

Hypertherm®

Powermax65/85/105 SYNC®

Parts Guide



810490 – REVISION 3

ENGLISH



Ph: 0800 699 353
sales@prolinewelding.com

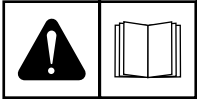
Powermax65/85/105 SYNC

Parts Guide

810490
REVISION 3

ENGLISH
Original instructions

February 2022



ENGLISH

WARNING! Before operating any Hypertherm equipment, read the safety instructions in your product's manual, the *Safety and Compliance Manual* (80669C), *Waterjet Safety and Compliance Manual* (80943C), and *Radio Frequency Warning Manual* (80945C). Failure to follow safety instructions can result in personal injury or in damage to equipment.

Copies of the manuals can come with the product in electronic and printed formats. Electronic copies are also on our website. Many manuals are available in multiple languages at www.hypertherm.com/docs.

BG (БЪЛГАРСКИ/BULGARIAN)

ПРЕДУПРЕЖДЕНИЕ! Преди да работите с което и да е оборудване Hypertherm, прочетете инструкциите за безопасност в ръководството на вашия продукт, „Инструкция за безопасност и съответствие“ (80669C), „Инструкция за безопасност и съответствие на Waterjet“ (80943C) и „Инструкция за предупреждение за радиочестота“ (80945C).

Продуктът може да е съпроводен от копия на ръководствата в електронен и в печатен формат. Тези в електронен формат са достъпни също на уебсайта ни. Много ръководства са налице на няколко езика на адрес www.hypertherm.com/docs.

CS (ČESKY/CZECH)

VAROVÁNÍ! Před uvedením jakéhokoli zařízení Hypertherm do provozu si přečtěte bezpečnostní pokyny v příručce k produktu a v *Manuálu pro bezpečnost a dodržování předpisů* (80669C), *Manuálu pro bezpečnost a dodržování předpisů při řezání vodním paprskem* (80943C) a *Manuálu varování ohledně rádiových frekvencí* (80945C).

Kopie příruček mohou být součástí dodávky produktu, a to v elektronické i tištěné formě. Elektronické kopie jsou k dispozici i na našich webových stránkách. Mnoho příruček je k dispozici v různých jazycích na stránce www.hypertherm.com/docs.

DA (DANSK/DANISH)

ADVARSEL! Inden Hypertherm udstyr tages i brug skal sikkerhedsinstruktionerne i produktets manual og i *Manual om sikkerhed og overholdelse af krav* (80669C), *Manual om sikkerhed og overholdelse af krav for vandstråleskæring* (80943C), og *Manual om radiofrekvensadvarel* (80945C), gennemlæses.

Kopier af manualerne kan leveres med produktet i elektronisk og trykt format. Elektroniske kopier findes også på vores hjemmeside. Mange manualer er tilgængelige på flere sprog på www.hypertherm.com/docs.

DE (DEUTSCH/GERMAN)

WARNUNG! Bevor Sie ein Hypertherm-Gerät in Betrieb nehmen, lesen Sie bitte die Sicherheitsanweisungen in Ihrer Bedienungsanleitung, das *Handbuch für Sicherheit und Übereinstimmung* (80669C), das *Handbuch für Sicherheit und Compliance bei Wasserstrahl-Schneidanlagen* (80943C) und das *Handbuch für Hochfrequenz-Warnung* (80945C).

Bedienungsanleitungen und Handbücher können dem Gerät in elektronischer Form oder als Druckversion beiliegen. In elektronischer Form liegen sie auch auf unserer Website vor. Viele Handbücher stehen in verschiedenen Sprachen auf www.hypertherm.com/docs zur Verfügung.

ES (ESPAÑOL/SPANISH)

¡ADVERTENCIA! Antes de operar cualquier equipo Hypertherm, lea las instrucciones de seguridad del manual de su producto, del *Manual de seguridad y cumplimiento* (80669C), del *Manual de seguridad y cumplimiento en corte con chorro de agua* (80943C) y del *Manual de advertencias de radiofrecuencia* (80945C).

El producto puede incluir copias de los manuales en formato digital e impreso. Las copias digitales también están en nuestra página web. Hay diversos manuales disponibles en varios idiomas en www.hypertherm.com/docs.

ET (EESTI/ESTONIAN)

HOIATUS! Enne Hyperthermi mis tahes seadme kasutamist lugege läbi toote kasutusjuhendis olevad ohutusjuhendid ning *Ohutus- ja vastavusjuhend* (80669C), *Veejoo ohutuse ja vastavuse juhend* (80943C) ja *Raadiosageduse hoiatusjuhend* (80945C). Ohutusjuhiste eiramine võib põhjustada vigastusi ja kahjustada seadmeid.

Juhiste koopiad võivad tootega kaasas olla elektrooniliselt või trükituna. Elektroonilised koopiad on saadaval ka meie veebilehel. Paljud kasutusjuhendid on erinevates keeltes saadaval veebilehel www.hypertherm.com/docs.

FI (SUOMI/FINNISH)

VAROITUS! Ennen minkään Hypertherm-laitteen käyttöä lue tuotteen käyttöoppaassa olevat turvallisuusohjeet, *turvallisuuden ja vaatimustenmukaisuuden käsikirja* (80669C), *vesileikkauksen turvallisuuden ja vaatimustenmukaisuuden käsikirja* (80943C) ja *radiotaajuusvaroitusten käsikirja* (80945C).

Käyttöoppaiden kopiot voivat olla tuotteen mukana sähköisessä ja tulostetussa muodossa. Sähköiset kopiot ovat myös verkkosivustollamme. Monet käyttöoppaat ovat myös saatavissa useilla kielillä www.hypertherm.com/docs.

FR (FRANÇAIS/FRENCH)

AVERTISSEMENT! Avant d'utiliser tout équipement Hypertherm, lire les consignes de sécurité du manuel de votre produit, du *Manuel de sécurité et de conformité* (80669C), du *Manuel de sécurité et de conformité du jet d'eau* (80943C) et du *Manuel d'avertissement relatif aux radiofréquences* (80945C).

Les exemplaires des manuels qui accompagnent le produit peuvent être sous forme électronique ou papier. Les manuels sous forme électronique se trouvent également sur notre site Internet. Plusieurs manuels sont offerts en plusieurs langues à www.hypertherm.com/docs.

GR (ΕΛΛΗΝΙΚΑ/GREEK)

ΠΡΟΕΙΔΟΠΟΙΗΣΗ! Πριν θέσετε σε λειτουργία οποιονδήποτε εξοπλισμό της Hypertherm, διαβάστε τις οδηγίες ασφαλείας στο εγχειρίδιο του προϊόντος και στο *εγχειρίδιο ασφάλειας και συμμόρφωσης* (80669C), στο *εγχειρίδιο ασφάλειας και συμμόρφωσης του waterjet* (80943C) και στο *εγχειρίδιο προειδοποιήσεων για τις ραδιοσυχνότητες* (80945C).

Το προϊόν μπορεί να συνοδεύεται από αντίγραφα των εγχειριδίων σε ηλεκτρονική και έντυπη μορφή. Τα ηλεκτρονικά αντίγραφα υπάρχουν επίσης στον ιστότοπό μας. Πολλά εγχειρίδια είναι διαθέσιμα σε διάφορες γλώσσες στο www.hypertherm.com/docs.

HU (MAGYAR/HUNGARIAN)

VIGYÁZAT! Mielőtt bármilyen Hypertherm berendezést üzemeltetne, olvassa el a biztonsági információkat a termék kézikönyvében, a *Biztonsági és szabálykövetési kézikönyvben* (80669C), a *Vízugaras biztonsági és szabálykövetési kézikönyvben* (80943C) és a *Rádiófrekvenciás figyelmeztetéseket tartalmazó kézikönyvben* (80945C).

A termékhez a kézikönyv példányai elektronikus és nyomtatott formában is mellékelve lehetnek. Az elektronikus példányok webhelyünkön is megtalálhatók. Számos kézikönyv áll rendelkezésre több nyelven a www.hypertherm.com/docs weboldalon.

ID (BAHASA INDONESIA/INDONESIAN)

PERINGATAN! Sebelum mengoperasikan peralatan Hypertherm, bacalah petunjuk keselamatan dalam manual produk Anda, *Manual Keselamatan dan Kepatuhan* (80669C), *Manual Keselamatan dan Kepatuhan Jet Air* (80943C), dan *Manual Peringatan Frekuensi Radio* (80945C). Kegagalan mengikuti petunjuk keselamatan dapat menyebabkan cedera pribadi atau kerusakan pada peralatan.

Produk mungkin disertai salinan manual atau petunjuk dalam format elektronik maupun cetak. Salinan elektronik juga tersedia di situs web kami. Berbagai manual tersedia dalam beberapa bahasa di www.hypertherm.com/docs.

IT (ITALIANO/ITALIAN)

AVVERTENZA! Prima di usare un'attrezzatura Hypertherm, leggere le istruzioni sulla sicurezza nel manuale del prodotto, nel *Manuale sulla sicurezza e la conformità* (80669C), nel *Manuale sulla sicurezza e la conformità Waterjet* (80943C) e nel *Manuale di avvertenze sulla radiofrequenza* (80945C).

Copie del manuale possono accompagnare il prodotto in formato cartaceo o elettronico. Le copie elettroniche sono disponibili anche sul nostro sito web. Molti manuali sono disponibili in diverse lingue all'indirizzo www.hypertherm.com/docs.

JA (日本語/JAPANESE)

警告! Hypertherm 機器を操作する前に、この製品説明書にある安全情報、「安全とコンプライアンスマニュアル」(80669C)、「ウォータージェット的安全とコンプライアンス」(80943C)、「高周波警告」(80945C)をお読みください。

説明書のコピーは、電子フォーマット、または印刷物として製品に同梱されています。電子コピーは当社ウェブサイトにも掲載されています。説明書の多くは www.hypertherm.com/docs にて複数の言語でご用意しています。

KO (한국어/KOREAN)

경고! Hypertherm 장비를 사용하기 전에 제품 설명서와 안전 및 규정 준수 설명서(80669C), 워터젯 안전 및 규정 준수 설명서(80943C) 그리고 무선 주파수 경고 설명서(80945C)에 나와 있는 안전 지침을 읽으십시오.

전자 형식과 인쇄된 형식으로 설명서 사본이 제품과 함께 제공될 수 있습니다. 전자 사본도 Hypertherm 웹사이트에서 보실 수 있으며 설명서 사본은 www.hypertherm.com/docs 에서 여러 언어로 제공됩니다.

NE (NEDERLANDS/DUTCH)

WAARSCHUWING! Lees voordat u Hypertherm-apparaat gebruikt de veiligheidsinstructies in de producthandleiding, in de *Veiligheids- en nalevingshandleiding* (80669C) in de *Veiligheids- en nalevingshandleiding voor waterstralen* (80943C) en in de *Waarschuwingshandleiding radiofrequentie* (80945C).

De handleidingen kunnen in elektronische en gedrukte vorm met het product worden meegeleverd. Elektronische versies zijn ook beschikbaar op onze website. Veel handleidingen zijn in meerdere talen beschikbaar via www.hypertherm.com/docs.

NO (NORSK/NORWEGIAN)

ADVARSEL! Før du bruker noe Hypertherm-utstyr, må du lese sikkerhetsinstruksjonene i produktets håndbok, *håndboken om sikkerhet og samsvar* (80669C), *håndboken om vannjet sikkerhet og samsvar* (80943C), og *håndboken om radiofrekvensadvarslere* (80945C).

Eksemplarer av håndbøkene kan følge med produktet i elektronisk og trykt form. Elektroniske eksemplarer finnes også på nettstedet vårt. Mange håndbøker er tilgjengelig i flere språk på www.hypertherm.com/docs.

