

# Hypertherm®

## Powermax65/85/105 SYNC™

### Parts Guide



810490 – REVISION 2

ENGLISH



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# ***Powermax65/85/105 SYNC***

## **Parts Guide**

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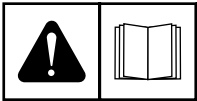
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For training and education resources, go to the Hypertherm Cutting Institute (HCI) online at [www.hypertherm.com/hci](http://www.hypertherm.com/hci).



## 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 may accompany the product in electronic and printed formats. You can also obtain copies of the manuals, in all languages available for each manual, from the "Documents library" at [www.hypertherm.com](http://www.hypertherm.com).

## 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).

Копия на ръководствата може да придружават продукта в електронен и в печатен формат. Можете да получите копия на ръководствата, предлагани на всички езици, от „Documents library“ (Библиотека за документи) на адрес [www.hypertherm.com](http://www.hypertherm.com).

## CS (ČESKY/CZECH)

VAROVÁNÍ! Před uvedením jakéhokoliv 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 a manuálů mohou být součástí dodávky produktu, a to v elektronické i tištěné formě. Kopie příruček a manuálů ve všech jazykových verzích, v nichž byly dané příručky a manuály vytvořeny, naleznete v „Knihovně dokumentů“ na webových stránkách [www.hypertherm.com](http://www.hypertherm.com).

## 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 radiofrekvensadvarsel* (80945C), gennemlæses.

Kopier af manualerne kan ledsage produktet i elektroniske og trykte formater. Du kan også få kopier af manualer, på alle sprog der er til rådighed for hver manuel, fra "Dokumentbiblioteket" på [www.hypertherm.com](http://www.hypertherm.com).

## 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. Alle Handbücher und Anleitungen können in den jeweils verfügbaren Sprachen auch in der „Dokumente-Bibliothek“ unter [www.hypertherm.com](http://www.hypertherm.com) heruntergeladen werden.

## 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).

Pueden venir copias de los manuales en formato electrónico e impreso junto con el producto. También se pueden obtener copias de los manuales, en todos los idiomas disponibles para cada manual, de la "Biblioteca de documentos" en [www.hypertherm.com](http://www.hypertherm.com).

## ET (EESTI/ESTONIAN)

HOIATUS! Enne Hyperthermi mis tahes seadme kasutamist lugege läbi toote kasutusjuhendis olevad ohutusjuhised 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 olla tootega kaasas elektroonilises ja trükivormingus. Juhiste koopiad kõigis iga käsiraamatu jaoks saadaolevas keeles saate hankida ka „Documents library (dokumentide raamatukogust)“ lehel [www.hypertherm.com](http://www.hypertherm.com).

## 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 elektronisessa ja tulostetussa muodossa. Voit saada käyttöoppaiden kopiot kaikilla kielillä "latauskirjastosta", joka on osoitteessa [www.hypertherm.com](http://www.hypertherm.com).

## 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).

Des copies de ces manuels peuvent accompagner le produit en format électronique et papier. Vous pouvez également obtenir des copies de chaque manuel dans toutes les langues disponibles à partir de la « Bibliothèque de documents » sur [www.hypertherm.com](http://www.hypertherm.com).

## GR (ΕΛΛΗΝΙΚΑ/GREEK)

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

Αντίγραφο των εγχειριδίων μπορεί να συνοδεύουν το προϊόν σε ηλεκτρονική και έντυπη μορφή. Μπορείτε, επίσης, να λάβετε αντίγραφο των εγχειριδίων σε όλες τις γλώσσες που διατίθενται για κάθε εγχειρίδιο από την ψηφιακή βιβλιοθήκη εγγράφων (Documents library) στη διαδικτυακή τοποθεσία [www.hypertherm.com](http://www.hypertherm.com).

## 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. A kézikönyvek példányai (minden nyelven) a [www.hypertherm.com](http://www.hypertherm.com) weboldalon a „Documents library” (Dokumentum könyvtár) részben is beszerezhető.

## 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 dalam format elektronik maupun cetak. Anda juga dapat memperoleh salinan manual, dalam semua bahasa yang tersedia untuk setiap manual, dari "Perpustakaan dokumen" di [www.hypertherm.com](http://www.hypertherm.com).

## 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).

Il prodotto può essere accompagnato da copie elettroniche e cartacee del manuale. È anche possibile ottenere copie del manuale, in tutte le lingue disponibili per ogni manuale, dall' "Archivio documenti" all'indirizzo [www.hypertherm.com](http://www.hypertherm.com).

## 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」の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。各説明書は、[www.hypertherm.com](http://www.hypertherm.com) の「ドキュメントライブラリ」から各言語で入手できます。

## 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. [www.hypertherm.com](http://www.hypertherm.com) 의 'Documents library (문서 라이브러리)' 에서도 모든 언어로 이용할 수 있는 설명서 사본을 얻을 수 있습니다.

## 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. De handleidingen, elke handleiding beschikbaar in alle talen, zijn ook verkrijgbaar via de "Documentenbibliotheek" op [www.hypertherm.com](http://www.hypertherm.com).

## 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 radiofrekvensadvarsler* (80945C).

Eksemplarer av håndbøkene kan medfølge produktet i elektroniske og trykte utgaver. Du kan også få eksemplarer av håndbøkene i alle tilgjengelige språk for hver håndbok fra dokumentbiblioteket på [www.hypertherm.com](http://www.hypertherm.com).

## 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 kopie podręczników w formie elektronicznej i drukowanej. Kopie podręczników, w każdym udogodnionym języku, można również znaleźć w „Bibliotece dokumentów” pod adresem [www.hypertherm.com](http://www.hypertherm.com).

