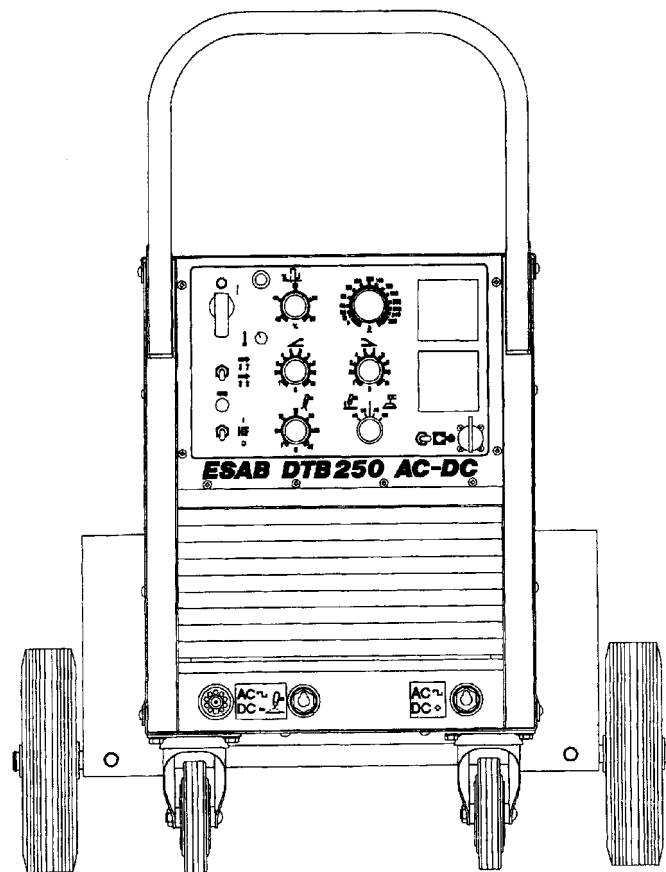




# DTB 250



Είδη οδηγός χρήσης  
Instruction manual

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Í ñòààèýàì çà ñì áí é í ðàáí èçì áí yòu ñì áòèÖèèàòèþ áác ÿ ðàáóí ðáæääí èý.

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# 1 ΟΑΩΙ ΕΕΑ ΑΑÇÎ Î ΑΝÎ Î ΝΟΕ



## Ï ÐÄÄÏ ÐÄÆÄÄÏ ÈÄ !



ΑΟΑΙ ΑΑΒ ΝΑΑΔΕΑ È ÐÄÇΕΑ Î Î ΑΟΟ Î ÐΕ×ΕÎ ΕΟΥ ΑÐÄÄ ΑΑÎ È Î ΕÐΟÆΑÐ ÆÏ ÈÎ . Î ÐΕÎ ΕΟÄ Î ΑÎ ΑΟÎ ΑΕÎ ΟÄ Î ΑÐΟ ΑΑÇÎ Î ΑΝÎ Î ΝΟΕ Î ÐΕ Î ÐÎ ΑÄÄÄÏ ÈÈ ΝΑΑÐÎ ×Î ΟΟ ÐΑΑÎ Ο. Î ÇÎ ΑΕÎ Î ΟΑΩÎ Ν ΟΑΩÎ ÈΕÎ È ΑΑÇÎ Î ΑΝÎ Î ΝΟΕ, ÐΑÇÐΑΑÎ ΟΑÎ Î Î È Î Α ΑΑÏÄÎ Î ÐÄÄÏ ÐΕΒΟÈÈ.

Ï Î ÐÄÆÄÏ ÈÄ ÆÄÆΟÐÈ×ÄÑÈÈÎ ÕÎ ÈÎ Î Î Î ΑΝÎ Î ΑΕΒ ÆÈÇÎ È !

- Οñοαί î æεä è çαçàî èεä ñαäðî ÷î çé àî î äðäð à ñî î ðääñòæè ñ î ðèî àî ÿàî çî è ñοαί ääðäè è.
- Î ä èαñæéðäñü î àî èàî î çò ÿèæéððè÷äñèèð ÷äñòæè èèè ÿèæéððî àî à àî èçî è ðéèàî è, î î èðçî è î äð÷äðèàî è èèè î î èðî è î ääæäî è.
- Èçî èèðéðä ñäáÿ î ð çàî èè è çààî òî æèè.
- Î ääñî ä÷ää ääçî î àñî î ñòü î ä ñàî àî ðäàî ÷äî î äñä.

ΝΑΑÐÎ ×Î ΟÄ ΑΟÎ Ο È ΑÿÐÎ ÇÎ ÈÈ - Î Î äóð äóðü î î àñî ç äèÿ çàî ðî àüÿ.

- Ñòäðæéðäñü, ÷ò äç ääðä àî èî ää î äò æèèäñü àî ä çî î ç äçî ä..
- Èñî î èüçéðä äàî ðèèÿðèð è äçî î î ññî ñç äèÿ öäæèáî èÿ äçî î ä è äÿðî çî èäé èç çî î ç äçòàî èÿ è î èðæäðçäàî î ðî ñðäî ñòæä

ÈÇÈΟ×ÄÏ ÈÄ ΑΟÄÈ - Î Î æäð î àî äñèè äðää æèçàî è èî æä.

- Çäçèçäæéðä ääðè æèçà è èî æð. Èñî î èüçéðä î àñèð ñ î ðææèèü î î î àî äðäî î çäçèèð çî ñòæèè î è ñî äò ääæäð
- Çäçèçäæéðä î èðæäðçèèè î î ñðääñòàî î ñòàî î è è çàî äääñî è.

Ï Î ÆÄÐÎ Î Î ΑΝÎ Î ΝΟΥ

- Èñèç î ðè ñääðèä î î äóð ñòäü î ðè÷è î è î î æäðä. Î ääñî ä÷ää î ññòñòæèä î î æäðî î î àñî çò î äðäðæèí à ä èèçèæäèäçäèè çî î ä.

ØÏÎ - Î Î äçòàî î çè øòî î î æäð î î äðäæéðü ñèóð

- Çäçèèèèä ñàî è øèè ñ î î î î çüð î äóðî èè à èèè ääððæèè.
- Î ðääòî ðäæèðä î ðèñèä î èðæäðçèèè.

ΝΑÎ È Ä ÐΑΑÎ ΟÄ - Î ðè ñàî ÿð ä ðäàî ää î äðäðæéðäñü çä î î î çüð è ñî äèæèèèñò.

Î ÐÎ ×ØÈΟÄ È Î ÈÎ ΕΟÄ ÈÎ ΝΟÐÓÈΟÈÐ Î Î ÆÈÎ ÈΟÄΟÄÈÈ Î ΑÐÄÄ ΟΑÎ , ÈÄÈ Î Î ΑÈÈÐ×ÈΟΥ  
Î ΑÎ ÐΟΑÎ ΑΑÎ ÈÄ È Î Α×ΑΟΥ ÐΑΑÎ ΟΟ

ÇÄÇÈÈÈÈÄ ÑÄÄΒ È Î ÈÐΟÆΑÐ ÆÏ ÈÎ !

# 2 ÄÄÄÄÄÏ ÈÄ

DTB 250 ÿäèÿäòñÿ èñòî ÷î èèî î î èðäî èÿ ñ ðèðèñòî ðî çî òî ðææèáî èäî , î ðääî ççî ä÷ää î çü äèÿ ñääðèèè î ä î î ñòî ÿî î î î (ÄÑ) è î äðäî àî î î î (DC) òî èä. Î î æî î èñî î èüçî ääðü äää ñî î ñî ää ñääðèèè: î àî èääÿçèè ñÿ ÿèæéððî àî î ä çäçèèð çò ääçäð (ä ääèüî äéðäî ÕIG) è øóð÷î çü ÿèæéððî àî î (ä ääèüî äéðäî Î Î Ä).

DTB 250 î î ñòæèèÿäòñÿ ñ çäàî èî è èî èäñàî è, î äðääî èî è ðî èèèàî è, î î èèî è äèÿ ääçî àî àî ääèèè î ä è äèè èä àî äÿî î àî î èèææääî èÿ, ðäçúàî î î Î ÈÑ è ñäðääüî èääèèèä \*.

(\* ñäðääî è èäääèü ðäññ÷èèèè î ä î àî ðÿæèáî èä 400V è äüðä).

## 2.1 ØÅŒÍ È×ÅÑÊÈÅ ÄÄÍ Í ÛÅ

Ì àèñèì àèüí àý í àãðóçèà

### MMA AC/DC

100% Í Å	95A/24V
60% Í Å	145A/26V
35% Í Å	200A/28V

Ì àèñèì àèüí àý í àãðóçèà

### AC/DC ØIG

100% Í Å	95A/14V
35% Í Å	200A/18V
20% Í Å	250A/20V

Äèàì àçí í õí èà

ØIG 5A/10V-250A/20V

Äèàì àçí í õí èà

MMA 20A/21V-200A/28V

Ì àèñ.í àì ðýæáí èà õí è.õí àà

65VAC, 71V DC

### MMA 200A AC

Éí ýØ.ì í Ûí í ñòè	0.69
Éí Å	0.63

### TIG 250A AC

Éí ýØ.ì í Ûí í ñòè	0.62
Éí Å	0.51

Ì í Ûí í ñòù õí è.õí àà

300W

Äèèàí ñ áí éí Û õí èà

40-60%

Äðàì ý í àðàñòàí èý õí èà

0.5-10 ñâé

Äðàì ý í àðàñòàí èý õí èà

0.5-10 ñâé

Äðàì ý í õí áóáèè ààçà

0.5-30 ñâé

Éèaññ çàÛèòÛ

IP 21

Ì àññà

145 kg

ÄáàðèòÛ ÄõjõÄ

1180/745/965

Ýòè ñààðí ÷í Ûå àí í àðàòÛ í ðåå÷àðò ððåáí ààí èýì **IEC 974-1** è **EN 60974-1**.

