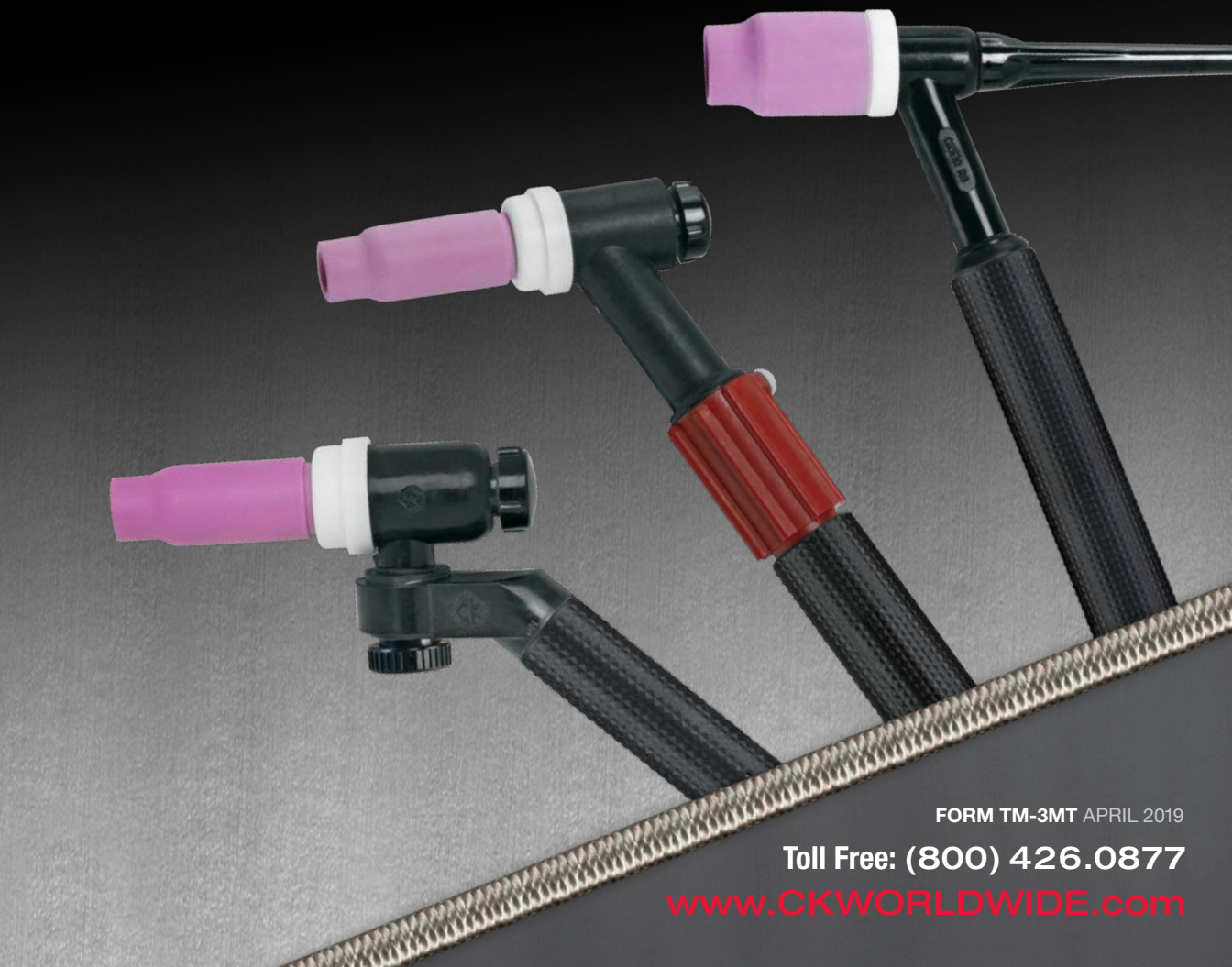
CK WORLDWIDE

THE STANDARD IN TIG WELDING

TORCH MANUAL

for CKC150, FL150, FL250, TL18, TL26, and CK510

3 Series CK MASTER TIG



FORM TM-3MT APRIL 2019

Toll Free: (800) 426.0877

www.CKWORLDWIDE.com

Congratulations on your purchase of a CK Worldwide TIG Torch!

CK Worldwide's premium quality TIG torches perform with a reliability and efficiency you can always depend on. CK equipment and technical support is available online at www.CKWORLDWIDE.com or by calling (800) 426-0877 between 7:00AM and 3:30PM, Monday through Friday.

THE STANDARD IN TIG WELDING

Phone: 1.800.426.0877
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Product demonstrations, welding tips and more.

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IN THIS MANUAL

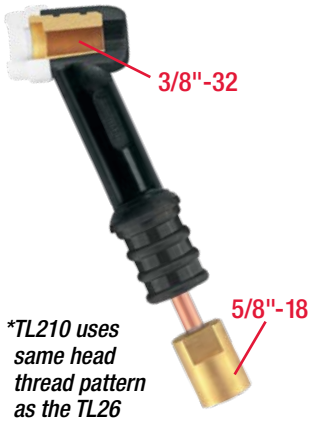
Need technical information? Call or email to request a copy of our Technical Guide (Form 116)

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.

IN THIS MANUAL you will find technical and ordering information for CKC150, CK510, FL150, FL250, TL18/TL300 and TL26/TL210 TIG torches, hoses, and accessories.

TORCH SPECIFICATIONS

TL26*



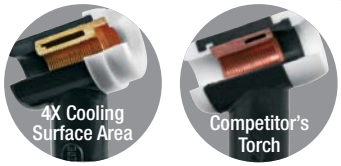
*TL210 uses same head thread pattern as the TL26

CKC150

TL18*

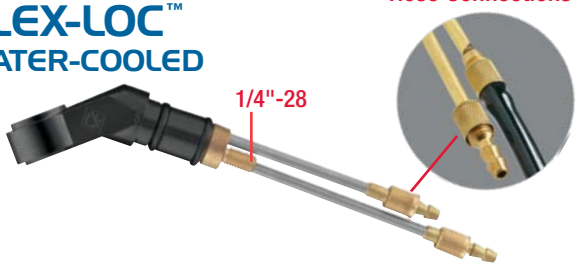
*TL300 and CK510 use same head thread pattern as the TL18

MAX-FLO™
Improved Cooling Capacity



FLEX-LOC™ GAS-COOLED

FLEX-LOC™ WATER-COOLED



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.

CALIFORNIA PROPOSITION 65

WARNING: This product contains or produces a chemical known to the state of California to cause cancer and birth defects or other reproductive harm) (California Health and Safety Code Section 25249.5 et seq.)

WARNING: This product, when used for welding or cutting, produces fumes or gases which contain chemicals known to the State of California to cause birth defects and, in some cases, cancer (California Health and Safety Code Section 25249.5 et seq.)

INFORMATION SOURCES

California Health and Safety Code, Section 25249.4 through 25249.13. The California Office of Environmental Health Hazard Assessment, 301 Capitol Mall, Sacramento, CA 95814; Telephone 916-445-6900.
California Proposition 65 Website: *www.oehha.ca.gov/prop65.html.*
American National Standards Institute (ANSI). Product Safety Signs And Labels (ANSI Z535.4), available from ANSI, 25 West 43rd Street, New York, NY 10036; Telephone 212-642-4900;
Website *www.ansi.org.*

SAFETY INFORMATION

Welding and cutting equipment can be dangerous to both the operator and people in or near the surrounding working area, if the equipment is not correctly operated. Equipment must only be used under the strict and comprehensive observance of all relevant safety regulations. Read and understand this instruction manual carefully before the installation and operation of this equipment.

ELECTRIC SHOCK: It can kill

ELECTRIC SHOCK: It can kill. **Touching live electrical parts can cause fatal shocks or severe burns. The electrode and work circuit is electrically live whenever the output is on. The input power circuit and internal machine circuits are also live when power is on. Incorrectly installed or improperly grounded equipment is dangerous.**

- Connect the primary input cable according to American standards and regulations. ANSI Z49.1.
- Avoid all contact with live electrical parts of the welding circuit, electrodes and wires with bare hands. The operator must wear dry welding gloves while he/she performs the welding task.
- The operator should keep the work piece insulated from himself/herself.
- Keep cords dry, free of oil and grease, and protected from hot metal and sparks.
- Frequently inspect input power cable for wear and tear, replace the cable immediately if damaged, bare wiring is dangerous and can kill.
- Do not use damaged, under-sized, or badly joined cables.
- Do not drape cables over your body.

FUMES AND GASES ARE DANGEROUS

FUMES AND GASES ARE DANGEROUS: **Smoke and gas generated while welding or cutting can be harmful to people's health. Welding produces fumes and gases. Breathing these fumes and gases can be hazardous to your health.**

- Do not breathe the smoke and gas generated while welding or cutting, keep your head out of the fumes.
- Keep the working area well ventilated, use fume extraction or ventilation to remove welding fumes and gases.
- In confined or heavy fume environments always wear an approved air-supplied respirator. Welding fumes and gases can displace air and lower the oxygen level causing injury or death. Be certain the air in your work environment is safe to breathe.
- Do not weld in locations near degreasing, cleaning, or spraying operations. The heat and rays of the arc can react with vapors to form highly toxic and irritating gases.
- Materials such as galvanized, lead, or cadmium plated steel, contain elements that can give off toxic fumes when welded. Do not weld these materials unless the area is very well ventilated, and or wearing an air supplied respirator.

ARC RAYS: Harmful to people's eyes and skin

ARC RAYS: Harmful to people's eyes and skin. **Arc rays from the welding process produce intense visible and invisible ultraviolet and infrared rays that can burn eyes and skin.**

- Always wear a welding helmet with correct shade of filter lens and suitable protective clothing including welding gloves while the welding operation is performed.
- Measures should be taken to protect people in or near the surrounding working area. Use protective screens or barriers to protect others from flash, glare and sparks; warn others not to watch the arc.

