

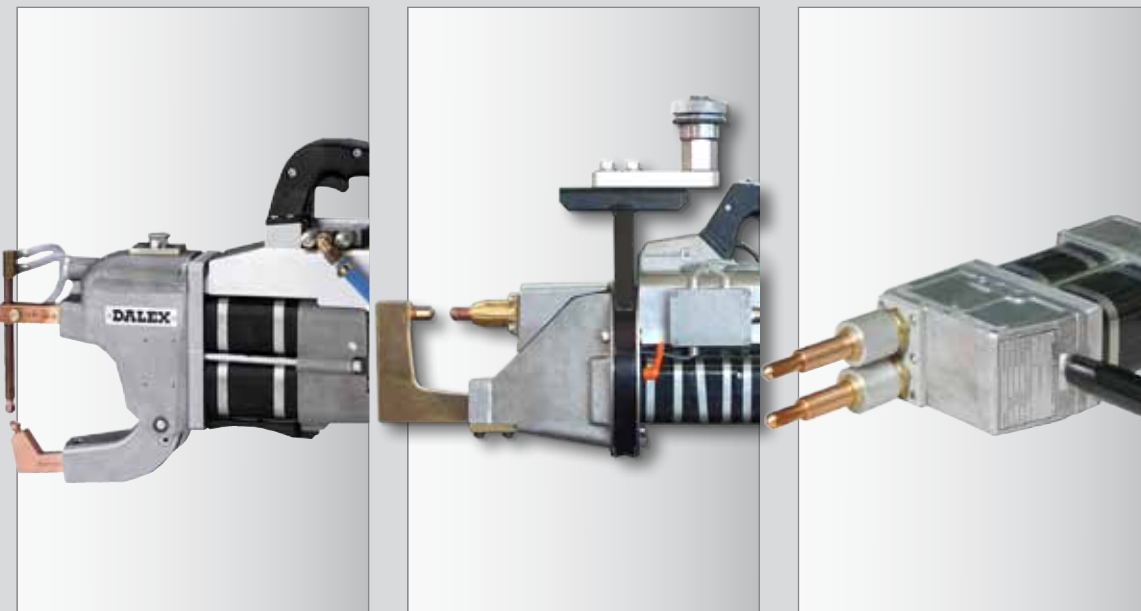
DALEX

SCHWEISSTECHNIK

WELDING GUNS

DALEX MANUAL WELDING GUNS

SERIES 31 / 32 / 33 / 35



DALEX Schweißmaschinen GmbH & Co. KG



ERFAHRUNG SCHWEISST ZUKUNFT
EXPERIENCE WELDS FUTURE

www.dalex.de

**Robust, mobil
easy to handle**



DALEX SPOT WELDING GUNS

DALEX spot welding guns in 31, 32, 33 and 35 series put the full range of resistance welding performance capability in your hands. They are flexible and mobile products for use in both workshops and industrial series production.

High current & electrode force enable short welding times in order to maintain the quality and composition of the material and create first class welding results. They can also be used at medium frequency technology for very stable steel and aluminium.

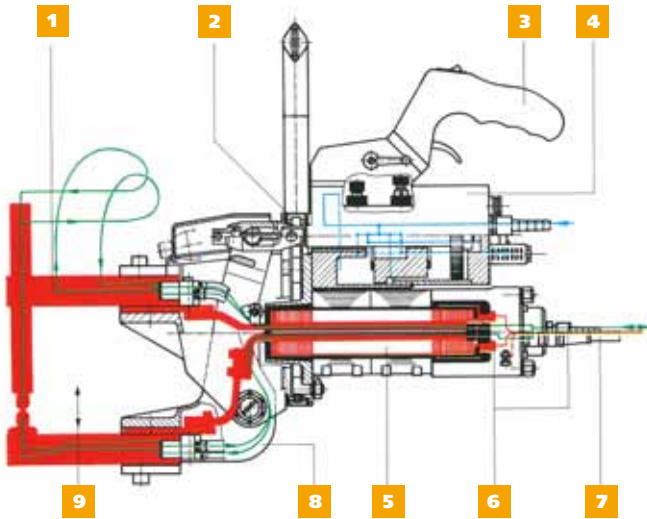
Tailor-made to your requirements, DALEX delivers the lot, whether welding gun, control unit, hose-packet, cooling in whatever form, and spring balancer.

