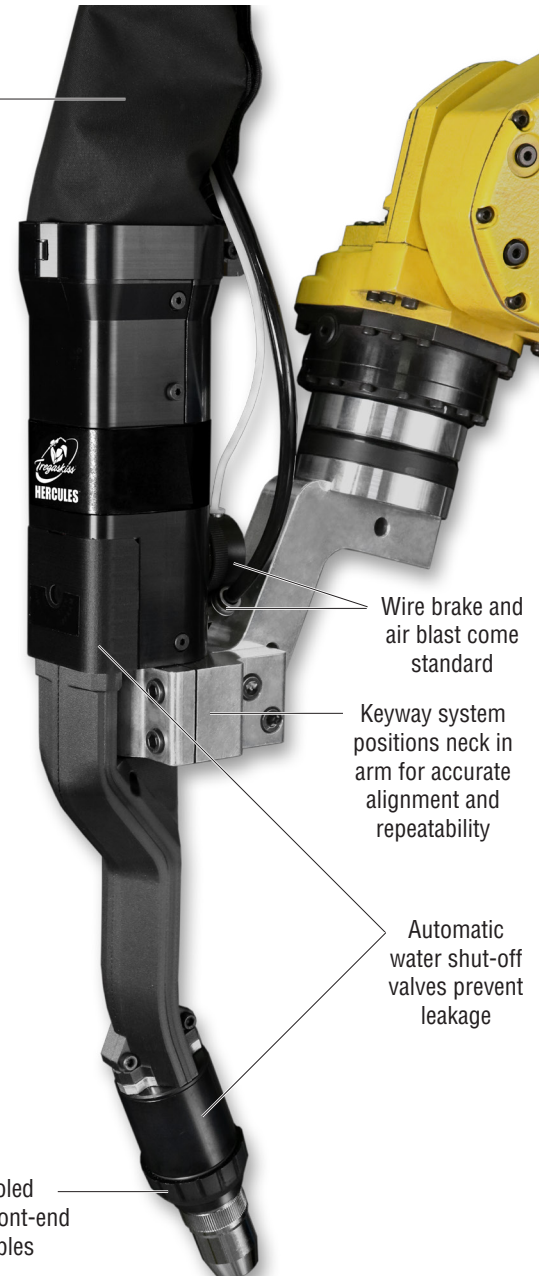
Accuracy

- Keyway system accurately aligns the neck to the mounting arm for repeatability
- Neck checking fixture available to assess and maintain Tool Center Point (TCP)

Ease of Maintenance

- Compatible with Tregaskiss reamers for automated spatter removal from front-end consumables
- Automatic shut-off valves prevent water leakage during neck and cooling module replacement
- Replacement parts are quickly and easily serviced