## 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 acompanhar os produtos nos formatos eletrônico e impresso. Também é possível obter cópias dos manuais em todos os idiomas disponíveis para cada manual na "Biblioteca de documentos" em [www.hypertherm.com](http://www.hypertherm.com).

## RO (ROMÂNĂ/ROMANIAN)

AVERTIZARE! Înainte de utilizarea oricărui 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 manualului în format tipărit și electronic. De asemenea, dumneavoastră puteți obține copii ale manualelor, în toate limbile disponibile pentru fiecare manual, din cadrul secțiunii „Biblioteca de documente” aflată pe site-ul [www.hypertherm.com](http://www.hypertherm.com).

## RU (РУССКИЙ/RUSSIAN)

БЕРЕГИТСЯ! 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. Копии руководств на всех языках, на которые переведено то или иное руководство, можно также загрузить в разделе «Библиотека документов» на веб-сайте [www.hypertherm.com](http://www.hypertherm.com).

## 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).

Kópia návodu, ktorá je dodávaná s produktom, môže mať elektronickú alebo tlačnú podobu. Kópie návodov, vo všetkých dostupných jazykoch, sú k dispozícii aj v sekcii z „knížnice Dokumenty“ na [www.hypertherm.com](http://www.hypertherm.com).

## 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).

Izdelku so lahko priloženi izvodi priročnikov v elektronski ali tiskani obliki. Izvode priročnikov v vseh razpoložljivih jezikih si lahko prenesete tudi iz knjižnice dokumentov "Documents library" na naslovu [www.hypertherm.com](http://www.hypertherm.com).

## SR (SRPSKI/SERBIAN)

UPOZORENJE! Pre rukovanja bilo kojom Hyperthermovom opremom pročitajte uputstva o bezbednosti u 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).

Može se dogoditi da kopije priručnika prate proizvod u elektronskom i štampanom formatu. Takođe možete da pronadete kopije priručnika, na svim jezicima koji su dostupni za svaki od priručnika, u "Biblioteci dokumenata" ("Documents library") na [www.hypertherm.com](http://www.hypertherm.com).

## 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 manualen kan medfölja produkten i elektronisk och tryckform. Du hittar även kopior av manualerna i alla tillgängliga språk i dokumentbiblioteket (Documents library) på [www.hypertherm.com](http://www.hypertherm.com).

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## TH (ภาษาไทย/THAI)

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

สินค้าอาจมีสำเนาคู่มือในรูปแบบอิเล็กทรอนิกส์และแบบสิ่งพิมพ์แนบมาด้วย นอกจากนี้ คุณสามารถขอรับสำเนาคู่มือแต่ละประเภทเป็นภาษาต่าง ๆ ที่มีให้ใช้งานได้ที่ “คลังเอกสาร” ในเว็บไซต์ [www.hypertherm.com](http://www.hypertherm.com)

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## 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 *Radyo Frekansı Uyarısı Kılavuzu'nda* (80945C) yer alan güvenlik talimatlarını okuyun.

Kılavuzların kopyaları, elektronik ve basılı formatta ürünle birlikte verilebilir. Her biri tüm dillerde yayınlanan kılavuzların kopyalarını [www.hypertherm.com](http://www.hypertherm.com) adresindeki “Documents library” (Dosyalar kitaplığı) başlığından da elde edebilirsiniz.

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## 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 các hướng dẫn sử dụng có thể đi kèm sản phẩm ở định dạng điện tử và bản in. Bạn cũng có thể lấy bản sao của các hướng dẫn sử dụng, thuộc tất cả các ngôn ngữ hiện có cho từng hướng dẫn sử dụng, từ “Thư viện tài liệu” tại địa chỉ [www.hypertherm.com](http://www.hypertherm.com).

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## 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能提供电子版和印刷版两种格式。您也可从“Documents library” (文档资料库) 中获取每本手册所有可用语言的副本, 网址为 [www.hypertherm.com](http://www.hypertherm.com)。

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## 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)。

手冊複本可能以電子和印刷格式隨附產品提供。您也可以從 [www.hypertherm.com](http://www.hypertherm.com) 的「文檔資料庫」內獲取所有手冊的多語種複本。





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## How to use this guide

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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:

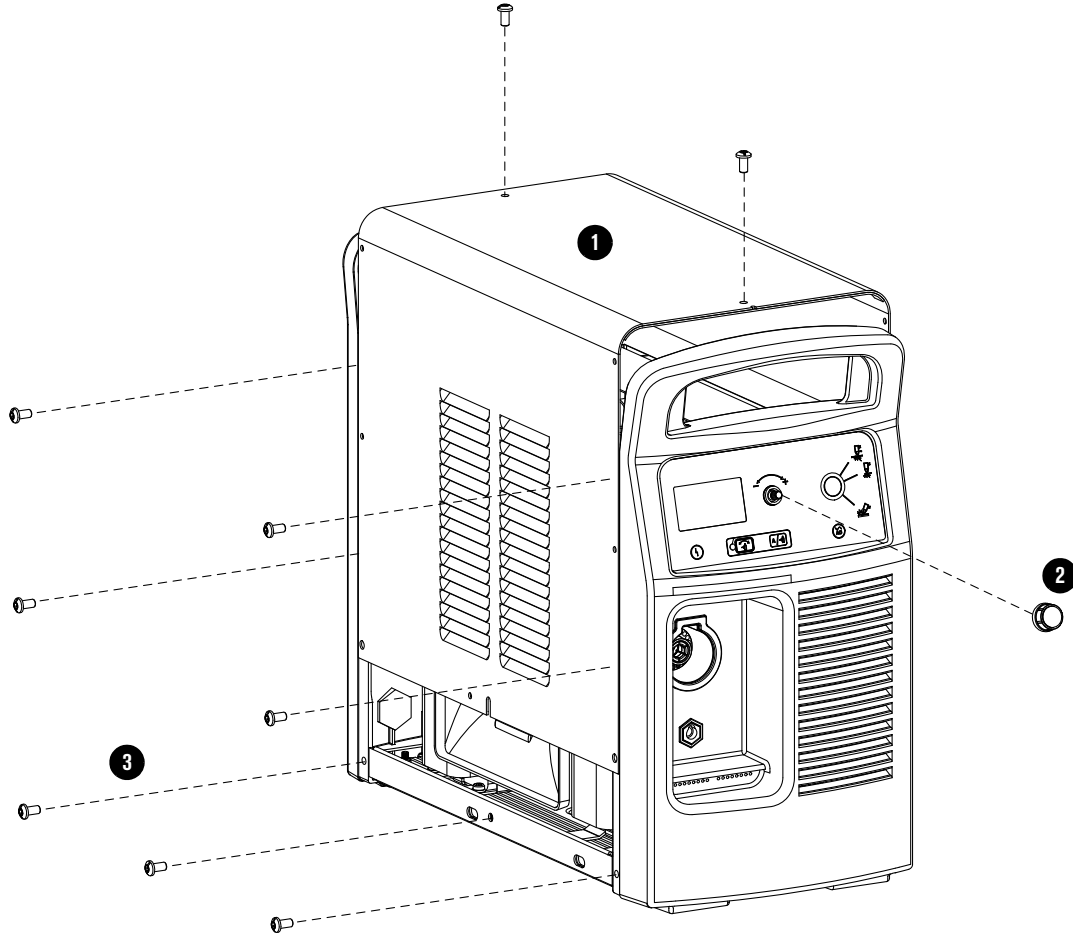
- *Powermax65/85/105 SYNC Operator Manual (810470)*
- *Powermax65/85/105 SYNC Mechanized Cutting Guide (810480)*
- *Powermax65/85/105 SYNC Cut Charts Guide (810500MU)*
- *Safety and Compliance Manual (80669C)*

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](http://www.hypertherm.com/docs).



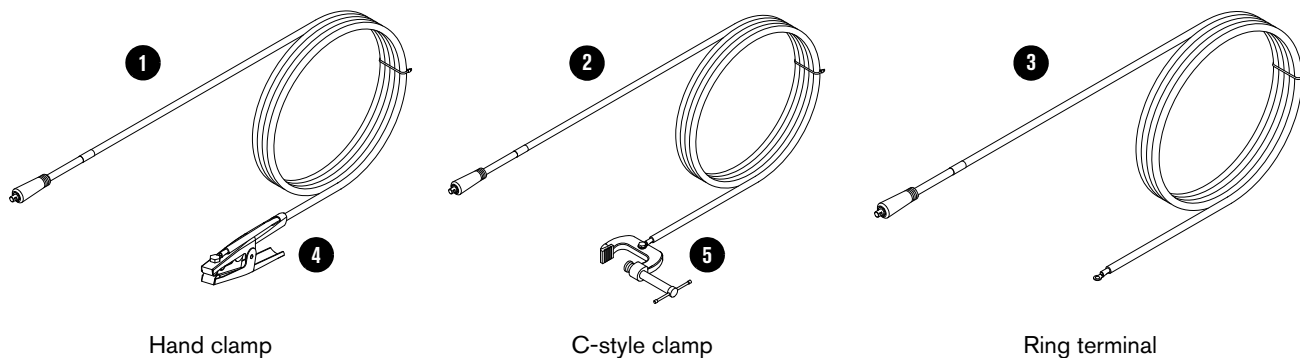
Technical documentation is current as of the date of its release. Subsequent revisions are possible. Refer to [www.hypertherm.com/docs](http://www.hypertherm.com/docs) for the most recent revisions of released documents.

## Plasma 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



### 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	223033	65 A / 85 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)
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	223211	65 A / 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.

## 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	65 A / 85 A work lead with hand 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.