HOT PARTS: **Items being welded generate and hold high heat and can cause severe burns. Do not touch hot parts with bare hands. Allow a cooling period before working on the welding gun. Use insulated welding gloves and clothing to handle hot parts and prevent burns.**

FIRE HAZARD: Welding on closed containers, such as tanks, drums, or pipes, can cause them to explode. Flying sparks from the welding arc, hot work piece, and hot equipment can cause fires and burns. Accidental contact of electrode to metal objects can cause sparks, explosion, overheating, or fire. Check and be sure the area is safe before doing any welding.

- Welding sparks may cause fire, therefore remove any flammable materials away from the working area, at least 40 feet (12m) from the welding arc. Cover flammable materials and containers with approved covers if unable to be moved from the welding area.
- Do not weld on closed containers such as tanks, drums, or pipes, unless they are properly prepared according to the required Safety Standards to insure that flammable or toxic vapors and substances are totally removed, these can cause an explosion even though the vessel has been "cleaned". Vent hollow castings or containers before heating, cutting or welding. They may explode.
- Do not weld where the atmosphere may contain flammable dust, gas, or liquid vapors such as gasoline.
- Have a fire extinguisher nearby and know how to use it. Be alert that welding sparks and hot materials from welding can easily go through small cracks and openings to adjacent areas. Be aware that welding on a ceiling, floor, bulkhead, or partition can cause fire on the hidden side.

GAS CYLINDERS: Shielding gas cylinders contain gas under high pressure. If damaged, a cylinder can explode. Because gas cylinders are normally part of the welding process, be sure to treat them carefully. CYLINDERS can explode if damaged.

- Protect gas cylinders from excessive heat, mechanical shocks, physical damage, slag, open flames, sparks, and arcs.
- Insure cylinders are held secure and upright to prevent tipping or falling over.
- Never allow the welding electrode or earth clamp to touch the gas cylinder, do not drape welding cables over the cylinder.
- Never weld on a pressurized gas cylinder, it will explode and kill you.
- Open the cylinder valve slowly and turn your face away from the cylinder outlet valve and gas regulator.

GAS BUILD UP: The build up of gas can cause a toxic environment by depleting the air's oxygen content and potentially resulting in injury or death.

- Shut off shielding gas supply when not in use.
- Always ventilate confined spaces or use approved air-supplied respirator.

ELECTRONIC MAGNETIC FIELDS: MAGNETIC FIELDS can affect implanted medical devices.

- Wearers of pacemakers and other implanted medical devices should keep away.
- Implanted medical device wearers should consult their doctor and the device manufacturer before going near any electric welding, cutting or heating operation.

NOISE CAN DAMAGE HEARING: Noise from some processes or equipment can damage hearing. Wear approved ear protection if noise level is high.

FIRE HAZARD

GAS CYLINDERS
Shielding gas cylinders contain gas under high pressure. If damaged, a cylinder can explode

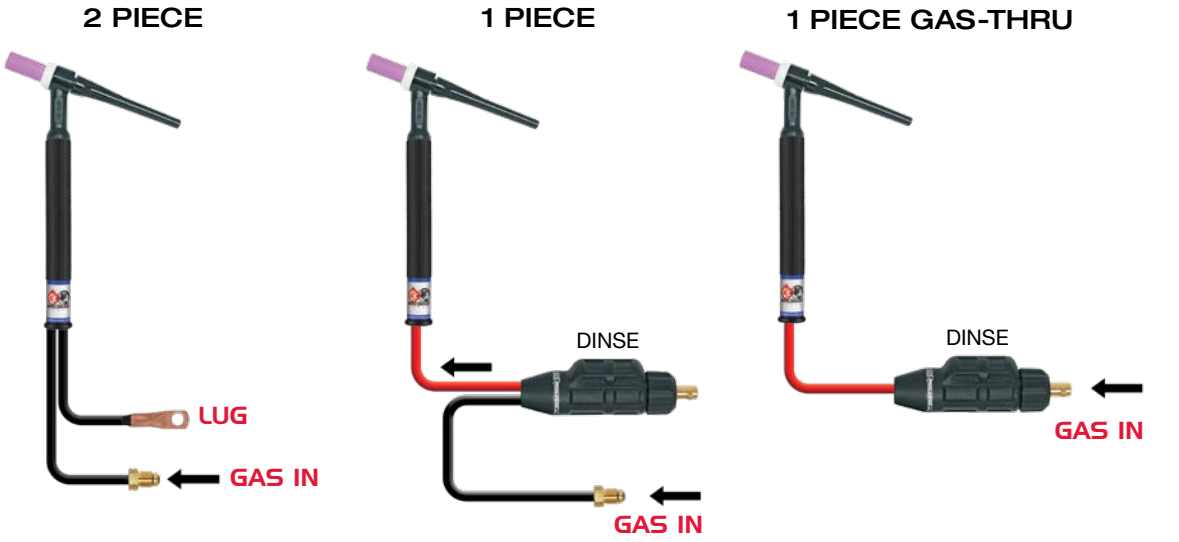
GAS BUILD UP

ELECTRONIC MAGNETIC FIELDS can affect implanted medical devices

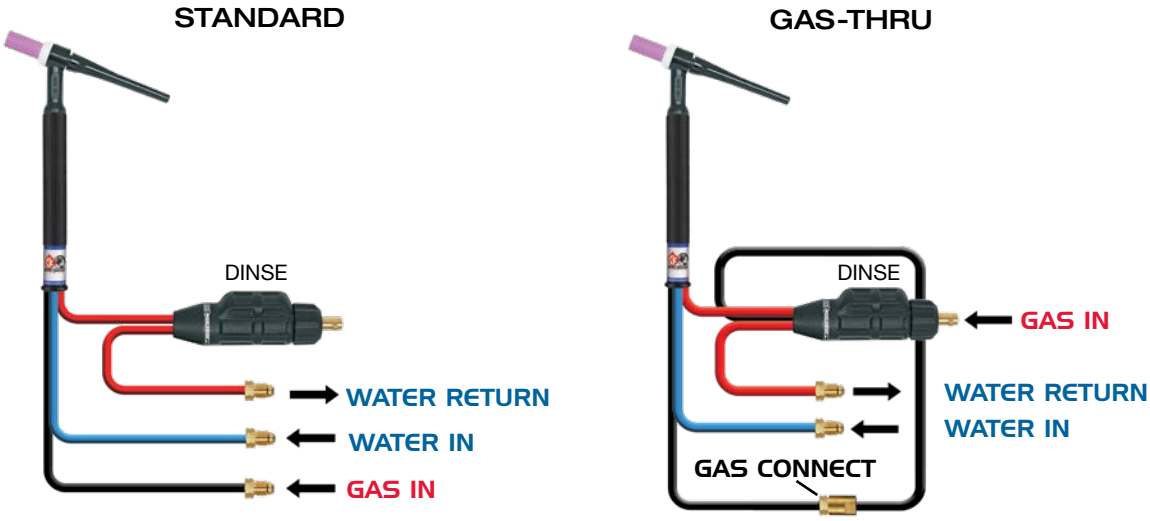
NOISE CAN DAMAGE HEARING

CONNECTION DIAGRAMS

GAS-COOLED

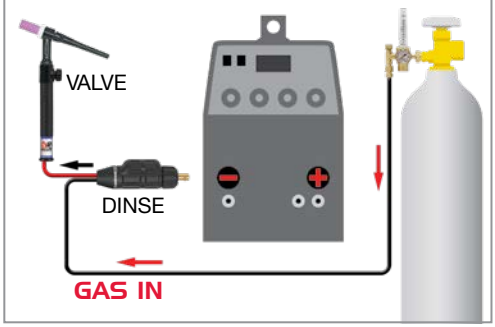


WATER-COOLED

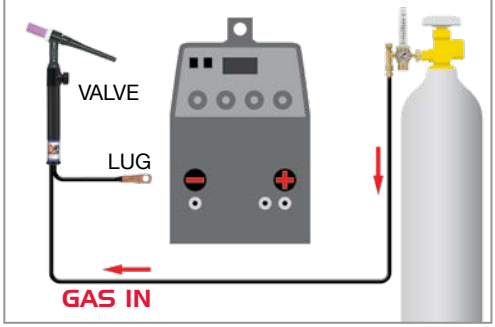


MACHINE CONNECTION DIAGRAMS

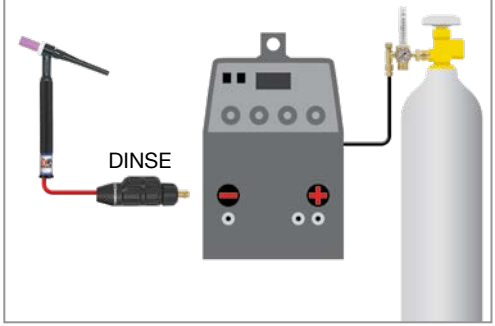
1 PIECE GAS-COOLED



2 PIECE GAS-COOLED

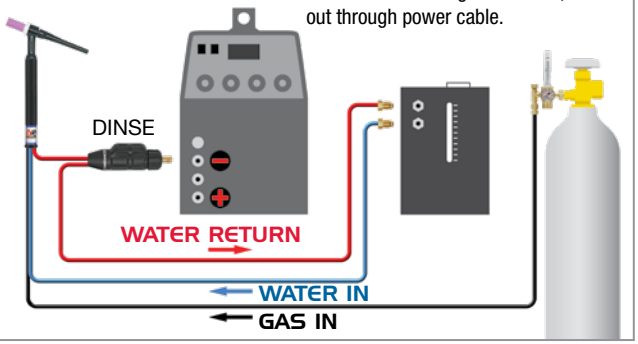


1 PIECE GAS-THRU

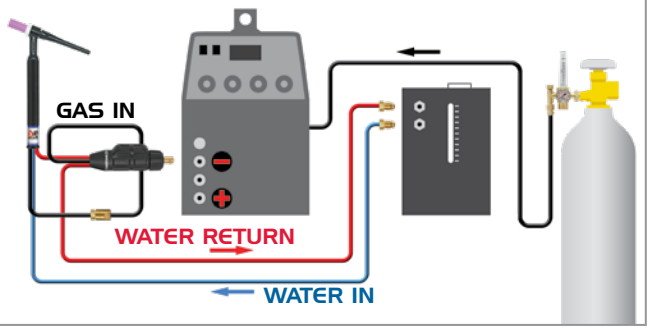


WATER-COOLED

NOTE: 1 quart (1 liter) per minute flow rate. Water in through water line, water out through power cable.