In addition, a wide selection of fittings & accessories- another year of designing flexible applications, sometimes completely new, sometimes built on old ideas adapted to new tasks!*



*Check out our catalogue „Accessoires manual welding guns“

CONSTRUCTION OF A WELDING GUN



- 1** Square tube electrode arm made of torsion-proof profiles
- 2** Cardan suspension, reliable, smooth-running
- 3** Handgrip with operational elements for electrode force cylinder, for manually operated guns with hand lever
- 4** Electrode force cylinder with double stroke (only by air-operated welding guns)
- 5** Welding transformers cast under vacuum, starting with model A3119 water-cooled, insulation class „F“
- 6** Intensive water cooling is required to achieve a high duty cycle (starting with model A3119) (separate recooling unit required)
- 7** Connection cable and control cable, standard length 10 m (for model A3111 up to A3119 - 5 m)
- 8** Moveable lower arm
- 9** Practice-oriented throat gap can be extended

PERFORMANCE DATA (DEPENDING ON MODEL)

- **RATED POWER** (50 % DC) 2,4 - 6,3 kVA
- **ELECTRODE FORCE** 1,8 u- 7,3 kN (180 - 730 daN)
- **THROAT GAP** 120 - 170 mm (depending on model)
- **FUSING** 16 - 100 A
- **SEC. SHORT CIRCUIT CURRENT** 8,5 - 26,3 kA
- **TYPE OF CURRENT** Alternating Current (AC) and Medium Frequency (MF)
- **MODELS OF CYLINDERS** single and double stroke
- **CONSTRUCTION FORMS** C and X



SPOT WELDING GUN A 3112



- manual operated
- air-cooled
- with double stroke mechanism and short-stroke detent
short stroke 25 mm, total stroke 57 mm

EXAMPLES OF USE

- Automobile repair & bodywork business
- small repair jobs or outer surface damage eradication

TECHNICAL DATA

rated power (50 % DC)	2,4 kVA
throat gap	120 mm
electrode force (1 kN = 100 daN)	1,8 kN
sec. short-current circuit	8,5 kA
fusing	16 A
welding power	max. steel sheet 3 + 3 mm (at 120 mm arm length)
control unit	RS 15 Z 16 or Variospot 3.3
cooling system	air-cooled
weight	10,5 kg
order-no.	A3112.11079.1

CHARACTERISTICS

- manual operation
- with electrode force switch and secondary rectifier for current control
- torsion-resistant square tube electrode arms
- twisting & bending-resistant square tube electrode arms for optimum effect from high electrode force
- universal deployment- made possible through an extensive selection of fittings
- twisting-resistant 4-sided seating in gun body
- suspension bracket with suspension hooks or cardan suspension (on request)
- welding transformer in cast-resin composite construction
- consistent welding quality from selected composite design
- pressure-triggered current flow
- toggle-switching system for raising electrode force
- connecting cable with 5 m standard length and low connection values

SPOT WELDING GUN A A 3119



- manual operated
- water-cooled (separate recooling unit required)
- with double stroke mechanism and short-stroke detent
short stroke 25 mm, total stroke 57 mm

EXAMPLES OF USE

- Automobile repair & bodywork business
- regular repair jobs as well as repairing chassis damage
- bespoke fabrication and ongoing repair jobs for all types of damage, including vehicle roofs

TECHNICAL DATA

rated power(50 % DC)	8,0 kVA
throat gap	120 mm
electrode force (1 kN = 100 daN)	1,8 kN
sec. short-current circuit	9,5 kA
fusing	16 A
welding power	steel sheet 3 + 3 mm max. (at 120 mm arm length)
control unit	RS 15 Z 16 or Variospot 3.3
cooling system	water recooling unit COOL 1
spring balancer	D 4/17
weight	12,2 kg
order-no.	A3119.15064.1

CHARACTERISTICS

- manual operation
- with electrode force switch and secondary rectifier for current control
- torsion-resistant square tube electrode arms
- twisting & bending-resistant square tube electrode arms for optimum effect from high electrode force
- universal deployment- made possible through an extensive selection of fittings
- twisting-resistant 4-sided seating in gun body
- suspension bracket with suspension hooks or cardan suspension (on request)
- easy positioning of spot welding gun with cardan suspension (A 3119 K)
- welding transformer in cast-resin composite construction
- consistent welding quality from selected composite design
- pressure-triggered current flow
- toggle-switching system for raising electrode force
- connecting cable with 5 m standard length and low connection values

