



PRODUCT CATALOGUE





The most important thing for welders is to have non-stop welding and for companies to have non-stop production. Magmaweld brand is created to satisfy these expectations of the metal construction industry all over the world with new designs, formulas and production methods as a complete source for welding consumables and equipments.

The powerful magma, hidden inside our planet inspired us to create Magmaweld as a global brand for our powerful arc-based product technologies. Although Magmaweld brand is young, our expertise in the field of welding and cutting dates back to 1957. We have started with the production of stick electrodes as a licensee of Oerlikon Schweisstechnik Inc. of Switzerland and since then we are the leading welding consumables and equipment manufacturing group in Turkey. Today our activities are gathered under two separate business units, in two separate factories, one for welding consumables and the other for welding/cutting machines and automation. Our factories are located in the Industrial Site of Manisa, which is 40 km away from the main harbor of Izmir/Turkey.

Since 1995, our working procedures are approved and controlled by ISO 9001 system and today all our welding machines are CE certified and most of our electrodes and wires are TÜV, DB, CWB, ABS, BV, RINA, DNV, GL, LR and RMR approved.

Welders are experts who know exactly what they need and Magmaweld is here to fulfill all their needs with innovative solutions. We share our expertise with our customers on their projects and we give training courses at different levels. Also, every year, we train in Turkey 300 workers free of charge to enable them to receive entry-level welder certificates in order to find jobs in the industry.

Try our products and services; enjoy the FLOW, enjoy NON-STOP Welding & Cutting !



Welding Consumables Factory

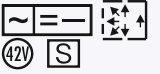
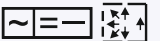
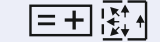
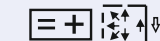
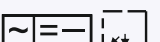


Welding Automation and Machines Factory

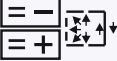
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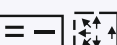
STICK ELECTRODES

Product Name	Standards		Typical Chemical Analysis of All-weld (%)					R _m [N/mm ²]	R _s [N/mm ²]	Elongation %	Charpy Impact Energy ISO-V(J)		Current Type Polarity Welding Positions
			C	Si	Mn	Mo	Ni						
ESR 11	AWS/ASME SFA-5.1 EN 499	E 6013 E 38 0 RC 11	0.08	0.30	0.50	-	-	480	530	27	0°C : 80 J		
ESR 13	AWS/ASME SFA-5.1 EN 499	E 6013 E 42 0 RR 12	0.08	0.40	0.60	-	-	520	560	28	0°C : 70 J	-20°C : 50 J	
ESR 13 M	AWS/ASME SFA-5.1 EN 499	E 6013 E 35 A R 12	0.08	0.35	0.60	-	-	>355	440-570	>22	+20°C : 60 J		
ESR 14	AWS/ASME SFA-5.1 EN 499	E 7014 E 42 0 RR 12	0.08	0.40	0.60	-	-	520	560	28	0°C : 70 J	-20°C : 40 J	
ESR 30	AWS/ASME SFA-5.1 EN 499	E 6013 E 38 A RR 12	0.03	0.15	0.20	-	-	380	440	25	20°C : 70 J		
ESR 35	AWS/ASME SFA-5.1 EN 499	E 6013 E 38 2 RB 12	0.08	0.20	0.60	-	-	>380	470-600	>20	+20°C : 100 J	-20°C : 70 J	
ESB 40	AWS/ASME SFA-5.1 EN 499	E 7016 E 42 3 B 42 H 10	0.08	0.40	1.00	-	-	500	550	28	-30°C : 60 J	-40°C : 40 J	
ESB 42	AWS/ASME SFA-5.1 EN 499	E 7016 - H8 E 42 4 B 22 H 10	0.08	0.30	1.00	-	-	510	560	29	-20°C : 120 J	-40°C : 70 J	
ESB 44	AWS/ASME SFA-5.1 EN 499	E 7016 - H8 E 38 2 B 12 H 10	0.08	0.40	1.00	-	-	460	530	29	-20°C : 70 J	-30°C : 60 J	
ESB 48	AWS/ASME SFA-5.1 EN 499	E 7018 - H8 E 42 3 B 42 H 10	0.07	0.60	1.20	-	-	515	550	29	-30°C : 90 J	-40°C : 80 J	
ESB 52	AWS/ASME SFA-5.1 EN 499	E 7018 - 1 - H4 E 42 6 B 42 H 5	0.08	0.30	1.20	-	-	520	590	29	-46°C : 90 J	-60°C : 70 J	
ESH 160 R	AWS/ASME SFA-5.1 EN 499	E 7024 E 42 0 RR 73	0.08	0.60	1.00	-	-	530	600	27	0°C : 50 J	-20°C : 40 J	