PL (POLSKI/POLISH)

OSTRZEŻENIE! Przed rozpoczęciem obsługi jakiegokolwiek systemu firmy Hypertherm należy się zapoznać z instrukcjami bezpieczeństwa zamieszczonymi w podręczniku produktu, w *podręczniku bezpieczeństwa i zgodności* (80669C), *podręczniku bezpieczeństwa i zgodności systemów strumienia wody* (80943C) oraz *podręczniku z ostrzeżeniem o częstotliwości radiowej* (80945C).

Do produktu mogą być dołączone podręczniki użytkownika w formie elektronicznej i drukowanej. Kopie elektroniczne znajdują się również w naszej witrynie internetowej. Wiele podręczników jest dostępnych w różnych językach pod adresem www.hypertherm.com/docs.

PT (PORTUGUÊS/PORTUGUESE)

ADVERTÊNCIA! Antes de operar qualquer equipamento Hypertherm, leia as instruções de segurança no manual do seu produto, no *Manual de Segurança e de Conformidade* (80669C), no *Manual de Segurança e de Conformidade do Waterjet* (80943C) e no *Manual de Advertência de radiofrequência* (80945C).

Cópias dos manuais podem vir com o produto nos formatos eletrônico e impresso. Cópias eletrônicas também são encontradas em nosso website. Muitos manuais estão disponíveis em vários idiomas em www.hypertherm.com/docs.

RO (ROMÂNĂ/ROMANIAN)

AVERTIZARE! Înainte de utilizarea oricărei echipament Hypertherm, citiți instrucțiunile de siguranță din manualul produsului, *manualul de siguranță și conformitate* (80669C), *manualul de siguranță și conformitate Waterjet* (80943C) și din *manualul de avertizare privind radiofrecvența* (80945C).

Produsul poate fi însoțit de copii ale manualelor în format tipărit și electronic. Exemplarele electronice sunt disponibile și pe site-ul nostru web. Numeroase manuale sunt disponibile în mai mult limbi la adresa: www.hypertherm.com/docs.

RU (РУССКИЙ/RUSSIAN)

БЕРЕГИТЬСЯ! Перед работой с любым оборудованием Hypertherm ознакомьтесь с инструкциями по безопасности, представленными в руководстве, которое поставляется вместе с продуктом, в *Руководстве по безопасности и соответствию* (80669C), в *Руководстве по безопасности и соответствию для водоструйной резки* (80943C) и *Руководстве по предупреждению о радиочастотном излучении* (80945C).

Копии руководств, которые поставляются вместе с продуктом, могут быть представлены в электронном и бумажном виде. Электронные копии также доступны на нашем веб-сайте. Целый ряд руководств доступны на нескольких языках по ссылке www.hypertherm.com/docs.

SK (SLOVENČINA/SLOVAK)

VÝSTRAHA! Pred použitím akéhokoľvek zariadenia od spoločnosti Hypertherm si prečítajte bezpečnostné pokyny v návode na obsluhu vášho zariadenia a v *Manuáli o bezpečnosti a súlade s normami* (80669C), *Manuáli o bezpečnosti a súlade s normami pre systém rezania vodou* (80943C) a v *Manuáli s informáciami o rádiových frekvenciách* (80945C).

Návod na obsluhu sa dodáva spolu s produktom v elektronickej a tlačenej podobe. Jeho elektronickej formát je dostupný aj na našej webovej stránke. Mnohé z návodov na obsluhu sú dostupné vo viacjazyčnej mutácii na stránke www.hypertherm.com/docs.

SL (SLOVENŠČINA/SLOVENIAN)

OPOZORILO! Pred uporabo katerekoli Hyperthermove opreme preberite varnostna navodila v priročniku vašega izdelka, v *Priročniku za varnost in skladnost* (80669C), v *Priročniku za varnost in skladnost sistemov rezanja z vodnim curkom* (80943C) in v *Priročniku Opozorilo o radijskih frekvencah* (80945C).

Izvodi priročnikov so lahko izdelku priloženi v elektronski in tiskani obliki. Elektronski izvodi so na voljo tudi na našem spletnem mestu. Številni priročniki so na voljo v različnih jezikih na naslovu www.hypertherm.com/docs.

SR (SRPSKI/SERBIAN)

UPOZORENJE! Pre rukovanja bilo kojom Hyperthermovom opremom pročitajte uputstva o bezbednosti i svom priručniku za proizvod, *Priručniku o bezbednosti i usaglašenosti* (80669C), *Priručniku o bezbednosti i usaglašenosti Waterjet tehnologije* (80943C) i *Priručniku sa upozorenjem o radio-frekvenciji* (80945C).

Уз производ се испоручују копије приручника у електронском или штампаном формату. Електронске копије су такође доступне на нашем веб-сајту. Многи приручници су доступни на више језика на адреси www.hypertherm.com/docs.

SV (SVENSKA/SWEDISH)

VARNING! Läs häftet säkerhetsinformationen i din produkts *säkerhets- och efterlevnadsmanual* (80669C), *säkerhets- och efterlevnadsmanualen för Waterjet* (80943C) och *varningsmanualen för radiofrekvenser* (80945C) för viktig säkerhetsinformation innan du använder eller underhåller Hypertherm-utrustning. Kopior av manualerna kan medfölja produkten i elektroniskt och tryckt format. Elektroniska kopior finns också på vår webbplats. Många manualer finns på flera språk på www.hypertherm.com/docs.

TH (ภาษาไทย/THAI)

คำเตือน! ก่อนการใช้งานอุปกรณ์ของ Hypertherm ทั้งหมด โปรดอ่านคำแนะนำด้านความปลอดภัยในคู่มือการใช้งานสินค้า คู่มือด้านความปลอดภัยและการปฏิบัติตาม (80669C), คู่มือด้านความปลอดภัยและการปฏิบัติตามสำหรับการใช้หัวตัดระบบวอเตอร์เจ็ต (80943C) และ คู่มือคำเตือนเกี่ยวกับความถี่วิทยุ (80945C) การไม่ปฏิบัติตามคำแนะนำด้านความปลอดภัยอาจส่งผลให้เกิดการบาดเจ็บหรือเกิดความเสียหายต่ออุปกรณ์

สำเนาคู่มือทั้งในรูปแบบอิเล็กทรอนิกส์และแบบสิ่งพิมพ์จะถูกแนบมาพร้อมกับผลิตภัณฑ์ สำเนาคู่มือในรูปแบบอิเล็กทรอนิกส์ของผลิตภัณฑ์และสำเนาคู่มือต่าง ๆ ในหลากหลายภาษานั้นยังมีให้บริการบนเว็บไซต์ www.hypertherm.com/docs ของเรอีกด้วย

TR (TÜRKÇE/TURKISH)

UYARI! Bir Hypertherm ekipmanını çalıştırmadan önce, ürününüzün kullanım kılavuzunda, *Güvenlik ve Uyumluluk Kılavuzu'nda* (80669C), *Su Jeti Güvenlik ve Uyumluluk Kılavuzu'nda* (80943C) ve *Radio Frekanslı Uyarısı Kılavuzu'nda* (80945C) yer alan güvenlik talimatlarını okuyun.

Kılavuzların kopyaları, elektronik ve basılı formatta ürünle birlikte verilebilir. Elektronik kopyalar web sitemizde de yer alır. Kılavuzların birçoğu www.hypertherm.com/docs adresinde birçok dilde mevcuttur.

VI (TIẾNG VIỆT/VIETNAMESE)

CẢNH BÁO! Trước khi vận hành bất kỳ thiết bị Hypertherm nào, hãy đọc các hướng dẫn an toàn trong hướng dẫn sử dụng sản phẩm của bạn, *Sổ tay An toàn và Tuân thủ* (80669C), *Sổ tay An toàn và Tuân thủ Tia nước* (80943C), và *Hướng dẫn Cảnh báo Tần số Vô tuyến* (80945C). Không tuân thủ các hướng dẫn an toàn có thể dẫn đến thương tích cá nhân hoặc hư hỏng thiết bị.

Bản sao của sổ tay có thể đi kèm với sản phẩm ở định dạng điện tử và in. Bản điện tử cũng có trên trang web của chúng tôi. Nhiều sổ tay có sẵn bằng nhiều ngôn ngữ tại www.hypertherm.com/docs.

ZH-CN (简体中文/CHINESE SIMPLIFIED)

警告！在操作任何海宝设备之前，请阅读产品手册、《安全和法规遵守手册》(80669C)、《水射流安全和法规遵守手册》(80943C)以及《射频警告手册》(80945C)中的安全操作说明。

随产品提供的手册可提供电子版和印刷版两种格式。电子版本同时也在我们的网站上提供。很多手册有多种语言版本，详见 www.hypertherm.com/docs。

ZH-TW (繁體中文/CHINESE TRADITIONAL)

警告！在操作任何 Hypertherm 設備前，請先閱讀您產品手冊內的安全指示，包括《安全和法規遵從手冊》(80669C)、《水刀安全和法規遵從手冊》(80943C)，以及《無線電頻率警示訊號手冊》(80945C)。

電子版和印刷版手冊樣本可能隨產品附上。您也可以前往我們的網站下載電子版手冊。我們的網站上還以多種語言形式提供多種手冊，請造訪 www.hypertherm.com/docs。

Contents

How to use this guide.....	10
Service inquiries	10
Related documents.....	10
Plasma power supply exterior, front	11
Work leads.....	12
Powermax65 SYNC.....	12
Powermax85 SYNC.....	13
Powermax105 SYNC	13
Plasma supply exterior, rear	15
Machine interface and RS-485 serial interface upgrade kits	17
External cables for machine interface receptacle and RS-485 serial interface receptacle ..	19
Machine interface cables	19
RS-485 serial interface cables	20
75° hand torch replacement parts	21
15° hand torch replacement parts	22

Hand torch cartridges 23

- Drag cutting 23
- FineCut cutting 23
- Gouging cartridges..... 24
 - Maximum Control gouging 24
 - Maximum Removal gouging 24
- Specialty cartridges..... 24
 - FlushCut cutting 24

45° long hand torch replacement parts 25

90° long hand torch replacement parts 26

Long hand torch cartridges 27

- Drag cutting..... 27

Full-length machine torch replacement parts 28

Mini-machine torch replacement parts 29

Machine torch cartridges..... 30

- Standard cutting..... 30
 - Ohmic ring 30
- FineCut cutting 30
- Gouging..... 31
 - Maximum Control gouging 31
 - Maximum Removal gouging 31
- Specialty cartridges..... 31
 - FlushCut cutting 31

180° robotic torch replacement parts..... 32

90° robotic torch replacement parts..... 33

45° robotic torch replacement parts..... 34

Robotic torch cartridges 35

- Standard cutting 35
 - Ohmic ring 35
- FineCut cutting 35
- Gouging..... 36
 - Maximum Control gouging 36
 - Maximum Removal gouging 36
- Specialty cartridges..... 36
 - FlushCut cutting 36

Accessory parts 37

Powermax65/85/105 SYNC labels 38

- Cartridge labels 38
- CSA warning label 39
- Descriptions of warning label icons 40

How to use this guide

Use the part numbers and kit numbers in this guide to order replacement parts and accessories for your plasma power supply and torch.

Service inquiries

For aid with repairing or replacing internal components:

1. Speak to your Hypertherm distributor or authorized Hypertherm repair facility.
2. Speak to the nearest Hypertherm office shown in the front of this guide.