SPOT WELDING GUN A 3139 S3



- air operated
- water-cooled (separate recooling unit required)
- with double stroke mechanism
total stroke 52 mm, working stroke 27 mm

EXAMPLES OF USE

- Automobile repair & bodywork business
- regular repair jobs as well as repairing chassis damage

TECHNICAL DATA

rated power (50 % DC)	8,0 kVA
throat gap	120 mm
electrode force (1 kN = 100 daN)	3,0 kN
sec. short-current circuit	9,5 kA
fusing	16 A
welding power	steel sheet 3 + 3 mm max. (at 120 mm arm length)
control unit	RS 15 Z 16 oder Variospot 3.3
cooling system	water recooling unit COOL 1
spring balancer (A 3139 S2)	D 4/21 or D 5/30
weight	15,5 kg
order-no.	A3139S3.15068.1 A3139S2.15067.1

CHARACTERISTICS

- torsion-resistant square tube electrode arms
- twisting & bending-resistant square tube electrode arms for optimum effect from high electrode force
- universal deployment- made possible through an extensive selection of fittings
- twisting-resistant 4-sided seating in gun body
- easy positioning of spot welding gun with cardan suspension (A 3139 S2)
- welding transformer in cast-resin composite construction
- consistent welding quality from selected composite design
- toggle-switching system for raising electrode force
- connecting cable with 10 m standard length and low connection values

TWIN SPOTTER 3151-3 / 3156-3



- manual operated
- model 3151-3 air cooled
- model 3156-3 water cooled (separate recooling unit required)
- electrode force is produced manually
- electrode holder are individually suspended

EXAMPLES OF USE

- for spot welding joints with one-sided access

TECHNICAL DATA 3151-3	
rated power (50 % DC)	3,4 kVA
electrode gap	38 mm
working stroke	5 mm
electrode force (1 kN = 100 daN)	0,2 kN + 0,2 kN
sec. short-current circuit	10,4 kA
welding power	steel sheet 1 + 1 mm
control unit	RS 15 Z 16
cooling system	air-cooled
weight	11,6 kg
order-no.	3151_3.11098.1

TECHNICAL DATA 3156-3	
rated power (50 % DC)	7,9 kVA
electrode gap	38 mm
working stroke	5 mm
electrode force (1 kN = 100 daN)	0,2 kN + 0,2 kN
sec. short-current circuit	10,4 kA
welding power	steel sheet 1 + 1 mm
control unit	RS 15 Z 16
cooling system	water recooling unit COOL 1
weight	12,6 kg
order-no.	3156_3.11099.1

METHODS

- Double spot welding is an indirect welding process in which the current potentials are arranged next to each other
- pre-requisite for reproducible welding results are flat-lying sheets

SPOT WELDING GUN 3228-4



- air operated
- water-cooled (separate recooling unit required)
- with double stroke cylinder
total stroke 75 mm, pre-stroke 50 mm
working stroke with stroke-adjustment 0 - 25 mm

EXAMPLES OF USE

- craft trade sector
- Industrial deployment purposes

TECHNICAL DATA

rated power (50 % DC)	16,0 kVA
throat gap / enlarged throat gap	130 mm / 230 mm
electrode force (1 kN = 100 daN)	2,7 kN
sec. short-current circuit	13,5 kA
fusing	25 A
welding power	steel sheet 3 + 3 /max. 4 + 4 mm (at 170 mm arm length)
control unit	B200 add on control cabinet with plug in control unit MPS 10
cooling system	water recooling unit COOL 1
spring balancer	D 5/45
weight	39,5 kg
order-no.	3228_4.11069.1