WATER-COOLED GAS-THRU



QUICK DISCONNECTS

Adapters for gas-cooled and water-cooled torch setups that have quick-disconnect female adapters on either the machine or water-cooler.

QDWAP
WATER COOLED
9mm male quick disconnect for water.

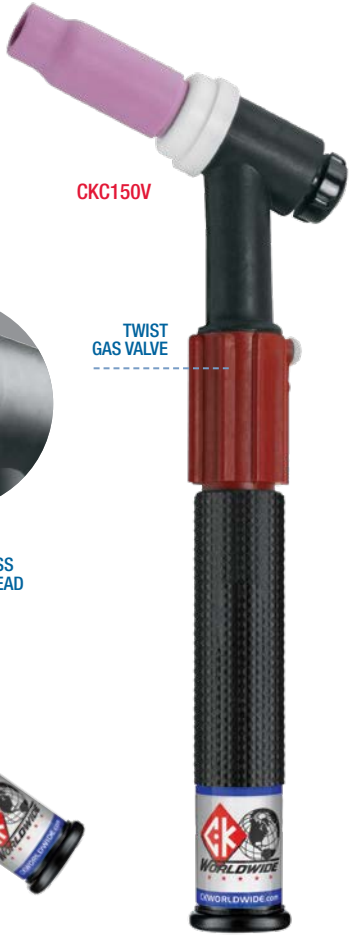
QDGAP
GAS COOLED
9mm male quick disconnect for argon.

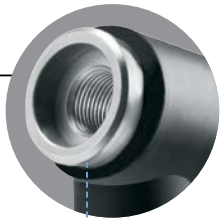
CKC150

GAS COOLED
150 amp ACHF or DCSP @ 100%
3 Series Head Accessories

CKC150 | CONTRACTOR SPECIAL

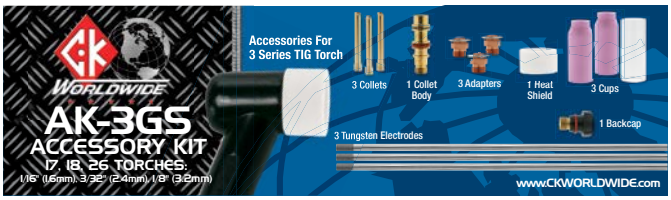
HEAD STYLE	CABLE	CABLE LENGTH	STANDARD #	SUPER-FLEX #	SPECIFICATIONS
RIGID	1 Piece	12.5 ft. (3.8m)	CKC1512H	CKC1512HSF	7-3/4" (19.6cm) 4-1/2 oz (127gm) STAINLESS STEEL HEAD
		25 ft. (7.6m)	CKC1525H	CKC1525HSF	
	2 Piece	12.5 ft. (3.8m)	CKC1512N	CKC1512NSF	
		25 ft. (7.6m)	CKC1525N	CKC1525NSF	
RIGID + VALVE	1 Piece	12.5 ft. (3.8m)	CKC1512VH	CKC1512VHSF	
		25 ft. (7.6m)	CKC1525VH	CKC1525VHSF	
	2 Piece	12.5 ft. (3.8m)	CKC1512VN	CKC1512VNSF	
		25 ft. (7.6m)	CKC1525VN	CKC1525VNSF	





REPLACEMENT TORCH BODIES

PART #	STYLE
CKC150	RIGID
CKC150V	VALVED RIGID



3 Series Accessory Kits, available on page 21, are convenient, pre-packaged kits containing common consumables.

CKC150

POWER CABLES/HOSES

1 PIECE STANDARD POWER CABLE

1 PIECE SUPER-FLEX POWER CABLE

2 PIECE STANDARD POWER CABLE

2 PIECE SUPER-FLEX POWER CABLE

	STANDARD	SUPER-FLEX
LENGTH	1 PIECE CABLE	1 PIECE CABLE
12-1/2 ft. (3.8m)	**1512PCCM**	**1512PCCMSF**
25 ft. (7.6m)	**1525PCCM**	**1525PCCMSF**
LENGTH	2 PIECE CABLES	2 PIECE CABLES
12-1/2 ft. (3.8m)	**1512PCNM**	**1512PCNSFM**
25 ft. (7.6m)	**1525PCNM**	**1525PCNSFM**
LENGTH	WELD LEAD	
12-1/2 ft. (3.8m)	**1512CNM**	
25 ft. (7.6m)	**1525CNM**	
LENGTH	ARGON HOSE	ARGON HOSE
12-1/2 ft. (3.8m)	**212AH**	**212AHSF**
25 ft. (7.6m)	**225AH**	**225AHSF**

HANDLE Part # HM *(FOR RIGID)*

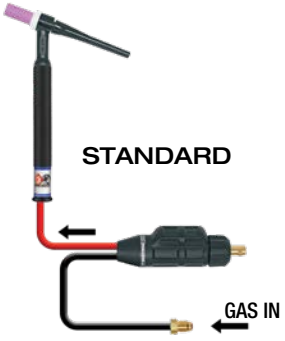
Part # 150HVCR *(FOR RIGID + VALVE)*

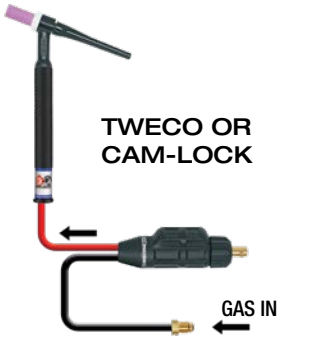
POWER CABLE ADAPTER

15PCA | 105Z57

DINSE CONNECTORS

DINSE 25 (3/8" 9.5mm) *DINSE 35* (1/2" 12.8mm) *DINSE 25M* (3/8" 9.5mm) *DINSE 35M* (1/2" 12.8mm)





STANDARD

DINSE SIZE	ORDER #
3/8" (9mm)	**SL5-25**
1/2" (12.8mm)	**SL5-35**

GAS-THRU

DINSE SIZE	ORDER #
3/8" (9mm)	**SL5-25M**
1/2" (12.8mm)	**SL5-35M**

TWECO / CAM-LOCK

DINSE STYLE	ORDER #
TWECO	**SL-5**
CAM-LOCK	**SL5-CL**

FL150

GAS COOLED
150 amp ACHF or DCSP @ 100%
3 Series Head Accessories

FL150 & FL150V | FLEX-LOC

HEAD STYLE	CABLE	CABLE LENGTH	STANDARD #	SUPER-FLEX #	SPECIFICATIONS
FL3L	1 Piece	12.5 ft. (3.8m)	FL1512	FL1512SF	8-1/2" (21.6cm)
		25 ft. (7.6m)	FL1525	FL1525SF	
FL3L + VALVE	1 Piece	12.5 ft. (3.8m)	FL1512V	FL1512VSF	7 oz (198gm)
		25 ft. (7.6m)	FL1525V	FL1525VSF	

FL150

FL150V

FL150 & FL150V | REPLACEMENT PARTS

FLEX-LOCK HEAD OPTIONS

FL3L TORCH HEAD
Comes complete with 300HS heatshield and 01-0009 screw with O-Ring

300HS *Heatshield*
300R *O-Ring*
01-0009 *(Includes O-Ring)*

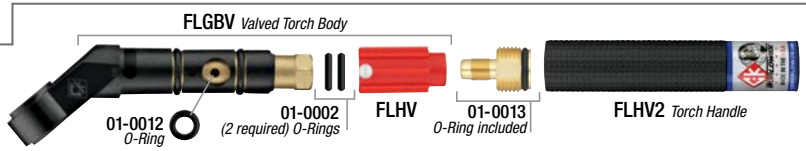
TORCH BODY GAS COOLED

FLTBA COMPLETE BODY

FLGB *Torch Body*
01-0002 *(2 required) O-Rings*
HS *Torch Handle*

TORCH BODY GAS COOLED + VALVE

FLTBAV COMPLETE BODY



FLGBV *Valved Torch Body*
01-0012 *O-Ring*
01-0002 *(2 required) O-Rings*
FLHV
01-0013 *O-Ring included*
FLHV2 *Torch Handle*

DESCRIPTION	ORDER #	DETAILS
3 Series Flex-Loc Head	FL3L	Complete with 300HS & 01-0009 screw
Heatshield for FL3L	300HS	
Screw with O-Ring	01-0009	Includes 300R O-ring
Torch Body	FLGB	Includes two O-rings (01-0002)
Valved Torch Body	FLGBV	

DESCRIPTION	ORDER #	DETAILS
Torch Handle	HS	For non-valved torch
Valved Torch Handle	FLHV2	For valved torch
Complete Body	FLTBA	Includes body, handle, and O-rings
Complete Valve Body	FLTBAV	Includes body, valve, handle, & O-rings

POWER CABLES/HOSES

1 PIECE STANDARD POWER CABLE

1/8"x28 BSP — 3/8"x24 RH

1 PIECE SUPER-FLEX POWER CABLE

1/8"x28 BSP — 3/8"x24 RH

	STANDARD	SUPER-FLEX
LENGTH	1 PIECE CABLE	1 PIECE CABLE
12-1/2 ft. (3.8m)	**1512PCHFM**	**1512PCSFM**
25 ft. (7.6m)	**1525PCHFM**	**1525PCSFM**