Durable, lightweight cable cover



Wire brake and air blast come standard

Keyway system positions neck in arm for accurate alignment and repeatability

Automatic water shut-off valves prevent leakage

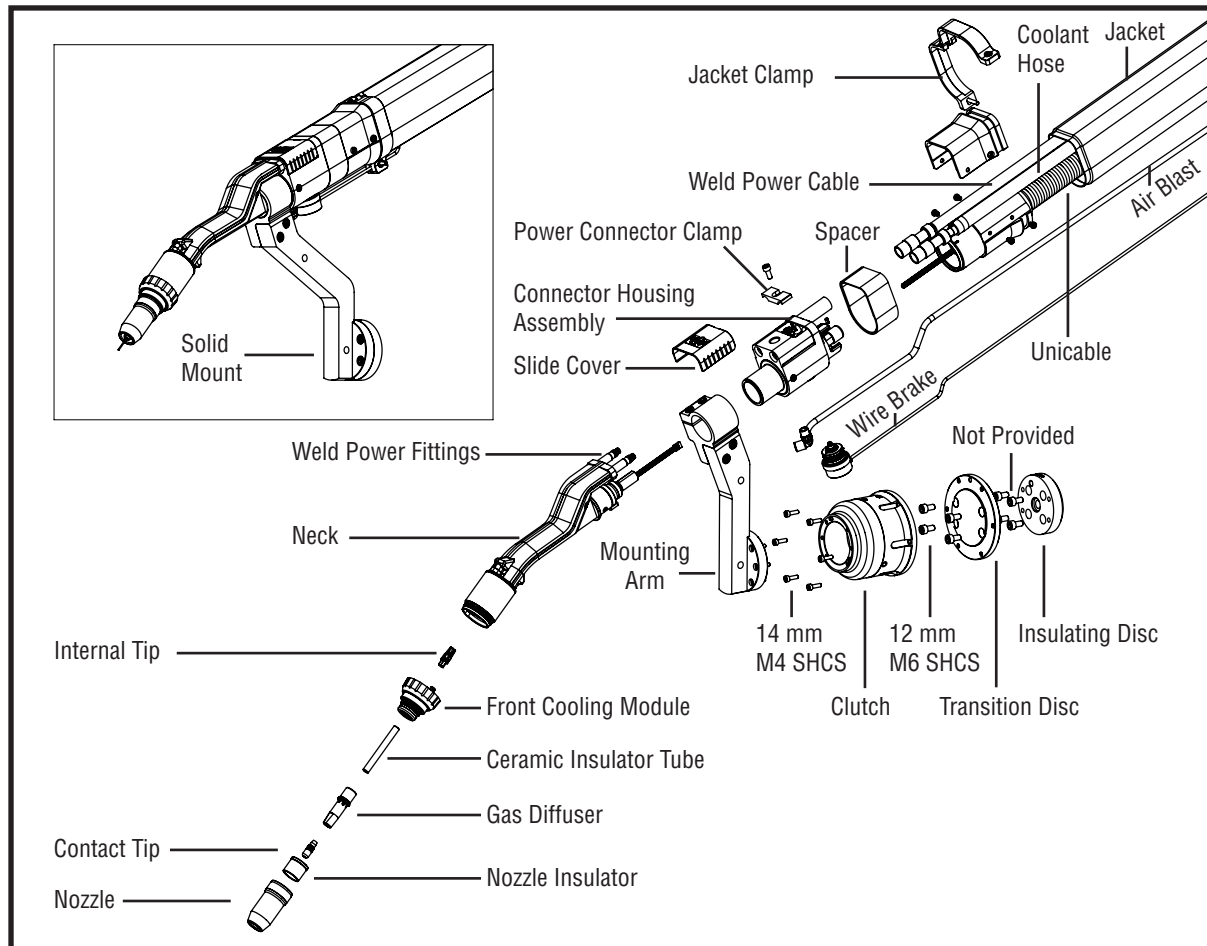
Water-cooled module for front-end consumables



Tregaskiss
2570 North Talbot Road
Windsor, Ontario N0R 1L0
Canada

Phone: 1-855-MIGWELD (644-9353) (US & Canada)
+1-519-737-3000 (International)
Fax: 519-737-1530
For more information, visit us at Tregaskiss.com

System Components



Know Your Features

What's the difference between clutch and solid mount?

A clutch mount is designed to trigger an emergency stop to minimize damage in the event of a robotic collision, whereas a solid mount is not equipped with this functionality. Although many of today's robots are equipped with independent collision detection software and may not require this functionality in a robotic MIG gun, this option is sometimes selected during gun configuration as an additional safeguard.

Wire Brake

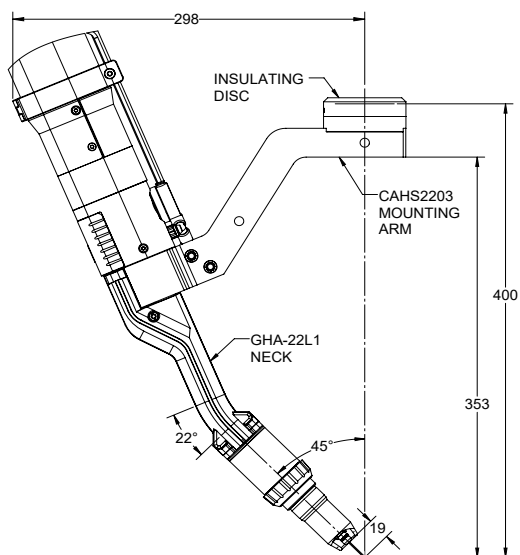
Standard on the Tregaskiss Hercules robotic MIG gun, wire brake holds wire to a consistent stick out (CTWD) to allow a repeatable tool center point (TCP) for touch sensing / seam tracking while the torch articulates. **40-60 psi maximum air supply is required** for proper operation. Wire brake requires the use of a jump liner.