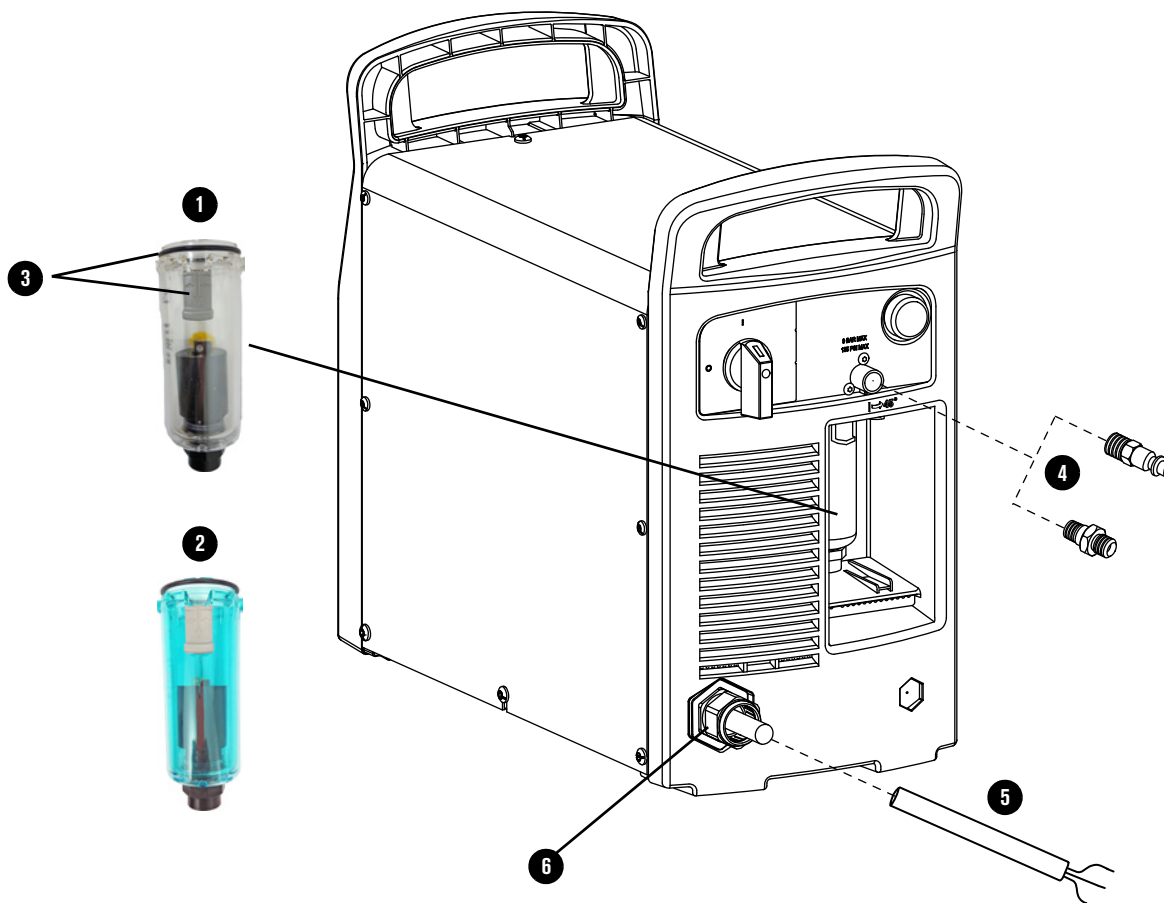
## Powermax105 SYNC

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	223294	105 A / 125 A work lead with hand clamp, 23 m (75 foot)
2	223298	105 A / 125 A work lead with C-style clamp, 7.6 m (25 foot)
2	223299	105 A / 125 A work lead with C-style clamp, 15 m (50 foot)
2	223300	105 A / 125 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	223297	105 A / 125 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



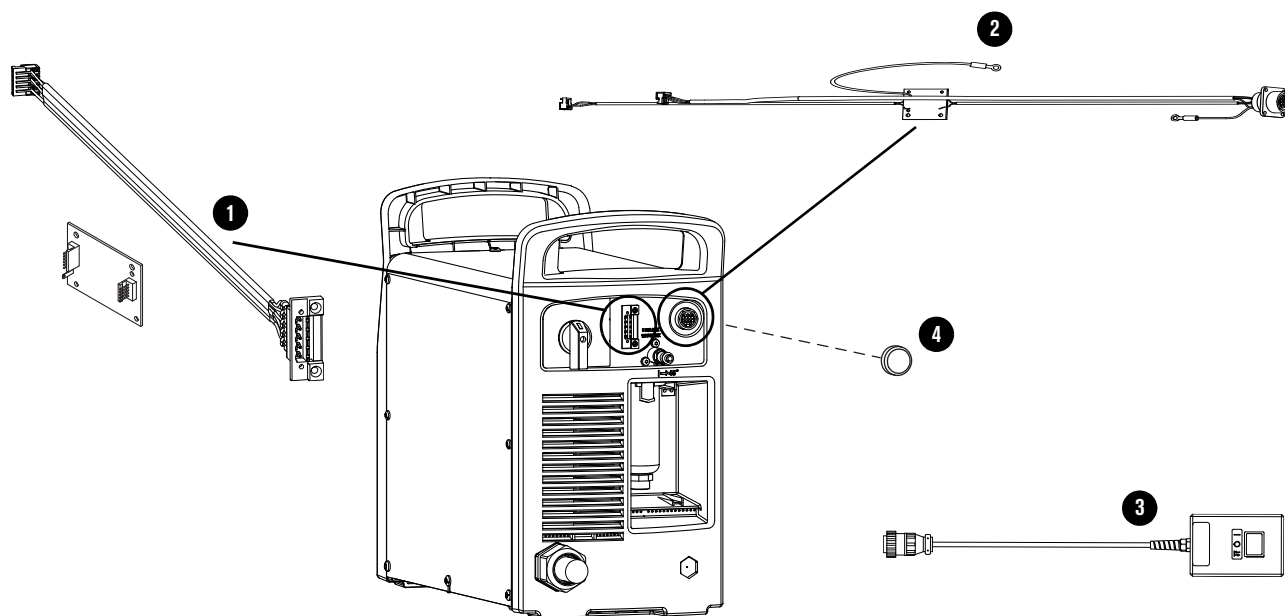
Item	Part number	Description
1	428352	Kit: Air filter bowl, polycarbonate (comes with plasma power supply, includes the O-ring but not the filter element)
2	428415*	Kit: Air filter bowl, nylon (optional – for work sites with oily air*) (includes the O-ring but not the filter element)
3	228695	Kit: Air filter element and O-ring (compatible with both filter bowl types)
4	428685	Kit: Gas inlet fittings: <ul style="list-style-type: none"> <li>▪ Industrial interchange quick-disconnect nipple with 1/4 NPT threads</li> <li>▪ British Pipe Thread adapter G-1/4 BSPP with 1/4 NPT threads</li> </ul>
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)

<b>Item</b>	<b>Part number</b>	<b>Description</b>
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)
4	127204	Cover for machine interface receptacle



The remote start pendant connects to the machine interface receptacle.