POWER CABLE ADAPTER

15PCA | 105Z57

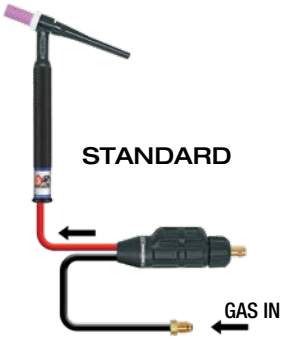
3/8"x24 RH — 5/8"x18 RH

HANDLE

Part # HS

Part # FLHV2

DINSE CONNECTORS



STANDARD

DINSE SIZE	ORDER #
3/8" (9mm)	SL2-25
1/2" (12.8mm)	SL2-35

GAS-THRU

DINSE SIZE	ORDER #
3/8" (9mm)	SL2-25M
1/2" (12.8mm)	SL2-35M

TWECO / CAM-LOCK

DINSE STYLE	ORDER #
TWECO	SL-2
CAM-LOCK	SL2-CL

200 AMP

TL26

GAS COOLED | **SAME AS TL210***
200 amp ACHF or DCSP @ 100%
3 Series Head Accessories

TL26 RG

TL26 & TL26V | RIGID | TRIM-LINE SERIES

HEAD STYLE	CABLE	CABLE LENGTH	STANDARD #	SUPER-FLEX #	SPECIFICATIONS
RIGID	1 Piece	12.5 ft. (3.8m)	TL26-12-R RG	TL26-12-RSF RG	8-1/8" (20.6cm) 5 oz (141gm) 7/8" x 14RH power cable connections
		25 ft. (7.6m)	TL26-25-R RG	TL26-25-RSF RG	
	2 Piece	12.5 ft. (3.8m)	TL26-12-2 RG	TL26-12-2SF RG	
		25 ft. (7.6m)	TL26-25-2 RG	TL26-25-2SF RG	
RIGID + VALVE	1 Piece	12.5 ft. (3.8m)	TL26V-12-R RG	TL26V-12-RSF RG	
		25 ft. (7.6m)	TL26V-25-R RG	TL26V-25-RSF RG	
	2 Piece	12.5 ft. (3.8m)	TL26V-12-2 RG	TL26V-12-2SF RG	
		25 ft. (7.6m)	TL26V-25-2 RG	TL26V-25-2SF RG	

TL26 & TL26V | FLEX | TRIM-LINE SERIES

HEAD STYLE	CABLE	CABLE LENGTH	STANDARD #	SUPER-FLEX #	SPECIFICATIONS
FLEX	1 Piece	12.5 ft. (3.8m)	TL26-12-R FX	TL26-12-RSF FX	8-1/8" (20.6cm) 5 oz (141gm) 7/8" x 14RH power cable connections
		25 ft. (7.6m)	TL26-25-R FX	TL26-25-RSF FX	
	2 Piece	12.5 ft. (3.8m)	TL26-12-2 FX	TL26-12-2SF FX	
		25 ft. (7.6m)	TL26-25-2 FX	TL26-25-2SF FX	
FLEX + VALVE	1 Piece	12.5 ft. (3.8m)	TL26V-12-R FX	TL26V-12-RSF FX	
		25 ft. (7.6m)	TL26V-25-R FX	TL26V-25-RSF FX	
	2 Piece	12.5 ft. (3.8m)	TL26V-12-2 FX	TL26V-12-2SF FX	
		25 ft. (7.6m)	TL26V-25-2 FX	TL26V-25-2SF FX	

**TL210 cables use 5/8" x 18RH machine-side fittings, call for torch package part numbers. Cable/hose ordering information on page 13.*

REPLACEMENT TORCH BODIES

PART #	STYLE
TL26 RG	RIGID
TL26 FX	FLEX
TL26V RG	VALVED RIGID
TL26V FX	VALVED FLEX


TL26 FX


TL26V RG


TL26V FX

TRIM-LINE™ torches are designed to be more compact than their standard counterparts with the same amperage. Lighter weight and size equals greater productivity and less operator fatigue.

POWER CABLES/HOSES

1 PIECE STANDARD POWER CABLE

1 PIECE SUPER-FLEX POWER CABLE

2 PIECE STANDARD POWER CABLE

2 PIECE SUPER-FLEX POWER CABLE

1 PIECE STANDARD POWER CABLE*

1 PIECE SUPER-FLEX POWER CABLE*

Cables included with TL210 torch packages, 5/8" x 18 RH machine-side fitting.

	7/8" STANDARD	7/8" SUPER-FLEX
LENGTH	1 PIECE CABLE	1 PIECE CABLE
12-1/2 ft. (3.8m)	**46V28R**	**46V28RSF**
25 ft. (7.6m)	**46V30R**	**46V30RSF**

LENGTH	2 PIECE CABLES	2 PIECE CABLES
12-1/2 ft. (3.8m)	**412PCN** (46V28-2)	**412PCNSF** (46V28-2SF)
25 ft. (7.6m)	**425PCN** (46V30-2)	**425PCNSF** (46V30-2SF)

LENGTH	WELD LEAD
12-1/2 ft. (3.8m)	**412CN**
25 ft. (7.6m)	**425CN**

LENGTH	ARGON HOSE	ARGON HOSE
12-1/2 ft. (3.8m)	**312AH** (40V75)	**312AHSF** (40V75SF)
25 ft. (7.6m)	**325AH** (41V30)	**325AHSF** (41V30SF)

	5/8" STANDARD	5/8" SUPER-FLEX
LENGTH	1 PIECE CABLE	1 PIECE CABLE
12-1/2 ft. (3.8m)	**412PCHF**	**412PCSF**
25 ft. (7.6m)	**425PCHF**	**425PCSF**

POWER CABLE ADAPTER

45V62

21HPCA
2310-1879

HANDLE Part # H23

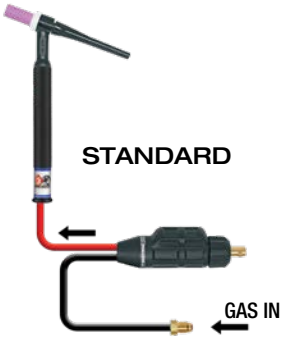
DINSE CONNECTORS

DINSE 25 (3/8" 9.5mm)

DINSE 35 (1/2" 12.8mm)

DINSE 25M (3/8" 9.5mm)

DINSE 35M (1/2" 12.8mm)

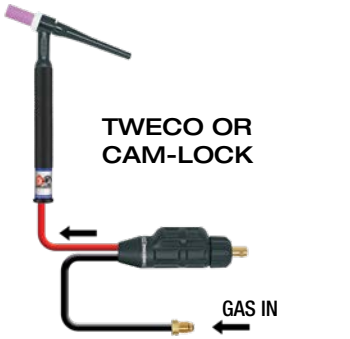


STANDARD

DINSE SIZE	TL26 CABLES	TL210 CABLES
3/8" (9mm)	SL8-25	SL5-25
1/2" (12.8mm)	SL8-35	SL5-35

GAS-THRU

DINSE SIZE	TL26 CABLES	TL210 CABLES
3/8" (9mm)	SL8-25M	SL5-25M
1/2" (12.8mm)	SL8-35M	SL5-35M



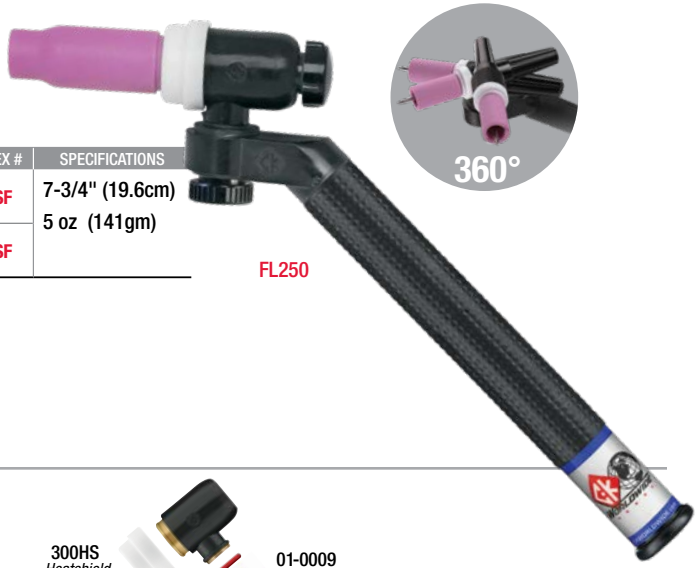
TWECO / CAM-LOCK

DINSE STYLE	TL26 CABLES	TL210 CABLES
TWECO	SL-8	SL-5
CAM-LOCK	SL8-CL	SL5-CL

AMP 250

FL250

WATER COOLED
250 amp ACHF or DCSP @ 100%
3 Series Head Accessories



FL250 | FLEX-LOC

HEAD STYLE	CABLE	CABLE LENGTH	TRI-FLEX #	SUPER-FLEX #	SPECIFICATIONS
FL3L	Tri-Flex/ SUPER-FLEX	12.5 ft. (3.8m)	FL2512	FL2512SF	7-3/4" (19.6cm) 5 oz (141gm)
		25 ft. (7.6m)	FL2525	FL2525SF	

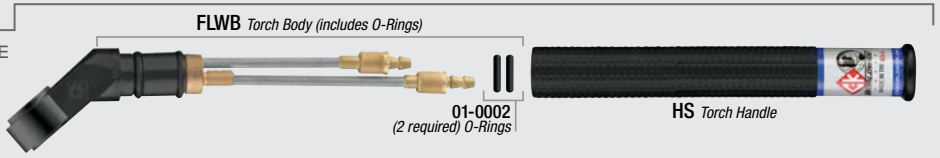
FL250 | REPLACEMENT PARTS

FLEX-LOCK HEAD

FL3L TORCH HEAD
Comes complete with 300HS heatshield and 01-0009 screw with O-Ring