STICK ELECTRODES

Product Name	Standards		Typical Chemical Analysis of All-weld Metal (%)					R _m [N/mm ²]	R _s [N/mm ²]	Elongation %	Charpy Impact Energy ISO-V(J)		Current Type Polarity Welding Positions
			C	Si	Mn	Mo	Ni						
ESH 180 R	AWS/ASME SFA-5.1 EN 499	E 7024 E 38 A RR 73	0.10	0.40	0.90	-	-	>380	510-610	>24	+20°C : 50 J		
ESC 60	AWS/ASME SFA-5.1 EN 499	E 6010 E 35 2 C 21	0.10	0.20	0.50	-	-	470	530	28	-20°C : 60 J	-30°C : 50 J	
ESC 70	AWS/ASME SFA-5.5 EN 499	E 7010 - A1 E 42 2 Mo C 21	0.10	0.20	0.50	0.50	-	510	570	27	-20°C : 70 J	-30°C : 50 J	
ESC 70 G	AWS/ASME SFA-5.5 EN 499	E 7010 - G E 42 2 C 21	0.10	0.40	1.10	0.50	-	530	560	26	-20°C : 70 J	-30°C : 60 J	
ESC 80 G	AWS/ASME SFA-5.5 EN 499	E 8010 - G E 42 3 1 Ni C 21	0.10	0.20	1.00	-	0.80	480	560	28	-20°C : 60 J	-30°C : 50 J	

TIG & OXY-GAS RODS

Product Name	Standards		Typical Chemical Analysis of All-weld Metal (%)					R _m [N/mm ²]	R _s [N/mm ²]	Elongation %	Charpy Impact Energy ISO-V(J)		Current Type Polarity Welding Positions
			C	Si	Mn	P	S						
TG 1	AWS/ASME SFA-5.18 EN 1668	ER 70 S - 3 W2 Si	0.08	0.55	1.20	<0.025	<0.025	450	500	28	0°C:110 J	-20°C:90 J -30°C:80 J	
TG 2	AWS/ASME SFA-5.18 EN 1668	ER 70 S - 6 W3 Si	0.07	0.85	1.45	<0.025	<0.025	470	560	28	20°C : 90 J		
TG 3	AWS/ASME SFA-5.18 EN 1668	ER 70 S - 6 W4 Si 1	0.08	0.85	1.70	<0.025	<0.025	470	550	27	20°C : 100 J		
TG 102	AWS/ASME SFA-5.18	ER 70 S - 2	<0.06	0.60	1.20	<0.025	<0.025	>490	>570	>24	-29°C : 60 J		
OG 1	AWS/ASME SFA-5.2 EN 12536	R 45 O I	0.08	0.05	0.50	<0.025	<0.025	280	450	20	+20°C : 50 J		
OG 2	AWS/ASME SFA-5.2 EN 12536	R 60 O II	0.08	0.05	1.00	<0.025	<0.025	300	440	20	+20°C : 50 J		

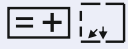
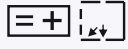
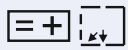
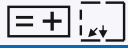
MIG / MAG SOLID WIRES