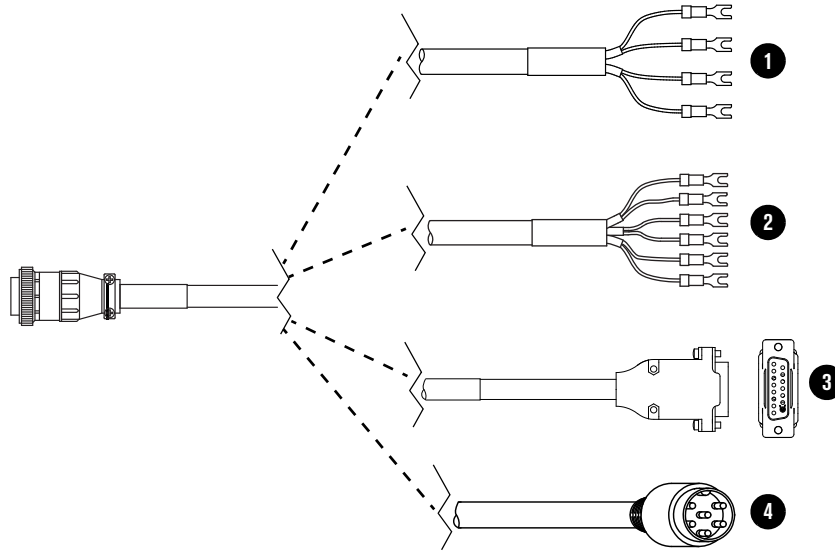


**EDGE® Pro CNC hardware requirements:** Hypertherm's EDGE Pro CNC communicates with plasma power supplies using serial communications. To connect an EDGE Pro with a Powermax65/85/105 SYNC, use the serial connectors that are already installed on the EDGE Pro. For more information, refer to the *Phoenix Software V9 Series Installation and Setup Manual* (806410). Technical documentation is available at [www.hypertherm.com/docs](http://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)

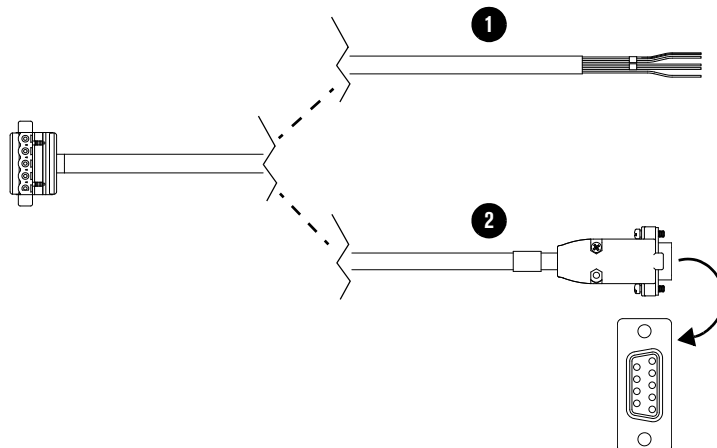
\* Communicates start, stop, and arc transfer signals. Uses an **external** voltage divider PCB.

\*\* 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.