TORCH BODY WATER COOLED

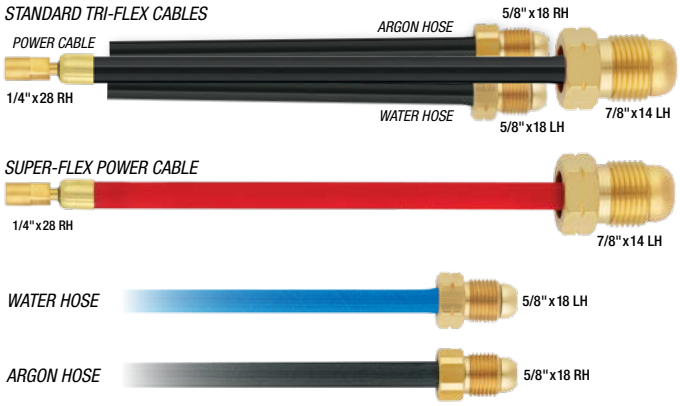
FLTBAW COMPLETE BODY



DESCRIPTION	ORDER #	DETAILS
3 Series Flex-Loc Head	FL3L	Complete with 300HS & 01-0009 screw
Heatshield for FL3L	300HS	
Screw with O-Ring	01-0009	Includes 300R O-ring

DESCRIPTION	ORDER #	DETAILS
Torch Body	FLWB	Includes two O-rings (01-0002)
Torch Handle	HS	
Complete Body	FLTBAW	Includes body, handle, and O-rings

POWER CABLES/HOSES



	STANDARD	SUPER-FLEX
LENGTH	TRI-FLEX CABLES	3-PIECE ASSEMBLY
12-1/2 ft. (3.8m)	212TF	212SF
25 ft. (7.6m)	225TF	225SF
LENGTH	POWER CABLE	POWER CABLE
12-1/2 ft. (3.8m)	212PC	212PCSF
25 ft. (7.6m)	225PC	225PCSF
LENGTH	WATER HOSE	WATER HOSE
12-1/2 ft. (3.8m)	212WH	212WHSF
25 ft. (7.6m)	225WH	225WHSF
LENGTH	ARGON HOSE	ARGON HOSE
12-1/2 ft. (3.8m)	212AH	212AHSF
25 ft. (7.6m)	225AH	225AHSF

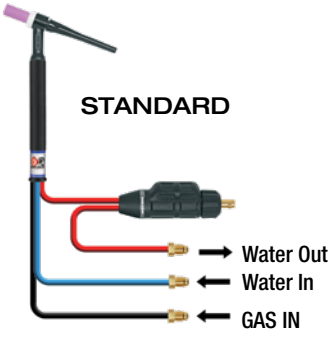
POWER CABLE ADAPTER

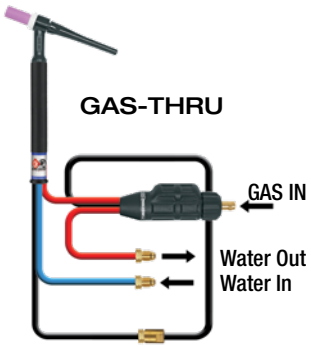
2PCA | 45V11 7/8"-14 LH 5/8"-18 LH

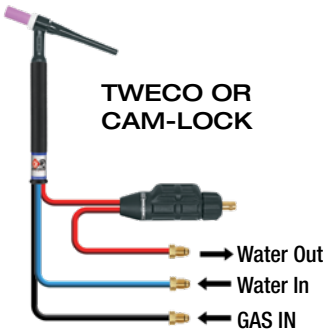
HANDLE Part # HS

DINSE CONNECTORS

DINSE 25 (3/8" 9.5mm) *DINSE 35* (1/2" 12.8mm) *DINSE 25M* (3/8" 9.5mm) *DINSE 35M* (1/2" 12.8mm)







STANDARD

DINSE SIZE	ORDER #
3/8" (9mm)	SLWHAT-25
1/2" (12.8mm)	SLWHAT-35

GAS-THRU

DINSE SIZE	ORDER #
3/8" (9mm)	SLWHAT-25M
1/2" (12.8mm)	SLWHAT-35M

TWECO / CAM-LOCK

DINSE STYLE	ORDER #
TWECO	SLWHAT-T
CAM-LOCK	SLWHAT-CL

AMP 350

TL18

WATER COOLED | **SAME AS TL300**
350 amp ACHF or DCSP @ 100%
3 Series Head Accessories

TL18 & TL18V | RIGID | TRIM-LINE SERIES

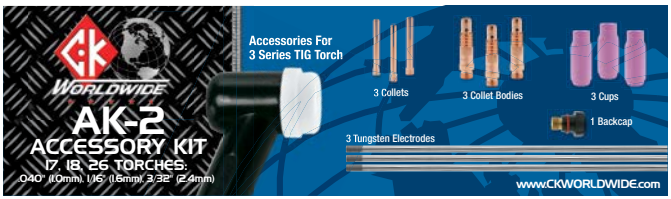
HEAD STYLE	CABLE	CABLE LENGTH	3-PIECE VINYL #	SUPER-FLEX #	SPECIFICATIONS
RIGID	3-Piece Vinyl/ SUPER-FLEX	12.5 ft. (3.8m)	TL18-12	TL18-12SF	8" (20.3cm)
		25 ft. (7.6m)	TL18-25	TL18-25SF	5 oz (141gm)
RIGID + VALVE	3-Piece Vinyl/ SUPER-FLEX	12.5 ft. (3.8m)	TL18V-12	TL18V-12SF	7/8" x 14RH power cable connections
		25 ft. (7.6m)	TL18V-25	TL18V-25SF	

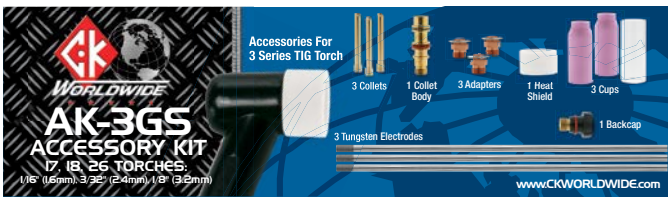
TL18 & TL18V | FLEX | TRIM-LINE SERIES

HEAD STYLE	CABLE	CABLE LENGTH	TRI-FLEX #	SUPER-FLEX #	SPECIFICATIONS
FLEX	3-Piece Vinyl/ SUPER-FLEX	12.5 ft. (3.8m)	TL18-12 FX	TL18-12SF FX	8" (20.3cm)
		25 ft. (7.6m)	TL18-25 FX	TL18-25SF FX	5 oz (141gm)
FLEX + VALVE	3-Piece Vinyl/ SUPER-FLEX	12.5 ft. (3.8m)	TL18V-12 FX	TL18V-12SF FX	7/8" x 14RH power cable connections
		25 ft. (7.6m)	TL18V-25 FX	TL18V-25SF FX	

REPLACEMENT TORCH BODIES

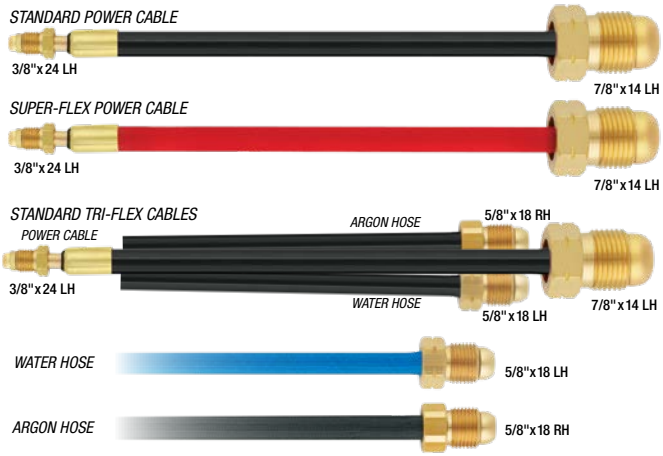
PART #	STYLE
TL18 RG	RIGID
TL18 FX	FLEX
TL18V RG	VALVED RIGID
TL18V FX	VALVED FLEX





3 Series Accessory Kits, available on page 21, are convenient, pre-packaged kits containing common consumables.

POWER CABLES/HOSES



LENGTH	STANDARD POWER CABLE	SUPER-FLEX POWER CABLE
12-1/2 ft. (3.8m)	**312PC** (40V64)	**312PCSF** (40V64SF)
25 ft. (7.6m)	**325PC** (41V29)	**325PCSF** (41V29SF)

LENGTH	TRI-FLEX CABLES	3-PIECE ASSEMBLY
12-1/2 ft. (3.8m)	**312TF**	**312SF**
25 ft. (7.6m)	**325TF**	**325SF**

LENGTH	WATER HOSE	WATER HOSE
12-1/2 ft. (3.8m)	**312WH** (40V74)	**312WHSF** (40V74SF)
25 ft. (7.6m)	**325WH** (41V32)	**325WHSF** (41V32SF)

LENGTH	ARGON HOSE	ARGON HOSE
12-1/2 ft. (3.8m)	**312AH** (40V75)	**312AHSF** (40V75SF)
25 ft. (7.6m)	**325AH** (41V30)	**325AHSF** (41V30SF)

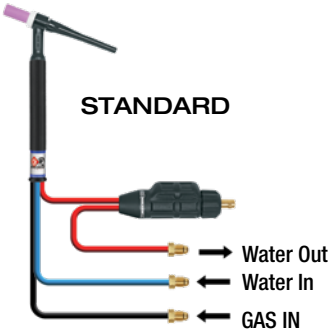
POWER CABLE ADAPTER

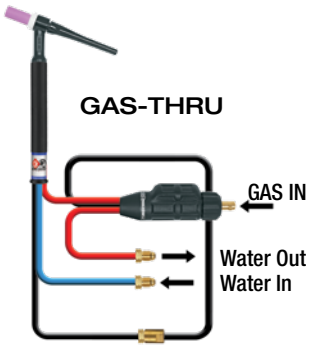
2PCA | 45V11 7/8"-14 LH 5/8"-18 LH

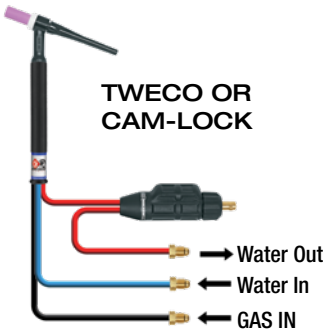
HANDLE Part # H23

DINSE CONNECTORS

DINSE 25 (3/8" 9.5mm) *DINSE 35* (1/2" 12.8mm) *DINSE 25M* (3/8" 9.5mm) *DINSE 35M* (1/2" 12.8mm)







STANDARD

DINSE SIZE	ORDER #
3/8" (9mm)	SLWHAT-25
1/2" (12.8mm)	SLWHAT-35

GAS-THRU

DINSE SIZE	ORDER #
3/8" (9mm)	SLWHAT-25M
1/2" (12.8mm)	SLWHAT-35M

TWECO / CAM-LOCK

DINSE STYLE	ORDER #
TWECO	SLWHAT-T
CAM-LOCK	SLWHAT-CL

AMP 500

CK510

WATER COOLED
500 amp ACHF or DCSP @ 100%
3 Series or 51 Series Head Accessories

SMALLEST 500 AMP TORCH IN THE WORLD!

