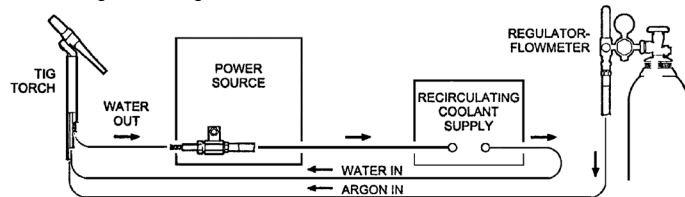


**WARRANTY:** CK Worldwide, Inc. warrants products manufactured by CK Worldwide, Inc. to be free of defects in materials and workmanship. CK Worldwide, Inc. limits this warranty to replacement of the product or parts thereof and excludes liability for injury, property damage or economic loss attributable to product use or misuse. In any event, CK Worldwide, Inc. will only be responsible for its products when used with accessory items manufactured by CK Worldwide, Inc.

**INSTALLATION:** Before using this torch, - tighten regulator, hose and power cable fittings with proper wrenches. Using small pliers, securely tighten all knurled hose fittings (Slide the torch handle back for access to the torch connections). Purge the regulator and TIG torch with inert gas at 20 cubic feet per hour. Following these steps will ensure contamination free welds. Repeat this procedure whenever torch or regulator fittings have been detached.

**CONNECTION DIAGRAM:**

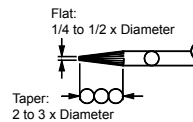


**INFORMATION CHART:**

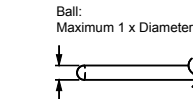
Electrode Diameter in inches (mm)	Cup Size	WELDING CURRENT (AMPS) - TUNGSTEN TYPE				ARGON FLOW - FERROUS METALS		ARGON FLOW - ALUMINUM	
		AC Pure	AC Thoriated	DCSP Pure	DCSP Thoriated	Standard Body (Liters)	Gas Lens Body (Liters)	Standard Body (Liters)	Gas Lens Body (Liters)
.020 (0.50)	4 or 5	5 - 15	5 - 20	5 - 15	5 - 20	5-8 (3-4)	5-8 (3-4)	5-8 (3-4)	5-8 (3-4)
.040 (1.00)	4 or 5	10 - 60	15-80	15 - 70	20 - 80	5-10 (3-5)	5-8 (3-4)	5-12 (3-6)	5-10 (3-5)
1/16 (1.60)	4, 5 or 6	50 - 100	70 - 150	70 - 130	80 - 150	7-12 (4-6)	5-10 (3-5)	8-15 (4-7)	7-12 (4-6)
3/32 (2.40)	6, 7 or 8	100 - 160	140 - 235	150 - 220	150 - 250	10-15 (5-7)	8-10 (4-5)	10-20 (5-10)	10-15 (5-7)
1/8 (3.20)	7, 8 or 10	150 - 210	220 - 325	220 - 330	240 - 350	10-18 (5-9)	8-12 (4-6)	12-25 (6-12)	10-20 (5-10)
5/32 (4.00)	8 or 10	200 - 275	300 - 425	375 - 475	400 - 500	15-25 (7-12)	10-15 (5-7)	15-30 (7-14)	12-25 (6-12)
3/16 (4.80)	8 or 10	250 - 350	400 - 525	475-800	475-800	20-35 (10-17)	12-25 (6-12)	25-40 (12-19)	15-30 (7-14)
1/4 (6.40)	10	325 - 700	500 - 700	750 - 1000	700 - 1100	25-50 (12-24)	20-35 (10-17)	30-55 (14-26)	25-45 (12-21)

**TUNGSTEN PREPARATION:**

**END PREPARATION: DCSP (EN)**  
General Purpose:

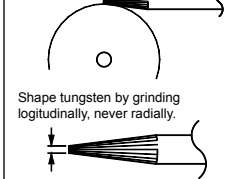


**ACHF**  
General Purpose:



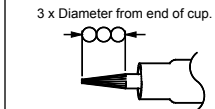
Ball tip by arcing on clean metal at low current DCRP (EP) then slowly increase current to form the desired ball diameter.

**GRINDING PREPARATION:**  
Use a 60 Grit or finer aluminum oxide wheel

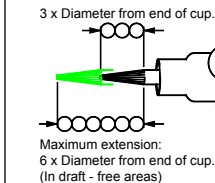


Remove sharp point to leave a truncated point with a flat spot. Diameter of flat spot determines amperage.  
The included angle determines weld bead shape and size. Generally, as the included angle increases, penetration increases and bead width decreases.

**EXTENSION INSTRUCTION: STANDARD PARTS**  
General Purpose:



**GAS LENS PARTS**  
General Purpose:



**CAUTION:**

Personal harm will result from touching the hot parts of a TIG torch without insulative protection, or from looking directly or indirectly at an arc or reflected arc. At no time should bare skin be exposed to a welding arc.