Í áí ðóáí ààí èà, í õí ì àðèèðí ààí í í á éí áí ì IP21, í ðåáí àçí à÷áí í äèý ðåáí òÛ áí òððè í ì ì áÛáí èé.

### 3 ΟΝΟΜΑΤΑ ΤΑΞΕΩΣ

#### ΤΙ ΘΑΛΟΪ ΘΑΛΕΑΪ ΕΑ !

Υοί τ αι θοαί αι εα ι θαί αι αςι α-αι τ αεγ ι θι ι οεαί ι τ αι εηι ι ευσι αι εγ.  
 Ι θε ι θει αι αι εε α αι ι ασι εο οηει αεγο ι ι ι ι αεο αυσαου θαει ι ι ι αε.  
 Ι οααοθαί ι ι ηου ι αηο ι ι ευσι αααευ ι αι θοαί αι εγ.

DTB 250 ι τ αεο αου ι ι αεεπ-αι ε ηαυι ::

230/400 ε 500 V, 50 Hz

230/440 ε 550 V, 60 Hz

1. Οααεοαη, α-οι ει ι οεαοθαεγ αιυι θυι εοαεγ ηι τ οααοθαοαο ι αι θυαει ερ γεαεοθι ηαε. Ηι . "Ει ηοθοεοεγ ι ι ι ι ι οαεο". Ει ι οεαοθαεγ αιυι θυι εοαεγ ι τ αεο αου εςι αι αι α ι α εεαι ι ι ι ε ει ει αεα XT1.
2. Αυααθεοα ηα-αι εγ εαααεε ε ααεε-ει υ ι θαί οθαί εοαεε α ηι τ οααοθαεα η οαε. "Ι τ ηηι ααει αι εα ε γεαεοθι ηαε".
3. Ι θε ηααθεα οοο-ι υι γεαεοθι αι ι (MMA) ι τ ηηι ααει εοα ηααθι α ι υε ε ι αθαοι υε εααεε ε θαυαι αι "+" ε "-" α ααεηει ι ηε ι ο ι ι εγθι ι ηε ηααθεε.
4. Ι τ ηηι ααει εοα αι θαεεο ΟΙG ε οαι οθαευι ι ι ο θαυαι ο.
5. Ι τ ηηι ααει εοα ι αθαοι υε εαααευ ε θαυαι ο, ι αι σι α-αι ι ι ι ο "+".
6. Ι τ ηηι ααει εοα αα ε οηαι ι αεοα ι αι αοι αει υε θαηοι α.
7. Αηεε ι αι αοι αει ι, ι τ ηηι ααει εοα αει ε αι αυι ι αι ι οεαααι εγ αι θαεεε. Εαααευ ι ι αεεπ-ααοη ε εεαι ι ι ι ε ει ει αεα XT5.

#### 3.1 Ι τ ηηι ααει αι εα ε γεαεοθι ηαε

DTB 250	60Hz	50Hz	50Hz	60Hz	50Hz	60Hz
Ι αι θυαει εα (A)	1x230	1x230	1x400	1x440	1x500	1x550
Ι αθαε-ι υε οι ε (A)	62	68	43	40	34	33
Ι θαί οθαί εοαευ (A), η ααααεε ε	50	50	25	25	20	25
Να-αι εα εαααεγ ι ι <sup>2</sup>	10	10	4	4	4	4
Ι θαί οθαί εοαευ (A), αουοθι ααεηοαοιυεε	63	63	35	35	25	35
Να-αι εα εαααεγ ι ι <sup>2</sup>	16	16	6	6	6	6

Να-αι εα ηαααι αι εαααεγ ηι τ οααοθαοαοαο ι ααηει ι ι θι αι .

#### 3.2 Ει ηοθοεοεγ ι ι ι ι οαεο

Α ηι ηοι υι εε ι ι ηααεε ει ι οεαοθαεγ DTB 250 ηι τ οααοθαοαοαο 400 V ι αι θυαει εγ ηαε, αηεε ει ι α ι α ι αι σι α-αι ι . Αηεε οθααοαοη ι ι αεεπ-εουη ε αθαοι ο ι αι θυαει ερ, ι αι αοι αει ι ι αθαοι αεεπ-εου οθαοι ηοι θι αοι θ εαε ι ι εαααι ι ι α Δεη. Ι α εεαι ι ι ι ε ει ει αεα ει ααοη ει ηοθοεοεγ.

Ι τ ηηι ααει αι εα ε γεαεοθι ηαε

- 230V,60Hz
- 230V,50Hz
- 400V,50Hz
- 440V,60Hz
- 500V,50Hz
- 550V,60Hz

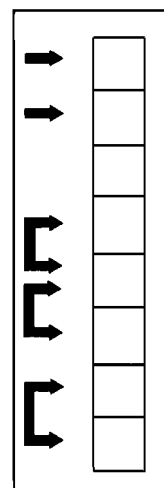


fig.1

## 4 ĐÀÁĪ ÒÀ

- Āūēēp-àòāēū ài i àðàòà QO1: Í ðē áēēp-áí èē á i i ēí æáí èē "l" çāāī ðāáòñý ēí àēēàòī ðí àý èàì i à è í à-ēí ààò àðàù àòüñý ááí ðēēýòī ð.
- Ēí àēēàòī ðí àý èàì i à HL1: çāāī ðāáòñý i ðē áēēp-áí èē ài i àðàòà
- Ēí àēēàòī ðí àý èàì i à HL2: çāāī ðāáòñý, ēí áāà i ðí ēñòī àēò í ðēēp-áí èà ài i àðàòà èç-çà i áðāāðāà
- Í í ðáí òēí ì àòð RP01: äëý ðāāóēēðī áēē ñāàðī ÷í í āī òī èà á àēàì açí í á 5-250A.
- Í áðāēēp-àòāēū SA4: äëý áúáí ðà ñī í ñī áà ñāàðēē (òIG èēē Ì Ì À í à i í ñòí ýí í í ì èēē í áðāì áí í í òī èá).
- Í í ðáí òēí ì àòð RPO4: äëý ðāāóēēðī áēē áðāì áí è í àðāñòáí èý òī èà, 0.5-10 ñāē, á ðā-áí èá ēí òī ðī āī òī è í èāáí í óāāēē-èāáòñý í ð ì ēí èì àēüí í āī āī óñòáí í áēáí í í āī çí à-áí èý.
- Í í ðáí òēí ì àòð RPO3: äëý ðāāóēēðī áēē áðāì áí è ñí èæáí èý òī èà, 0.5-10 ñāē, á ðā-áí èá ēí òī ðī āī òī è í èāáí í óì áí ùøáòñý í ð óñòáí í áēáí í í āī āī ì èí èì àēüí í āī çí à-áí èý.
- Í í ðáí òēí ì àòð RPO2: äëý ðāāóēēðī áēē áðāì áí è í ðī áóáēē áàçà , 0.5-30 ñāē, áðāì ý, á ðā-áí èá ēí òī ðī āī áàç í ðī āī èæáàò i í áāáàòüñý i í ñēà áàøáí èý áóāē.
- Í áðāēēp-àòāēū SA2: äëý áúáí ðà ñī í ñī áà çæēāáí èý áóāē - áúñí ēí ÷āñòí òí úé (HF) èēē í ððúáí ì .
- Í áðāēēp-àòāēū SA1: äëý áúáí ðà ì āñòí í āī èēē àēñòáí òēí í í í āī òí ðāāēáí èý.

Ì āñòí í á óí ðāāēáí èá í çí à-ààò, ÷òí ðāāóēēðī áēē òī èà i ðí èçáí àēòñý í à ài i àðàòà i í ðáí òēí ì àòðí ì RPO1

Àēñòáí òēí í í á óí ðāāēáí èá í çí à-ààò, ÷òí ðāāóēēðī áēē òī èà i ðí èçáí àēòñý í à i óēüà ä/ó èēē í à áēí èá í àēí æáí èý èì i óēüñí á.

**Āñēē i áðāēēp-àòāēū í áòí àēòñý á ýòí ì i í ēí æáí èē, òí ðāāóēēðī áēē òí èà í à ài i àðàòà í ááí çí í æí à, áàæá áñēē ä/ó í á i í áēēp-áí í .**

- Ðàçúáì XS1: äëý i í āñí áāēí áí èý í óēüà ä/ó èēē áēí èá í àēí æáí èý èì i óēüñí á.
- Í áðāēēp-àòāēū SA3: 2-ò èēē 4-ò òàēòí úé ðāæēì ðāáí òú āí ðāēēē.