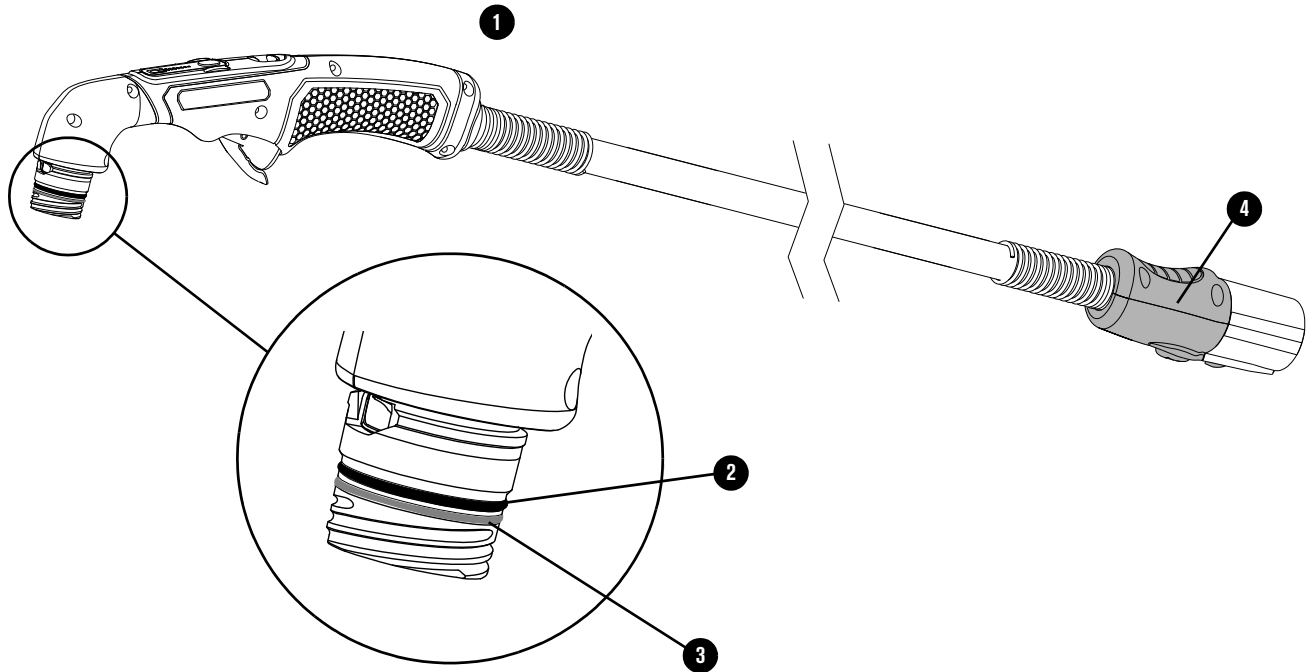
## RS-485 serial interface cables

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



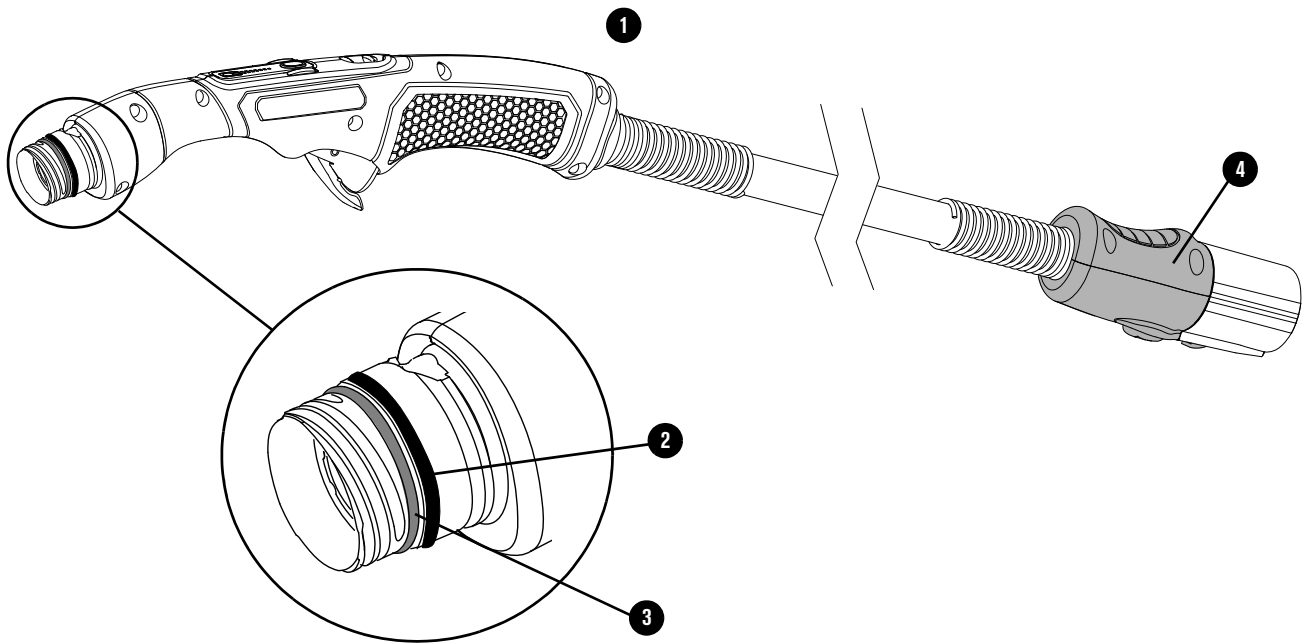
Item	Part number	Description
1	223236	External RS-485 cable, unterminated, 7.6 m (25 foot)
1	223237	External RS-485 cable, unterminated, 15 m (50 foot)
2	223239	External RS-485 cable, 9-pin D-sub connector for Hypertherm controls, 7.6 m (25 foot)
2	223240	External RS-485 cable, 9-pin D-sub connector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

## 75° hand torch replacement parts



Item	Part number	Description
1	059614	Torch assembly with 7.6 m (25 foot) lead
1	059615	Torch assembly with 15 m (50 foot) lead
1	059616	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	059611	Torch assembly with 7.6 m (25 foot) lead
1	059612	Torch assembly with 15 m (50 foot) lead
1	059613	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

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Hand cutting cartridges are yellow.