CHARACTERISTICS

- high spot sequencing via double stroke cylinder
- 5/2-way solenoid valve
- gun and electrode arms water cooled
(separate recooling unit required)
- torsion-resistant square tube electrode arms
- twisting & bending-resistant square tube electrode arms
for optimum effect from high electrode force
- twisting-resistant 4-sided seating in gun body
- intensively cooled welding transformer and
secondary circuit (separate recooling unit required)
- closed cardan ring with safety suspension
- universal application – made possible through
fully comprehensive fittings assortment
- easy positioning of spot welding gun with
cardan suspension
- welding transformer in cast-resin composite
construction
- consistent welding quality from selected
composite design
- toggle-switching system for raising electrode force
- connecting cable with 10 m standard length and
low connection values

SPOT WELDING GUN 3238-4



- air operated
- water-cooled (separate recooling unit required)
- with double stroke cylinder
total stroke 75 mm, pre-stroke 50 mm
working stroke with stroke-adjustment 0 - 25 mm

EXAMPLES OF USE

- craft trade sector
- Industrial deployment purposes

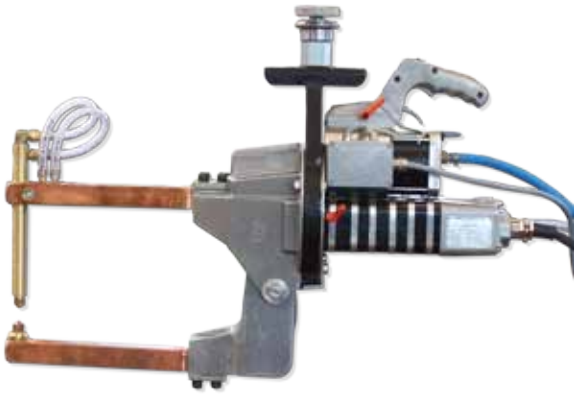
TECHNICAL DATA

rated power (50 % DC)	16,0 kVA
throat gap / enlarged throat gap	130 mm / 230 mm
electrode force <small>(1 kN = 100 daN)</small>	2,7 kN
sec. short-current circuit	13,5 kA
fusing	25 A
welding power	steel sheet 3 + 3 /max. 4 + 4 mm (at 170 mm arm length)
control unit	RS 15 Z 32
cooling system	water recooling unit COOL 1
spring balancer	D 5/45
Gewicht	38 kg
order-no.	3238_4.11070.1

CHARACTERISTICS

- high spot sequencing via double stroke cylinder
- with manual control valve
- with electrode force switch
- gun and electrode arms water cooled (separate recooling unit required)
- torsion-resistant square tube electrode arms
- twisting & bending-resistant square tube electrode arms for optimum effect from high electrode force
- twisting-resistant 4-sided seating in gun body
- Intensively cooled welding transformer and secondary circuit (separate recooling unit required)
- closed cardan ring with safety suspension
- universal application – made possible through fully comprehensive fittings assortment
- easy positioning of spot welding gun with cardan suspension
- welding transformer in cast-resin composite construction
- consistent welding quality from selected composite design
- toggle-switching system for raising electrode force
- connecting cable with 10 m standard length and low connection values

SPOT WELDING GUN 3328-6



- air operated
- water-cooled (separate recooling unit required)
- with double stroke cylinder
total stroke 75 mm, pre-stroke 50 mm,
working stroke with stroke-adjustment 0 - 18 mm
- available in medium frequency technology up to 90 kVA

EXAMPLES OF USE

- for industrial series deployment

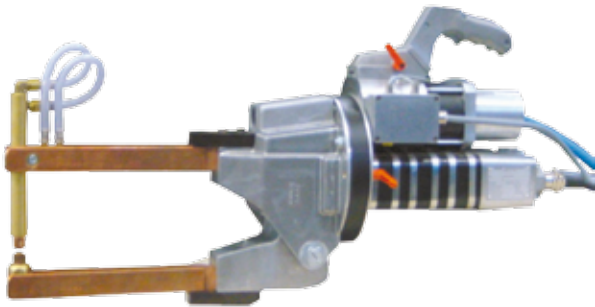
TECHNICAL DATA

rated power (50 % DC)	25 kVA
throat gap	118 mm
enlarged throat gap	248 mm
electrode force (1 kN = 100 daN)	6,0 kN
sec. short-current circuit	22,5 kA
fusing	63 A
welding power	steel sheet 4 + 4 mm max. (at 170 mm arm length)
control unit	B200 add on control cabinet with plug in control unit MPS 10
cooling system	water recooling unit COOL 1
spring balancer	D 5/60 (throat gap 170 - 350 mm) D 5/75 (throat gap 500 - 800 mm)
weight	51, 5 kg
order-no.	3328_6.11106.1_1