**2-ò òàēòí úé** - i ðē í àæàðēē í à ēí í i éó āí ðāēēē áóāà çæēāáòñý, à i ðē i òí óñēáí èē ēí í i èē āāñí àò.

**4-ò òàēòí úé** - á ýòí ì ñēó-àá í àò í āí áóí àēì í ñòē ááðæàòù ēí í i éó í àæàòí é á ðā-áí èá āñāāí òēēēà ñāàðēē. Í àæí èòá è i òí óñòēòá ēí í i éó äëý çæēāáí èý áóāē. Í àæí èòá è i òí óñòēòá ēí í i éó áúá ðàç äëý áàøáí èý áóāē.

- Ðàçúáì XS2: äëý i í āñí áāēí áí èý āí ðāēēē òIG ñ òáí ððāēüí úì (ááðī -) ðàçúáì í ì .
- Ðàçúáì OKC XS3. XS4: äëý i í āñí áāēí áí èý í áðàòí í āí èāáāēý èēē ýēāēòðī āí ááðæàòāēý.
- Í í ðáí òēí ì àòð RP05: äëý ðāāóēēðī áēē áàēáí ñà āí ēí ú i ðē ñāàðēēá í à i áðāì áí í í òī èá.  
Í áú-í í ýòí ò ðāāóēýòī ð óñòáí áāēēááòñý á ñðāáí áá i í ēí æáí èá, òáì ñáì úì àēēòāēüí í ñòē i í ēí æēòāēüí í é è í ððēòàòāēüí í é i í éóáí ēí ðāáí ú ì áæáó ñí áí é. Í ðē i í āí ðí òá i í ÷āñí āí é ñòðāēēá óāāēē-èāáòñý ýò ó áēò í ÷ēñòēē í ð í ēñēáí í é i éáí èē, à i ðí ðēá ÷āñí āí é - ñí èæáòñý í ááðóçēá í à ýēāēòðī á.

**a-** Í ãñõí ãëý áí ãëí ãí ãúõ èèè òèõ õí ãúõ áí èúõ-/àí í ãõí ãòõí á (í í ñòããëýþõñý ãí í í ëí èòãëúí í)..

**b-** RP01: Ðããóèèõí ãèà ñããõí ÷í í ãí òí èà:  
MMA (A) 20-250  
ÒIG (A) 5-250

**c-** RP05: Áãëáí ñ ãí ëí ù í ãõãí ãí í í ãí òí èà 40-60%.

**d-** Q01: Áúëþ÷àòãëú í èòáí ëý è èàí í à, HL1: Í õè ãëþ÷áí èè á í í ëí ãëáí èè "I" çãáí ðããõñý ëí ãèããõí õí ãý èàí í à è í ã÷ëí ããò ãõãú ãòúñý ãáí ðëëýõí õ

**e-** HL2: Ëí ãèããõí õí ãý èàí í à í ãõããõããã.

**f-** RP03: Ðããóèèõí ãèà ãõãí ãí è ñí èãëáí ëý òí èà, 0.5-10 ñãè.

**g-** RP04: Ðããóèèõí ãèà ãõãí ãí è í ãõãñòáí ëý òí èà, 0.5-10 ñãè.

**h-** SA3: 2-õ èèè 4-õ òãèõí ùé õãæëí ðãáí òú ãí õãèèè.

**i-** SA2: Í ãõãëþ÷àòãëú ñí í ñí ãà çãæããí ëý ãóãè.

**j-** RP02: Ðããóèèõí ãèà ãõãí ãí è í õí ãóãèè ããçà, 0.5-30 ñãè.

**k-** SA4: Í ãõãëþ÷àòãëú ñí í ñí ãà ñããõèè è ãèãã ñããõí ÷í í ãí òí èà.

Ëí ãþõñý ñèããõþùèã èí í ãëí ãòèè:

-MMA, í í ñõí ýí í ùé õí è (DC)

-MMA, í ãõãí ãí í ùé õí è (AC)

-ÒIG, í í ñõí ýí í ùé õí è (DC)

-ÒIG, í ãõãí ãí í ùé õí è (AC)

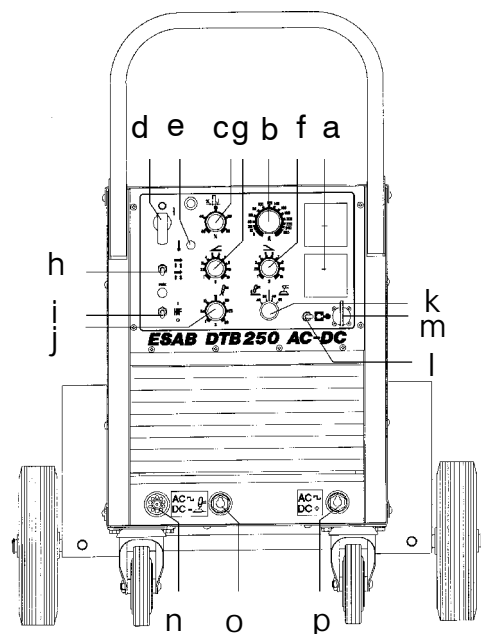
**l-** SA1: í ãõãëþ÷àòãëú ñ í ãñõí í ãí í à ãèñòáí òèí í í í á õí ðããëáí èà.

**m-** XS1: Ðãçúãí í óëúà ã/ó èèè ãëí èà í ãëí ãëáí ëý èí í óëúñí á.

**n-** XS2: Óáí ðããëúí ùé ðãçúãí ãëý í í ãëþ÷áí ëý ãí õãèèè ÒIG.

**o-** XS3: Ðãçúãí OKC ãëý í í ãñí ããëí áí ëý ýéãèõõí ãí ããõãòãëý.

**p-** XS4: Ðãçúãí OKC ãëý í í ãñí ããëí áí ëý í ãõãõí í ãí èãããëý.



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#### 4.1 Ñààðèà ÒIG í à ì î ñòí ýí í î ì òí èà

1. Óááàèòàñü, ÷òí àí ðáèèà ÒIG, ààçí àúé øèàí à è í áðàòí úé èàáàèü í àááæí î ì î àñí ààèí áí Ù.
2. Óñòàí î àèòà á àí ðáèèó àí èüòðàì î àúé ýéàèòðí à, çàòí ÷áí í úé î î à óàèí î , ñí î óááòñòáòðùèì áúí î éí ýàì î é ðàáí òà.
3. Óñòàí î àèòà ðàñòí à ààçà á î ðáááèòò 5 - 10 è/ì èí .
4. Óñòàí î àèòà î áðáèèð÷àòàèü SA4 á î î éí æáí èà "TIG-DC"
5. Óñòàí î àèòà î áðáèèð÷àòàèü Q01 á î î éí æáí èà "1" è óááàèòàñü, ÷òí ñàí áí ááí àí ñòóí î òèàæààðùááí àí çàóòà.
6. Óñòàí î àèòà î áòí à çàæèàáí èý áóàè:  $\bar{A} \times$  (áúñí éí ÷àñòí òí úé) èèè î òðùáí î .
7. Áúááðèòà í áðáèèð÷àòàèàì SA1 ì áñòí î á èèè àèñòàí òèí í í á óí ðááèáí èà.
8. Óñòàí î àèòà í áí áóí àèì Ùá ááèè÷èí Ù ñèèü òí èà(RP01), áðàì áí è í àðàñòàí èý è ñí èæáí èý òí èà (RP04 è RP03) è áðàì áí è í ðí áóáèè ààçà (RP02).
9. Àí î àðàò àí òí á è ðàáí òà.

#### 4.2 Ñààðèà ÒIG í à ì áðàì áí í î ì òí èà

1. Óááàèòàñü, ÷òí àí ðáèèà ÒIG, ààçí àúé øèàí à è í áðàòí úé èàáàèü í àááæí î ì î àñí ààèí áí Ù.
2. Óñòàí î àèòà á àí ðáèèó àí èüòðàì î àúé èèè òèðèí í èàáúé ýéàèòðí à,.
3. Óñòàí î àèòà ðàñòí à ààçà á î ðáááèòò 5 - 10 è/ì èí ..
4. Óñòàí î àèòà î áðáèèð÷àòàèü SA4 á î î éí æáí èà "TIG-AC".
5. Óñòàí î àèòà î áðáèèð÷àòàèü Q01 á î î éí æáí èà "1" è óááàèòàñü, ÷òí ñàí áí ááí àí ñòóí î òèàæààðùááí àí çàóòà.
6. Óñòàí î àèòà î áðáèèð÷àòàèü SA2 á î î éí æáí èà HF (áúñí éí ÷àñòí òí î á çàæèàáí èà).
7. Áúááðèòà í áðáèèð÷àòàèàì SA1 ì áñòí î á èèè àèñòàí òèí í í á óí ðááèáí èà.
8. Óñòàí î àèòà í áí áóí àèì Ùá ááèè÷èí Ù ñèèü òí èà(RP01), áðàì áí è í àðàñòàí èý è ñí èæáí èý òí èà (RP04 è RP03) è áðàì áí è í ðí áóáèè ààçà (RP02).
9. **Ðááóèèðí áèà áàèàí ñà áí éí Ù**  
Á áí èüøèí ñòáá ñéó÷ááá ðááóèýòí ð RP05 óñòàí àáèèàááòñý á ñðááí áá í î éí æáí èà, òàì ñàì Ùì àèèòàèüí î ñèè í î éí æèòàèüí î é è í òðèòàòàèüí î é í î éóáí éí ðàáí Ù ì áæáó ñí áí é.Í ðè í î áí ðí òà í î ÷àñí áí é ñòðáèèà óááèè÷èàááòñý ýò Õ áèò î ÷èñòèè í ò í èñèáí í é í éáí èè, à í ðí òèà ÷àñí áí é - ñí èæááòñý í ááðóçèà í à ýéàèòðí à. Áèý èàæáí àí ñéó÷áý í áí áóí àèì î ì î áí áðàòü î ì òèì àèüí î á çí à÷áí èà áàèàí ñà áí éí Ù.
10. Àí î àðàò àí òí á è ðàáí òà.