Air Blast

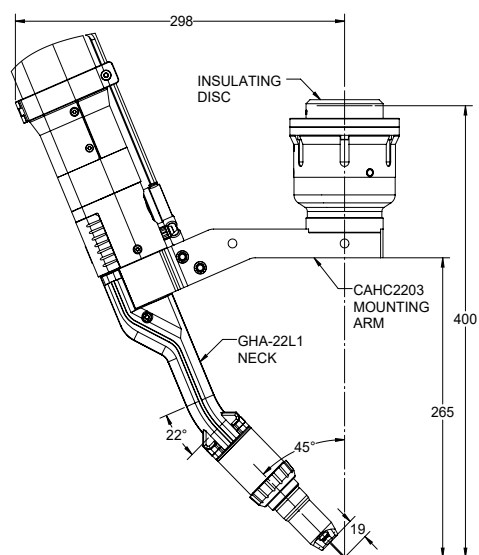
Air blast comes standard on Tregaskiss Hercules robotic MIG guns and utilizes compressed shop air to clear loose debris from front-end consumables, thereby reducing the frequency of nozzle cleaning. **80-100 psi maximum air supply is required** for proper operation.

Gun Configurations

22° Standard Configurations



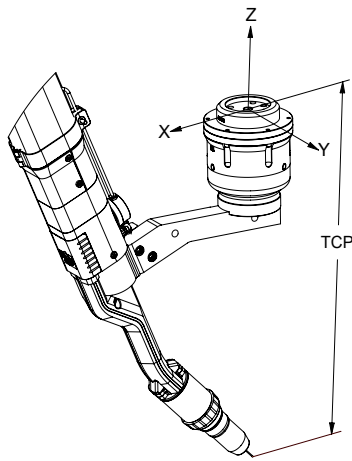
Solid Mount
400 mm (15.75") TCP,
Neck GHA-22L1



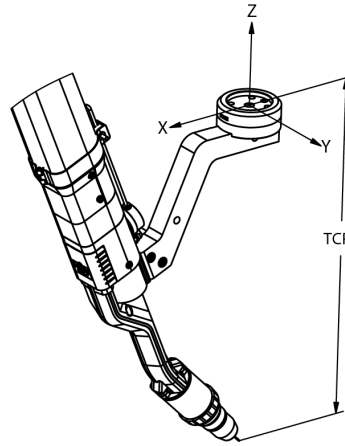
Clutch Mount
400 mm (15.75") TCP*,
Neck GHA-22L1

** Mounting to a through-arm robot (using a 59DT-xxx transition disc) will impact TCP*

Center of Mass Information



Clutch Mount



Solid Mount

Standard Configurations - Clutch Mount

22 Degree	X	Y	Z	Weight
400 mm TCP (Neck Part # GHA-22L1)	161.48 mm	-83 mm	-43.51 mm	5.55 kg

Standard Configurations - Solid Mount

22 Degree	X	Y	Z	Weight
400 mm TCP (Neck Part # GHA-22L1)	182.85 mm	-.90 mm	-73.27 mm	4.48 kg

Consumable Options

Hercules™ Nozzles

Part Number	Description
N-H58T1-10	5/8" bore, flush tip, tapered; qty. 10 (for use with CAHC2201 and CAHS2201 mounting arms)
N-H58T3-10*	5/8" bore, flush tip, tapered (long), qty. 10 (for use with CAHC2203 and CAHS2203 mounting arms)

*For MIG guns manufactured after May 2024

Hercules Contact Tips

Part Number	Description
T-H052CA-10	for 0.052" (1.3 mm) wire, copper; qty. 10
T-H116CA-10	for 1/16" (1.6 mm) wire, copper; qty. 10