CHARACTERISTICS

- stroke setting easily operated
- torsion-resistant square tube electrode arms
with electron beam welded headpieces
- twisting & bending-resistant square tube electrode arms
for optimum effect from high electrode force
- twisting-resistant 4-sided seating in gun body
- slider for larger horizontal positioning
- electro-pneumatic long stroke operation
- Intensively cooled welding transformer and
secondary circuit (separate recooling unit required)
- universal application – made possible through a
cylinder with 6,0 kN electrode force
- closed cardan ring with safety suspension
- universal application – made possible through fully
comprehensive fittings assortment
- easy positioning of spot welding gun with
cardan suspension
- welding transformer in cast-resin composite construction
- consistent welding quality from selected composite
design
- toggle-switching system for raising electrode force
- connecting cable with 10 m standard length and
low connection values

SPOT WELDING GUN 3329



- air operated
- water-cooled (separate recooling unit required)
- with double stroke cylinder
total stroke 60 mm, pre-stroke 40 mm,
working stroke with stroke-adjustment 0 - 20 mm
- available in medium frequency technology up to 90 kVA

EXAMPLES OF USE

- for industrial series deployment

CHARACTERISTICS

- torsion-resistant square tube electrode arms
- twisting & bending-resistant square tube electrode arms for optimum effect from high electrode force
- twisting-resistant 4-sided seating in gun body
- intensively cooled welding transformer and secondary circuit (separate recooling unit required)
- closed cardan ring with safety suspension
- universal application – made possible through fully comprehensive fittings assortment
- easy positioning of spot welding gun with cardan suspension
- welding transformer in cast-resin composite construction
- consistent welding quality from selected composite design
- toggle-switching system for raising electrode force
- connecting cable with 10 m standard length and low connection values

TECHNICAL DATA

rated power (50 % DC)	25 kVA
throat gap enlarged throat gap	140 mm 230 mm
electrode force (1 kN = 100 daN)	4,4 kN
sec. short-current circuit	17 kA
fusing	50 A
welding power	steel sheet 3 + 3 /max. 4 + 4 mm (at 170 mm arm length)
control unit	B200 add on control cabinet with plug in control unit MPS 10
cooling system	water recooling unit COOL 1
spring balancer	D 5/60
weight	46,5 kg
order-no.	3329.16474.1

SPOT WELDING GUN 3346-4



- air operated
- water-cooled (separate recooling unit required)
- C-welding gun
- optionally with single stroke cylinder and adjustment stroke 5 - 45 mm or double stroke cylinder, electrode stroke max. 70 mm
- available in medium frequency technology up to 90 kVA

EXAMPLES OF USE

- industrial deployment purposes

TECHNICAL DATA

rated power (50 % DC)	22 kVA
throat gap	100 mm
electrode force (1 kN = 100 daN)	3,6 kN
sec. short-current circuit	17 kA
fusing	36 A
welding power	Stahlblech 3 + 3 /max. 4 + 4 mm
control unit	B200 add on control cabinet with plug in control unit MPS 10
cooling system	water recooling unit COOL 1
spring balancer	D 5/45
weight	40,5 kg
order-no.	3346_4.11073.1

CHARACTERISTICS

- high spot sequencing via double stroke cylinder and pre-stroke adjustment
- 5/2-way solenoid valve
- torsion-resistant square tube electrode arms
- twisting & bending-resistant square tube electrode arms for optimum effect from high electrode force
- twisting-resistant 4-sided seating in gun body
- intensively cooled welding transformer and secondary circuit (separate recooling unit required)
- closed cardan ring with safety suspension
- universal application – made possible through fully comprehensive fittings assortment
- easy positioning of spot welding gun with cardan suspension
- welding transformer in cast-resin composite construction
- consistent welding quality from selected composite design
- toggle-switching system for raising electrode force
- connecting cable with 10 m standard length and low connection values

SPOT WELDING GUN 3349



- air operated
- water-cooled (separate recooling unit required)
- C-welding gun
- optionally with single stroke cylinder and adjustment stroke 5 - 45 mm or double stroke cylinder, electrode stroke max. 70 mm
- available in medium frequency technology up to 90 kVA