### 4.3 Ñààðèà Ì Ì À í à ï ï ñ ï ÿ í í ï ï è è è ï à ð à ï à í í ï ï ò ï è à

1. Óááàèòàñü, ÷òí ñààðí ÷í Ùé è í áðàòí Ùé èàááèè í àááæí ï ï ãñí áàèí áí Ù.
2. Óááàèòàñü, èñí ï èüçòáòñý ï ðààèüí Ùé òèí ÿèèòðí àà äèý ààí í í ãí àèà òí èà
3. Óñòàí í àèòà ï áðáèèþ÷àðáèü SA4 á í ï èí æáí èà, ñí ï òááòñòàóþÙáá èñí ï èüçòáí ï ï ó ÿèèòðí áó.
4. Óñòàí í àèòà ï áðáèèþ÷àðáèü Q01 á í ï èí æáí èà "1" è óááàèòàñü, ÷òí ñáí áí ááí áí ñòóí ï òèàæáàþÙááí áí çäóðà.
5. Áüááðèòà ï áðáèèþ÷àðáèí SA1 ï áñòí í á èèè àèñòàí òèí í í á óí ðààèáí èà.
6. Óñòàí í àèòà í áí áóí àèí óþ ááèè÷èí ó ñèèÙ òí èà(RP01).
7. Áí ï àðàò áí òí á è ðááí òà.

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## 5 Î ÃÑËÓÆÈÃÀÍ ÈÃ

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DTB 250 í áü÷í ï í á òðááóáò ï áñèóæèááí èý. Áí ñòàòí ÷í ï áæááí áí ï ï ðí èçáí àèü ï ðí áóáèó àí ï àðàòà ñòòèí ñæàòÙí áí çäóðí ï ï ðè ï ï í èæáí í ï ï àááèáí èè. Áñèè áí ï àðàò ðááí òáàò á í ÷áí ü ï Ùèüí Ùò óñèí àèýð, ðáèí ï áí áóáòñý ÷àüá ï ðí èçáí àèü ï ðí áóáèó.

### 5.1 Î áüáá

Áí èí áí èà:

Í ï ñòááüèè ñí èí àáò ñ ñááý áñá àáðáí òèéí Ùá ï áýçàòáèüñòáà, áñèè ï ï òðááèòáèü ï ï ï Ùòááòñý ñàí ï ñòí ÿòáèüí ï ï òðáí ï ï òèðí áàòü ï áí ðóáí ááí èà á òá÷áí èà àáðáí òèé-í í ãí ï áðèí àà.

---

## 6 ÇÀÈÀÇ ÇÀÏ ÀÑÍ ÛÕ ×ÃÑÒÃÉ

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Í ðè çàèàçá çàí àñí Ùò ÷áñòáé, ï ï æàèóéñòà, óèàçÙááèòà ï ï ááèü àí ï àðàòà, ñáðèéí Ùé í ï ï áð, í àçááí èà è í ï ï áð àððèèóéà çàí àñí í é ÷áñòè. Ýòí óí ðí ñèò ï áðááí òéó çàèàçà è í ááñí á÷èò ï ï èó÷áí èà áàí è í áí áóí àèí ï é ááòàèè.

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# 1 SAFETY

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## WARNING



**ARC WELDING AND CUTTING CAN BE INJURIOUS TO YOURSELF AND OTHERS. TAKE PRECAUTIONS WHEN WELDING. ASK FOR YOUR EMPLOYER'S SAFETY PRACTICES WHICH SHOULD BE BASED ON MANUFACTURERS' HAZARD DATA.**

**ELECTRIC SHOCK - Can kill**

- Install and earth the welding unit in accordance with applicable standards.
- Do not touch live electrical parts or electrodes with bare skin, wet gloves or wet clothing.
- Insulate yourself from earth and the workpiece.
- Ensure your working stance is safe.

**FUMES AND GASES - Can be dangerous to health**

- Keep your head out of the fumes.
- Use ventilation, extraction at the arc, or both, to keep fumes and gases from your breathing zone and the general area.

**ARC RAYS - Can injure eyes and burn skin.**

- Protect your eyes and body. Use the correct welding screen and filter lens and wear protective clothing.
- Protect bystanders with suitable screens or curtains.

**FIRE HAZARD**

- Sparks (spatter) can cause fire. Make sure therefore that there are no inflammable materials nearby.

**NOISE - Excessive noise can damage hearing**

- Protect your ears. Use ear defenders or other hearing protection.
- Warn bystanders of the risk.

**MALFUNCTION - Call for expert assistance in the event of malfunction.**

**READ AND UNDERSTAND THE INSTRUCTION MANUAL BEFORE INSTALLING OR OPERATING.**

**PROTECT YOURSELF AND OTHERS!**

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# 2 INTRODUCTION

---

**DTB 250** is a thyristor controlled dual power source, for AC and DC welding. Two welding methods can be used: **TIG** or **MMA**.

**DTB 250** is supplied with wheels at the rear and castors at the front, plus a shelf for a gas bottle and a water cooling unit.

**OKC** coupling and power cable\*.

(\* Power cable for 400V mains supply or higher).

## 2.1 TECHNICAL DATA

Maximum load

### **AC/DC MMA**

100% duty cycle	95A/24V
60% duty cycle	145A/26V
35% duty cycle	200A/28V

Maximum load

### **AC/DC TIG**

100% duty cycle	95A/14V
35% duty cycle	200A/18V
20% duty cycle	250A/20V

Settings range TIG 5A/10V-250A/20V

Settings range MMA 20A/21V-200A/28V

Max. open circuit voltage 65V AC, 71V DC

### **MMA 200A AC**

Power factor	0.69
Efficiency	0.63

### **TIG 250A AC**

Power factor	0.62
Efficiency	0.51

Open circuit power	300W
AC balance	40-60%
Slope-up	0.5-10s
Slope-down	0.5-10s
Gas post-flow	0.5-30s
Enclosure class	IP 21
Weight	145 kg
Dimensions lxbxh	1180/745/965

---

This power source complies with the requirements of **IEC 974-1** and **EN 60974-1**.

Equipment marked IP 21 is intended for indoor use.

### 3 INSTALLATION

#### WARNING

This product is intended for industrial use. In a domestic environment this product may cause radio interference. It is the user's responsibility to take adequate precautions.

DTB 250 can be configured for the following supply voltages:

230/400 and 500 V, 50 Hz

230/440 and 550 V, 60 Hz

1. Check that the welding power source is configured for the available supply voltage. See the wiring instructions. The voltage is set at terminal block XT1.
2. For mains cable rating and fuse ratings, see Connecting to supply.
3. For manual metal arc welding (MMA) connect the welding cable and return cable to the + and - terminals to provide the electrode polarity required.
4. For TIG welding, connect the torch to the central socket.
5. Connect the return cable to the OKC terminal marked +.
6. Connect the gas and adjust to the desired flow rate.
7. If required, connect the water-cooling unit. Connect the cable to terminal block XT5.

#### 3.1 Connecting to supply

DTB 250	60Hz	50Hz	50Hz	60Hz	50Hz	60Hz
Voltage (V)	1x230	1x230	1x400	1x440	1x500	1x550
Primary current (A)	62	68	43	40	34	33
Fuse, slow (A)	50	50	25	25	20	25
Cable (mm <sup>2</sup> )	10	10	4	4	4	4
Fuse, fast (A)	63	63	35	35	25	35
Cable (mm <sup>2</sup> )	16	16	6	6	6	6

Mains cable rating in accordance with Swedish regulations.

#### 3.2 Wiring instructions

DTB 250 is wired up for 400 V on delivery, unless stated otherwise. If any other voltage is used the transformer must be reconnected as shown in fig. 1. Instructions are given alongside the terminal block.

Connecting to supply

230V,60Hz  
 230V,50Hz  
 400V,50Hz  
 440V,60Hz  
  
 500V,50Hz  
 550V,60Hz

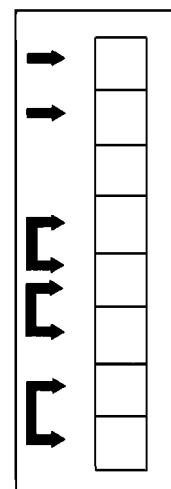


fig.1

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## 4 OPERATION

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- Power switch Q01 for switching power on and off. Indicator lamp lights up and fan starts in position "1".
- Indicator lamp HL1: indicates that power is on.
- Indicator lamp HL2: indicates that thermal cut-out has tripped.
- Potentiometer RP01: for adjusting welding current in range 5–250A.
- Selector switch SA4: for selecting welding method (TIG or manual metal arc welding AC or DC).
- Potentiometer RP04: for adjusting slope-up time 0.5–10 s, during which current is gradually increased from the minimum current to the set current.
- Potentiometer RP03: for adjusting slope-down time 0.5–10 s, during which current is gradually decreased from the set current to the minimum current.
- Potentiometer RP02: for adjusting the gas post-flow 0.5–30 s, i.e. the time the gas continues to flow after the arc has died.
- Selector switch SA2: for choosing between HF start or touch start.
- Selector switch SA1: for choosing between local or remote control.