CK510 | HEAVY DUTY

HEAD STYLE	CABLE	CABLE LENGTH	STANDARD #	SUPER-FLEX #	SPECIFICATIONS
RIGID	3 Piece/ Super-Flex	12.5 ft. (3.8m)	CK5112	CK5112SF	9-1/4" (23.5cm)
		25 ft. (7.6m)	CK5125	CK5125SF	
RIGID + VALVE	3 Piece/ Super-Flex	12.5 ft. (3.8m)	CK5112V	CK5112VSF	6-3/4 oz (191gm)
		25 ft. (7.6m)	CK5125V	CK5125VSF	

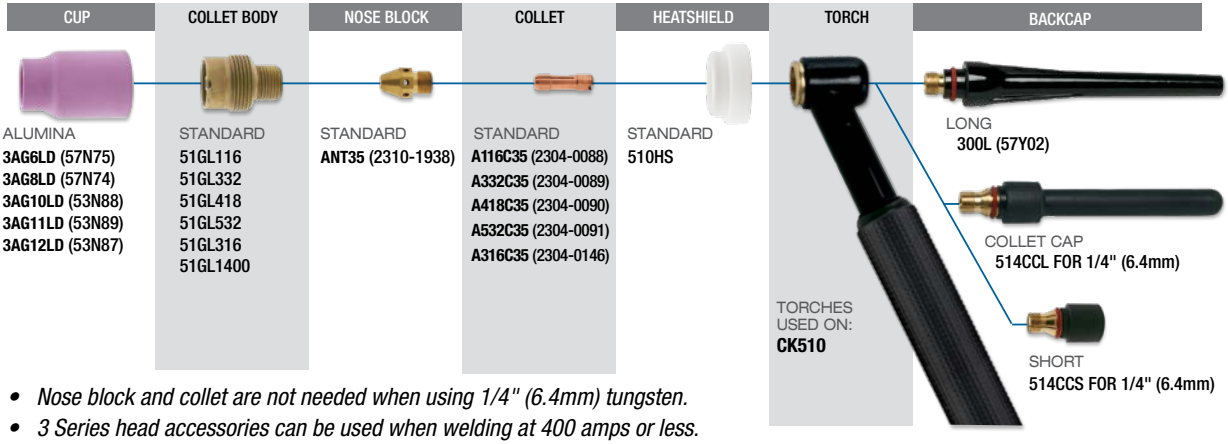
Uses .020" ~ 1/4" (0.5mm ~ 6.4mm) Tungsten

REPLACEMENT TORCH BODIES

PART #	STYLE
CK510 RG	RIGID
CK510V RG	VALVED RIGID

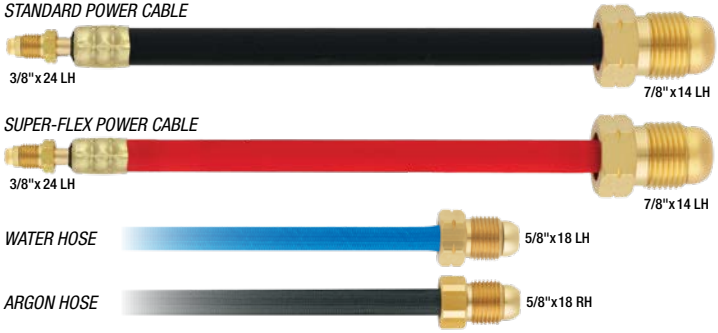
51 SERIES CONSUMABLES

THREAD PATTERN: **3/8"x 32** COLLET BODY: **5/8"x18**



- *Nose block and collet are not needed when using 1/4" (6.4mm) tungsten.*
- *3 Series head accessories can be used when welding at 400 amps or less.*

POWER CABLES/HOSES



LENGTH	STANDARD POWER CABLE	SUPER-FLEX POWER CABLE
12-1/2 ft. (3.8m)	512PC	512PCSF
25 ft. (7.6m)	525PC	525PCSF

LENGTH	WATER HOSE	WATER HOSE
12-1/2 ft. (3.8m)	312AH	312AHSF
25 ft. (7.6m)	325AH	325AHSF

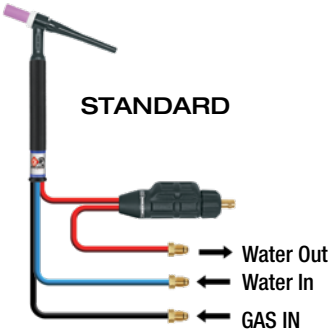
LENGTH	ARGON HOSE	ARGON HOSE
12-1/2 ft. (3.8m)	312WH	312WHSF
25 ft. (7.6m)	325WH	325WHSF

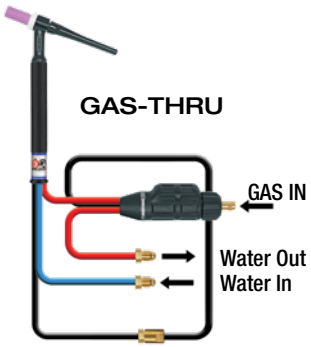
POWER CABLE ADAPTER

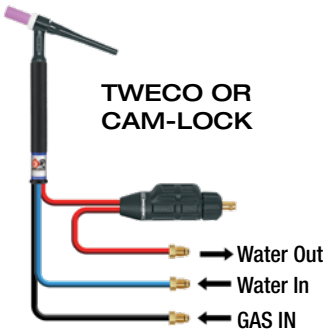
2PCA | 45V11

HANDLE Part # HL

DINSE CONNECTORS







STANDARD

DINSE SIZE	ORDER #
3/8" (9mm)	SLWHAT-25
1/2" (12.8mm)	SLWHAT-35

GAS-THRU

DINSE SIZE	ORDER #
3/8" (9mm)	SLWHAT-25M
1/2" (12.8mm)	SLWHAT-35M

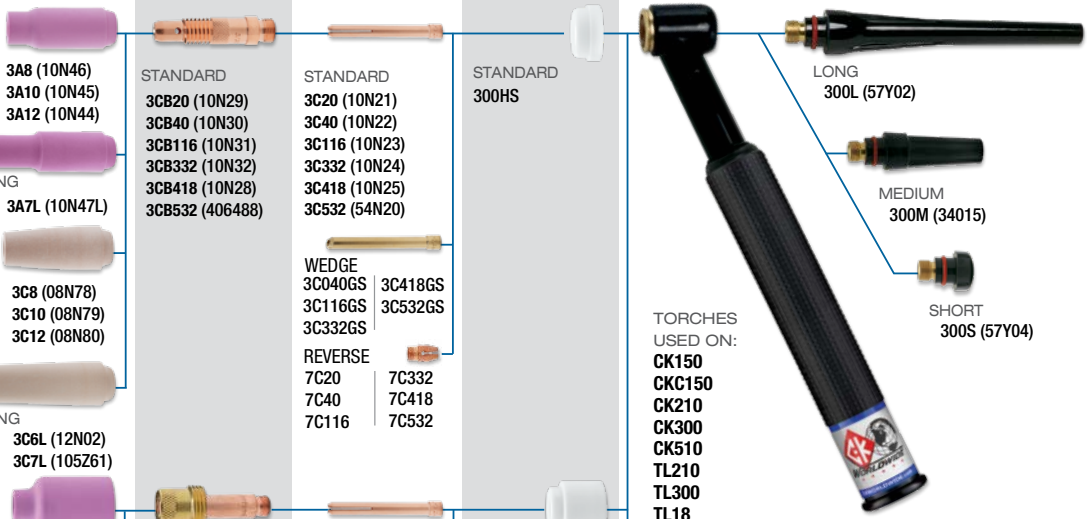
TWECO / CAM-LOCK

DINSE STYLE	ORDER #
TWECO	SLWHAT-T
CAM-LOCK	SLWHAT-CL

3 SERIES PARTS (10N) TORCH MODELS 17, 18, 26

THREAD PATTERN: **3/8" x 32**

CUP	COLLET BODY	COLLET	HEATSHIELD	TORCH	BACKCAP



ALUMINA
3A4 (10N50)
3A5 (10N49)
3A6 (10N48)
3A7 (10N47)
3A8 (10N46)
3A10 (10N45)
3A12 (10N44)

ALUMINA - LONG
3A5L (10N49L)
3A6L (10N48L)
3A7L (10N47L)

CERAMIC
3C4 (105Z43)
3C5 (105Z42)
3C6 (105Z44)
3C7 (105Z45)
3C8 (08N78)
3C10 (08N79)
3C12 (08N80)

CERAMIC - LONG
3C4L (12N03)
3C5L (105Z60)
3C6L (12N02)
3C7L (105Z61)