EXAMPES OF USE

- craft trade sector
- industrial deployment purposes

TECHNICAL DATA

rated power (50 % DC)	35,0 kVA
throat gap	100 mm
electrode force <small>(1 kN = 100 daN)</small>	3,6 kN
sec. short-current circuit	13,5 kA
fusing	80 A
welding power	steel sheet 3 + 3 /max. 4 + 4 mm
control unit	B200 add on control cabinet with plug in control unit MPS 10
cooling system	water recooling unit COOL 1
spring balancer	D 5/75
weight	59 kg
order-no.	3349.16480.1

CHRACTERISTICS

- high spot sequencing via double stroke cylinder and pre-stroke adjustment
- 5/2-way solenoid valve
- torsion-resistant square tube electrode arms
- twisting & bending-resistant square tube electrode arms for optimum effect from high electrode force
- universal deployment- made possible through an extensive selection of fittings
- twisting-resistant 4-sided seating in gun body
- intensively cooled welding transformer and secondary circuit (separate recooling unit required)
- closed cardan ring with safety suspensio
- easy positioning of spot welding gun with cardan suspension
- welding transformer in cast-resin composite construction
- consistent welding quality from selected composite design
- toggle-switching system for raising electrode force
- connecting cable with 10 m standard length and low connection values

SPOT WELDING GUN 3528-4



- air operated
- water-cooled (separate recooling unit required)
- with double stroke cylinder
total stroke 62 mm, pre-stroke 40 mm
working stroke with stroke adjustment 0 - 22 mm
- available in medium frequency technology up to 90 kVA

EXAMPLES OF USE

- industrial deployment purposes
- for highest demands
- also for non-ferrous metals

TECHNICAL DATA

rated power (50 % DC)	63 kVA
throat gap	170 mm
electrode force (1 kN = 100 daN)	7,3 kN
sec. short-current circuit	31 kA
fusing	100 A
welding power	steel sheet 5 + 5 / max. 6 + 6 mm
control unit	B200 add on control cabinet with plug in control unit MPS 10
cooling system	water recooling unit COOL 2
spring balancer	depending on throat gap of armatures
weight	98 kg
order-no.	3528_4.11077.1

CHARACTERISTICS

- high spot sequencing via low air consumption
- torsion-resistant square tube electrode arms
- twisting & bending-resistant square tube electrode arms
or optimum effect from high electrode force
- twisting-resistant 4-sided seating in gun body
- intensively cooled welding transformer and
secondary circuit (separate recooling unit required)
- closed cardan ring with safety suspension
- universal application – made possible through fully
comprehensive fittings assortment
- easy positioning of spot welding gun with
cardan suspension
- welding transformer in cast resin composite design
with laminated steel core
- Consistent welding quality from selected
composite design
- toggle-switching system for raising electrode force
- connecting cable with 10 m standard length and
low connection values

MODIFIED SPOT WELDING GUNS

DALEX develops and manufactures optimally tailored spot-welding-solutions for your special welding tasks and individual components.



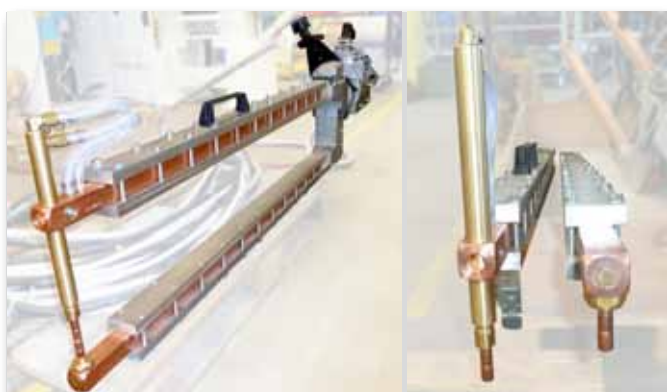
DESCRIPTION

Gun with special welding arm for welding of reinforcing cages



DESCRIPTION

Gun with special welding arm adapted to a complex component geometry



DESCRIPTION

Gun with long arm fitting for welding steel doors & garage doors



DESCRIPTION

Gun with special arm fitting for touch-down & bracing on a flat surface



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