Product Name	Standards	Typical Chemical Analysis of All-weld (%)			R _m [N/mm ²]	R _s [N/mm ²]	Elongation %	Charpy Impact Energy ISO-V(J)			Current Type Polarity Welding Positions
		C	Si	Mn							
MG 1	AWS/ASME SFA-5.18 EN 440	ER 70 S - 3 E 38 2 M G2 Si	0.08	0.55	1.20	450	500	28	0°C:110 J -20°C:90 J -30°C:70 J		
MG 2	AWS/ASME SFA-5.18 EN 440	ER 70 S - 6 G 42 4 M G3 Si 1	0.08	0.80	1.45	460	530	29	+20°C : 115 J		
MG 3	AWS/ASME SFA-5.15 EN 440	ER 70 S - 6 G 46 4 M G4 Si 1	0.08	0.90	1.70	470	550	27	+20°C : 100 J		
MG 20	AWS/ASME SFA-5.18 EN 440	ER 70 S - 6 G 42 4 M G3 Si 1	0.08	0.80	1.45	460	530	29	+20°C : 115 J		
MG 102	AWS/ASME SFA-5.18	ER 70 S - 2	0.06	0.60	1.20	>450	>520	>24	-29°C : 60 J		

FLUX CORED WIRES

Product Name	Standards	Typical Chemical Analysis of All-weld (%)					R _m [N/mm ²]	R _s [N/mm ²]	Elongation %	Charpy Impact Energy ISO-V(J)		Current Type Polarity Welding Positions
		C	Si	Mn	Ni	Mo						
FCW 11	AWS/ASME SFA-5.20 EN 758	E 71 T - 1 T 46 2 P C1 H5	0.06	0.25	1.45	-	-	>460	550-650	>22	-20°C>50 J +20°C>80 J	
FCW 16	AWS/ASME SFA-5.20	E 71T - 1 H4	0.05	0.50	1.20	0.40	-	>460	550-650	>22	-20°C >80 J	
FCW 21	AWS/ASME SFA-5.20 EN 758	E 70 T - 1 MJ T 46 4 M M1 H5	0.05	0.60	1.30	-	-	>460	550-660	>24	-40°C >47 J -20°C >80 J	
FCW 30	AWS/ASME SFA-5.20 EN 758	E 70 T - 5 T 42 4 B C3 H5 T 42 4 B M3 H5	0.04	0.40	1.25	-	-	520	580	28	-20°C >100 J	
FCW 140	AWS/ASME SFA-5.20 EN 758	E 81 T - Ni1 M - J T 46 4 1Ni P M 1 H5	0.050	0.50	1.20	0.90	-	>490	570-670	>22	-40°C >60 J	
FCW 201	AWS/ASME SFA-5.29 EN 12071	E 81 T1 - A1M - H4 T MoL P M 1 H5	0.05	0.40	1.20	-	0.50	>490	550-650	>20	+20°C >70 J	

