utp maintenance
by voestalpine

Tailor-Made Protectivity™

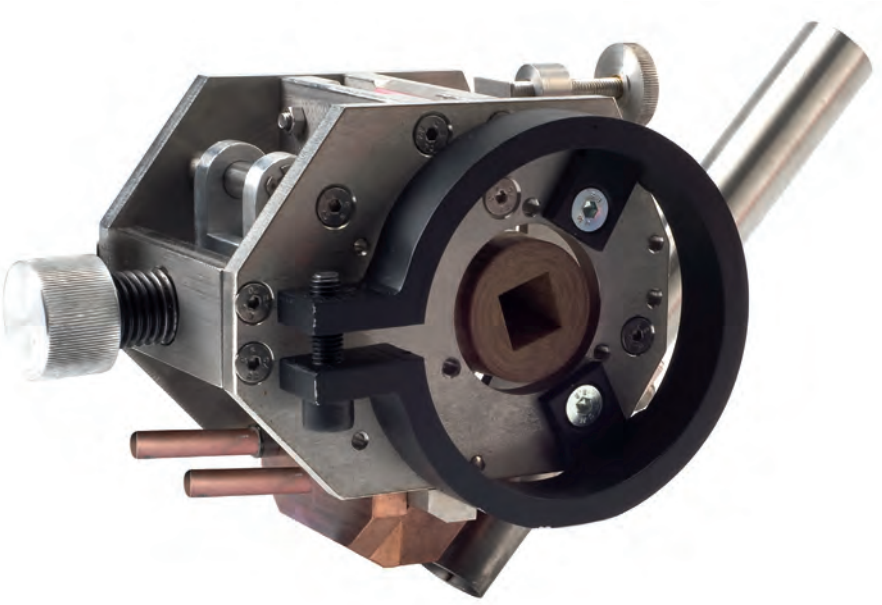
SAW & ESW Strip Cladding Nozzles & Magnetic Steering Device

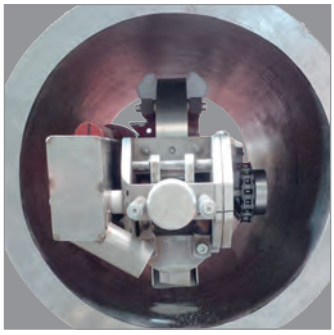
voestalpine Böhler Welding
www.voestalpine.com/welding

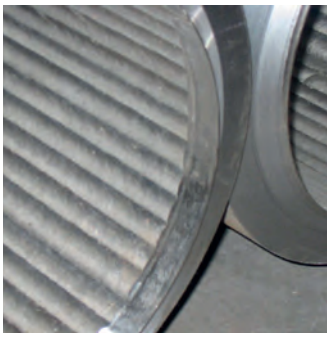
voestalpine
ONE STEP AHEAD.