ALUMINA - GAS LENS
3AG4 (54N18)
3AG5 (54N17)
3AG6 (54N16)
3AG7 (54N15)
3AG8 (54N14)
3AG11 (54N19)
3AG12

ALUMINA LONG - GAS LENS
OVERALL LENGTH 3" (7.6cm)
3AG5L (54N17L)
3AG6L (54N16L)
3AG7L (54N15L)
3AG8L (54N14L)

CERAMIC - GAS LENS
3CG4 (54N35)
3CG5 (54N34)
3CG6 (54N33)
3CG7 (54N32)
3CG8 (54N31)
3CG11 (54N36)
3CG14

ALUMINA - LARGE DIAMETER
3AG6LD (57N75)
3AG8LD (57N74)
3AG10LD (53N88)
3AG11LD (53N89)
3AG12LD (53N87)

ALUMINA LONG - LARGE DIAMETER
OVERALL LENGTH 2.75" (6.9cm)
3AG6LDL (57N75L)
3AG8LDL (57N74L)
3AG10LDL (53N88L)
3AG12LDL (53N87L)

STANDARD
3CB20 (10N29)
3CB40 (10N30)
3CB116 (10N31)
3CB332 (10N32)
3CB418 (10N28)
3CB532 (406488)

GAS LENS
3GL20 (45V29)
3GL40 (45V24)
3GL116 (45V25)
3GL332 (45V26)
3GL418 (45V27)
3GL532 (45V28)

LARGE DIAMETER
3GL116LD (45V116)
3GL332LD (45V64)
3GL418LD (995795)
3GL532LD (45V63)

ALUMINA EXTRA LONG - LARGE DIAMETER
OVERALL LENGTH 3.25" (8.3cm)
3AG6LDXL (57N75XL)
3AG8LDXL (57N74XL)
3AG10LDXL (53N88XL)
3AG12LDXL (53N87XL)

STANDARD
3C20 (10N21)
3C40 (10N22)
3C116 (10N23)
3C332 (10N24)
3C418 (10N25)
3C532 (54N20)

WEDGE
3C040GS
3C116GS
3C332GS
3C418GS
3C532GS

REVERSE
7C20
7C40
7C116
7C332
7C418
7C532

STANDARD
SEE ABOVE

WEDGE
SEE ABOVE

REVERSE
SEE ABOVE

STANDARD
SEE ABOVE

WEDGE
SEE ABOVE

REVERSE
SEE ABOVE

STANDARD
300HS

GAS LENS
3GHS

LARGE DIAMETER
3GHSLD

LONG
300L (57Y02)

MEDIUM
300M (34015)

SHORT
300S (57Y04)

TORCHES USED ON:
CK150
CKC150
CK210
CK300
CK510
TL210
TL300
TL18
TL26
FL3L
CK17
CK18
CK26
CKM350
CWHTL300*
CWH350*
CWM350*
**Contact CK Worldwide for heatshield.*

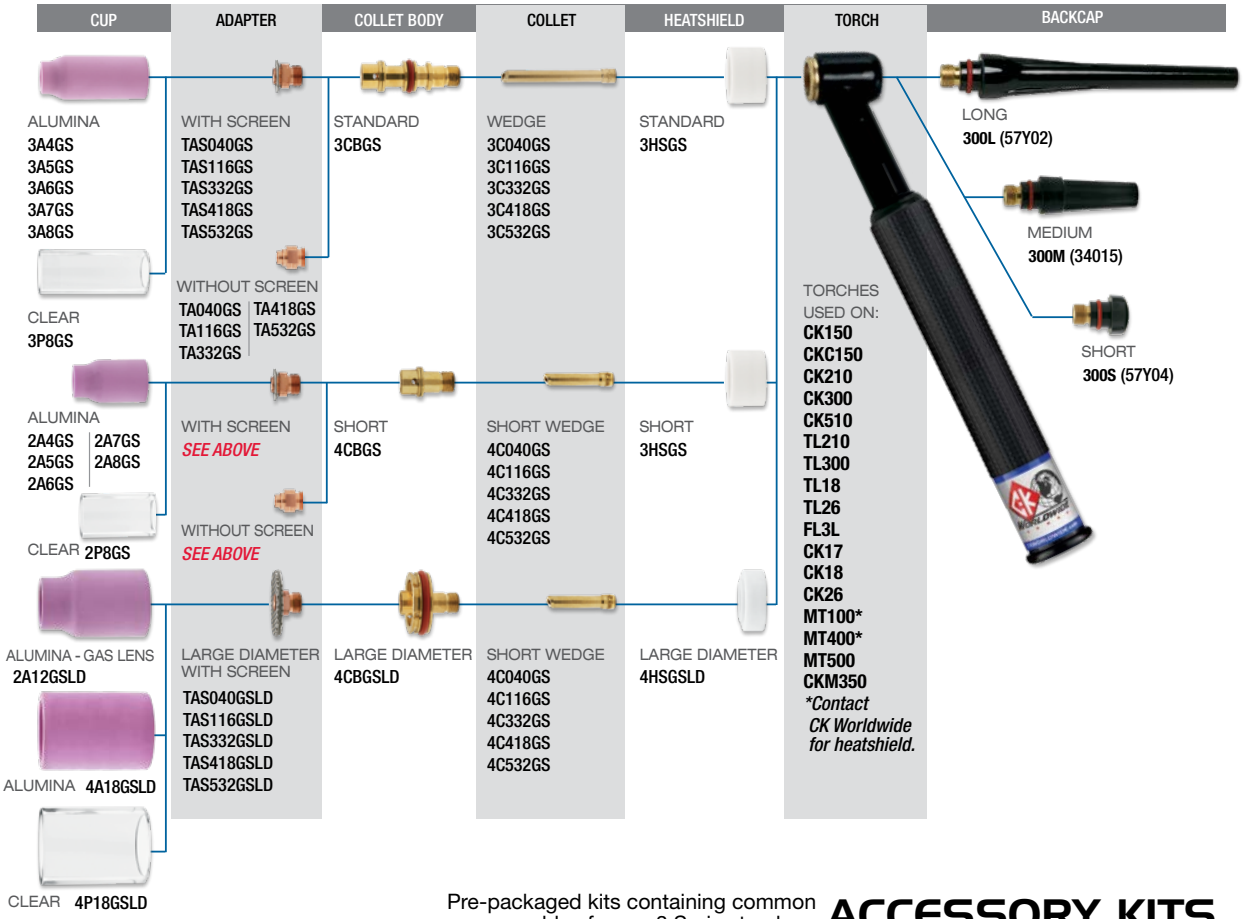
TUNGSTEN ELECTRODE CONVERSION CHART

SIZE SUFFIX	INCHES	MILLIMETERS
20	.020"	.5mm
40	.040"	1.0mm
116	1/16"	1.6mm
332	3/32"	2.4mm
418	1/8"	3.2mm
532	5/32"	4.0mm
316	3/16"	4.8mm
14	1/4"	6.4mm

3C332 *Size Suffix*

3 SERIES GAS SAVER PARTS TORCH MODELS 17, 18, 26

THREAD PATTERN: **3/8" x 32**



Pre-packaged kits containing common consumables for our 3 Series torches.

ACCESSORY KITS

3 SERIES | ORDER #AK-2

ITEM *(Quantity 1 Each)*	PART #
Short Backcap	**300S** (57Y04)
.040" (1.0mm) Collet	**3C40** (10N22)
1/16" (1.6mm) Collet	**3C116** (10N23)
3/32" (2.4mm) Collet	**3C332** (10N24)
.040" (1.0mm) Collet Body	**3CB40** (10N30)
1/16" (1.6mm) Collet Body	**3CB116** (10N31)
3/32" (2.4mm) Collet Body	**3CB332** (10N32)
#4 (1/4" 6.4mm) Alumina Cup	**3A4** (10N50)
#5 (5/16" 8.0mm) Alumina Cup	**3A5** (10N49)
#6 (3/8" 9.6mm) Alumina Cup	**3A6** (10N48)
.040" (1.0mm) x 7" 2% Ceriated Tungsten	**T0407GC2**
1/16" (1.6mm) x 7" 2% Ceriated Tungsten	**T1167GC2**
3/32" (2.4mm) x 7" 2% Ceriated Tungsten	**T3327GC2**

3 SERIES GAS SAVER | ORDER #AK-3GS

ITEM *(Quantity 1 Each)*	PART #
Short Backcap	**300S** (57Y04)
1/16" (1.6mm) Collet	**3C116GS**
3/32" (2.4mm) Collet	**3C332GS**
1/8" (3.2mm) Collet	**3C418GS**
1/16" (1.6mm) Tungsten Adapter	**TAS116GS**
3/32" (2.4mm) Tungsten Adapter	**TAS332GS**
1/8" (3.2mm) Tungsten Adapter	**TAS418GS**
Collet Body	**3CBGS**
Heatshield	**3HSGS**
#5 (5/16" 8.0mm) Alumina Cup	**3A5GS**
#6 (3/8" 9.6mm) Alumina Cup	**3A6GS**
#8 (1/2" 12.8mm) Pyrex Cup	**3P8GS**
1/16" (1.6mm) x 7" 2% Ceriated Tungsten	**T1167GC2**
3/32" (2.4mm) x 7" 2% Ceriated Tungsten	**T3327GC2**
1/8" (3.2mm) x 7" 2% Ceriated Tungsten	**T187GC2**

STANDARD GAS SAVER™ KITS

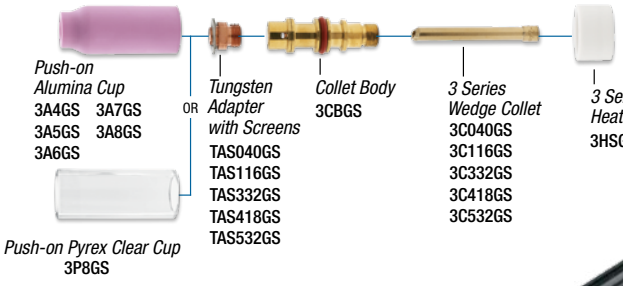
Use these conversion kits and save up to 40% of shield gas consumption plus save money on replacement parts.