SAW WIRES FLUXES

Product Name	Standards	Typical Chemical Analysis of All-weld Metal (%)				Welding Flux Added	Typical Chemical Analysis of All-weld Metal (%)						R _m [N/mm ²]	R _s [N/mm ²]	Elong. %	Charpy Impact Energy ISO-V(J)		Current Type Polarity Welding Positions
		C	Si	Mn	Mo		C	Si	Mn	Mo	S	P						
SW 701	AWS/ASME SFA-5.17 EL 12 S 1 EN 756	0.07	0.05	0.50	-	SF 101	0.03-0.05	0.6-1.0	0.9-1.4	-	<0.025	<0.025	>400	510-650	>22	0°C >40 J	-20°C >27 J	
						SF 102	0.03-0.06	0.1-0.5	0.6-1.0	-	<0.025	<0.025	>350	440-550	>22	-20°C >80 J	-30°C >27 J	
						SF 103	0.07	0.4	1.25	-	<0.025	<0.025	475	550	28	0°C : 50 J		
						SF 104	0.07	0.5	1.0	-	<0.025	<0.025	460	530	26.6	0°C : 75 J		
SW 702	AWS/ASME SFA-5.17 EM 12 S 2 EN 756	0.08	0.05	1.00	-	SF 101	0.04	0.8	1.4	-	<0.025	<0.025	500	590	25	0°C : 50 J	-20°C : 27 J	
						SF 102	0.03	0.4	1.4	-	<0.025	<0.025	420	510	28	-30°C : 70 J	-40°C : 50 J	
						SF 103	0.08	0.5	1.4	-	<0.025	<0.025	485	705	30	0°C : 50 J		
						SF 104	0.08	0.6	1.3	-	<0.025	<0.025	465	550	29	-40°C : 50 J	-0°C : 90 J	
SW 702 Si	AWS/ASME SFA-5.17 EM 12 K S 2 Si EN 756	0.08	0.20	1.00	-	SF 101	0.025-0.05	0.5-1.1	1.1-1.5	-	<0.025	<0.025	>400	520-650	>22	0°C >50 J	-20°C >27 J	
						SF 102	0.03-0.05	0.2-0.6	1.0-1.6	-	<0.025	<0.025	>420	510-650	>22	-20°C >100 J	-30°C >50 J	
SW 702 Mo	AWS/ASME SFA-5.23 EA 2 S 2 Mo EN 756	0.09	0.15	1.00	0.5	SF 102	0.04-0.08	0.2-0.6	1.1-1.4	0.4-0.65	<0.025	<0.025	>490	570-690	>22	-20°C : 90 J	-30°C : 27 J	

SAW WIRES FLUXES

Product Name	Standards	Welding Wire Added	Typical Chemical Analysis of All-weld (%)					R _m [N/mm ²]	R _s [N/mm ²]	Elongation %	Charpy Impact Energy ISO-V(J)		Current Type Polarity Welding Positions
			C	Si	Mn	S	P						
SF 101	EN 760 S A A R 1 87 AC AWS/ASME SFA-5.17 F7A0-EL12	SW 701	0.03-0.05	0.6-1.0	0.9-1.4	<0.02	<0.03	>400	510-650	>22	0°C >40 J	-27°C >27 J	
		SW 702	0.025-0.05	0.5-1.1	1.1-1.5	<0.02	<0.03	>400	510-650	>22	0°C >40 J	-27°C >27 J	
SF 102	EN 760 S A A B 1 67 AC H5	SW 701	0.03-0.06	0.1-0.5	0.6-1.0	<0.02	<0.025	>350	440-550	>22	-20°C >80 J	-30°C >27 J	
		SW 702	0.03-0.05	0.2-0.6	1.0-1.6	<0.02	<0.025	>420	510-650	>22	-20°C >100 J	-30°C >50 J	
		SW 702 Mo	0.04-0.08	0.2-0.6	1.1-1.4	<0.02	<0.025	>490	570-690	>22	20°C >90 J	-30°C >27 J	
SF 103	AWS/ASME SFA 5.17 F7 AZ EL - 12	SW 701	0.07	0.4	1.20	-	-	475	550	28	0°C > 50 J		
	AWS/ASME SFA 5.17 F7 A0 EM - 12	SW 702	0.08	0.5	1.40	-	-	485	570	30	0°C > 55 J		
SF 104	AWS/ASME SFA 5.17 F6 A0 EL - 12	SW 701	0.07	0.5	1.00	-	-	460	520	30	0°C >75 J	27°C > 27 J	
	AWS/ASME SFA 5.17 F7 A4 EM - 12	SW 702	0.08	0.5	1.30	-	-	460	520	29	0°C >91 J	-40°C > 47 J	