Cladding Nozzle SK 30 ES2-75

For electroslag and submerged arc strip cladding







Article number: 36558

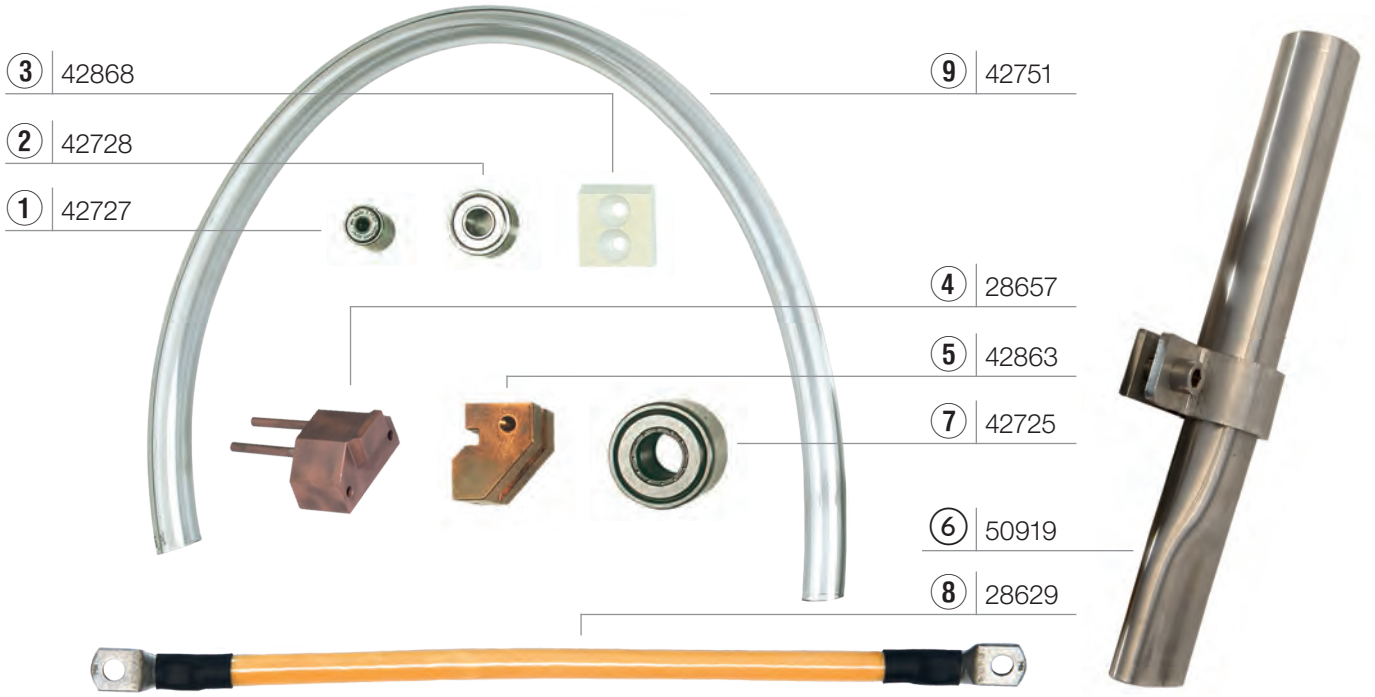
Standard mounted on nozzle

	Standard strip width 30 mm	Art.-No.
①	side rollers	42727
②	inside roller for drive roll	42728
③	bottom insulation	42868
④	cooled fixed contact shoe	28657
⑤	movable finger	42863
⑥	standard flux hopper	50919
⑦	pressure roller	42725
⑧	welding cable LG: 370 mm (14.6")	28629
⑨	flux hose	42751

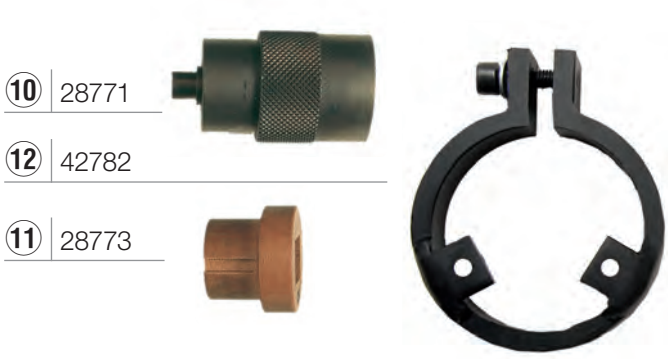
Components to be ordered additionally

	Adaptation for strip feed motors	Art.-No.	Qty
	For ESAB A6		
⑩	drive roll 30 ES2-75	28771	1
⑪	adapter drive roll for ESAB A6	28773	1
⑫	adapter ring for ESAB A6	42782	1
	For Lincoln NA3S		
⑬	drive roll 30 ES2-75	28771	1
⑭	adapter drive roll for Lincoln NA3	42866	1
⑮	adapter ring for Lincoln NA3	42869	1
	For Oerlikon UP 15		
⑯	drive roll 30 ES2-75	28771	1
⑰	adapter drive roll for Oerlikon UP 15	42768	1
⑱	adapter ring for Oerlikon UP 15	42782	1
	Adaptation for SAW cladding	**Art.-No.**	**Qty**
⑲	curved flux hopper	27771	1
⑳	Y distributor for flux	42852	1
㉑	non-cooled fixed contact shoe	42862	1