Related documents

Refer to the following documents for related information about your plasma power supply and torch:

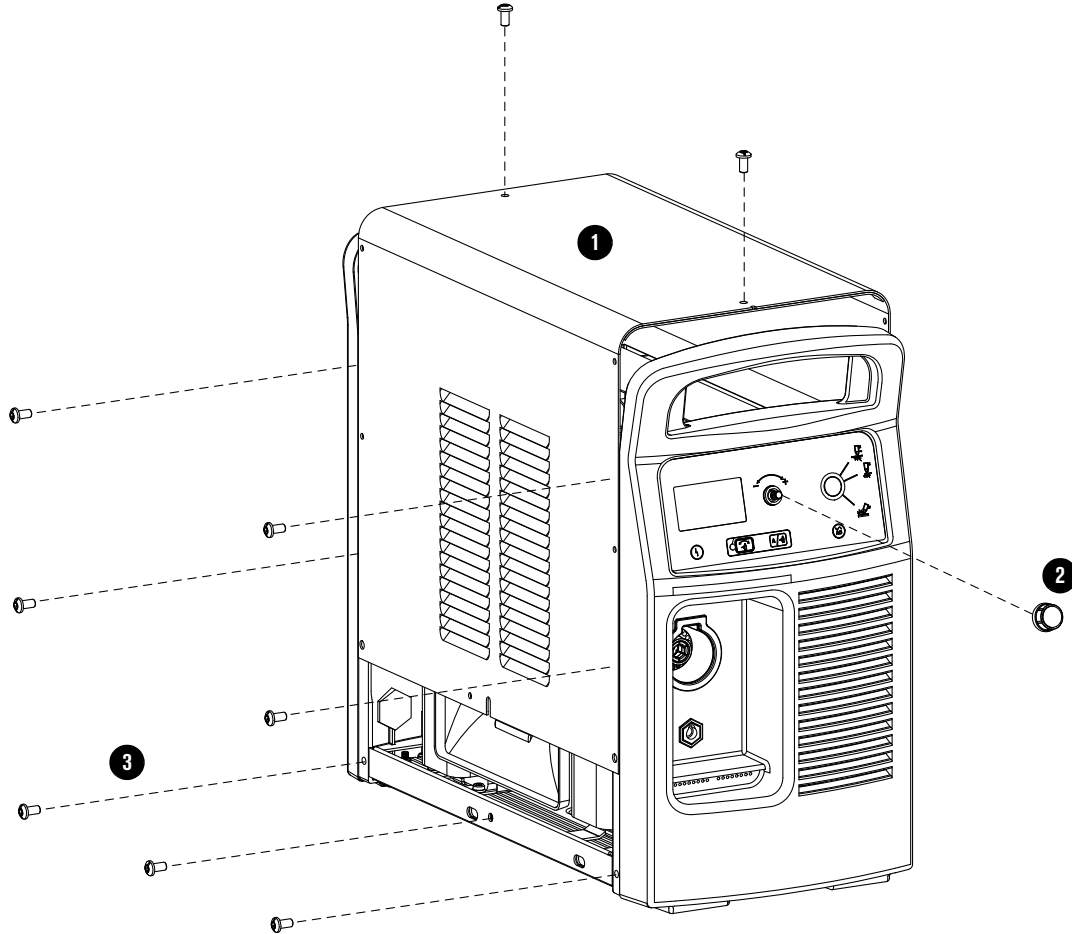
- *Powermax65/85/105 SYNC Operator Manual (810470)*
- *Powermax65/85/105 SYNC Mechanized Cutting Guide (810480)*
- *Powermax65/85/105 SYNC Cut Charts Guide (810500MU)*
- *Safety and Compliance Manual (80669C)*

You can find these documents on the USB memory stick that came with your plasma power supply. Technical documentation is also available at www.hypertherm.com/docs.



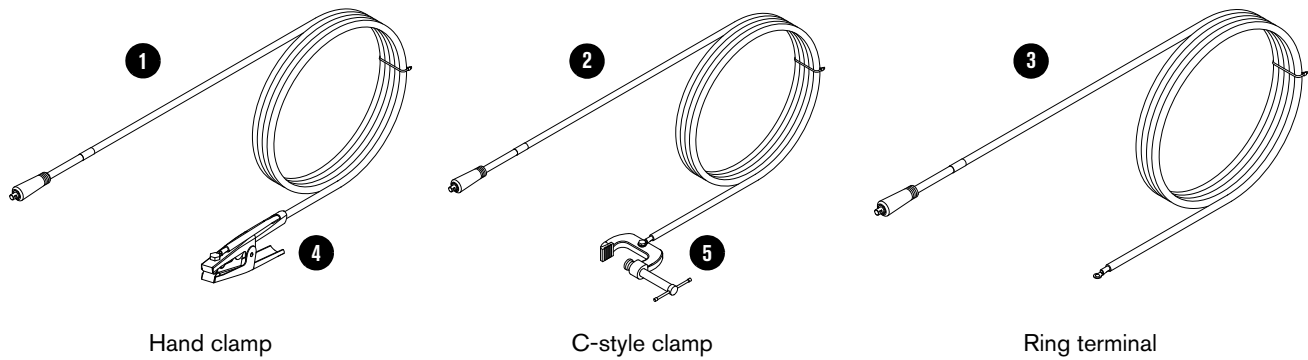
Technical documentation is current as of the date of its release. Subsequent revisions are possible. Refer to www.hypertherm.com/docs for the most recent revisions of released documents.

Plasma power supply exterior, front



Item	Part number	Description
1	528009	Kit: Powermax65 SYNC plasma power supply cover with labels, CSA (no screws included)
1	528010	Kit: Powermax65 SYNC plasma power supply cover with labels, CE/CCC (no screws included)
1	528011	Kit: Powermax85 SYNC plasma power supply cover with labels, CSA (no screws included)
1	528012	Kit: Powermax85 SYNC plasma power supply cover with labels, CE/CCC (no screws included)
1	528013	Kit: Powermax105 SYNC plasma power supply cover with labels, CSA (no screws included)
1	528014	Kit: Powermax105 SYNC plasma power supply cover with labels, CE/CCC (no screws included)
2	428143	Kit: Adjustment knob
3	428141	Kit: Replacement screws (16) for plasma power supply cover

Work leads



Hand clamp

C-style clamp

Ring terminal

NOTICE

Work leads are approved for specific amperages, lengths, and connectors. Make sure that you use a work lead that is approved for your plasma power supply. The amperage of a work lead is identified near the rubber boot of the work lead connector.

Powermax65 SYNC

Item	Part number	Description
1	223125	65 A work lead with hand clamp, 7.6 m (25 foot)
1	223126	65 A work lead with hand clamp, 15 m (50 foot)
1	223127	65 A work lead with hand clamp, 23 m (75 foot)
2	223194	65 A work lead with C-style clamp, 7.6 m (25 foot)
2	223195	65 A work lead with C-style clamp, 15 m (50 foot)
2	223196	65 A work lead with C-style clamp 23 m (75 foot)
3	223200	65 A work lead with ring terminal, 7.6 m (25 foot)
3	223201	65 A work lead with ring terminal, 15 m (50 foot)
3	223202	65 A work lead with ring terminal, 23 m (75 foot)
4	008337	Ground hand clamp: 300 A
5	428921	Kit: C-style clamp with hardware



You can make a work lead for the Powermax65 SYNC and Powermax85 SYNC by installing the 008337 hand clamp or the 428921 C-style clamp on the approved amperage ring terminal work lead from Hypertherm. Make sure that you use a work lead that is the correct amperage for your plasma power supply.

Powermax85 SYNC

Item	Part number	Description
1	223035	85 A work lead with hand clamp, 7.6 m (25 foot)
1	223034	85 A work lead with hand clamp, 15 m (50 foot)
1	223033	85 A work lead with hand clamp, 23 m (75 foot)
2	223203	85 A work lead with C-style clamp, 7.6 m (25 foot)
2	223204	85 A work lead with C-style clamp, 15 m (50 foot)
2	223205	85 A work lead with C-style clamp 23 m (75 foot)
3	223209	85 A work lead with ring terminal, 7.6 m (25 foot)
3	223210	85 A work lead with ring terminal, 15 m (50 foot)
3	223211	85 A work lead with ring terminal, 23 m (75 foot)
4	008337	Ground hand clamp: 300 A
5	428921	Kit: C-style clamp with hardware



You can make a work lead for the Powermax65 SYNC and Powermax85 SYNC by installing the 008337 hand clamp or the 428921 C-style clamp on the approved amperage ring terminal work lead from Hypertherm. Make sure that you use a work lead that is the correct amperage for your plasma power supply.

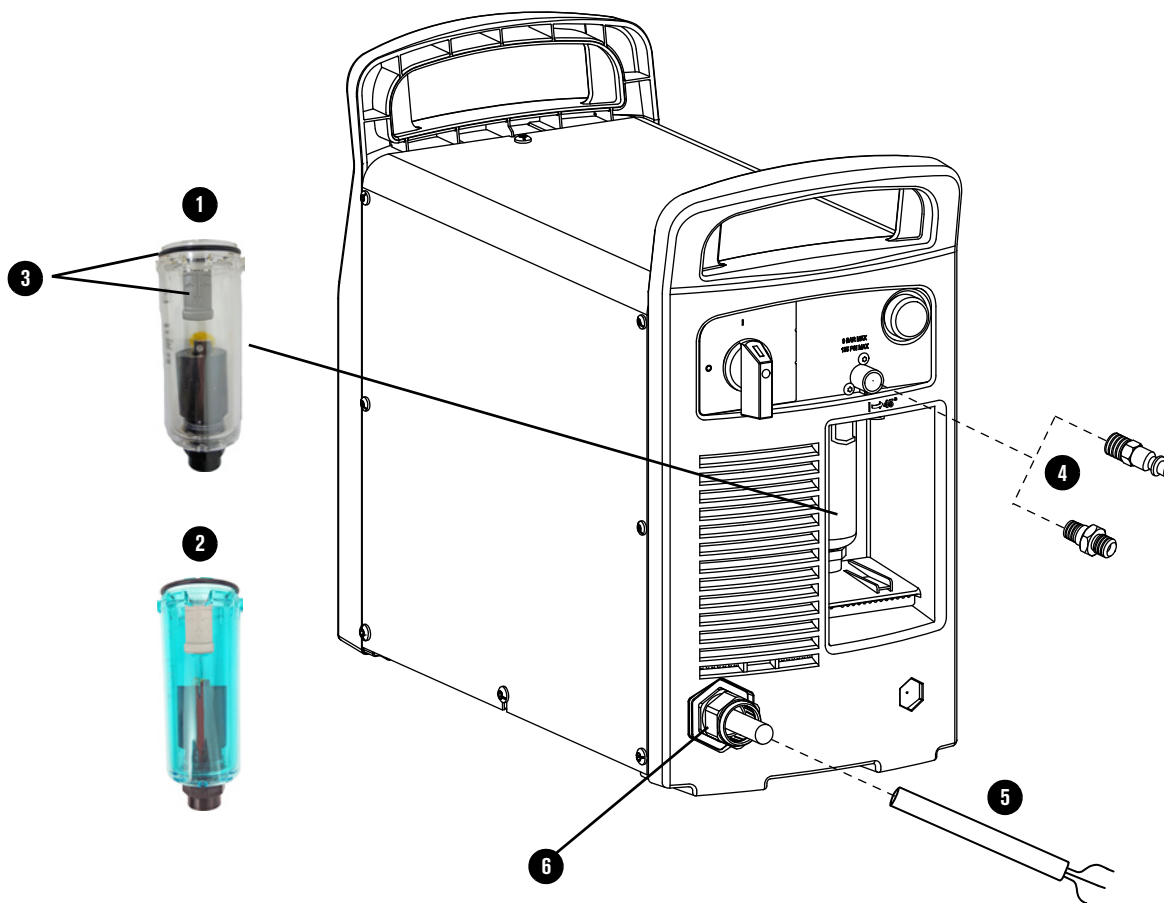
Powermax105 SYNC

Item	Part number	Description
1	223254	105 A work lead with hand clamp, 7.6 m (25 foot)
1	223255	105 A work lead with hand clamp, 15 m (50 foot)
1	223256	105 A work lead with hand clamp, 23 m (75 foot)
2	223287	105 A work lead with C-style clamp, 7.6 m (25 foot)
2	223288	105 A work lead with C-style clamp, 15 m (50 foot)
2	223289	105 A work lead with C-style clamp, 23 m (75 foot)
3	223284	105 A work lead with ring terminal, 7.6 m (25 foot)
3	223285	105 A work lead with ring terminal, 15 m (50 foot)
3	223286	105 A work lead with ring terminal, 23 m (75 foot)
4	008337	Ground hand clamp: 300 A



You can make a work lead by installing the 008337 hand clamp on the approved amperage ring terminal work lead from Hypertherm. Make sure that you use a work lead that is the correct amperage for your plasma power supply.