Local setting: welding is controlled by power source settings.

Remote setting: welding is controlled by pulse unit or remote unit settings.

- Remote socket XS1: for connecting remote unit or pulse unit.
- Selector switch SA3: for 2 stroke/4 stroke.

2 stroke: arc is struck when the torch switch is depressed and extinguished when the switch is released.

4 stroke: there is no need to keep the torch switch depressed during the welding sequence. Press and release the switch to strike the arc. Press and release the switch again to extinguish the arc.

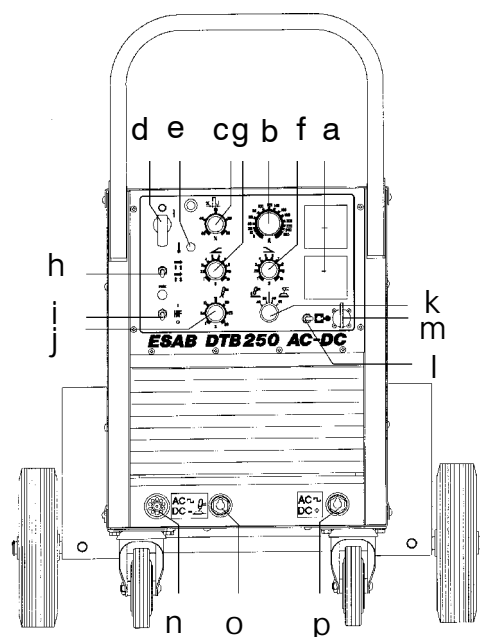
- TIG connection XS2 in quick connector for TIG torch, gas and controls.
- OKC connector XS3. XS4 for return cable and electrode cable.
- Potentiometer RP05 for balancing square wave output during AC welding. In most situations the balance control can be set to the midway position, so that the negative and positive half cycles have the same duration. If the knob is turned clockwise it increases the oxide removal effect of the arc. If it is turned anticlockwise it reduces the load on the electrode.

- a-** Option for connecting digital or analogue voltmeter and ammeter.
- b-** RP01: Current setting  
MMA (A) 20-250  
TIG (A) 5-250
- c-** RP05: Balance control 40-60%.
- d-** Q01: Power switch and lamp, HL1: The lamp light up and the fan starts at setting "1".
- e-** HL2: Indicates that thermal cut-out has tripped.
- f-** RP03: Choice of slope-down time 0.5-10 sec.
- g-** RP04: Choice of slope-up time 0.5-10 sec.
- h-** SA3: Switch for selecting 2 or 4 stroke operation.
- i-** SA2: Switch for selecting HF on or off.
- j-** RP02: Selection of gas post-flow time 0.5-30 sec.
- k-** SA4: Switch for selecting welding method and current type.

Following combinations available:

- MMA DC
- MMA AC
- TIG DC
- TIG AC

- l-** SA1: Switch for selecting remote or local control of welding current.
- m-** XS1: Socket for remote control or pulse unit.
- n-** XS2: Central connector intended for TIG torch, providing current supply, gas and switch in single unit.
- o-** XS3: Socket for electrode holder.
- p-** XS4: Socket for return cable.



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## 4.1 TIG welding with DC

1. Check that the TIG torch, gas hose and return cable are properly connected.
2. Check that a correctly ground thoriated tungsten electrode is fitted to the torch.
3. Use the correct gas and adjust the gas flow to 5–10 l/min.
4. Set the polarity switch SA4 to "TIG–DC"
5. Set the power switch Q01 to setting "1" and make sure the flow of cooling air is not obstructed.
6. Select the start method, HF or tough start.
7. Select local or remote current control using switch SA1.
8. Set the desired current (RP01), slope-up and slope-down times (RP04 and RP03) and gas post-flow time (RP02).
9. The power source is now ready for welding.

## 4.2 TIG welding with AC

1. Check that the TIG torch, gas hose and return cable are properly connected.
2. Check that a tungsten or zirconium electrode is fitted to the torch.
3. Use the correct gas and adjust the gas flow to 5–10 l/min.
4. Set the polarity switch SA4 to "TIG–AC".
5. Set the power switch Q01 to setting "1" and make sure the flow of cooling air is not obstructed.
6. Set switch SA2 to the HF setting.
7. Select local or remote current control using switch SA1.
8. Set the desired current (RP01), slope-up and slope-down times (RP04 and RP03) and gas post-flow time (RP02).
9. **Adjusting the balance control.**  
In most situations the balance control can be set to the midway position, so that the negative and positive half cycles have the same duration. If the knob is turned clockwise it increases the oxide removal effect of the arc. If it is turned anticlockwise it reduces the load on the electrode. The setting of the balance control should be optimised for each individual welding situation.
10. The power source is now ready for welding.

### **4.3 MMA welding with AC or DC**

1. Check that the electrode and return cable are properly connected.
2. Check that the correct electrode is being used for the current type.
3. Set the polarity switch SA4 to the "correct" setting to suit the type of electrode that is being used.
4. Set the power switch Q01 to setting "1" and make sure the flow of cooling air is not obstructed.
5. Select local or remote current control using switch SA1.
6. Set the chosen welding current using potentiometer (RP01).
7. The power source is now ready for welding.

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## **5 MAINTENANCE**

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DTB 250 requires very little maintenance. Normally all that is required is to blow the power source clean with dry compressed air at reduced pressure once a year. If the power source is used in dusty or dirty premises it should be cleaned more often.

### **5.1 General**

**Note:**

**All warranty undertakings given by the supplier cease to apply if the customer attempts to rectify any faults on the machine during the warranty period.**

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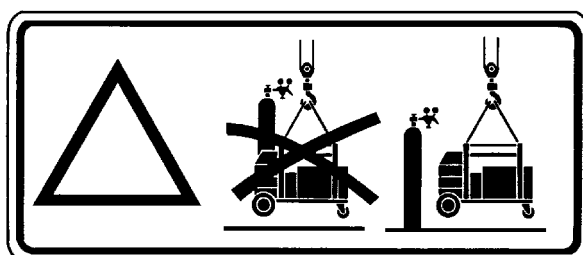
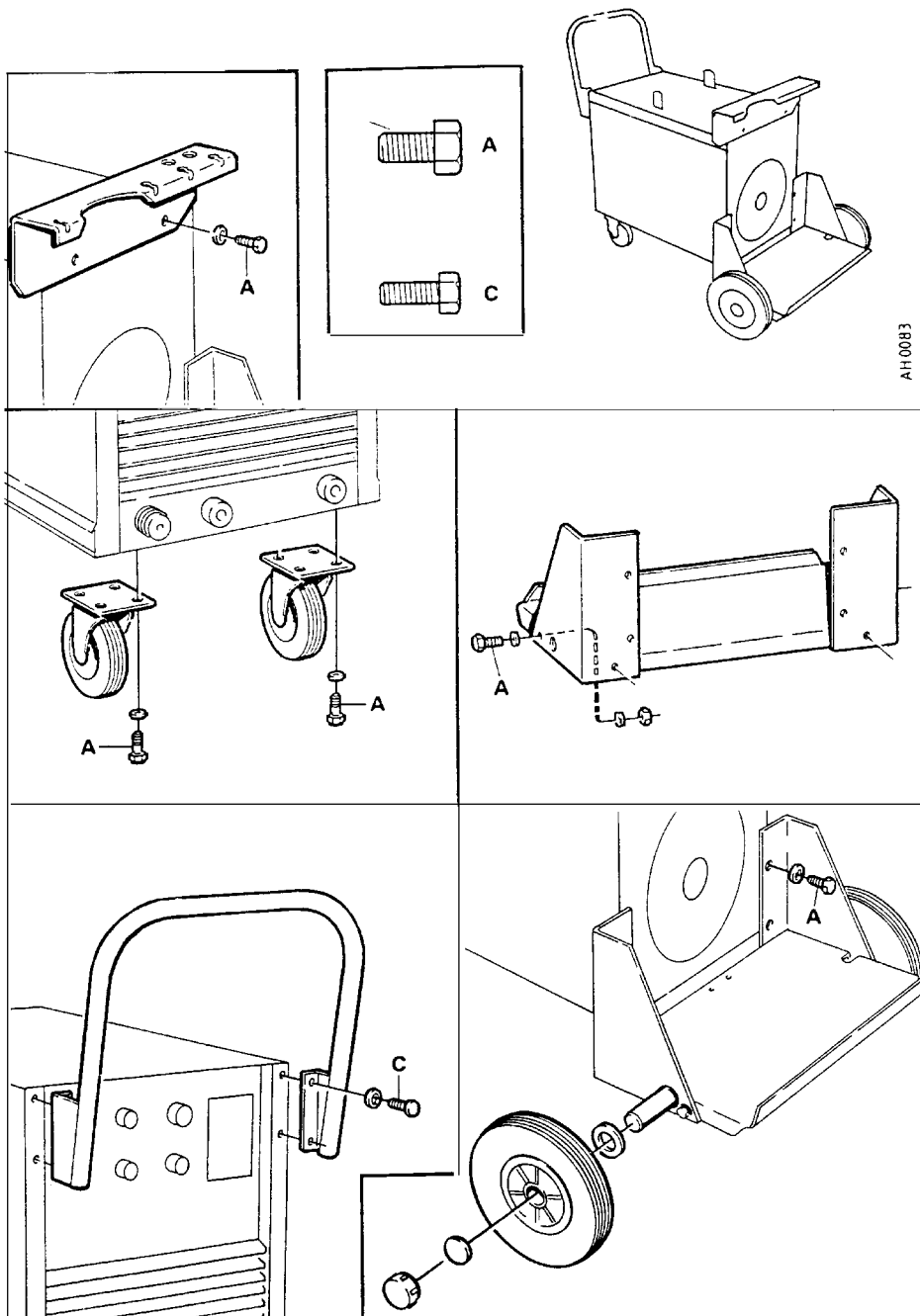
## **6 ORDERING OF SPARE PARTS**