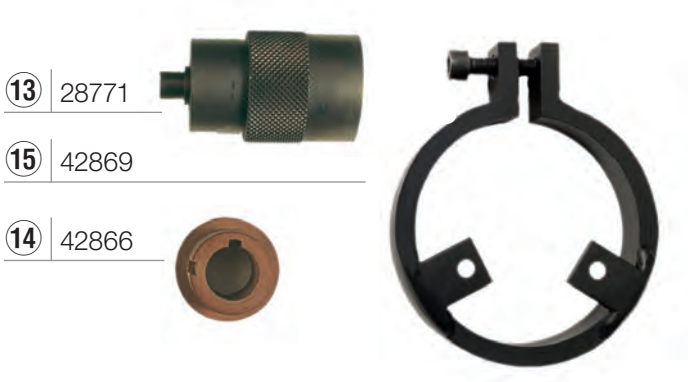
Spare parts standard nozzle SK 30



Components to be ordered separately

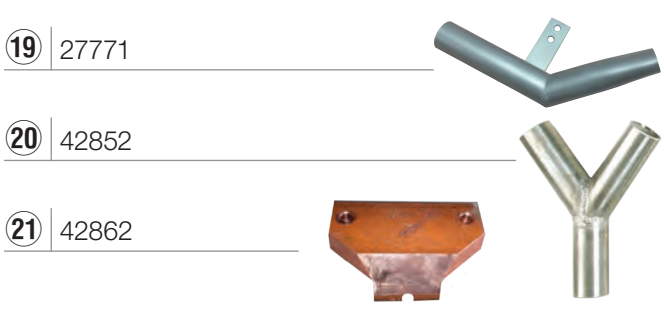


For ESAB A6



For Lincoln NA3S

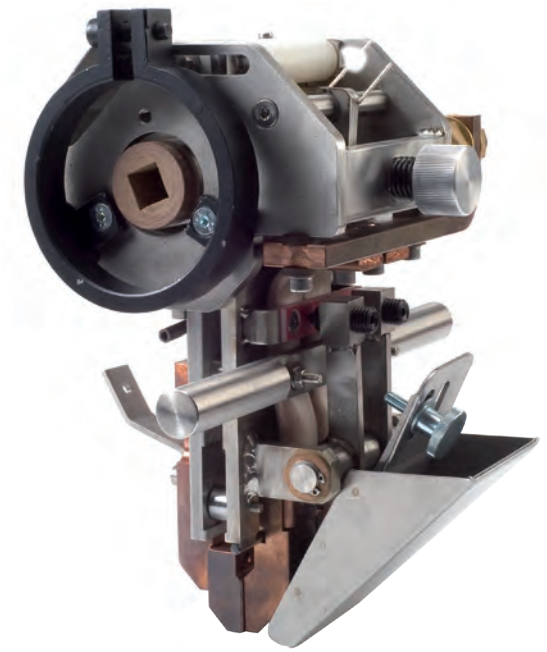
For Oerlikon UP 15



Adaptation for SAW cladding

Cladding Nozzle SK 60 ES3-207

For electroslag and submerged arc strip cladding



Article number: 64640

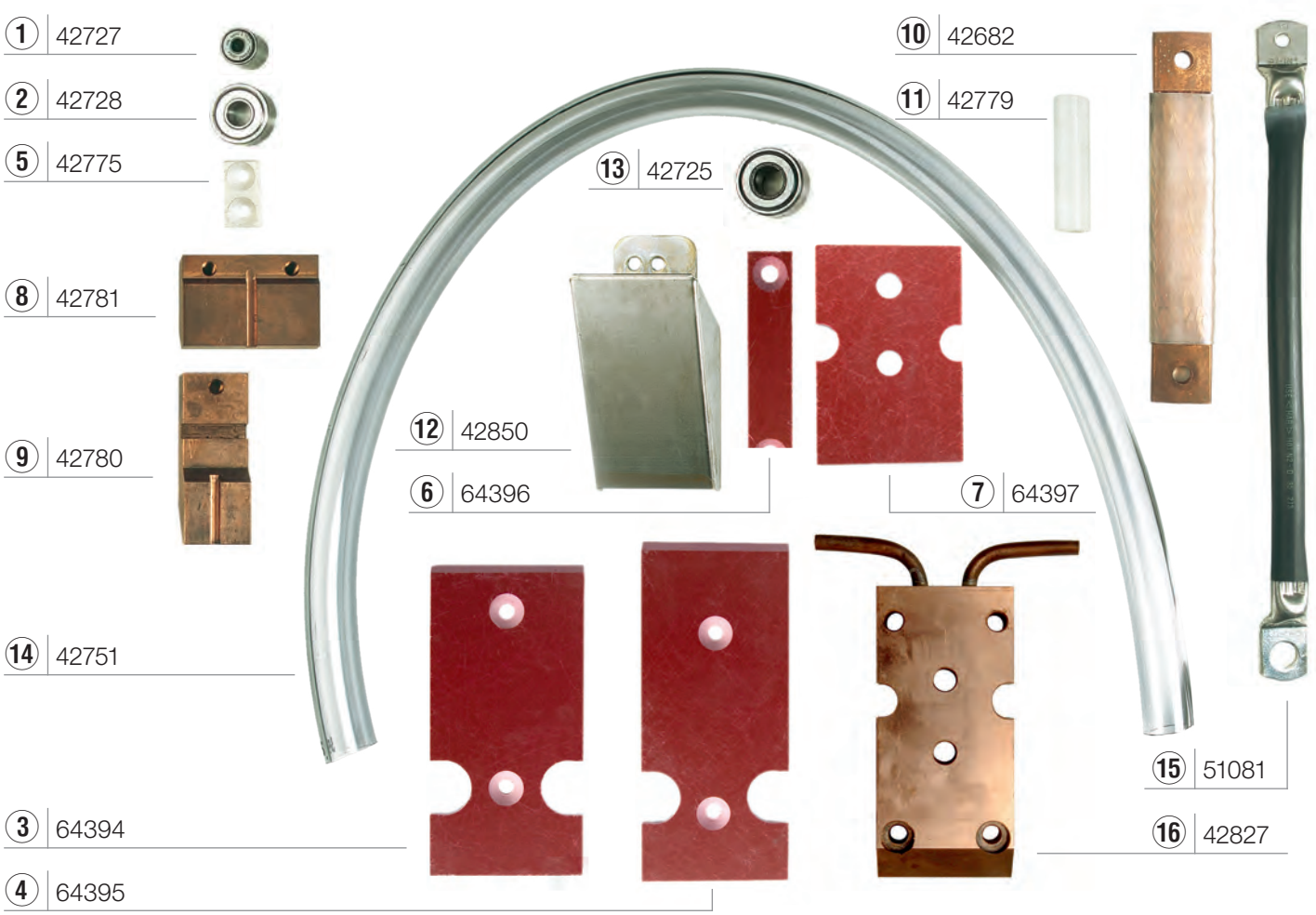
Standard mounted on nozzle

	Standard strip width 60 mm	Art.-No.
①	side rollers	42727
②	inside roller for drive roll	42728
③	back insulation	64394
④	front insulation	64395
⑤	upper insulation	42775
⑥	insulation holder	64396
⑦	insulation plate	64397
⑧	fixed contact shoe	42781
⑨	movable finger	42780
⑩	conductor braided (150 x 25)	42682
⑪	nylon brushing	42779
⑫	flux hopper for strip 30 - 60 mm	42850
⑬	pressure roller	42725
⑭	flux hose	42751
⑮	welding cable LG: 450 mm x 95 mm²	51081
⑯	holder contact shoe	42827

Components to be ordered additionally

	Adaptation for strip feed motors	Art.-No.	Qty
	For ESAB A6		
⑰	drive roll 60 ES3-207	28704	1
⑱	adapter drive roll for ESAB A6	42769	1
⑲	adapter ring for ESAB A6	42782	1
	For Lincoln NA3S		
⑳	drive roll 60 ES3-207	28704	1
㉑	adapter drive roll for LINCOLN NA3S	28707	1
㉒	adapter ring for LINCOLN NA3S	42869	1
	For Oerlikon UP 15		
㉓	drive roll 60 ES3-207	28704	1
㉔	adapter drive roll for OERLIKON UP 15	42768	1
㉕	adapter ring for OERLIKON UP 15	42782	1
	Adaptation for SAW cladding	**Art.-No.**	**Qty**
㉖	flux hopper for strip 30 - 60 mm	42850	1
㉗	Y distributor for flux	42852	1
㉘	screw for hopper holder	42752	1