- Provides better gas coverage versus standard collet bodies
- Tungsten stick-out can be up to 6 times the electrode diameter
- Clear Pyrex or Alumina push on nozzles available
- Improves visibility
- Less expensive replacement parts than standard gas lenses
- Fits most standard silicone rubber insulated torch bodies
- Replaceable screen adapter

3 SERIES | STANDARD | GAS SAVER KITS

TORCHES	TUNGSTEN	CUP TYPE	ORDER #
CK17, CK18, CK26 (3 SERIES)	1/16" (1.6mm)	ALUMINA	D3GS116
	3/32" (2.4mm)	ALUMINA	D3GS332
	1/8" (3.2mm)	ALUMINA	D3GS418
	1/16" (1.6mm)	PYREX	D3GS116-P
	3/32" (2.4mm)	PYREX	D3GS332-P
	1/8" (3.2mm)	PYREX	D3GS418-P

COMPLETE FRONT-END KIT INCLUDES ITEMS BELOW (ONE EACH):



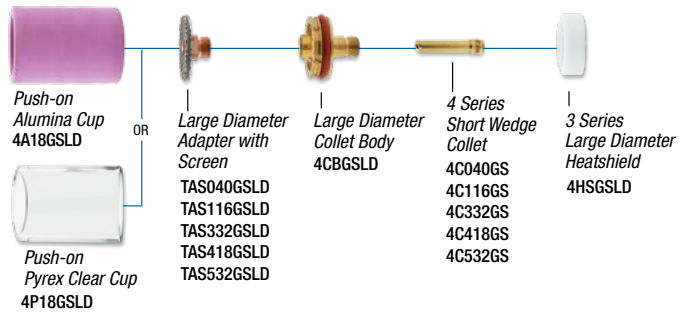
LARGE DIAMETER GAS SAVER™ KITS

With a cup orifice of 1-1/8" (28.5mm) the Large Diameter Gas Saver™ kit provides a large inert atmosphere for the welding of reactive metals such as titanium, molybdenum, nickel-based and aluminum-based alloys as well as non-reactive metals like stainless steel.

3 SERIES | LRG. DIAMETER | GAS SAVER KITS

TORCHES	TUNGSTEN	CUP TYPE	ORDER #
CK17, CK18, CK26 (3 SERIES)	1/16" (1.6mm)	ALUMINA	D4GS116LD-A
	3/32" (2.4mm)	ALUMINA	D4GS332LD-A
	1/8" (3.2mm)	ALUMINA	D4GS418LD-A
	1/16" (1.6mm)	PYREX	D4GS116LD
	3/32" (2.4mm)	PYREX	D4GS332LD
	1/8" (3.2mm)	PYREX	D4GS418LD

COMPLETE FRONT-END KIT INCLUDES ITEMS BELOW (ONE EACH):



REMOTE AMPERAGE CONTROLS

- Available in either Steady-Grip™, rotary, linear slide, or spring loaded wheel configurations
- Fits most makes and models of TIG power supplies
- Controls contactor on / off, gas solenoids and full range current output
- Available with a Velcro strap or built into the torch handle
- Contact CK for order numbers

ROTARY
Velcro Straps

LINEAR SLIDE
Built-In – Handle
(For CK torches)

SPRING LOADED WHEEL
Velcro Straps

LEATHER VELCRO HOSE COVERS

ABRASION, HEAT, OIL, FLAME AND UV RESISTANT

TORCHES	LENGTH*	WIDTH	INSIDE DIAMETER	ORDER#
CK9, CK17, CK20	10 ft. (3.0m)	3-3/4" (95mm)	1" (25mm)	212HCLV
	22 ft. (7.0m)	3-3/4" (95mm)	1" (25mm)	225HCLV
CK18, CK26	10 ft. (3.0m)	4-1/2" (114mm)	1-1/4" (31mm)	312HCLV
	22 ft. (7.0m)	4-1/2" (114mm)	1-1/4" (31mm)	325HCLV

TUNGSTEN ELECTRODE GRINDER

- Enclosed electrode grinder
- Minimizes grinding dust exposure to both the user and the environment
- Standard head for diameters:
  .040" (1.0mm)
  1/16" (1.6mm)
  3/32" (2.4mm)
  1/8" (3.2mm)
- Angles adjustable from 20°– 60°
- Consistent tip geometry
- Eliminate grinding wheel contamination

SPECIFICATIONS

Voltage ..... **120V AC**
Single Phase..... **60 Hz**
Power ..... **710 W**
Amp..... **6.45 A**
No Load Speed ..... **34,000 RPM**
Weight
..... **4.1 lbs. (1,860 grams)**
Ship Weight
..... **10.1 lbs. (4,581 grams)**
Warranty..... **2 years**

230V available, contact us for more information

TURBO-SHARP® X

TROUBLESHOOTING GUIDE

PROBLEM	CAUSE	SOLUTION
Excessive Electrode Consumption	Inadequate gas flow	*Increase gas flow*
	Improper size electrode for current required	*Use larger electrode*
	Operating of reverse polarity	*Use larger electrode or change polarity*
	Electrode contamination	*Remove contaminated portion, then prepare again*
	Excessive heating inside torch	*Replace collect, try wedge collet or reverse collet*
	Electrode oxidizing during cooling	*Increase gas post flow time to 1 sec. per 10 amps*
	Shield gas incorrect	*Change to proper gas (no oxygen or Co2)*
Erratic Arc	Incorrect voltage (arc too long)	*Maintain short arc length*
	Current too low for electrode size	*Use smaller electrode or increase current*
	Electrode contaminated	*Remove contaminated portion, then prepare again*
	Joint too narrow	*Open joint groove*
	Contaminated shield gas, dark stains on the electrode or weld bead indicate contamination	*Most common cause is moisture or aspirated air in gas stream. Use welding grade gas only. Find the source of the contamination and eliminate it promptly.*
	Base metal is oxidized, dirty or oily	*Use appropriate chemical cleaners, wire brush or abrasives prior to welding.*
Inclusion of Tungsten or Oxides in Weld	Poor scratch starting technique	*Many codes do not allow scratch starts. Use copper strike plate. Use high-frequency arc starter.*
	Excessive current for tungsten size used	*Reduce current or use larger electrode*
	Accidental contact of electrode with puddle	*Maintain proper arc length*
	Accidental contact of electrode to filler rod	*Maintain a distance between electrode and filler metal*
	Using excessive electrode extension	*Reduce electrode extension to recommended limits*
	Inadequate shielding or excessive drafts	*Increase gas flow, shield arc from wind, or use gas lens*
	Wrong gas	*Do not use Ar-02 or Ar-Co2 GMA (MIG) gases for TIG welding*
	Heavy surface oxides not being removed	*Use ACHF, adjust balance control for maximum cleaning, or wire brush and clean the weld joint prior to welding.*
Porosity in Weld Deposit	Entrapped impurities, hydrogen, air, nitrogen, water vapor	*Do not weld on wet material. Remove condensation from line*
	Defective gas hose or loose connection	*Check hoses and connections for leaks*
	Filler material is damp (particularly aluminum)	*Dry filler metal in oven prior to welding*
	Filler material is oily or dusty	*Replace filler metal*
	Alloy impurities in the base metal such as sulphur, phosphorus, lead and zinc	*Change to a different alloy composition which is weldable. These impurities can cause a tendency to crack when hot.*
	Excessive travel speed with rapid freezing of weld trapping gases before they escape	*Lower the travel speed*
	Contaminated gas shield	*Replace the shielding gas*
Cracking in Welds	Hot cracking in heavy section or with metals which are hot shorts	*Preheat, increase weld bead cross-section size, change weld bead contour.*
	Crater cracks due to improperly breaking the arc or terminating the weld at the joint edge	*Reverse direction and weld back into previous weld at edge. Use remote or foot control to manually down slope current.*
	Post weld cold cracking, due to excessive joint restraint, rapid cooling, or hydrogen embrittlement	*Preheat prior to welding, use pure to non-contaminated gas. Increase the bead size. Prevent craters or notches. Change the weld joint design.*
	Centerline cracks in single pass welds	*Increase bead size. Decrease root opening, use preheat, prevent craters.*
	Underbead cracking from brittle microstructure	*Eliminate sources of hydrogen, joint restraint, and use preheat.*
Inadequate Shielding	Gas flow blockage or leak in hoses or torch	*Locate and eliminate blockage or leak.*
	Excessive travel speed exposes molten weld to atmospheric contamination	*Use slower travel speed or carefully increase the flow rate to a safe level below creating excessive turbulence. Use trailing shield cup.*
	Wind or drafts	*Set up screens around the weld area*
	Excessive electrode stickout	*Reduce electrode stickout. Use a larger size cup.*
	Excessive turbulence in gas stream	*Change to gas saver parts or gas lens parts.*
Arc Blow	Induced magnetic field from DC weld current	*Change to ACHF current. Rearrange the split ground connection.*
	Arc is unstable due to magnetic influences	*Reduce weld current and use arc length as short as possible.*
Short Parts Life	Short water cooled leads life	*Verify coolant flow direction, return flow must be on the power cable lead.*
	Cup shattering or breaking in use	*Change cup size or type, change tungsten position, refer to CK Worldwide technical specifications available at www.CKWorldwide.com*
	Short collet life	*Ordinary style is split and twists or jams, change to wedge style.*
	Short torch head life	*Do not operate beyond rated capacity, use water cooled model, do not bend rigid torches.*
	Gas hoses ballooning, bursting or blowing off while hot	*Incorrect flowmeter, TIG flowmeters operate at 35 psi with low flows. MIG flowmeters operate with high flows at 65 psi or more.*

CK WORLDWIDE

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CK Worldwide, Inc., PO Box 1636, Auburn, WA 98071

CONNECT WITH US ON:

www.CKWORLDWIDE.com