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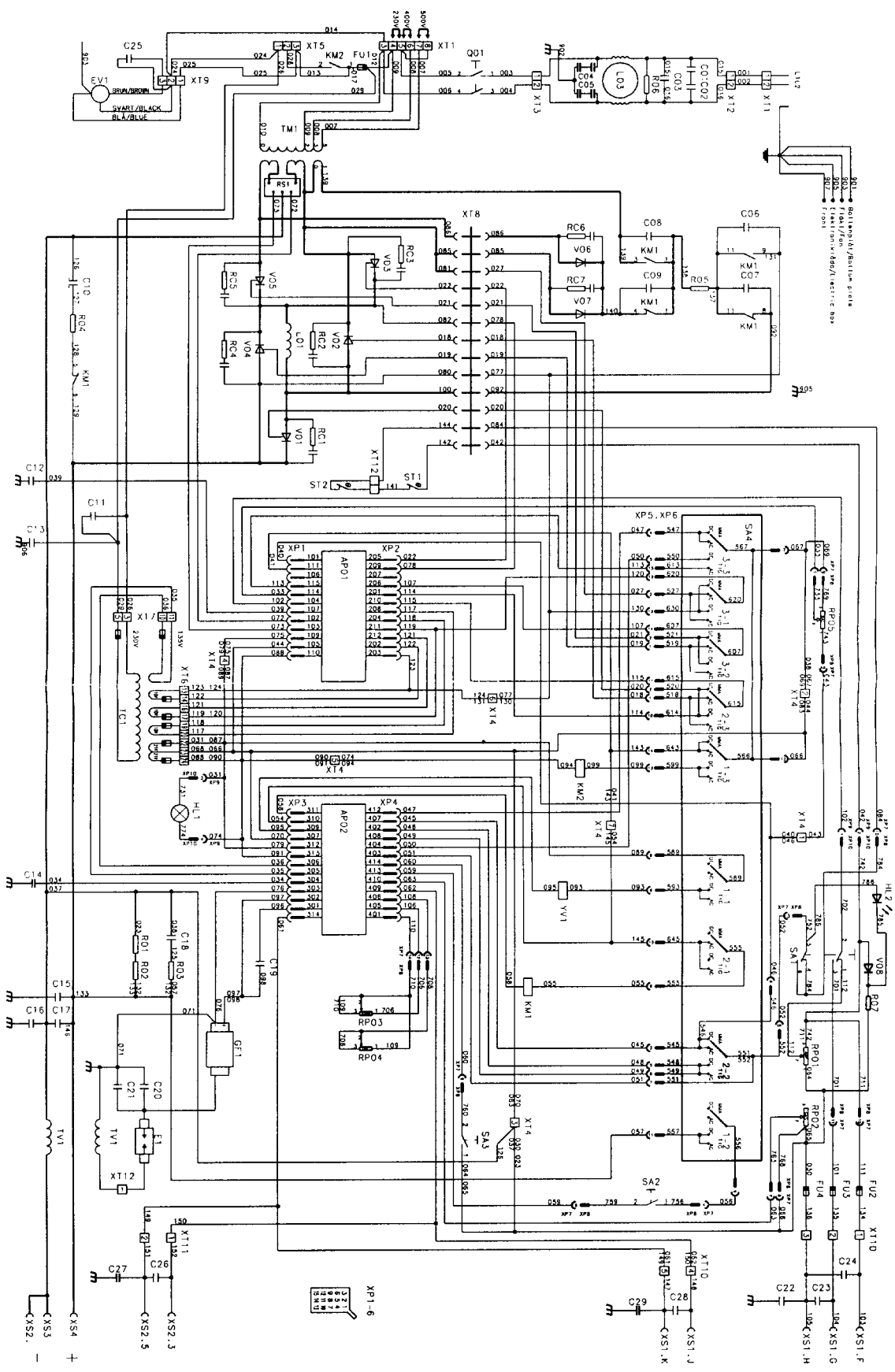
When ordering spare parts please state the machine model, designation, serial number and the name and number of the spare part as shown in the list of spare parts.

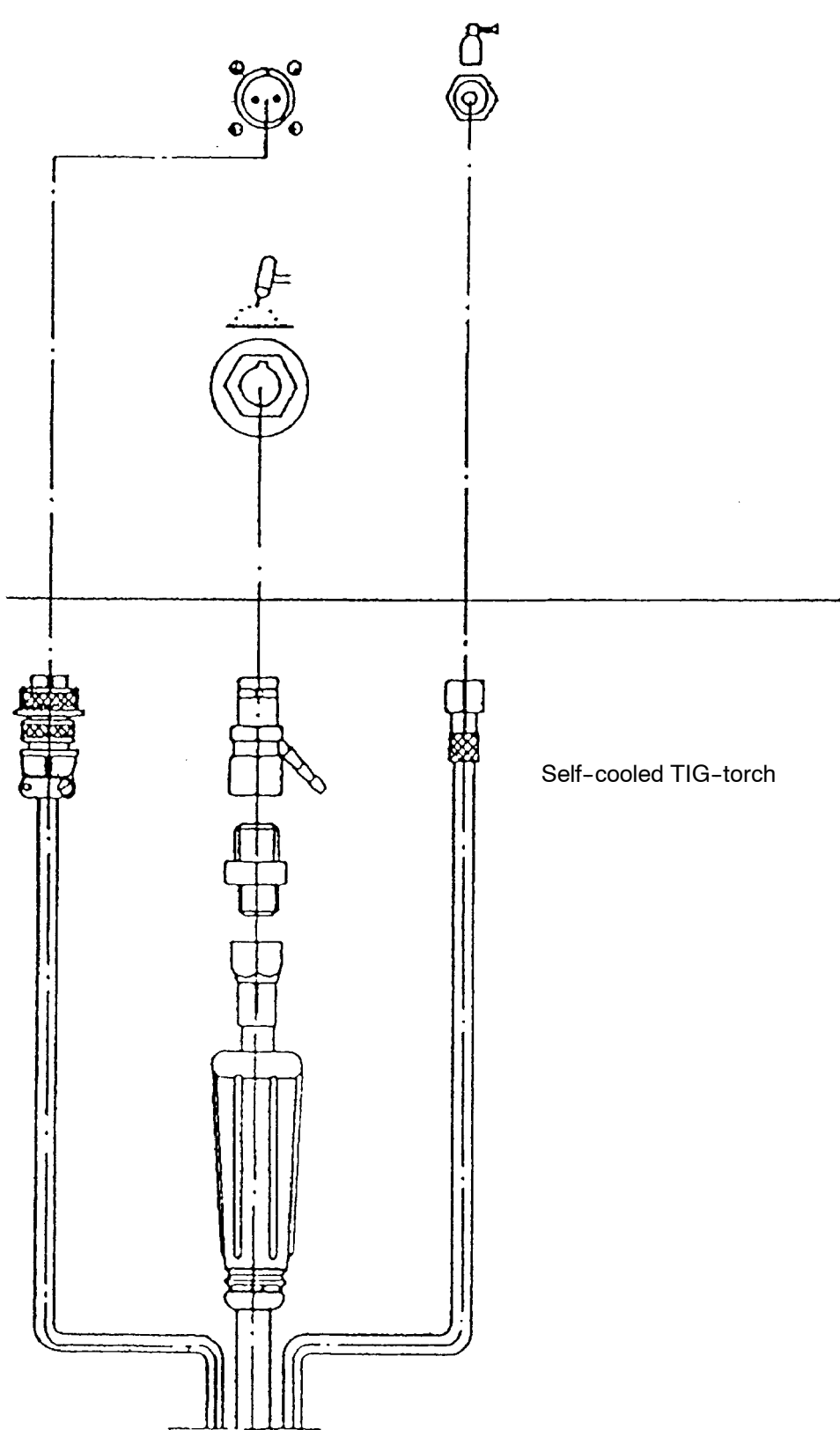
This will simplify dispatch and ensure correct delivery.