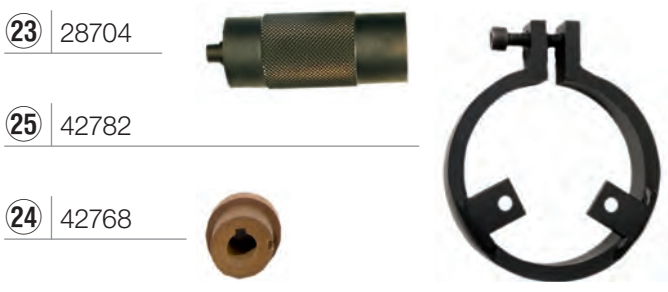
Spare parts standard nozzle SK 60



Components to be ordered separately

For ESAB A6

For Lincoln NA3S



For Oerlikon UP 15

Adaptation for SAW cladding

Cladding Nozzle SK 125 ES2-300

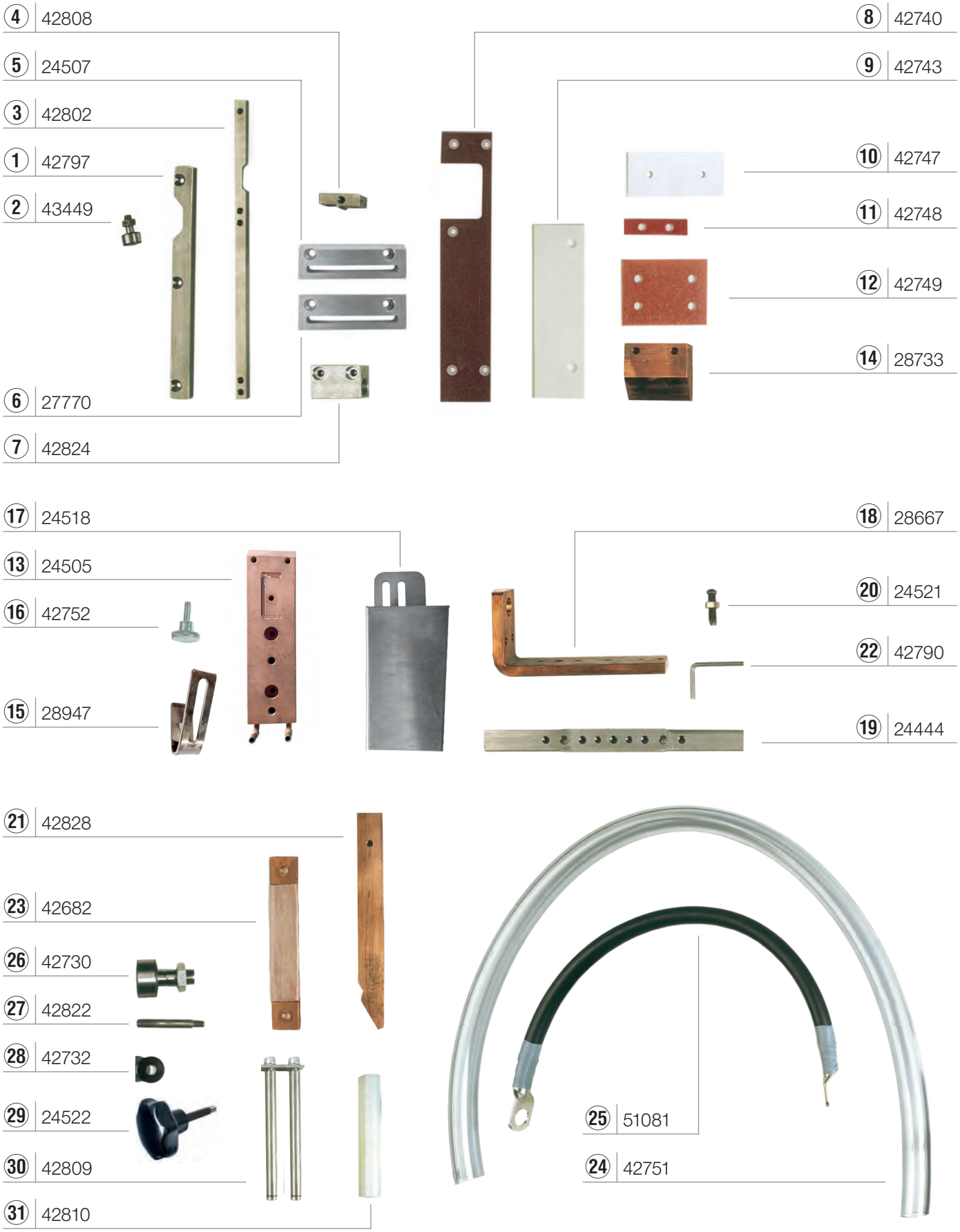
For electroslag and submerged arc strip cladding