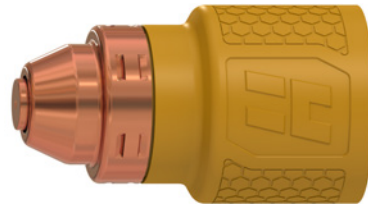
### Drag cutting

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

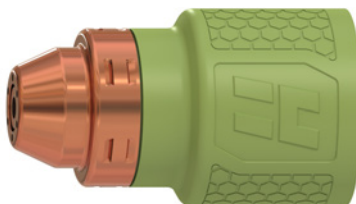


## Gouging cartridges

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

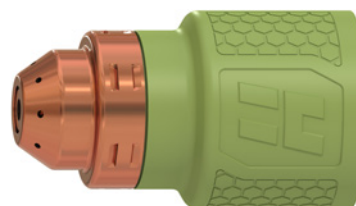
### Maximum Control gouging

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

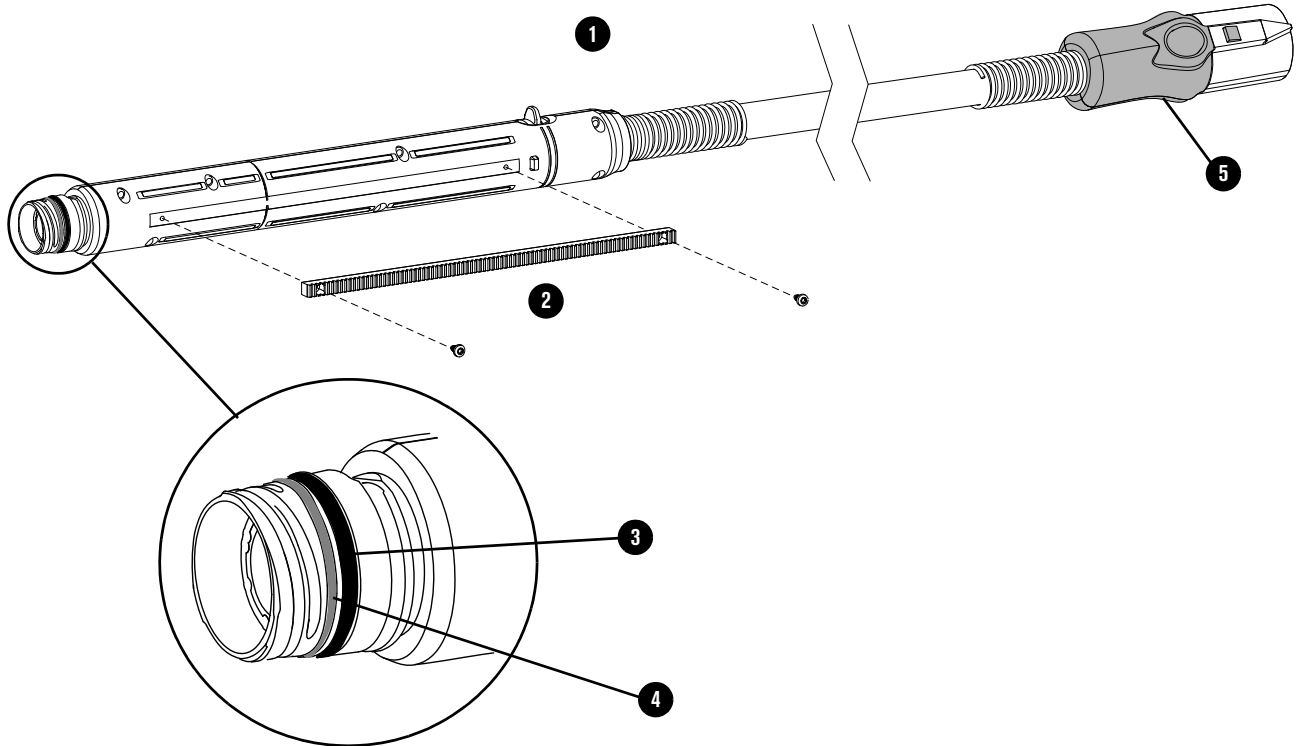
### FlushCut cutting

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



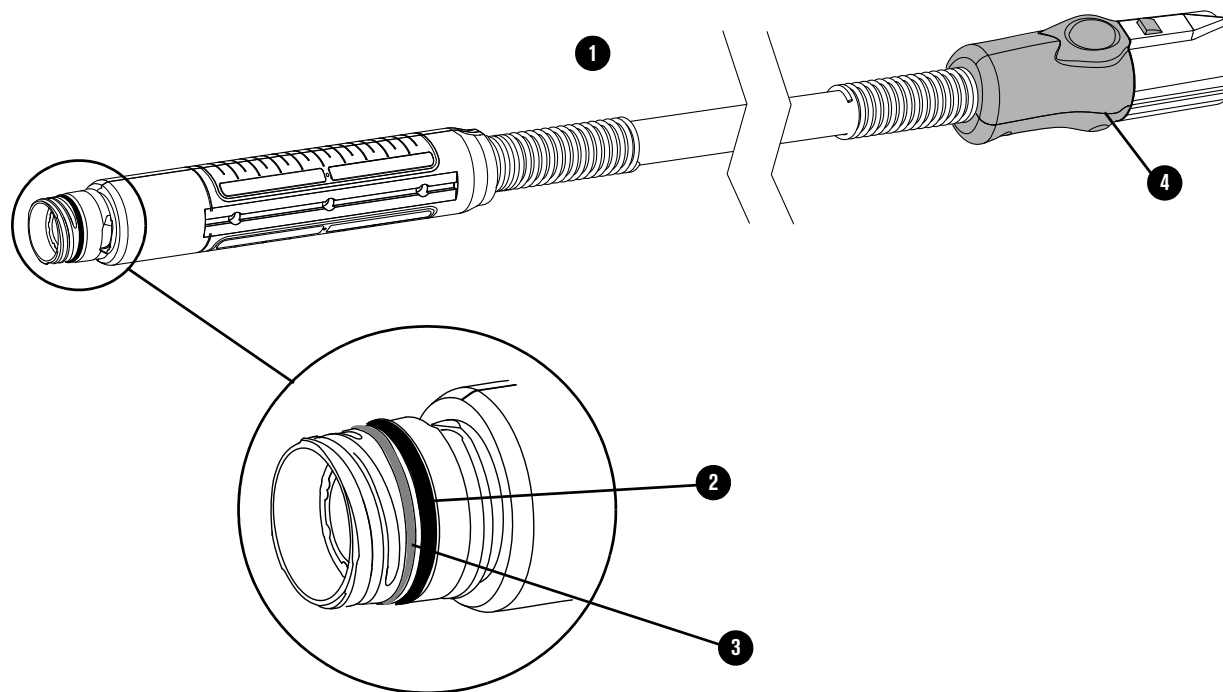
## Full-length machine torch replacement parts



Item	Part number	Description
1	059598	Torch assembly with 4.6 m (15 foot) lead
1	059599	Torch assembly with 7.6 m (25 foot) lead
1	059600	Torch assembly with 10.7 m (35 foot) lead
1	059601	Torch assembly with 15 m (50 foot) lead
1	059602	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	059618	Torch assembly with 4.6 m (15 foot) lead
1	059619	Torch assembly with 7.6 m (25 foot) lead
1	059620	Torch assembly with 10.7 m (35 foot) lead
1	059621	Torch assembly with 15 m (50 foot) lead
1	059622	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)