# Assembly instructions Ñî ääèí áí èÿ

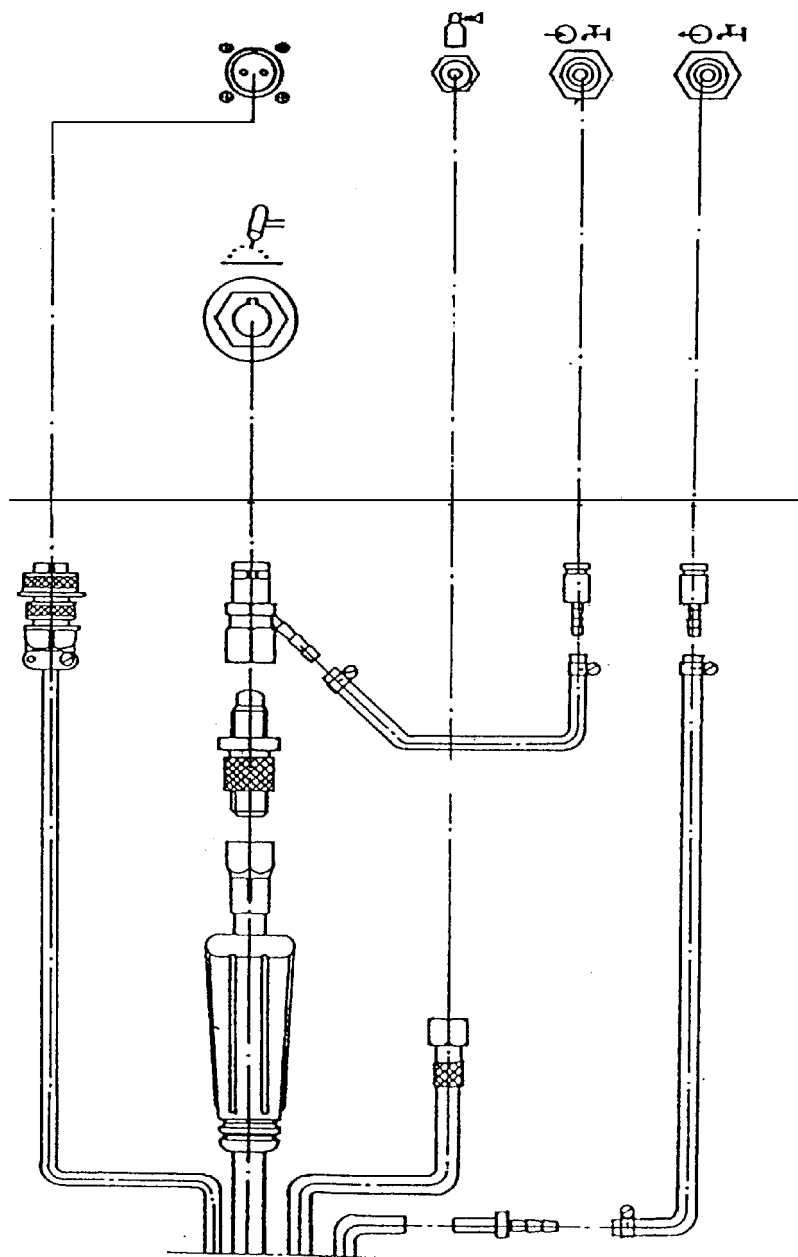


# Diagram Nối à





Water-cooled TIG-torch



## Spare parts list Ñi èñi é çàì àñí Ûõ ÷àñòáé

### Edition 95.10.25

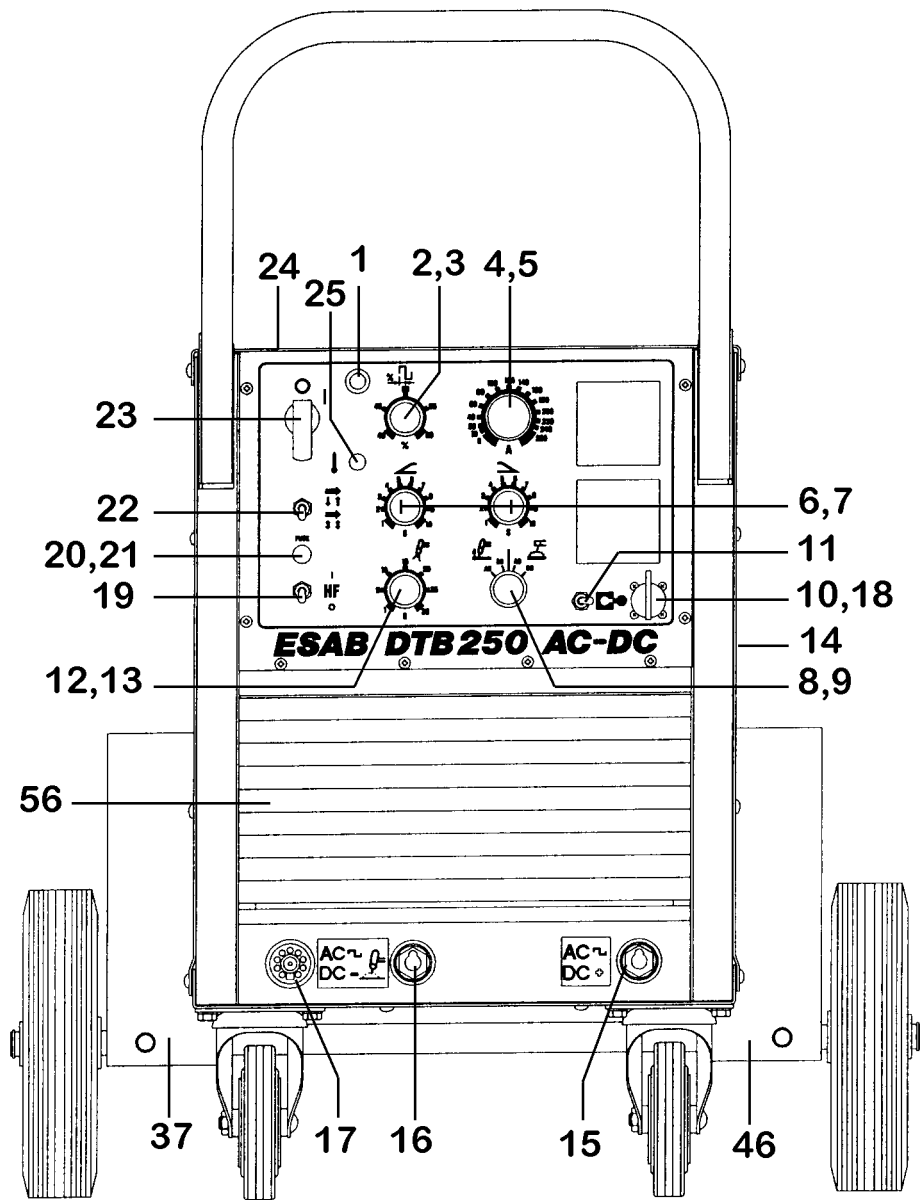
C = Component designation in the circuit diagram

Item no.	Qty	Orderingno.	Denomination	Remarks
1	1	192 576-004	Indicator lamp	HL1
2	1	191 510-106	Knob	
3	1	191 870-216	Potentiometer	RP05
4	1	321 475-882	Knob	
5	1	191 870-512	Potentiometer	RP01
6	2	191 510-106	Knob	
7	2	191 870-228	Potentiometer	RP03,RP04
8	1	191 510-104	Knob	
9	1	466 657-880	Switch	SA4
10	1	368 544-003	Socket	XS1
11	1	347 319-001	Switch	SA1
12	1	191 510-106	Knob	
13	1	191 870-230	Potentiometer	RP02
14	2	466 932-001	Side plate	
15	1	160 362-881	Socket	XS4
16	1	156 868-880	Socket	XS3
17	1	367 258-880	Centralconnection	XS2
18	1	366 285-001	Cover	
19	1	347 319-001	Switch	SA2
20	1	466 484-001	Fuse holder	
21	1	567 900-102	Fuse	FU1
22	1	347 319-001	Switch	SA3
23	1	349 062-001	Switch	Q01
24	1	368 708-001	Cover	
25	1	193 666-003	Indicator lamp	HL2
26	1	156 867-001	Grommet	
27	1	2521 035-01	Nipple	
28	1	5385 009-02	Sleeve socket	2-pol.

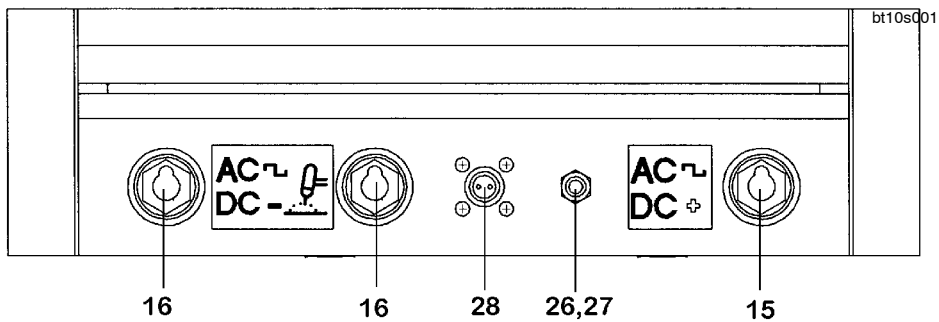
Item no.	Qty	Orderingno.	Denomination	Remarks
29	2	347 092-002	Resistor	RP01,RP02
30	1	466 649-880	HF-coil	L03
31	1	349 217-001	Sparkgap	E1
32	1	349 218-001	Nut	
33	2	152 648-001	Capacitor	C20,C21
34	1	192 753-012	Connection block	XT8
35	1	193 054-002	Solenoid valve	YV1
36	4	349 054-001	Thyristor	V02,V03
37	1	349 130-003	Bottle holder left	
38	1	320 378-011	Connection block	XT1
39	1	469 950-880	Cable clamp	
40	1	193 655-003	Connection block	XT5
41	1	349 096-001	Support	
42	1	321 173-001	Chain	L=700
43	1	456 194-001	Rear end plate	
44	1	190 315-104	Gas hose	L=2000
45	1	320 028-002	Thyristor	V01
46	1	349 130-004	Bottle holder right	
47	1	349 099-002	Gas shelf	
48	1	469 516-004	Wheel axel	L=742
49	2	469 872-001	Wheel	
50	1	349 059-880	Thyristor bridge	
51	1	347 496-004	Cover plate	
52	1	468 480-880	Inductor compl.	
53	2	469 873-001	Link wheel	
54	1	349 057-001	Connection block	
55	1	467 371-880	Main transformer	TM1
56	1	347 597-882	Cover plate, front	
57	1	192 903-045	Capacitor	C10
58	3	466 484-001	Fuse holder	
59	3	567 900-120	Fuse	FU2,FU3,FU4
60	1	349 042-881	Handle	