## TIG TORCH MANUAL



**MT500C-7 & MT500C-18**

### TECHNICAL INFORMATION

RATING @ 100% DUTY CYCLE: 500 AMP ACHF OR DCSP  
COOLING METHOD: WATER COOLED

#### ACCESSORY ITEMS REQUIRED FOR COMPLETE INSTALLATION:

HEAD ACCESSORIES: 3 SERIES  
POWER CABLE ADAPTOR: 2PCA, SLWHAT-25, SLWHAT-35

#### MODEL SELECTOR - TORCH PACKAGES

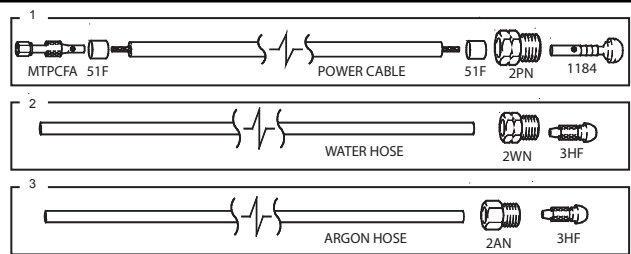
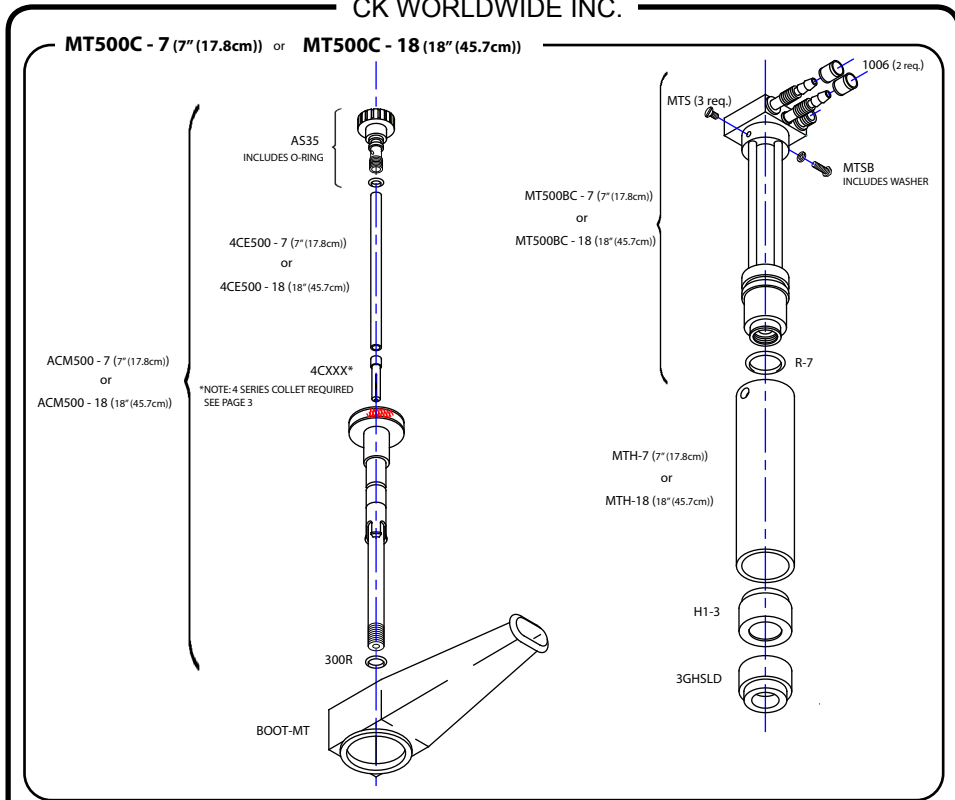
TORCH LENGTH	CABLE LENGTH	PART NUMBER
7 in. (17.8 cm.)	12-1/2 ft. (3.8m)	MT512-7-1
	25 ft (7.6m)	MT525-7-1
18 in. (45.7 cm.)	12-1/2 ft. (3.8m)	MT512-18-1
	25 ft (7.6m)	MT525-18-1

**IMPORTANT !!**  
**READ AND UNDERSTAND THE INFORMATION CONTAINED IN THIS MANUAL BEFORE OPERATING THE EQUIPMENT !**

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	STANDARD CABLES	SUPERFLEX CABLES
1	<b>POWER CABLE</b>	<b>POWER CABLE</b>
	12-1/2 FT (3.8M): M512PC-1	12-1/2 FT (3.8M): M512PCSF-1
	25 FT (7.6M): M525PC-1	25 FT (7.6M): M525PCSF-1
2	<b>WATER HOSE</b>	<b>WATER HOSE</b>
	12-1/2 FT (3.8M): 312WH	12-1/2 FT (3.8M): 312WHSF
	25 FT (7.6M): 325WH	25 FT (7.6M): 325WHSF
3	<b>ARGON HOSE</b>	<b>ARGON HOSE</b>
	12-1/2 FT (3.8M): 312AH	12-1/2 FT (3.8M): 312AHSF
	25 FT (7.6M): 325AH	25 FT (7.6M): 325AHSF