Article number: 86229

Standard mounted on nozzle

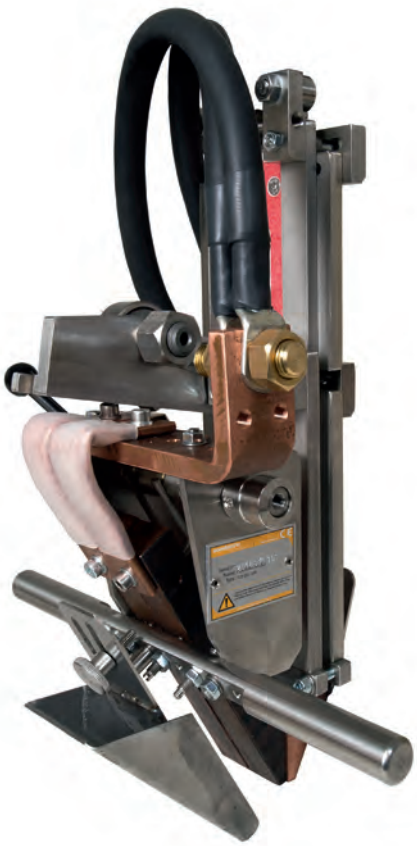
	Standard strip width 60 mm	Art.-No.
①	stationary side guide	42797
②	side rollers	43449
③	adjustable side guide	42802
④	adjustable roller holder	42808
⑤	centre holder	24507
⑥	upper holder	27770
⑦	rotating holder	42824
⑧	back insulation for strip 60 mm	42740
⑨	front insulation for strip 60 mm	42743
⑩	insulation plate	42747
⑪	insulation plate (outside) (70 x 18 x 3)	42748
⑫	insulation plate (inside) (95 x 73 x 3)	42749
⑬	holder contact shoe	24505
⑭	fixed contact shoe strip 30 - 60 mm	28733
⑮	holder hopper	28947
⑯	screw M6 x 20 for holder hopper	42752
⑰	flux hopper for 30 - 60 mm strip	24518
⑱	current connection bar	28667
⑲	movable finger holder	24444
⑳	adjustable screw M6 for movable finger	24521
㉑	movable finger	42828
㉒	spring for movable finger	42790
㉓	conductor braided (150 x 25)	42682
㉔	flux hose	42751
㉕	welding cable LG: 450 mm x 95 mm^2	51081
㉖	pressure roll + NUT M18	42730
㉗	pressure screw	42822
㉘	spring washer	42732
㉙	handle	24522
㉚	front guide bar	42809
㉛	nylon brushing	42810

Spare parts standard nozzle SK 125



Cladding Nozzle SK 125 ES2-300 (cont.)

For electroslag and submerged arc strip cladding

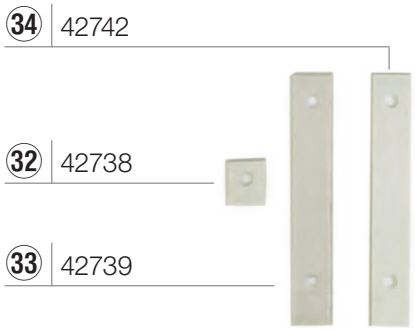


Article number: 86229

Components to be ordered additionally

	Adaptation for strip feed motors	Art.-No.	Qty
	Adaptation pieces for 30 mm strip		
32	30 mm upper back insulation	42738	1
33	30 mm under back insulation	42739	1
34	30 mm front insulation	42742	1
	Adaptation pieces for 90 mm strip		
35	90 mm back insulation	42741	1
36	90 mm front insulation	42744	1
37	90 mm fixed contact shoe	28734	1
38	flux hopper for 90 mm strip	24510	1
39	movable finger	42828	1
40	spring for movable finger	42790	1
41	braided conductor (150 x 25)	42682	1
42	adjustable screw for movable finger	24521	1
	Adaptation pieces for 120 mm strip		
43	120 mm back insulation	42745	1
44	120 mm front insulation	42746	1
45	120 mm fixed contact shoe	42807	1
46	flux hopper for 120 mm strip	24499	1
47	movable finger	42828	2
48	spring for movable finger	42790	2
49	braided conductor (150 x 25)	42682	2
50	adjustable screw for movable finger	24521	2

Components to be ordered additionally



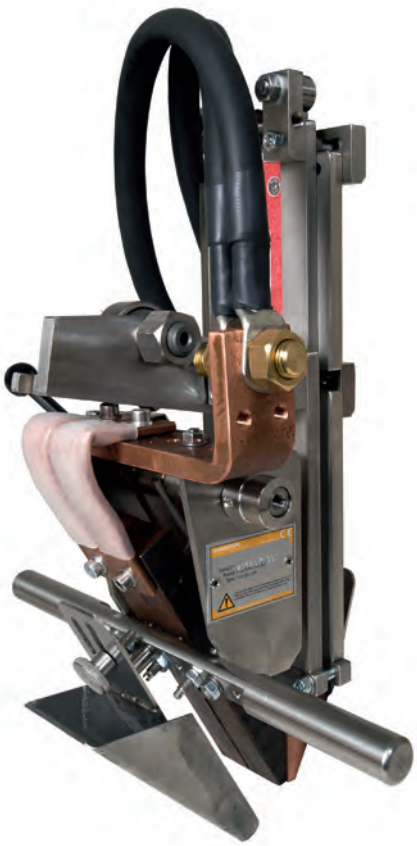
Adaptation pieces for 30 mm strip

Adaptation pieces for 90 mm strip

Adaptation pieces for 120 mm strip

Cladding Nozzle SK 125 ES2-300 (cont.)