Hercules Teach Tips

Part Number	Description
T-H19TT	Teach tip for 0.748" (19 mm) CTWD, qty. 1

Consumable Options (Continued)

Hercules Internal Tips

<i>Part Number</i>	<i>Description</i>
T-H052WB-10	Internal tip for 0.052" (1.3 mm) wire; qty. 10
T-H116WB-10	Internal tip for 1/16" (1.6 mm) wire; qty. 10

Hercules Gas Diffusers

<i>Part Number</i>	<i>Description</i>
D-HTL-05	Gas diffuser; qty. 5 (for use with CAHC2201 and CAHS2201 mounting arms)
D-HTL2-5*	Gas diffuser (long); qty. 5 (for use with CAHC2203 and CAHS2203 mounting arms)

Hercules Nozzle Insulators

<i>Part Number</i>	<i>Description</i>
P-HA16-10	Nozzle insulator, Hercules; qty. 10

Hercules Ceramic Insulator Tubes

<i>Part Number</i>	<i>Description</i>
P-HA18-10	Ceramic insulator tube, Hercules; qty. 10 (for use with CAHC2201 and CAHS2201 mounting arms)
P-HA22-10*	Ceramic insulator tube (long), Hercules; qty. 10 (for use with CAHC2203 and CAHS2203 mounting arms)

* For MIG guns manufactured after May 2024

Tregaskiss® Conventional Liners

<i>Part Number</i>	<i>Description</i>
415-116-6	for 0.052" (1.3 mm) - 1/16" (1.6 mm) wire; 6' (1.8 m)
415-116-10	for 0.052" (1.3 mm) - 1/16" (1.6 mm) wire; 10' (3.05 m)
415-116-15	for 0.052" (1.3 mm) - 1/16" (1.6 mm) wire; 15' (5.0 m)

Hercules Jump Liners

<i>Part Number</i>	<i>Description</i>
P-HA17	for 0.052" (1.3 mm) - 1/16" (1.6 mm) wire

Components

Necks

<i>Part Number</i>	<i>Description</i>
GHA-22L1	Neck, 22 degree, medium length

Cable Assemblies

<i>Part Number</i>	<i>Description</i>	<i>Part Number</i>	<i>Description</i>
C030-HA01	Cable assembly, wire brake, 3.0 ft	C070-HA01	Cable assembly, wire brake, 7.0 ft
C035-HA01	Cable assembly, wire brake, 3.5 ft	C075-HA01	Cable assembly, wire brake, 7.5 ft
C040-HA01	Cable assembly, wire brake, 4.0 ft	C080-HA01	Cable assembly, wire brake, 8.0 ft
C045-HA01	Cable assembly, wire brake, 4.5 ft	C085-HA01	Cable assembly, wire brake, 8.5 ft
C050-HA01	Cable assembly, wire brake, 5.0 ft	C090-HA01	Cable assembly, wire brake, 9.0 ft
C055-HA01	Cable assembly, wire brake, 5.5 ft	C095-HA01	Cable assembly, wire brake, 9.5 ft
C060-HA01	Cable assembly, wire brake, 6.0 ft	C100-HA01	Cable assembly, wire brake, 10.0 ft
C065-HA01	Cable assembly, wire brake, 6.5 ft	C110-HA01	Cable assembly, wire brake, 11.0 ft

Components (Continued)

Coolant Return Hoses (NOTE: Hose length should be 1.5' longer than the cable assembly)

Part Number	Description	Part Number	Description
P-HA09-045	Hose, 4.5 ft; for 3.0 ft cable assembly	P-HA09-085	Hose, 8.5 ft; for 7.0 ft cable assembly
P-HA09-050	Hose, 5.0 ft; for 3.5 ft cable assembly	P-HA09-090	Hose, 9.0 ft; for 7.5 ft cable assembly
P-HA09-055	Hose, 5.5 ft; for 4.0 ft cable assembly	P-HA09-095	Hose, 9.5 ft; for 8.0 ft cable assembly
P-HA09-060	Hose, 6.0 ft; for 4.5 ft cable assembly	P-HA09-100	Hose, 10.0 ft; for 8.5 ft cable assembly
P-HA09-065	Hose, 6.5 ft; for 5.0 ft cable assembly	P-HA09-105	Hose, 10.5 ft; for 9.0 ft cable assembly
P-HA09-070	Hose, 7.0 ft; for 5.5 ft cable assembly	P-HA09-110	Hose, 11.0 ft; for 9.5 ft cable assembly
P-HA09-075	Hose, 7.5 ft; for 6.0 ft cable assembly	P-HA09-115	Hose, 11.5 ft; for 10.0 ft cable assembly
P-HA09-080	Hose, 8.0 ft; for 6.5 ft cable assembly	P-HA09-125	Hose, 12.5 ft; for 11.0 ft cable assembly