Plasma supply exterior, rear

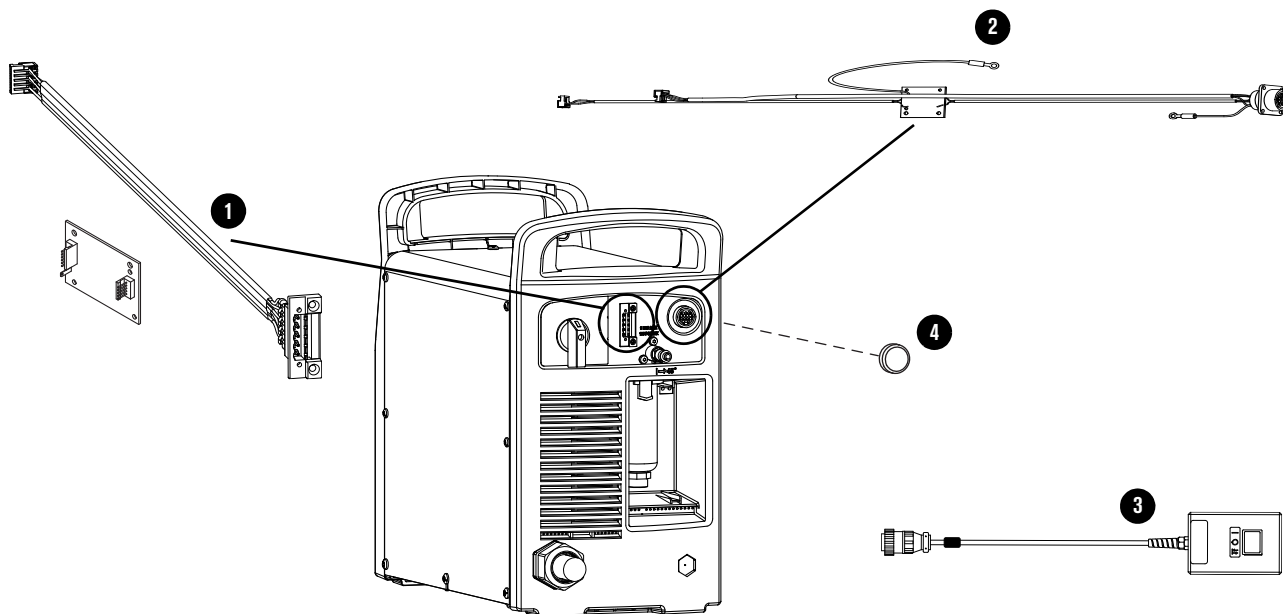


Item	Part number	Description
1	428352	Kit: Air filter bowl, polycarbonate (comes with plasma power supply, includes the O-ring but not the filter element)
2	428415*	Kit: Air filter bowl, nylon (optional – for work sites with oily air*) (includes the O-ring but not the filter element)
3	228695	Kit: Air filter element and O-ring (compatible with both filter bowl types)
4	428685	Kit: Gas inlet fittings <ul style="list-style-type: none"> ▪ Industrial interchange quick-disconnect nipple with 1/4 NPT threads ▪ British Pipe Thread adapter G-1/4 BSPP with 1/4 NPT threads
5	228691	Kit: Powermax65/85 SYNC power cord with strain relief, CSA models, 3 m (10 foot)
5	528015	Kit: Powermax65 SYNC power cord with strain relief, CE/CCC models, 3 m (10 foot)
5	528016	Kit: Powermax85 SYNC power cord with strain relief, CE/CCC models, 3 m (10 foot)
5	228885	Kit: Powermax105 SYNC power cord with strain relief, CSA models, 3 m (10 foot)
5	228886	Kit: Powermax105 SYNC power cord with strain relief, 230 V – 400 V CE models, 3 m (10 foot)

Item	Part number	Description
5	428949	Kit: Powermax105 SYNC power cord with strain relief, 380 V CCC / 400 V CE models, 3 m (10 foot)
6	228680	Kit: Strain relief for Powermax65/85 SYNC power cords (all models)
6	228915	Kit: Strain relief for Powermax105 SYNC power cords, CSA models
6	228913	Kit: Strain relief for Powermax105 SYNC power cords, 230 V – 400 V CE models
6	228914	Kit: Strain relief for Powermax105 SYNC power cords, 380 V CCC / 400 V CE models

* The polycarbonate filter bowl that comes with the plasma power supply is compatible with most gas supply systems, but it is important to keep the gas line clean. Organic solvents, chemicals, cutting oil, synthetic oil, alkali, and thread lock solutions can cause damage to the polycarbonate filter bowl over time. You can use the optional nylon bowl (428415) if conditions at your work site make it difficult to prevent harsh chemicals from getting into the gas line.

Machine interface and RS-485 serial interface upgrade kits



Item	Part number	Description
1	228539	Kit: Serial interface receptacle with internal cables and RS-485 serial interface PCB
2	228697	Kit: Machine interface receptacle with internal cables and voltage divider PCB for Powermax65/85 SYNC (does not include cover for receptacle)
2	528045	Kit: Machine interface receptacle with internal cables and voltage divider PCB for Powermax105 SYNC (does not include cover for receptacle)
3	128650	Remote start pendant for machine torch, 7.6 m (25 foot)
3	128651	Remote start pendant for machine torch, 15 m (50 foot)
3	128652	Remote start pendant for machine torch, 23 m (75 foot)
3	428755	Remote start pendant for machine torch, 46 m (150 foot)
	428975	Kit: Replacement switch for remote start pendant (not shown)
4	127204	Cover for machine interface receptacle



The remote start pendant connects to the machine interface receptacle.



EDGE® Connect CNC: To connect Hypertherm's EDGE Connect CNC with a Powermax65/85/105 SYNC, refer to the *EDGE Connect Installation and Setup Manual* (809340).



EDGE® Pro CNC: To connect Hypertherm's EDGE Pro CNC with a Powermax65/85/105 SYNC, refer to the *Phoenix Software V9 Series Installation and Setup Manual* (806410).

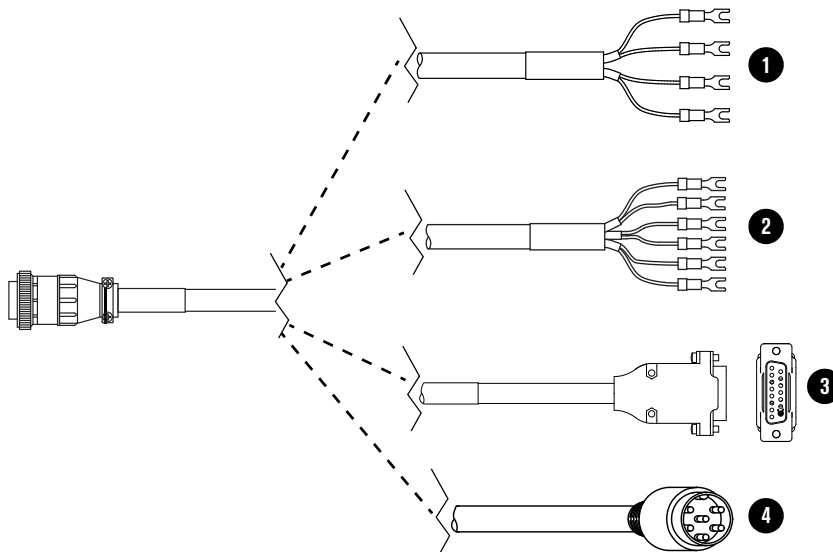


Technical documentation is available at www.hypertherm.com/docs.

External cables for machine interface receptacle and RS-485 serial interface receptacle

Hypertherm offers a variety of external cables that connect to the machine interface receptacle and the RS-485 serial interface receptacle. For setup information refer to the *Powermax65/85/105 SYNC Mechanized Cutting Guide* (810480).

Machine interface cables



Item	Part number	Description
1	023206	External machine interface cable*, 4 spade connectors, 7.6 m (25 foot)
1	023279	External machine interface cable*, 4 spade connectors, 15 m (50 foot)
2	228350	Kit: External machine interface cable**, 6 spade connectors, 7.6 m (25 foot)
2	228351	Kit: External machine interface cable**, 6 spade connectors, 15 m (50 foot)
3	223354	External machine interface cable**, D-sub connector with screws, 3.0 m (10 foot)
3	223355	External machine interface cable**, D-sub connector with screws, 6.0 m (20 foot)
3	223048	External machine interface cable**, D-sub connector with screws, 7.6 m (25 foot)
3	223356	External machine interface cable**, D-sub connector with screws, 10.7 m (35 foot)
3	123896	External machine interface cable**, D-sub connector with screws, 15 m (50 foot)
4	223733	External machine interface cable† for mechanized cutting systems with a 21.1:1 voltage ratio (for example, PlasmaCAM® systems), 6-pin DIN connector, 4.6 m (15 foot)
4	223734	External machine interface cable† for mechanized cutting systems with a 21.1:1 voltage ratio (for example, PlasmaCAM® systems), 6-pin DIN connector, 6.0 m (20 foot)

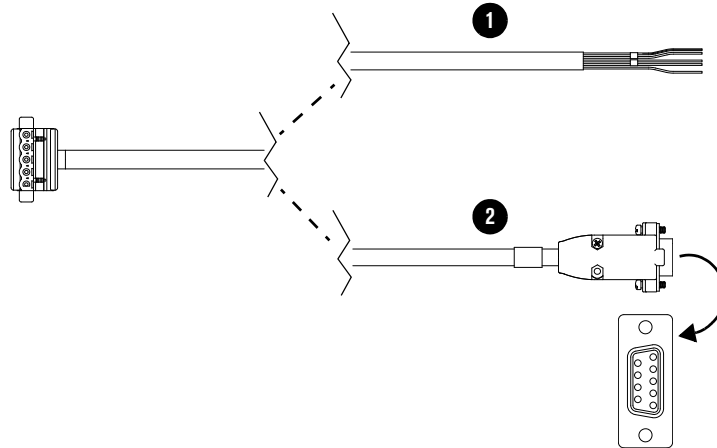
* Communicates start, stop, and arc transfer signals. Uses an **external** voltage divider PCB.

** Communicates start, stop, arc transfer, and divided arc voltage signals. Uses the **internal** voltage divider PCB.

† Communicates start, stop, and divided arc voltage signals. Uses the **internal** voltage divider PCB.