For electroslag and submerged arc strip cladding



Article number: 86229

Components to be ordered additionally

	Adaptation for strip feed motors	Art.-No.	Qty
	For ESAB A6		
⑤①	adapter plate for ESAB A6	28695	1
⑤②	drive roll for ESAB A6	28691	1
	For Lincoln NA3S		
⑤③	adapter plate for LINCOLN NA3S	28698	1
⑤④	drive roll for LINCOLN NA3S	24458	1
	For Oerlikon UP 15		
⑤⑤	adapter plate for OERLIKON UP 15	28697	1
⑤⑥	drive roll for OERLIKON UP 15	42764	1
	Adaptation for SAW cladding	**Art.-No.**	**Qty**
⑤⑦	Y distributor for flux	42852	1
⑤⑧	flux hopper for 30 - 60 mm strip*	24518	1
⑤⑨	flux hopper for 90 mm strip*	24510	1
⑥⓪	flux hopper for 120 mm strip*	24499	1
⑥①	screw M6 x 20 for hopper holder	42752	1
⑥②	T nut for hopper holder	42754	1

* Depending on the strip width.

Components to be ordered additionally

52 28691

51 28695

For ESAB A6

54 24458

53 28698

For Lincoln NA3S

56 42764

55 28697

For Oerlikon UP 15

61 42752

57 42852

62 42754

59 24510

58 24518

60 24499

Adaptation for SAW cladding

Installation Guide SK 30 ES2-75

Installation on Wire Feed Motor:

1. Remove specific items for welding with wire (contact nozzle, roll pressure level, drive roll). Remarks: parallel keys, nuts or setting screws can be used for strip drive roll (10, 13 or 16).

2. Clean drive roll shaft and corresponding gear box outside thoroughly.

3. Install complete drive roll (10, 13 or 16) on the shaft and lock with standard washer and nut.

4. Install the complete strip cladding head (normally assembled with adapter ring (12, 15 or 18)) on the outside of the gear box. Lock screw of adapter and adjust to assure that the cladding head will be in a straight vertical line.

5. Assure that both shafts of the drive roll (10, 13 or 16) and the pressure roller (7) are on the same level.

6. Install standard flux hopper (6) for ESW or standard flux hopper (6) and curved flux hopper (19) for SAW.

7. Connect flux hose (9) and "Y" flux distributor (20) to standard flux hopper (6) for ESW or to the standard flux hopper (6) and curved flux hopper (19) for SAW. Cut hoses to length. Control convenient position of hoses to prevent flux feeding stops.

8. Install the standard wire reel for feeding strips without excessive torsion or bending.

9. Connect current power cables to the power source.

10. Control feeding direction of the wire motor. To correct feeding direction, inverse both field connections or follow the instructions of the welding head manual.

11. Before operation, control the insulation between the strip cladding head and the ground connection.

12. When feeding the strip into the nozzle, there is no pressure. The strip must be freely movable.

13. The clearance between strip and side rollers (1) must be 0.5 mm.

14. The first time, adjust pressure between contact shoes and strip. Apply sufficient pressure for current connection, but not so high that it will affect strip feeding.

15. The second time, adjust pressure between strip and pressure roll. Increase pressure until strip can not be moved anymore by hand. Limit pressure to avoid deformation of strip.

Installation Guide SK 60 ES3-207

Installation on Wire Feed Motor:

1. Remove specific items for welding with wire (contact nozzle, roll pressure level, drive roll). Remarks: parallel keys, nuts or setting screws can be used for strip drive roll (17, 20 or 23).

2. Clean drive roll shaft and corresponding gear box outside thoroughly.

3. Install complete drive roll (17, 20 or 23) on the shaft and lock with standard washer and nut.

4. Install the complete strip cladding head (normally assembled with adapter ring (19, 22 or 25)) on the outside of the gear box. Lock screw of adapter and adjust to assure that the cladding head will be in a straight vertical line.

5. Assure that both shafts of the drive roll (17, 20 or 23) and the pressure roller (13) are at the same level

6. Install flux hopper(s) (26) on hopper holder with screw (28).

7. Connect flux hose (14) and "Y" flux distributor (27) to the flux hopper(s) (26). Cut hoses to length. Control convenient position of hoses to prevent flux feeding stops.

8. Install the standard wire reel for feeding strips without excessive torsion or bending.

9. Connect current power cables to the power source and current connection bar.

10. Control feeding direction of the wire motor. To correct feeding direction, inverse both field connections or follow the instructions of the welding head manual.