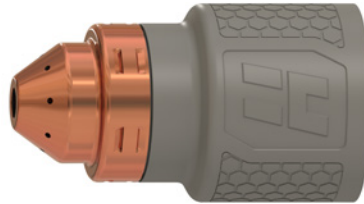
## Machine torch cartridges

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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



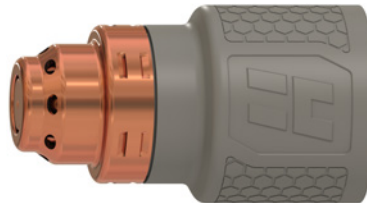
### Ohmic ring

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



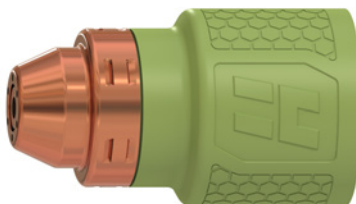
These mechanized cutting cartridges are compatible with SmartSYNC hand torches. If you use these cartridges on a hand torch, keep a standoff while cutting.

## Gouging

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

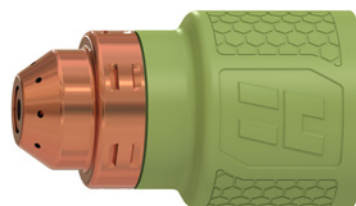
### Maximum Control gouging

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

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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)
428969	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)

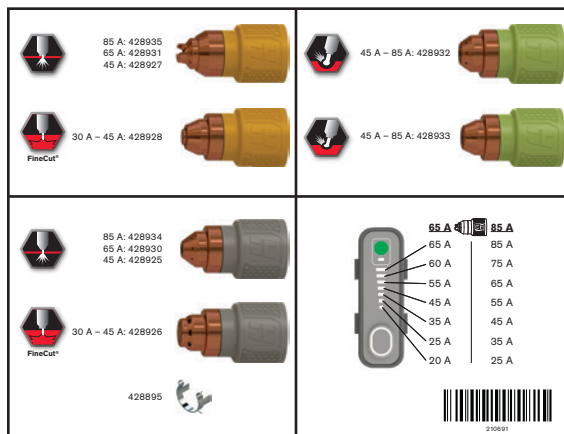
# Powermax65/85/105 SYNC labels

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

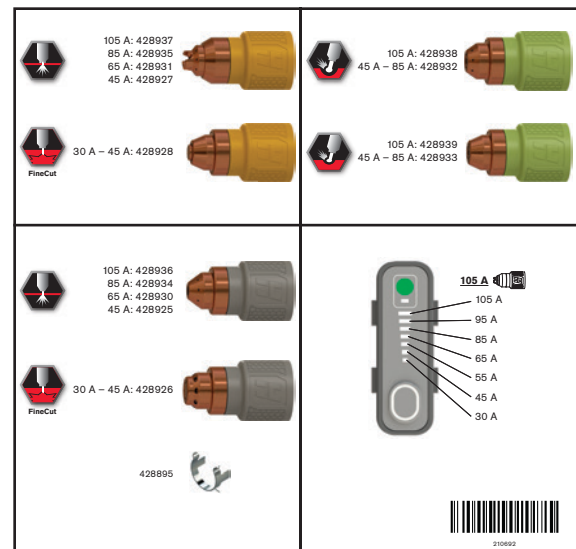
The label kits include:

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

## Cartridge labels







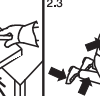











Powermax65/85 SYNC



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 (<a href="http://www.aws.org">http://www.aws.org</a>) and OSHA Safety and Health Standards, 29 CFR 1910 (<a href="http://www.osha.gov">http://www.osha.gov</a>).</p>	 <b>WARNING</b>	 <b>AVERTISSEMENT</b>
<p>1</p> 	<p>1.1</p>  <p>1.2</p>  <p>1.3</p> 	<p><b>1. Cutting sparks can cause explosion or fire.</b>                      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><b>1. Les étincelles de coupage peuvent provoquer une explosion ou un incendie.</b>                      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><b>2. Plasma arc can injure and burn; point the nozzle away from yourself. Arc starts instantly when triggered.</b>                      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><b>2. L'arc plasma peut blesser et brûler; éloigner la buse de soi. Il s'allume instantanément quand on l'amorce.</b>                      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><b>3. Hazardous voltage. Risk of electric shock or burn.</b>                      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><b>3. Tension dangereuse. Risque de choc électrique ou de brûlure.</b>                      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><b>4. Plasma fumes can be hazardous.</b>                      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><b>4. Les fumées plasma peuvent être dangereuses.</b>                      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><b>5. Arc rays can burn eyes and injure skin.</b>                      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><b>5. Les rayons d'arc peuvent brûler les yeux et blesser la peau.</b>                      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><b>6. Become trained.</b> Only qualified personnel should operate this equipment. Use torches specified in the manual. Keep non-qualified personnel and children away.   <b>7. Do not remove, destroy, or cover this label.</b> Replace if it is missing, damaged, or worn.</p>	<p><b>6. Suivre une formation.</b> 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.   <b>7. Ne pas enlever, détruire ni couvrir cette étiquette.</b> La remplacer si elle est absente, endommagée ou usée.</p>
	<p><b>WARNING:</b> 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 <a href="http://www.p65warnings.ca.gov">www.p65warnings.ca.gov</a>.</p>	<p><b>AVERTISSEMENT :</b> 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 <a href="http://www.p65warnings.ca.gov">www.p65warnings.ca.gov</a>.</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.