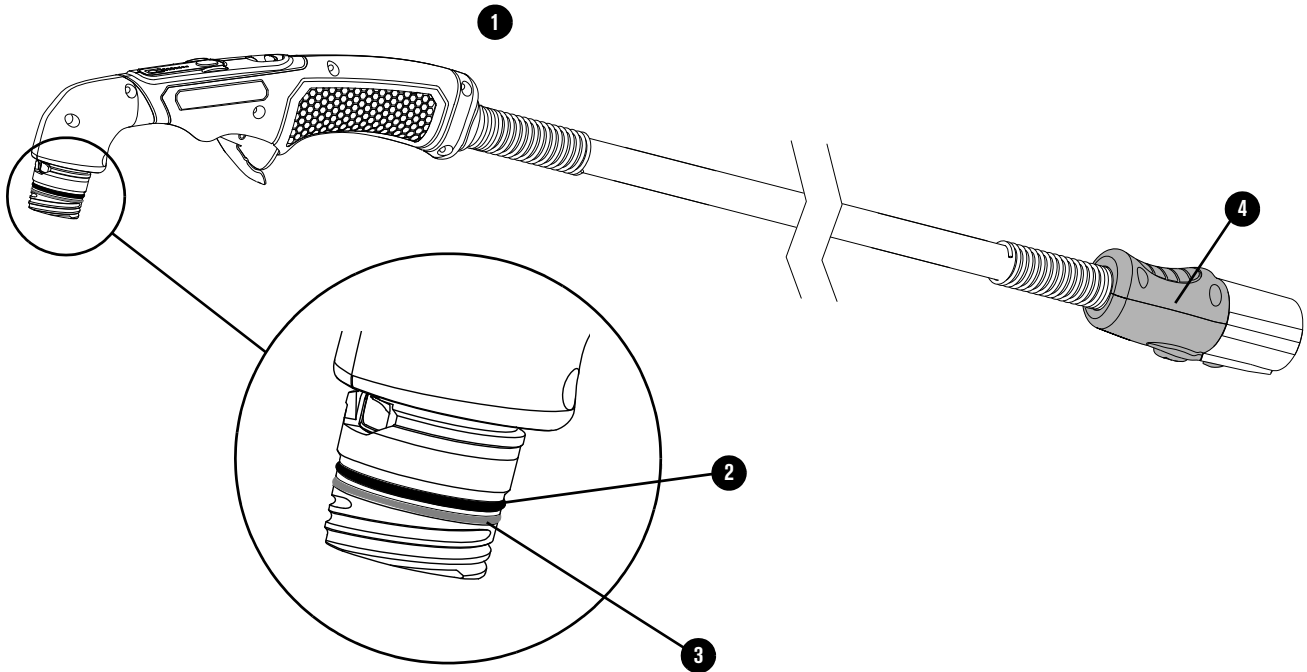
RS-485 serial interface cables

The RS-485 serial interface cables communicate information for controlling operating mode, amperage, and gas pressure and control mode.



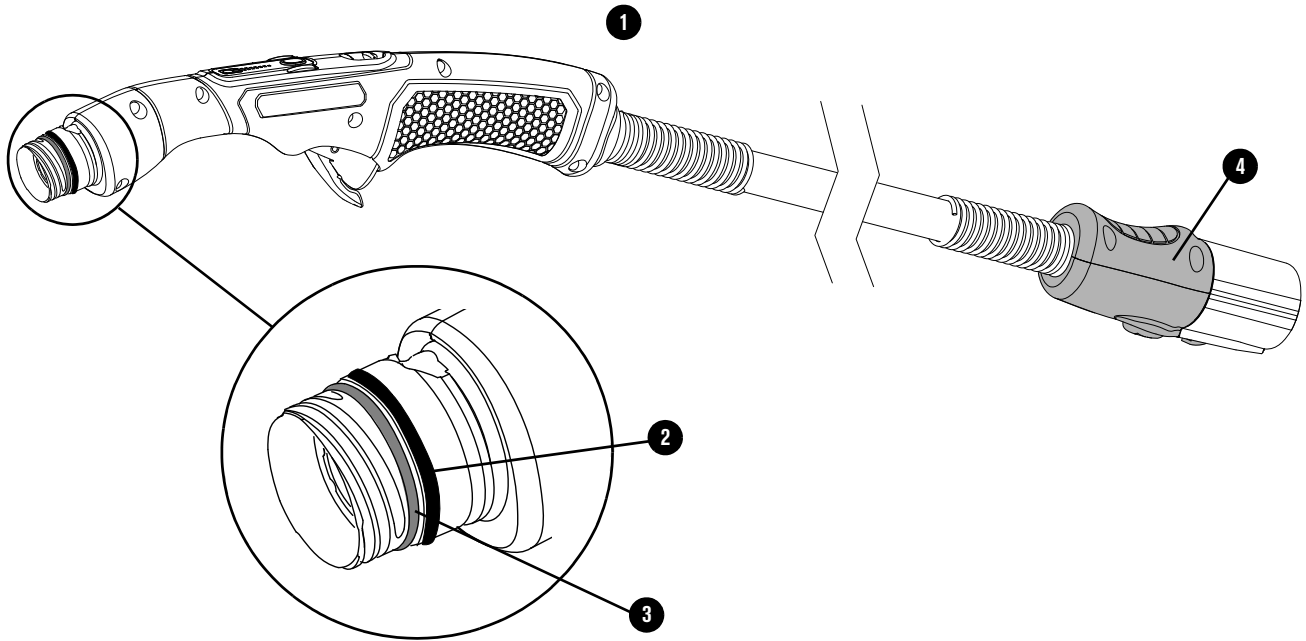
Item	Part number	Description
1	223236	External RS-485 cable, unterminated, 7.6 m (25 foot)
1	223237	External RS-485 cable, unterminated, 15 m (50 foot)
2	223239	External RS-485 cable, 9-pin D-sub connector for Hypertherm controls, 7.6 m (25 foot)
2	223240	External RS-485 cable, 9-pin D-sub connector for Hypertherm controls, 15 m (50 foot)

75° hand torch replacement parts



Item	Part number	Description
1	059726	Torch assembly with 7.6 m (25 foot) lead
1	059727	Torch assembly with 15 m (50 foot) lead
1	059728	Torch assembly with 23 m (75 foot) lead
2	428950	Kit: O-rings, 5 per kit (for torch head)
3	528066	Kit: Torch contact ring, 2 per kit (for torch head)
4	428863	Kit: Quick-disconnect shell (shell with button – does not include torch lead or connector)

15° hand torch replacement parts



Item	Part number	Description
1	059723	Torch assembly with 7.6 m (25 foot) lead
1	059724	Torch assembly with 15 m (50 foot) lead
1	059725	Torch assembly with 23 m (75 foot) lead
2	428950	Kit: O-rings, 5 per kit (for torch head)
3	528066	Kit: Torch contact ring, 2 per kit (for torch head)
4	428863	Kit: Quick-disconnect shell (shell with button – does not include torch lead or connector)

Hand torch cartridges

Hand cutting cartridges are yellow.

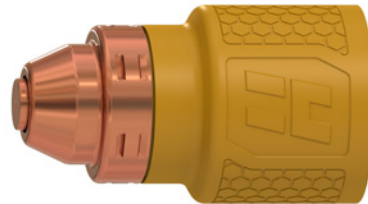
Drag cutting

Part number	Description
428937	105 A cartridge
428935	85 A cartridge
428931	65 A cartridge
428927	45 A cartridge



FineCut cutting

Part number	Description
428928	30 A – 45 A cartridge

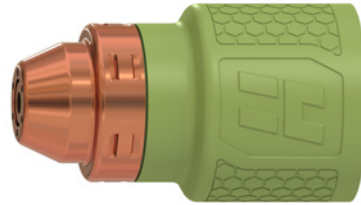


Gouging cartridges

Gouging cartridges are green. They can be used on hand torches and machine torches.

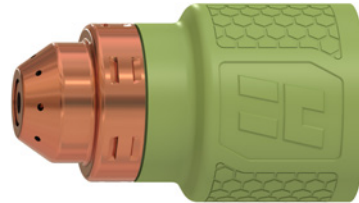
Maximum Control gouging

Part number	Description
428939	105 A cartridge
428933	45 A – 85 A cartridge



Maximum Removal gouging

Part number	Description
428938	105 A cartridge
428932	45 A – 85 A cartridge



Specialty cartridges

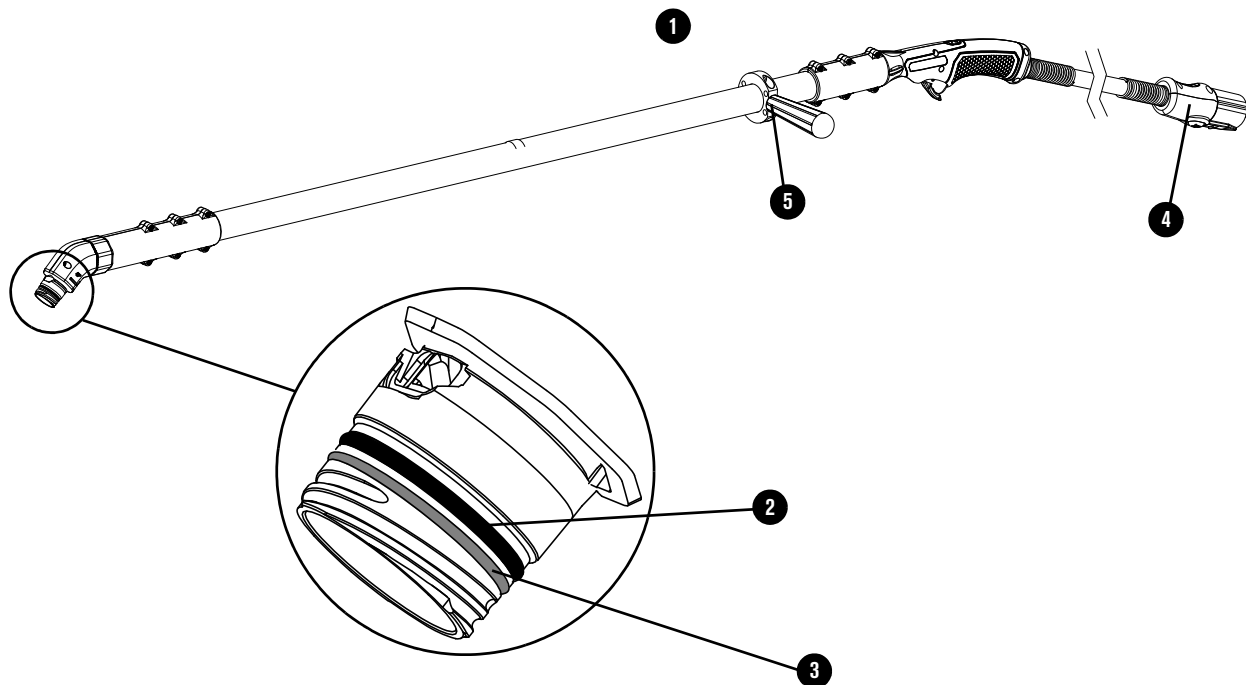
FlushCut cutting

FlushCut cutting cartridges are black. They can be used on hand torches and machine torches.