11. Before operation, control the insulation between the strip cladding head and the ground connection.

12. When feeding the strip into the nozzle, there is no pressure. The strip must be freely movable.

13. The clearance between strip and side rollers (1) must be 0.5 mm.

14. The first time, adjust pressure between contact shoes and strip. Apply sufficient pressure for current connection, but not so high that it will affect strip feeding.

15. The second time, adjust pressure between strip and pressure roll. Increase pressure until strip can not be moved anymore by hand. Limit pressure to avoid deformation of strip.

Installation Guide SK 125 ES2-300

Installation on Wire Feed Motor:

1. Remove specific items for welding with wire (contact nozzle, roll pressure level, drive roll). Remarks: parallel keys, nuts or setting screws can be used for strip drive roll (52, 54 or 56).

2. Clean drive roll shaft and corresponding gear box outside thoroughly.

3. Install complete drive roll (52, 54 or 56) on the shaft and lock with standard washer and nut.

4. Install the complete strip cladding head (normally assembled with adapter plate (51, 53 or 55)) on the outside of the gear box. Lock screw of adapter and adjust to assure that the cladding head will be in a straight vertical line.

5. Assure that both shafts of the drive roll (52, 54 or 56) and the pressure roller (26) are at the same level.

6. Install flux hopper(s) (17, 38 or 46) on hopper holder (15) with screw (61) and nut (62).

7. Connect flux hose (24) and "Y" flux distributor (57) to the flux hoppers (17, 38 or 46). Cut hoses to length. Control convenient position of hoses to prevent flux feeding stops.

8. Install the standard wire reel for feeding strips without excessive torsion or bending.

9. Connect current power cables (25) to the power source and current connection bar (18). We recommend not to use more than 600 A for each power cable.

10. Control feeding direction of the wire motor. To correct feeding direction, inverse both field connections or follow the instructions of the welding head manual.

11. Before operation, control the insulation between the strip cladding head and the ground connection.

12. When feeding the strip into the nozzle, there is no pressure. The strip must be freely movable.

13. The clearance between strip and side rollers (2) must be 0.5 mm.

14. The first time, adjust pressure between contact shoes and strip. Apply sufficient pressure for current connection, but not so high that it will affect strip feeding.

15. The second time, adjust pressure between strip and pressure roll. Increase pressure until strip can not be moved anymore by hand. Limit pressure to avoid deformation of strip.

Types of Cladding Nozzles

	TYPE			
	SK 30- ES2-75	SK 60- ES3-207	SK 125- ES2-300	SK 180- ES1-315*
allowed strip width (mm)	15 - 20 - 30	30 - 60	30 - 60 - 90 - 120	120 - 150 - 180
min. internal diameter (mm):				
longitudinal cladding*	220	380	550	700
circular cladding**	300	550	700	900
fitting available for equipment:	ESAB A6 Lincoln NA3 S OERLIKON UP 15	ESAB A6 Lincoln NA3 S OERLIKON UP 15	ESAB A6 Lincoln NA3 S OERLIKON UP 15	ESAB A6 Lincoln NA3 S OERLIKON UP 15

* Only available on request

** May vary depending on drive motor and equipment positioning

Magnetic steering device

SK CED1 1370 C22 (220 V / 50 Hz) **Art. nr. 31683**
SK CED1 1370 C11 (110 V / 60 Hz) **Art. nr. 42895**

Spare parts	Description	Art.-No.
	rheostat	42871
	Ampere meter	42875
	cylindrical support	69400
	magnetic core	42819
	connector case male connector	42889
	male connector	42890
	cable WITHOUT connectors to plug coils to electric box (3m length, other lengths on request)	42891
	insulating tube (3 cm)	50983
	female connector for cables and electric box	55272
	connector case female connector	55275

Standard magnetic steering device consisting of control box, connection cables and magnetic coils.

Spare parts	Description	Art.-No.
	cable lock	55310
	complete magnetic coil	42900
	cable WITH connectors to plug coils to electric box (3m length, other lengths on request)	27772

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With over 100 years of experience, voestalpine Böhler Welding is the global top address for the daily challenges in the areas of joint welding, wear and corrosion protection as well as brazing. Customer proximity is guaranteed by more than 40 subsidiaries in 25 countries, with the support of 2,200 employees, and through more than 1,000 distribution partners worldwide. With individual consultation by our application technicians and welding engineers, we make sure that our customers master the most demanding welding challenges. voestalpine Böhler Welding offers three specialized and dedicated brands to cater for our customers' and partners' requirements.

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