STICK ELECTRODES

Product Name	Standards	Typical Chemical Analysis of All-weld (%)										R _m [N/mm ²]	R _s [N/mm ²]	Elongation %	Charpy Impact Energy ISO-V(J)		Current Type Polarity Welding Positions
		C	Si	Mn	Mo	Ni	Cu	Cr	V	S	P						
EM 140	AWS/ASME SFA-5.1 E 7018 - G EN 499 E 42 4 Z B 42	0.06	0.40	1.00	-	1.00	-	-	-	-	-	>380	500-600	>25	+20°C : 200 J	-40°C : 80 J	
EM 150 W	AWS/ASME SFA-5.5 E 8018 - W2	0.12	0.50	1.00	-	0.80	0.50	0.50	-	-	-	520	580	22	-40°C : 47 J		
EM 150	AWS/ASME SFA-5.5 E 8018 - C3	0.06	0.30	1.10	-	1.00	-	-	-	-	-	500	600	24	-50°C : 70 J	-60°C : 60 J	
EM 160	AWS/ASME SFA-5.5 E 8018 - G	0.06	0.30	1.80	-	0.70	-	-	-	-	-	530	600	22	-50°C : 70 J	-60°C : 60 J	
EM 165	AWS/ASME SFA-5.5 E 9018 - G - H4 EN 757 E 55 5 Mn1NiMo B T 42 H5	0.07	0.30	1.50	0.40	1.00	-	-	-	-	-	570	650	20	-40°C : 70 J	-60°C : 60 J	
EM 170	AWS/ASME SFA-5.5 E 9018 - G - H4	0.08	0.30	1.40	-	0.80	-	-	-	-	-	500	600	24	-40°C : 70 J	-60°C : 60 J	
EM 171	AWS/ASME SFA-5.5 E 8018-C1 EN 499 E 46 6 2 Ni B 42 H5	0.07	0.20	1.10	-	2.60	0.05	-	-	-	-	500	580	25	-60°C : 70 J	-80°C : 50 J	
EM 172	AWS/ASME SFA-5.5 E 8018-C2	0.08	0.30	1.00	-	3.50	-	-	-	-	-	500	570	22	-73°C : 50 J		
EM 175	AWS/ASME SFA-5.5 E 10018-G-H4 EN 757 E 69 4 Mn2NiCrMo B 42 H5	0.06	0.60	1.50	0.40	2.00	-	0.50	-	-	-	720	800	18	-40°C : 75 J	-60°C : 60 J	
EM 176	AWS/ASME SFA-5.5 E 9018-G EN 757 E 62 6 Mn2NiMo B 42	0.06	0.30	1.60	0.40	2.00	-	-	-	-	-	>627	>706	18	+20°C : 69 J		
EM 180	AWS/ASME SFA-5.5 E 11018-G-H4 EN 757 E 69 6 Mn2NiCrMo B 42 H5	0.06	0.30	1.70	0.35	2.00	-	0.50	-	-	-	700	850	18	-40°C : 60 J	-60°C : 40 J	
EM 181	AWS/ASME SFA-5.5 E 11018-M	0.07	0.20	1.60	0.40	2.20	-	0.40	-	-	-	700	780	23	-50°C : 60 J		
EM 201	AWS/ASME SFA-5.5 E 8013-G EN 1599 E Mo R 12	0.08	0.30	0.60	0.50	-	-	-	-	-	-	510	590	25	+20°C : 80 J		
EM 202	AWS/ASME SFA-5.5 E 7018-A1-H8 EN 1599 E Mo B 42 H 10	0.08	0.40	0.80	0.50	-	-	-	-	-	-	520	570	26	+20°C : 125 J		
EM 211	AWS/ASME SFA-5.5 E 8013-G EN 1599 E CrMo 1 R 12	0.07	0.40	0.60	0.50	-	-	1.00	-	-	-	530	610	26	+20°C : 110 J		
EM 212	AWS/ASME SFA-5.5 E 8018-B2-H8 EN 1599 E CrMo 1 B 42 H10	0.07	0.30	0.80	0.50	-	-	1.00	-	-	-	560	630	25	+20°C : 120 J		