Part number	Description
428954	105 A cartridge
428953	85 A cartridge
428952	65 A cartridge

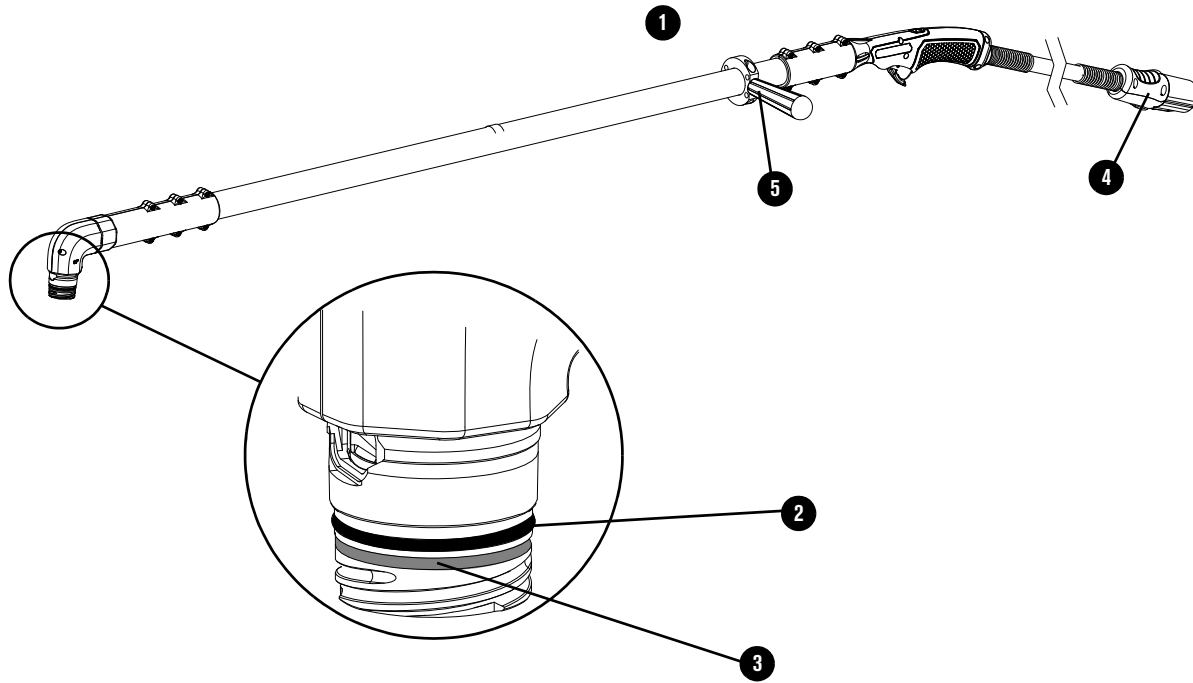


45° long hand torch replacement parts



Item	Part number	Description
1	528116	0.6 m (2 foot) long handheld torch assembly with 15 m (50 foot) lead
1	528114	1.2 m (4 foot) long handheld torch assembly with 7.6 m (25 foot) lead
1	528118	1.2 m (4 foot) long handheld torch assembly with 15 m (50 foot) lead
2	428950	Kit: O-rings, 5 per kit (for torch head)
3	528066	Kit: Torch contact ring, 2 per kit (for torch head)
4	428863	Kit: Quick-disconnect shell (shell with button – does not include torch lead or connector)
5	528100	Kit: Long handheld torch auxiliary handle with screws

90° long hand torch replacement parts



Item	Part number	Description
1	528117	0.6 m (2 foot) long handheld torch assembly with 15 m (50 foot) lead
1	528119	1.2 m (4 foot) long handheld torch assembly with 15 m (50 foot) lead
2	428950	Kit: O-rings, 5 per kit (for torch head)
3	528066	Kit: Torch contact ring, 2 per kit (for torch head)
4	428863	Kit: Quick-disconnect shell (shell with button – does not include torch lead or connector)
5	528100	Kit: Long handheld torch auxiliary handle with screws

Long hand torch cartridges

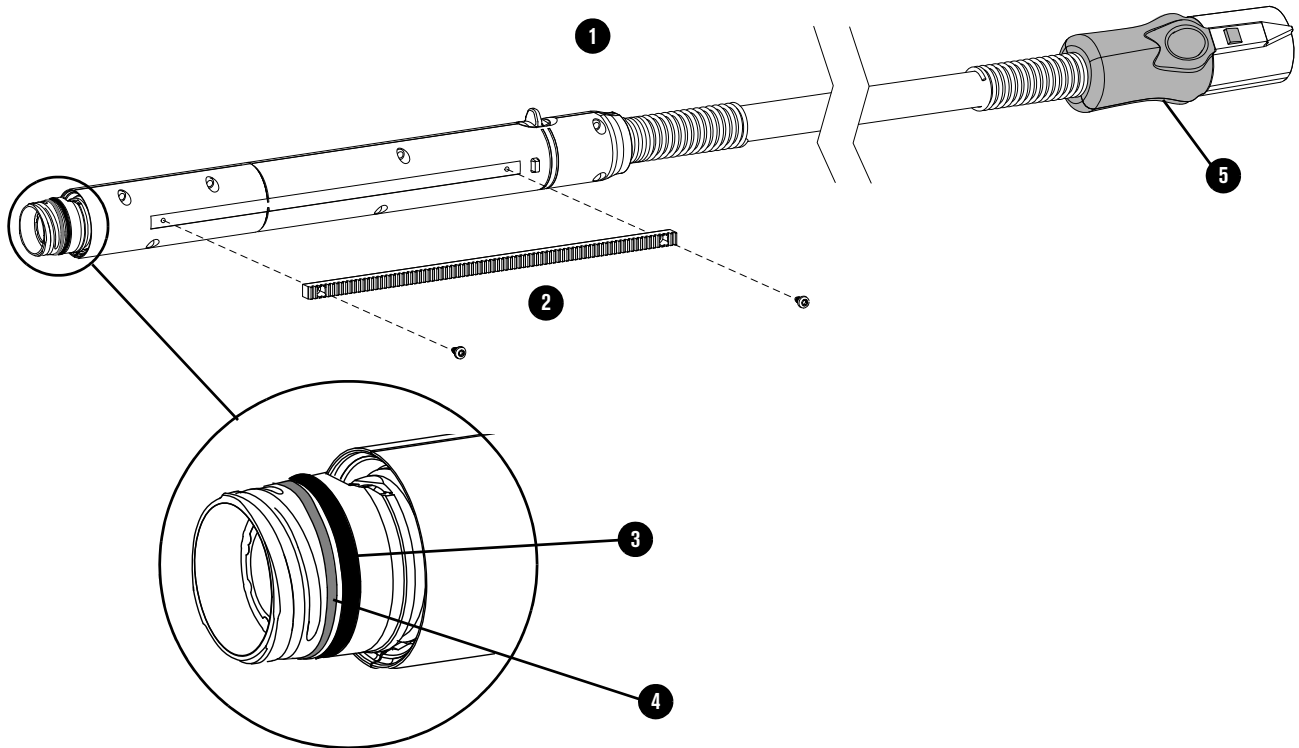
Hand cutting cartridges are yellow.

Drag cutting

Part number	Description
428937	105 A cartridge
428935	85 A cartridge
428931	65 A cartridge
428927	45 A cartridge

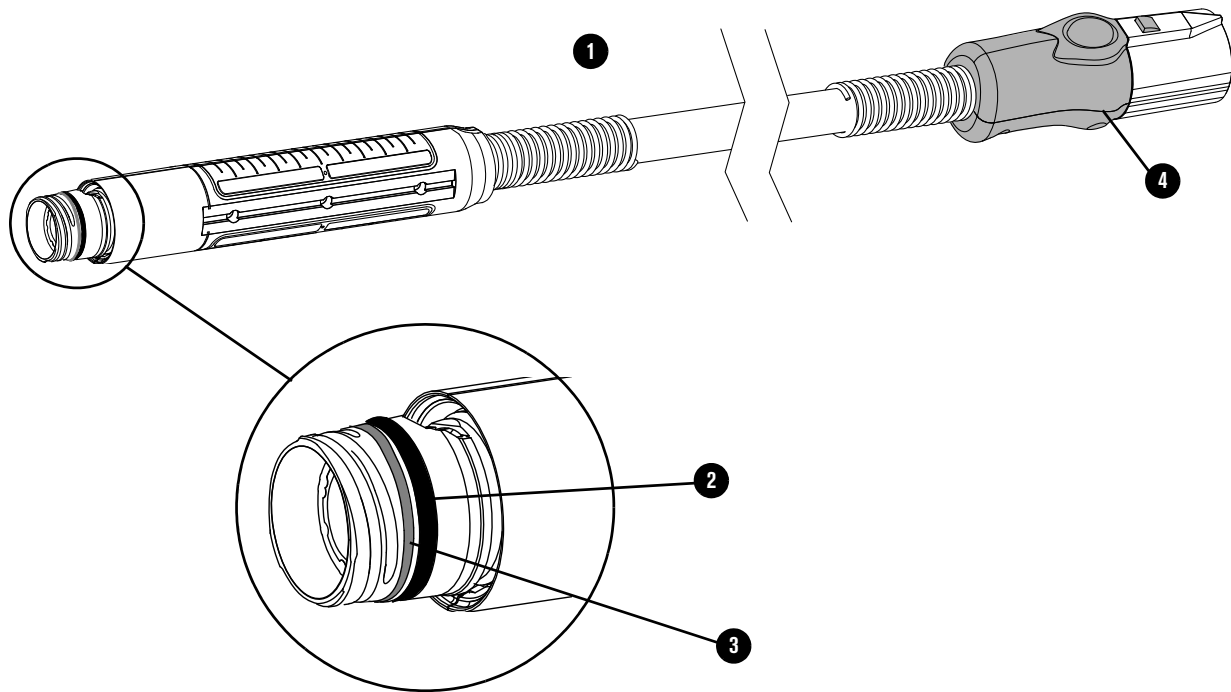


Full-length machine torch replacement parts



Item	Part number	Description
1	059719	Torch assembly with 7.6 m (25 foot) lead
1	059720	Torch assembly with 10.7 m (35 foot) lead
1	059721	Torch assembly with 15 m (50 foot) lead
1	059722	Torch assembly with 23 m (75 foot) lead
2	428703	Kit: Removable gear rack with screws
3	428950	Kit: O-rings, 5 per kit (for torch head)
4	528066	Kit: Torch contact ring, 2 per kit (for torch head)
5	428863	Kit: Quick-disconnect shell (shell with button – does not include torch lead or connector)

Mini-machine torch replacement parts



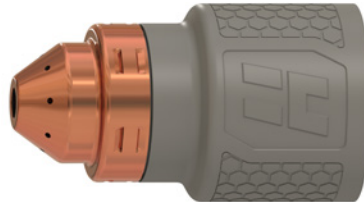
Item	Part number	Description
1	059733	Torch assembly with 4.6 m (15 foot) lead
1	059734	Torch assembly with 7.6 m (25 foot) lead
1	059735	Torch assembly with 15 m (50 foot) lead
2	428950	Kit: O-rings, 5 per kit (for torch head)
3	528066	Kit: Torch contact ring, 2 per kit (for torch head)
4	428863	Kit: Quick-disconnect shell (shell with button – does not include torch lead or connector)

Machine torch cartridges

Mechanized cutting cartridges are gray.

Standard cutting

Part number	Description
428936	105 A cartridge
428934	85 A cartridge
428930	65 A cartridge
428925	45 A cartridge



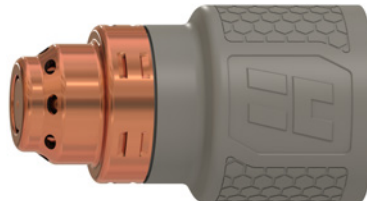
Ohmic ring

Part number	Description
428895	Ohmic ring attachment (420580) for machine torch cartridges, 3 per kit



FineCut cutting

Part number	Description
428926	30 A – 45 A cartridge



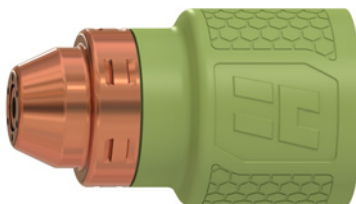
These mechanized cutting cartridges are compatible with SmartSYNC hand torches. If you use these cartridges on a hand torch, keep a standoff while cutting.