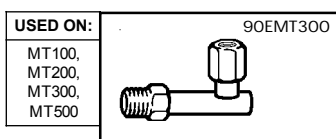
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3 SERIES HEAD ACCESSORIES

	CUP	COLLET BODY	HEATSHIELD
<b>ALUMINA</b>	3A4 (10N50) 3A5 (10N49) 3A6 (10N48) 3A7 (10N47)	3A8 (10N46) 3A10 (10N45) 3A12 (10N44)	<b>STANDARD</b> 3CB20 (10N29) 3CB40 (10N30) 3CB116 (10N31) 3CB332 (10N32) 3CB418 (10N28) 3CB532 (406488)
<b>ALUMINA - LONG</b>	3A5L (10N49L) 3A6L (10N48L)	3A7L (10N47L)	
<b>CERAMIC</b>	3C4 (10S245) 3C5 (10S242) 3C6 (10S244) 3C7 (10S245)	3C8 (08N78) 3C10 (08N79) 3C12 (08N80)	<b>STANDARD</b> 51015
<b>CERAMIC - LONG</b>	3C4L (12N03) 3C5L (10S260)	3C6L (12N02) 3C7L (10S261)	
<b>ALUMINA - GAS LENS</b>	3AG4 (54N18) 3AG5 (54N17) 3AG6 (54N16)	3AG7 (54N15) 3AG8 (54N14) 3AG11 (54N19)	<b>GAS LENS</b> 3GL20 (45V29) 3GL40 (45V24) 3GL116 (45V25) 3GL332 (45V26) 3GL418 (45V27) 3GL532 (45V28)
<b>ALUMINA LONG - GAS LENS</b> OVERALL LENGTH 3 IN.	3AG5L (54N17L) 3AG6L (54N16L) 3AG7L (54N15L) 3AG8L (54N14L)		<b>GAS LENS</b> 3GHS
<b>CERAMIC - GAS LENS</b>	3CG4 (54N35) 3CG5 (54N34) 3CG6 (54N33) 3CG7 (54N32) 3CG8 (54N31)	3CG11 (54N36) 3CG12 3CG14 3CG16	
<b>ALUMINA - LARGE DIAMETER</b>	3AG6LD (57N75) 3AG8LD (57N74) 3AG1LD (53N88) 3AG1LD (53N89) 3AG12LD (53N87)	<b>LARGE DIAMETER</b> 3GL116LD (45V116) 3GL332LD (45V64) 3GL418LD (995795) 3GL532LD (45V63)	<b>LARGE DIAMETER</b> 3GHSLD

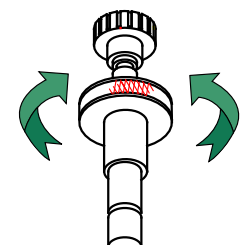
TUNGSTEN ELECTRODE CONVERSION CHART

Size Suffix	Inches	Millimeters
020	.020"	.5mm
040	.040"	1.0mm
116	1/16"	1.6mm
332	3/32"	2.4mm
418	1/8"	3.2mm
532	5/32"	4.0mm



4 Series Collet

- 4C20 (10N21S)
- 4C40 (10N22S)
- 4C116 (10N23S)
- 4C332 (10N24S)
- 4C418 (10N25S)
- 4C532



The design of the Adjusting Cap allows approximately 1/2" adjustment of the tungsten during operation. Make the adjustment by screwing the Adjusting Cap into the Torch Body (or by backing it out). The Back Cap holds the tungsten securely in the Adjusting Cap.

**SHORT LEADS:** For many installations, shorter power cable and hoses are required. You may specify any length power cable up to the standard 12-1/2 ft. length at no extra charge. Simply specify short leads and indicate your desired length at time of order. Since these are non stocked items check lead time.

**RACKS:** Two rack pitches are commonly used, 24 and 32. To order geared racks installed on a barrel type machine torch, add the suffix -hr24 for the 24 pitch and -hr32 for the 32 pitch (i.e. MT512-7-1-hr32)90° FITTINGS:

**90° power cable fittings** are available for use with mt series machine torches. These fittings change the power cable connection orientation to one parallel with the torch center of axis. Note: Two fittings are required for use with the MT300, MT400, and the MT500. Only one fitting is required for use with the MT100 and the MT200. Specify the desired quantity of fittings when you place your order.

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