Weld Power Cables (NOTE: Power cable length should be 1.5' longer than the cable assembly)

Part Number	Description	Part Number	Description
P-HA10-045	Power cable, 4.5 ft; for 3.0 ft cable assembly	P-HA10-085	Power cable, 8.5 ft; for 7.0 ft cable assembly
P-HA10-050	Power cable, 5.0 ft; for 3.5 ft cable assembly	P-HA10-090	Power cable, 9.0 ft; for 7.5 ft cable assembly
P-HA10-055	Power cable, 5.5 ft; for 4.0 ft cable assembly	P-HA10-095	Power cable, 9.5 ft; for 8.0 ft cable assembly
P-HA10-060	Power cable, 6.0 ft; for 4.5 ft cable assembly	P-HA10-100	Power cable, 10.0 ft; for 8.5 ft cable assembly
P-HA10-065	Power cable, 6.5 ft; for 5.0 ft cable assembly	P-HA10-105	Power cable, 10.5 ft; for 9.0 ft cable assembly
P-HA10-070	Power cable, 7.0 ft; for 5.5 ft cable assembly	P-HA10-110	Power cable, 11.0 ft; for 9.5 ft cable assembly
P-HA10-075	Power cable, 7.5 ft; for 6.0 ft cable assembly	P-HA10-115	Power cable, 11.5 ft; for 10.0 ft cable assembly
P-HA10-080	Power cable, 8.0 ft; for 6.5 ft cable assembly	P-HA10-125	Power cable, 12.5 ft; for 11.0 ft cable assembly

Jackets

Part Number	Description	Part Number	Description
P-HA13-030	Jacket; for 3.0 ft cable assembly	P-HA13-070	Jacket; for 7.0 ft cable assembly
P-HA13-035	Jacket; for 3.5 ft cable assembly	P-HA13-075	Jacket; for 7.5 ft cable assembly
P-HA13-040	Jacket; for 4.0 ft cable assembly	P-HA13-080	Jacket; for 8.0 ft cable assembly
P-HA13-045	Jacket; for 4.5 ft cable assembly	P-HA13-085	Jacket; for 8.5 ft cable assembly
P-HA13-050	Jacket; for 5.0 ft cable assembly	P-HA13-090	Jacket; for 9.0 ft cable assembly
P-HA13-055	Jacket; for 5.5 ft cable assembly	P-HA13-095	Jacket; for 9.5 ft cable assembly
P-HA13-060	Jacket; for 6.0 ft cable assembly	P-HA13-100	Jacket; for 10.0 ft cable assembly
P-HA13-065	Jacket; for 6.5 ft cable assembly	P-HA13-110	Jacket; for 11.0 ft cable assembly

Unicables

Part Number	Description	Part Number	Description	Part Number	Description
P-HA20-030	Unicable, 3.0 ft	P-HA20-060	Unicable, 6.0 ft	P-HA20-085	Unicable, 8.5 ft
P-HA20-035	Unicable, 3.5 ft	P-HA20-065	Unicable, 6.5 ft	P-HA20-090	Unicable, 9.0 ft
P-HA20-040	Unicable, 4.0 ft	P-HA20-070	Unicable, 7.0 ft	P-HA20-095	Unicable, 9.5 ft
P-HA20-045	Unicable, 4.5 ft	P-HA20-075	Unicable, 7.5 ft	P-HA20-100	Unicable, 10.0 ft
P-HA20-050	Unicable, 5.0 ft	P-HA20-080	Unicable, 8.0 ft	P-HA20-110	Unicable, 11.0 ft
P-HA20-055	Unicable, 5.5 ft				