Gouging

Gouging cartridges are green. They can be used on hand torches and machine torches.

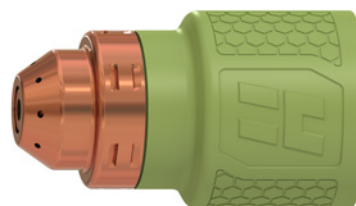
Maximum Control gouging

Part number	Description
428939	105 A cartridge
428933	45 A – 85 A cartridge



Maximum Removal gouging

Part number	Description
428938	105 A cartridge
428932	45 A – 85 A cartridge



Specialty cartridges

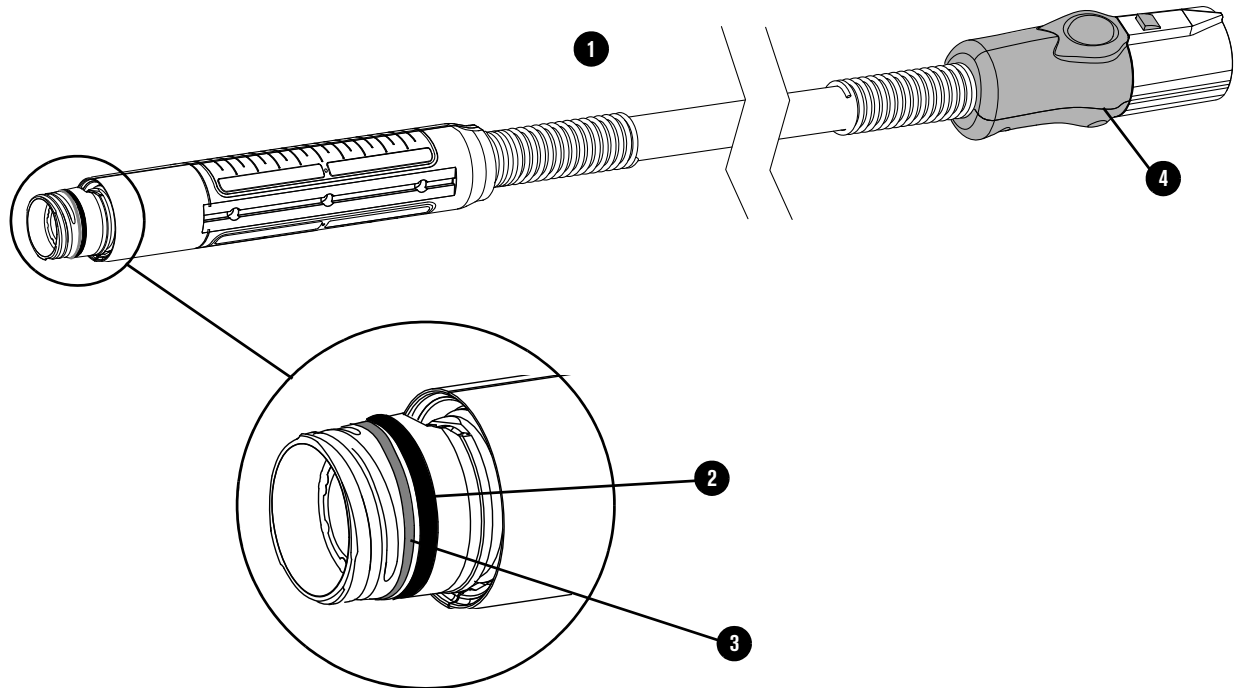
FlushCut cutting

FlushCut cutting cartridges are black. They can be used on hand torches and machine torches.

Part number	Description
428954	105 A cartridge
428953	85 A cartridge
428952	65 A cartridge

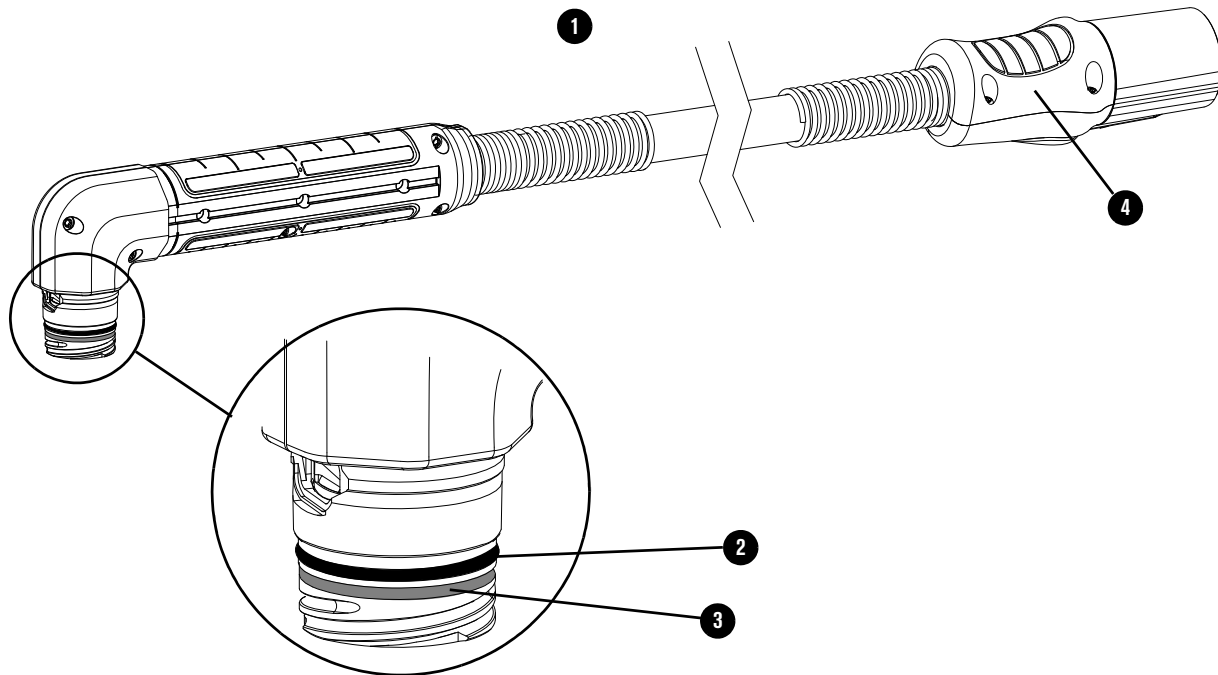


180° robotic torch replacement parts



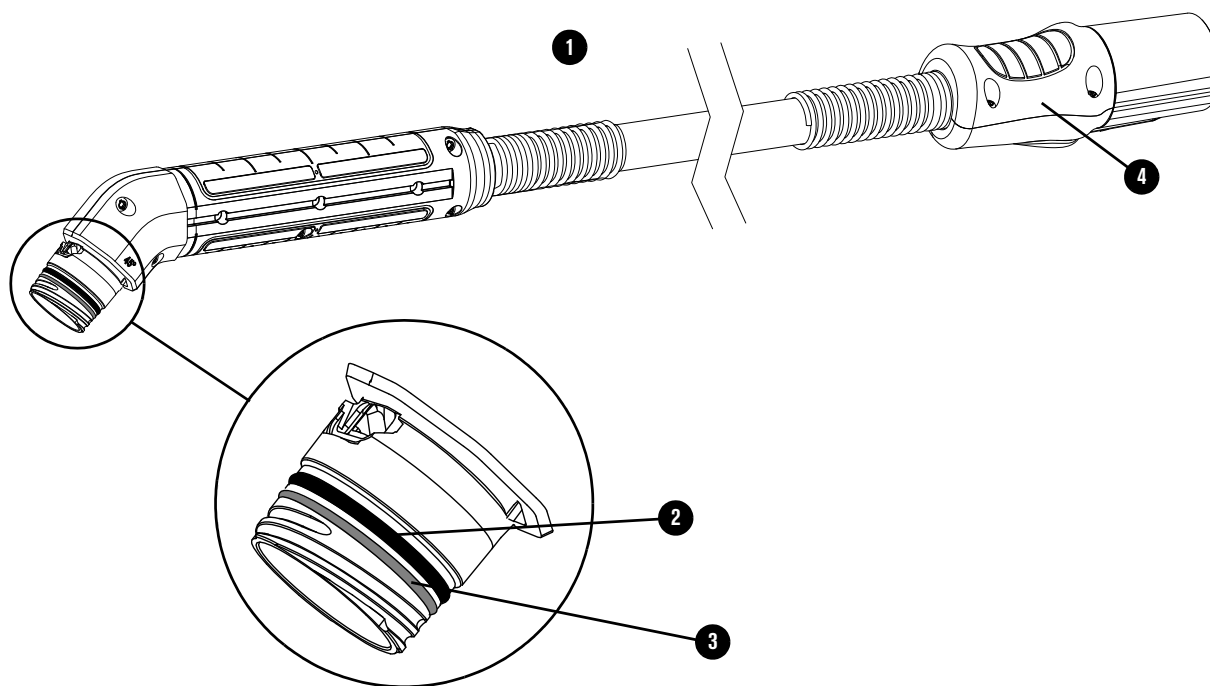
Item	Part number	Description
1	059733	Torch assembly with 4.6 m (15 foot) lead
1	059734	Torch assembly with 7.6 m (25 foot) lead
1	059735	Torch assembly with 15 m (50 foot) lead
2	428950	Kit: O-rings, 5 per kit (for torch head)
3	528066	Kit: Torch contact ring, 2 per kit (for torch head)
4	428863	Kit: Quick-disconnect shell (shell with button – does not include torch lead or connector)

90° robotic torch replacement parts



Item	Part number	Description
1	059731	Torch assembly with 7.6 m (25 foot) lead
1	059732	Torch assembly with 15 m (50 foot) lead
1	059767	Torch assembly with 23 m (75 foot) lead
2	428950	Kit: O-rings, 5 per kit (for torch head)
3	528066	Kit: Torch contact ring, 2 per kit (for torch head)
4	428863	Kit: Quick-disconnect shell (shell with button – does not include torch lead or connector)

45° robotic torch replacement parts



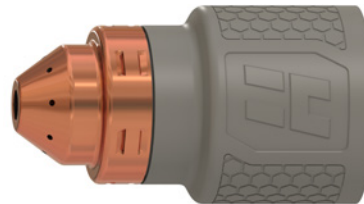
Item	Part number	Description
1	059729	Torch assembly with 7.6 m (25 foot) lead
1	059730	Torch assembly with 15 m (50 foot) lead
1	059766	Torch assembly with 23 m (75 foot) lead
2	428950	Kit: O-rings, 5 per kit (for torch head)
3	528066	Kit: Torch contact ring, 2 per kit (for torch head)
4	428863	Kit: Quick-disconnect shell (shell with button – does not include torch lead or connector)

Robotic torch cartridges

Mechanized cutting cartridges are gray.

Standard cutting

Part number	Description
428936	105 A cartridge
428934	85 A cartridge
428930	65 A cartridge
428925	45 A cartridge



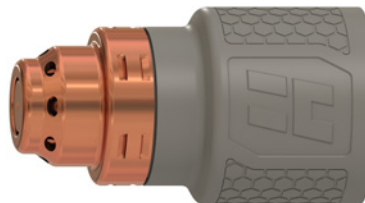
Ohmic ring

Part number	Description
428895	Ohmic ring attachment (420580) for machine torch cartridges, 3 per kit



FineCut cutting

Part number	Description
428926	30 A – 45 A cartridge



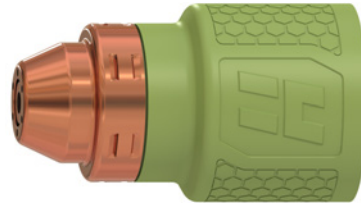
These mechanized cutting cartridges are compatible with SmartSYNC hand torches. If you use these cartridges on a hand torch, keep a standoff while cutting.