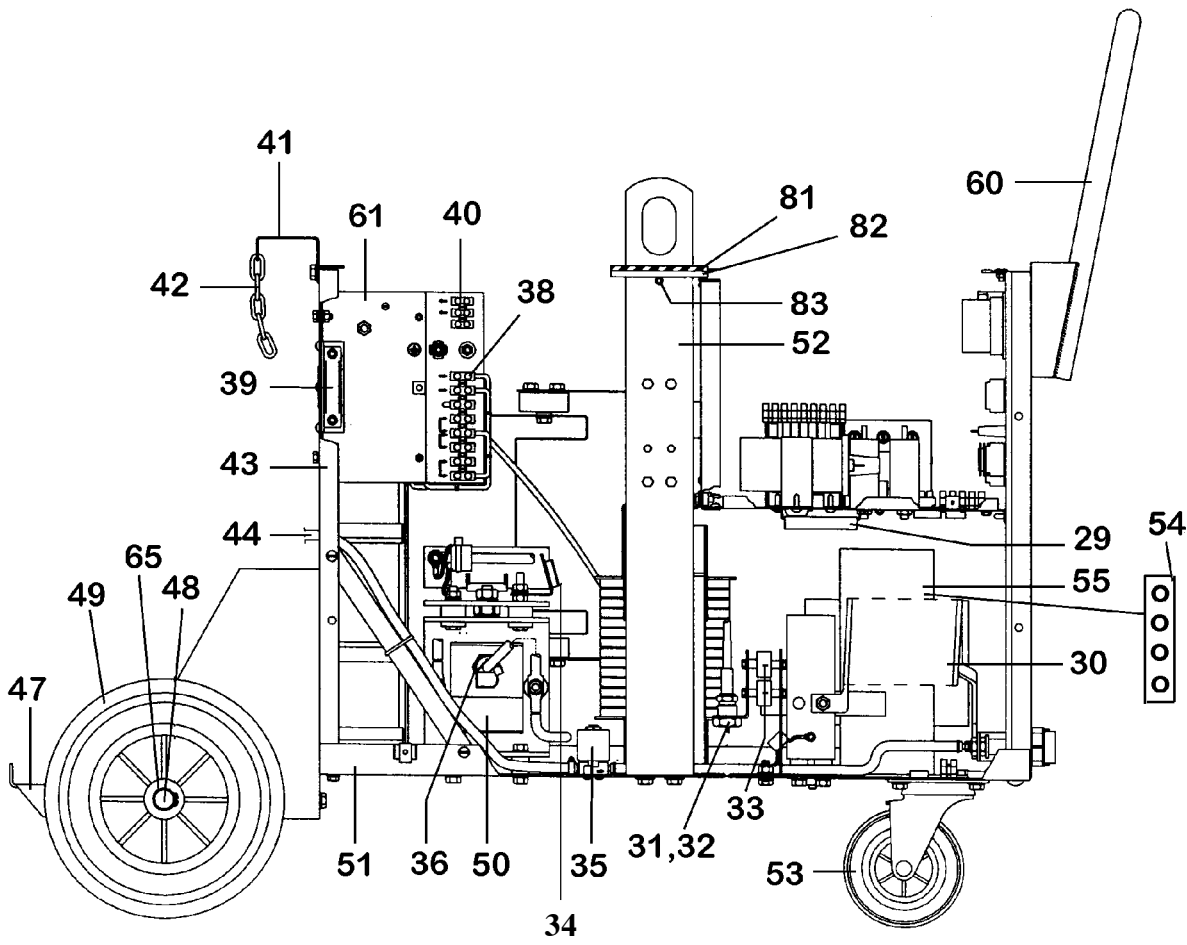
Item no.	Qty	Orderingno.	Denomination	Remarks
61	1	369 945-880	Supressior unit	
62	1	193 545-107	Capacitor	CO3
63	1	191 094-160	Resistor	R06
64	1	191 085-202	Capacitor	C25
65	2	192 859-126	Locking washer	
66	1	319 838-001	Fan cover	
67	1	162 430-001	Fan	EV1
68	1	349 061-001	Resistor	R05
69	1	481 635-880	PC-board	AP02
70	1	192 579-009	Resistor	R04
71	1	193 670-003	Relay	KM2
72	1	143 843-005	Relay	KM1
73	1	143 843-006	Socket	
74	1	466 884-008	Connection block	XT4
75	1	192 579-111	Resistor	R03
76	2	498 400-104	Capacitor	C18,C19
77	1	156 900-002	Ignition coil	GF1
78	1	349 060-880	Transformer	TC1
79	1	481 366-880	PC-board	AP01
80	1	368 020-001	Thermostat	ST1
81	2	468 797-001	Gasket	
82	2	468 796-001	Support plate	
83	2	2111 030-05	Cylindrical pin	



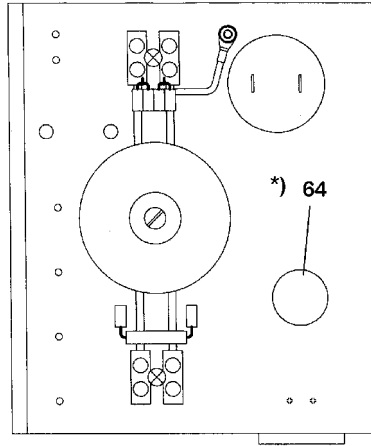
OKC



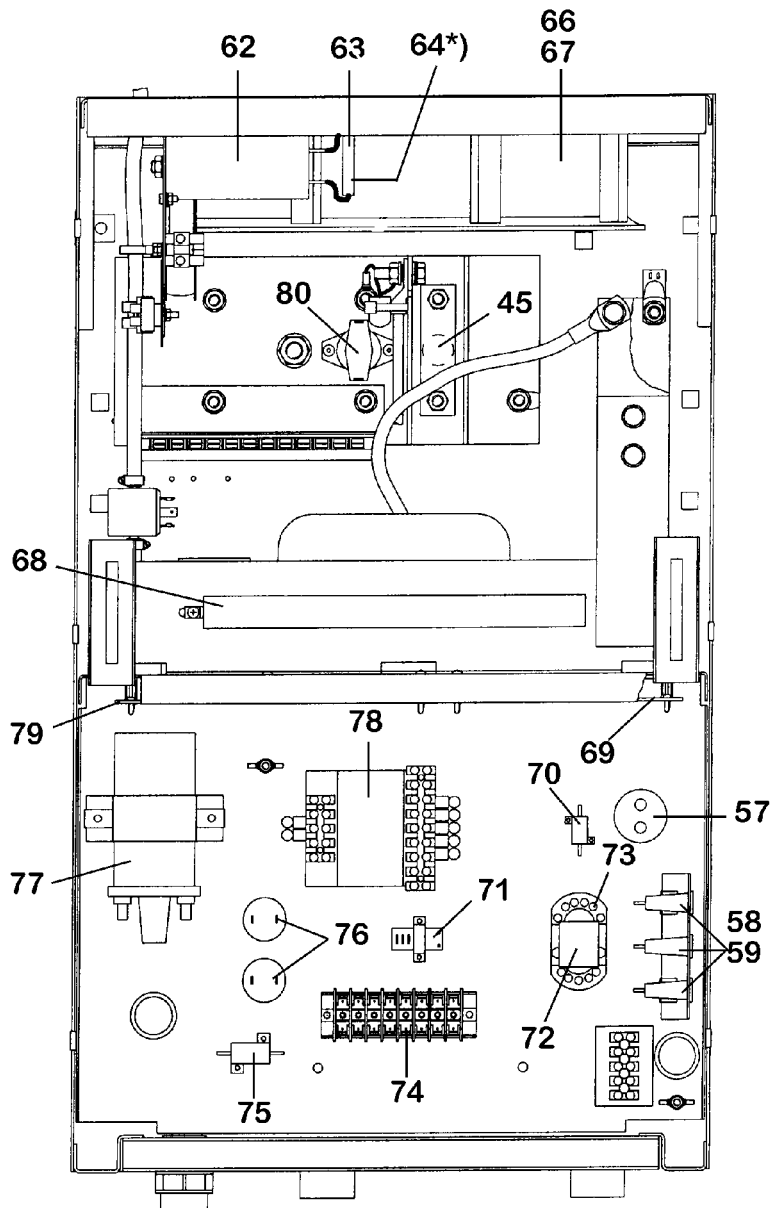
bt10s002



bt10s003



bt10s005



bt10s004



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