Front Cooling Module

Part Number	Description
P-HA02	Front cooling module, Hercules
P-HA02-8	Front cooling module insulator, Hercules
P-HA02-10-2	Buna-N square o-ring; 2.5mm wide, 18mm O.D., 13mm I.D.; qty.2
P-HA02-12-2	Viton o-ring; 1.5mm wide, 24mm O.D., 21mm I.D.; qty. 2
P-HA02-11-10	#008 Viton o-ring for cooling module and neck fittings; qty. 10
P-HA03-3-2	Viton o-ring; 2mm wide, 36mm O.D., 32mm I.D.; qty. 2

Components (Continued)

Slide Cover

Part Number	Description
P-HA11	Slide cover, Hercules

Jacket Clamp

Part Number	Description
P-HA12	Jacket clamp, Hercules

Air Blast Kit

Part Number	Description
508-A	Air blast kit

Neck Cover Kit

Part Number	Description
GHA-22L1C	Neck Cover Kit, Hercules

Wire Brake Kit

Part Number	Description
WB-599-116	Wire brake kit for 0.052"-1/16" wire

Mounting Options

Insulating/Transition Discs

For ABB® Robots

59D02	IRB6, IRB140, 1400, 1500, 1600, 2000, 4000, M97A IRB2400L
59D04	IRB2400-10, IRB2400-16, IRB2600, IRB440L, IRB4600-20/2.5
59DT-011	IRB1600ID (kit includes transition disc and 59D02 insulating disc)

For FANUC® Robots

59D02	100, 100i, 120iB, S-6, M710-20L
59D05	ArcMate 50iB, 50iC
59DT-003	100iC, 100iC-12, 100iC-6L, 100iC-7L, 100iC-8L, 120iC, 120iC-10L, 120iC-12L, M710iC-12L (kit includes transition disc and 59D01 insulating disc)
59DT-010	100iD, 100iD-10L (kit includes transition disc and 59D01 insulating disc)

For Panasonic® Robots

59D03	VR-008A, VR-006A, VR-005C, VR-005LII, AW-010A, AW-8010, AW-005A, AW-005C, AW-005CL, AW-006A, VR-006AL, TL-1800, TL-2000, TA-1600, TA-1800, TA-2000
59DT-005	TM Series (kit includes transition disc and 59D02 insulating disc)

For KUKA® Robots

59D02	KR5 arc, KR6, KR6-2, KR6 arc, KR6 KS, KR16 L6, KR16 L6 arc, KR16 LS KS
59D05	KR5 R1400, KR6 R700 sixx, KR6 R900 sixx, KR10 R900 sixx, KR10 R1100 sixx, KR6 R1820, KR8 R1620, KR10 R1420 KR16, KR16-2, KR16 S, KR16 KS, KR30 L16-2
59D06	KR30, KR60, KR60 L45, KR60 L30 (kit includes transition disc and 59D02 insulating disc)
59DT-012	KR16 HW (kit includes transition disc and 59D02 insulating disc)

For Yaskawa® Motoman® Robots

59D02	K6A, K10S, SK6, SK16, SK16X, HP6, HP50-20, MH50-20, MH6, SSF2000, UP6, UP20
59D05	K35, HP3, HP3C, HP3JC, MH5, MH5L, SV3
59D07	MH5, MH5L
59DT-001	MH50 (kit includes transition disc and 59D02 insulating disc)
59DT-002	EA Series (kit includes transition disc and 59D03 insulating disc)
59DT-008	MA1440, AR1440, MH12, MA2010, AR2010, MA3120, MH4, AR1730 (kit includes transition disc and 59D01 insulating disc)

Gun Mounts

Part Number	Description
TCA1	Robotic safety clutch

Mounting Arms; Refer to **Gun Configurations** for dimensional information

Part Number	Description
CAHC2203*	Mounting arm for 22 degree neck, clutch mount; 400 mm TCP (for long consumables)
CAHS2203*	Mounting arm for 22 degree neck, solid mount; 400 mm TCP (for long consumables)