Gouging

Gouging cartridges are green. They can be used on hand torches and machine torches.

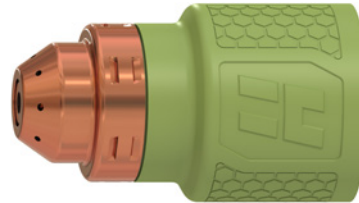
Maximum Control gouging

Part number	Description
428939	105 A cartridge
428933	45 A – 85 A cartridge



Maximum Removal gouging

Part number	Description
428938	105 A cartridge
428932	45 A – 85 A cartridge



Specialty cartridges

FlushCut cutting

FlushCut cutting cartridges are black. They can be used on hand torches and machine torches.

Part number	Description
428954	105 A cartridge
428953	85 A cartridge
428952	65 A cartridge



Accessory parts

Part number	Description
128647	Kit: Elimimizer air filter kit (for moisture removal)
011092	Replacement filter element for Elimimizer air filter
228570	Kit: Elimimizer air filter with protective metal cover for the Powermax65/85 SYNC
228890	Kit: Elimimizer air filter with protective metal cover for the Powermax105 SYNC
228624	Kit: Elimimizer air filter protective metal cover for the Powermax65/85 SYNC (cover only)
101215	Kit: Elimimizer air filter protective metal cover for the Powermax105 SYNC (cover only)
428719	Kit: Oil removal coalescing air filter kit
428720	Kit: Replacement filter element for oil removal coalescing air filter
428718	Kit: Mounting bracket for Elimimizer air filter or oil removal coalescing air filter
127301	Dust cover for Powermax65/85 SYNC
127360	Dust cover for Powermax105 SYNC
229370	Kit: Wheel kit assembly for Powermax65/85 SYNC
229467	Kit: Wheel kit assembly for Powermax105 SYNC
127169	Leather cutting gloves
127103	Face shield, shade 8 lens
428347	Torch heat shield for gouging
024877	Leather torch lead cover, black with Hypertherm logo, 7.6 m (25 foot)
017065	Basic plasma (circle) cutting guide, maximum diameter 71 cm (28 inches)
027669	Deluxe plasma (circle) cutting guide, maximum diameter 51 cm (20 inches)
017066	Bevel cutting guide
017041	Angle cutting guide, magnetic
017042	Magnetic straight edge
027055	Silicone lubricant, 7 g (1/4 ounce) (for O-rings on torch body and air filter bowl)
429054	Robotic torch teach assembly
528083	Kit: Cartridge Reader
128277	Kit: Machine torch clamp assembly, 1-3/8 inch
228806	Kit: Robotic torch clamp assembly, 1-3/8 inch

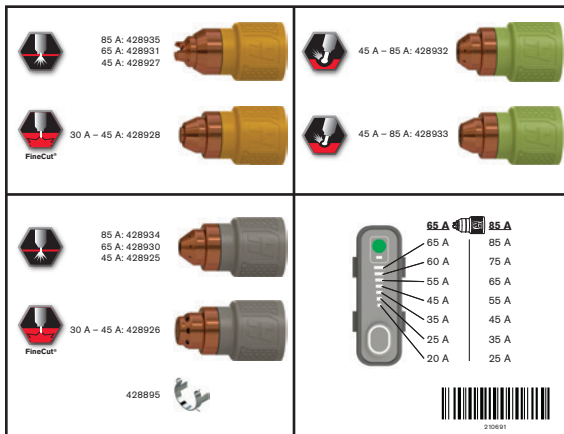
Powermax65/85/105 SYNC labels

Part number	Description
528018	Kit: Powermax65 SYNC labels, CSA
528020	Kit: Powermax85 SYNC labels, CSA
528022	Kit: Powermax105 SYNC labels, CSA
528019	Kit: Powermax65 SYNC labels, CE/CCC
528021	Kit: Powermax85 SYNC labels, CE/CCC
528023	Kit: Powermax105 SYNC labels, CE/CCC

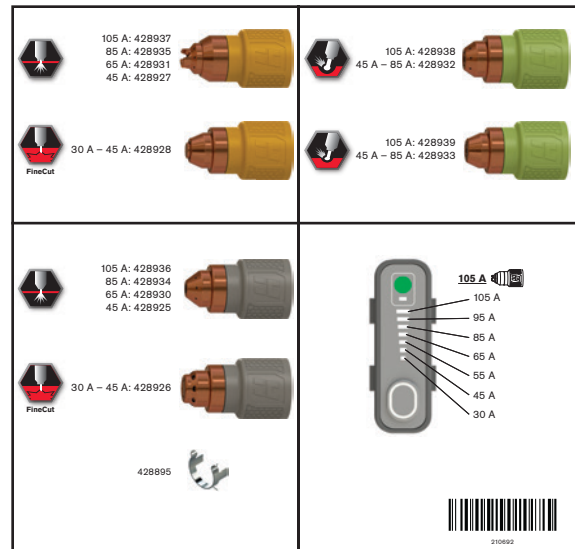
The label kits include:

- Warning label
- Interface decals for the front panel and rear panel
- Product decals
- Cartridge label

Cartridge labels













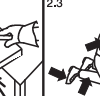














Powermax65/85 SYNC



Powermax105 SYNC

CSA warning label

This warning label is affixed to some plasma power supplies. It is important that the operator and maintenance technician understand the intent of these warning symbols as described.

	<p>Read and follow these instructions, employer safety practices, and material safety data sheets. Refer to ANS Z49.1, "Safety in Welding, Cutting and Allied Processes" from American Welding Society (http://www.aws.org) and OSHA Safety and Health Standards, 29 CFR 1910 (http://www.osha.gov).</p>	 WARNING	 AVERTISSEMENT
<p>1</p> 	<p>1.1</p>  <p>1.2</p>  <p>1.3</p> 	<p>1. Cutting sparks can cause explosion or fire. 1.1 Do not cut near flammables. 1.2 Have a fire extinguisher nearby and ready to use. 1.3 Do not use a drum or other closed container as a cutting table.</p>	<p>1. Les étincelles de coupage peuvent provoquer une explosion ou un incendie. 1.1 Ne pas couper près des matières inflammables. 1.2 Un extincteur doit être à proximité et prêt à être utilisé. 1.3 Ne pas utiliser un fût ou un autre contenant fermé comme table de coupage.</p>
<p>2</p> 	<p>2.1</p>  <p>2.2</p>  <p>2.3</p> 	<p>2. Plasma arc can injure and burn; point the nozzle away from yourself. Arc starts instantly when triggered. 2.1 Turn off power before disassembling torch. 2.2 Do not grip the workpiece near the cutting path. 2.3 Wear complete body protection.</p>	<p>2. L'arc plasma peut blesser et brûler; éloigner la buse de soi. Il s'allume instantanément quand on l'amorce. 2.1 Couper l'alimentation avant de démonter la torche. 2.2 Ne pas saisir la pièce à couper de la trajectoire de coupage. 2.3 Se protéger entièrement le corps.</p>
<p>3</p> 	<p>3.1</p>  <p>3.2</p>  <p>3.3</p> 	<p>3. Hazardous voltage. Risk of electric shock or burn. 3.1 Wear insulating gloves. Replace gloves when wet or damaged. 3.2 Protect from shock by insulating yourself from work and ground. 3.3 Disconnect power before servicing. Do not touch live parts.</p>	<p>3. Tension dangereuse. Risque de choc électrique ou de brûlure. 3.1 Porter des gants isolants. Remplacer les gants quand ils sont humides ou endommagés. 3.2 Se protéger contre les chocs en s'isolant de la pièce et de la terre. 3.3 Couper l'alimentation avant l'entretien. Ne pas toucher les pièces sous tension.</p>
<p>4</p> 	<p>4.1</p>  <p>4.2</p>  <p>4.3</p> 	<p>4. Plasma fumes can be hazardous. 4.1 Do not inhale fumes. 4.2 Use forced ventilation or local exhaust to remove the fumes. 4.3 Do not operate in closed spaces. Remove fumes with ventilation.</p>	<p>4. Les fumées plasma peuvent être dangereuses. 4.1 Ne pas inhaler les fumées. 4.2 Utiliser une ventilation forcée ou un extracteur local pour dissiper les fumées. 4.3 Ne pas couper dans des espaces clos. Chasser les fumées par ventilation.</p>
<p>5</p> 	<p>5.1</p> 	<p>5. Arc rays can burn eyes and injure skin. 5.1 Wear correct and appropriate protective equipment to protect head, eyes, ears, hands, and body. Button shirt collar. Protect ears from noise. Use welding helmet with the correct shade of filter.</p>	<p>5. Les rayons d'arc peuvent brûler les yeux et blesser la peau. 5.1 Porter un bon équipement de protection pour se protéger la tête, les yeux, les oreilles, les mains et le corps. Boutonner le col de la chemise. Protéger les oreilles contre le bruit. Utiliser un masque de soudeur avec un filtre de nuance appropriée.</p>
<p>6</p> 	<p>7</p> 	<p>6. Become trained. Only qualified personnel should operate this equipment. Use torches specified in the manual. Keep non-qualified personnel and children away. 7. Do not remove, destroy, or cover this label. Replace if it is missing, damaged, or worn.</p>	<p>6. Suivre une formation. Seul le personnel qualifié a le droit de faire fonctionner cet équipement. Utiliser exclusivement les torches indiquées dans le manuel. Le personnel non qualifié et les enfants doivent se tenir à l'écart. 7. Ne pas enlever, détruire ni couvrir cette étiquette. La remplacer si elle est absente, endommagée ou usée.</p>
	<p>WARNING: This product can expose you to chemicals including lead and lead compounds, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.</p>	<p>AVERTISSEMENT : Ce produit peut vous exposer à des produits chimiques, dont le plomb et des composés de plomb, reconnus par l'État de la Californie comme cause de cancer et d'anomalie congénitale ou d'autres anomalies de l'appareil reproducteur. Pour obtenir de plus amples renseignements, consultez le www.p65warnings.ca.gov.</p>	

Descriptions of warning label icons

This warning label is affixed to some plasma power supplies. It is important that the operator and maintenance technician understand the intent of these warning symbols as described. The descriptions at right are numbered the same as the symbols on the label.



1. Cutting sparks can cause explosion or fire.
 - 1.1 Do not cut near flammables.
 - 1.2 Have a fire extinguisher nearby and ready to use.
 - 1.3 Do not use a drum or other closed container as a cutting table.
2. Plasma arc can injure and burn; point the nozzle away from yourself. Arc starts instantly when triggered.
 - 2.1 Turn off electrical power before disassembling torch.
 - 2.2 Do not grip the workpiece near the cutting path.
 - 2.3 Wear complete body protection.
3. Hazardous voltage. Risk of electric shock or burn.
 - 3.1 Wear insulating gloves. Replace gloves when wet or damaged.
 - 3.2 Protect from shock by insulating yourself from work and ground.
 - 3.3 Disconnect power before servicing. Do not touch live parts.
4. Plasma fumes can be hazardous.
 - 4.1 Do not inhale fumes.
 - 4.2 Use forced ventilation or local exhaust to remove fumes.
 - 4.3 Do not operate in closed spaces. Remove fumes with ventilation.
5. Arc rays can burn eyes and injure skin.
 - 5.1 Wear correct and approved protective equipment to protect head, eyes, ears, hands, and body. Button shirt collar. Protect ears from noise. Use welding helmet with the correct shade of filter.
6. Become trained. Only qualified personnel should operate this equipment. Use torches specified in the manual. Keep non-qualified personnel and children away.
7. Do not remove, destroy, or cover this label. Replace it if it is missing, damaged, or worn.