*For MIG guns manufactured after May 2024

Power Pins

Power Pins and Guide Caps

Part Number	Description	Part Number	Description
214-1	Miller® Power Pin	214-116	Miller® Power Pin Guide Cap

Peripherals & Accessories



TOUGH GUN TT4 Reamer Power Through Weld Spatter for Increased Uptime and Weld Quality

TOUGH on spatter and operates reliably in the harshest welding environments. Automating spatter removal will help extend the life of your robotic MIG guns and consumables, benefitting both your bottom line and your production uptime and throughput.

visit tregaskiss.com/robotic-nozzle-cleaning-stations for ordering information.

Reamer Components

- RCT-01** Cutter blade, 5/8" (15.9 mm) bore
- TR-2150** 4-sided v-block
- WC-400** Wire cutter for TT4A (analog) and TT4E (Ethernet) Reamers

TOUGH GARD® Multi-Feed System



Eliminate the need to frequently refill sprayer reservoirs with the TOUGH GARD Multi-Feed System from Tregaskiss. Feed up to 10 TOUGH GUN Reamer units from a single 5-gallon or 55-gallon drum of TOUGH GARD Anti-Spatter Liquid.

Multi-Feed Adapter and Multi-Feed System

- TT4-MF-100** Multi-Feed Adapter
- TG-103-05-2** for 5-Gallon pail (up to 2 nozzle cleaning stations)
- TG-103-05-10** for 5-Gallon pail (up to 10 nozzle cleaning stations)
- TG-103-55-10** for 55-Gallon drum (up to 10 nozzle cleaning stations)

TOUGH GARD Multi-Feed System Hose (sold separately)

- TG-103-100** 100' Multi-Feed Hose (UV Rated)
- TG-103-200** 200' Multi-Feed Hose (UV Rated)

TOUGH GARD Anti-Spatter Liquid

This ready-to-use water-soluble, non-toxic product creates a sacrificial surface that reduces spatter adhesion. This prolongs the life of your consumables and minimizes downtime due to nozzle cleaning which can help reduce your operating and maintenance costs.



TOUGH GARD Anti-Spatter Liquid

- TG-101-05** 5 U.S. Gallon / 18.92 L
- TG-101-55** 55 U.S. Gallon / 208.3 L
- TG-101-01** 1 U.S. Gallon / 3.78 L
- TG-101-32SP** 25.36 fl. oz. / 750 mL (spray bottle)
- TG-101-14S** 14 fl. oz. / 414 mL

Neck Checking Fixture

The Hercules Neck Checking Fixture allows you to verify and re-master your tool center point (TCP). In the event of a collision, this fixture can be used to realign the neck.



Neck Checking Fixture

- G-405CAH** Neck Checking Fixture for Hercules necks
- G-GHA-7** Pointer for Hercules neck checking fixture

IMPORTANT NOTE: Pointer part number G-405-7 is required when using G-405CAH neck checking fixture with standard Tregaskiss necks

Ordering Information

Step #1 - Hercules Robotic MIG Gun

Hercules Series				Neck	Options	Contact Tip	Cable Length	Nozzle	Control Cable	Wire Size	Power Pin
H	C	1	0	A	1	0	A	C	0	W	M
				A 22 degree			A 3.0'	C N-H58T3			M Miller®
							B 3.5'				W 0.052" (1.3 mm)
							C 4.0'				Y 1/16" (1.6 mm)
							D 4.5'				
							E 5.0'				
							F 5.5'				
							G 6.0'				
							H 6.5'				
							J 7.0'				
							K 7.5'				
							L 8.0'				
							M 8.5'				
							N 9.0'				
							P 9.5'				
							R 10.0'				
							S 11.0'				

Step #2 - Insulating/Transition Discs

Select your insulating disc from page 6 and enter it here:

Step #3 - Mounting Arms

Select your mounting arm from page 7 and enter it here:

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Subject to Change – The information presented in this spec sheet is accurate to the best of our knowledge at the time of printing. Please visit Tregaskiss.com for the most up-to-date information.

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