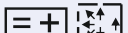
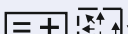
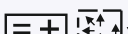
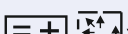
STICK ELECTRODES

Product Name	Standards	Typical Chemical Analysis of All-weld (%)										R _m [N/mm ²]	R _s [N/mm ²]	Elongation %	Charpy Impact Energy ISO-V(J)		Current Type Polarity Welding Positions
		C	Si	Mn	Mo	Ni	Cu	Cr	V	W	Nb						
EM 222	AWS/ASME SFA-5.5 E 9018-B3 EN 1599 E CrMo2 B 32 H 10	0.08	0.30	0.60	1.00	-	-	2.30	-	-	-	470	550	28	-20°C : 60 J	-30°C : 50 J	
EM 235	AWS/ASME SFA-5.5 E 8015-B1 EN 1599 E Cr Mo 5 B	0.07	0.70	0.80	0.60	-	-	5.50	-	-	-	470	520	25	+20°C : 100 J		
EM 243	AWS/ASME SFA-5.5 E 12018-G	0.08	0.30	0.60	0.70	2.50	-	1.00	-	-	-	780	850	16	+20°C : 100 J		
EM 253	AWS/ASME SFA-5.5 E 11018-G	0.07	0.80	0.90	0.50	-	-	3.00	0.50	0.60	-	700	800	18	+20°C : 50 J		
EM 255	EN 1599 E CrMoV 1 42 H10	0.10	0.40	1.00	1.00	-	-	1.30	0.20	-	-	530	630	18	+20°C : 50 J		
EM 290	AWS/ASME SFA-5.5 ~E 9018-B9-H8 EN 1599 ~E CrMo 9 B 42 H10	0.13	0.44	1.14	0.98	0.14	0.17	8.77	0.23	-	0.10	550	640-760	17	+20°C : 75 J		
EM 291	AWS/ASME SFA-5.5 E 9018 B9-H4 EN 1599 E CrMo91 B 42 H5	0.03	0.23	0.88	1.00	0.81	-	9.00	0.33	0.04	0.05	>530	713	22	+20°C : 70 J	-20°C : 27 J	
EM 292	AWS/ASME SFA-5.5 ~E 9018-B9-H4	0.01	0.2	1.1	0.5	-	-	9.0	0.2	1.7	0.05	>530	620-850	17	+20°C > 70 J	-20°C ≥ 27 J	

TIG RODS

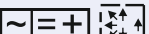
Product Name	Standards	Typical Chemical Analysis of All-weld Metal (%)								R _m [N/mm ²]	R _s [N/mm ²]	Elongation %	Charpy Impact Energy ISO-V(J)	Current Type Polarity Welding Positions
		C	Si	Mn	Mo	Cr	Ni	Nb						
TG 201	AWS/ASME SFA-5.28 ER 80 S - G EN 12070 W Mo Si	0.10	0.60	1.00	0.50	-	-	-	480	590	22	+20°C : 80 J		
TG 201A	AWS/ASME SFA-5.28 ER 80 S - D2	0.05	0.70	1.80	0.45	-	-	-	>520	>590	>25	-29°C : 70 J		
TG 211	AWS/ASME SFA-5.28 ER 80 S - G EN 12070 W Cr Mo 1 Si	0.10	0.60	1.00	0.50	1.10	-	-	510	620	24	+20°C : 80 J		
TG 211A	AWS/ASME SFA-5.28 ER 80 S - B2	0.08	0.55	0.60	0.50	1.30	-	-	550	650	16-20	+20°C : 80 J		
TG 222	AWS/ASME SFA-5.28 ER 90 S - G AWS/ASME SFA-5.28 ~ER 90 S - B3 EN 12070 W Cr Mo 2 Si	0.05	0.60	1.00	1.00	2.50	-	-	480	620	20	+20°C : 80 J		
TG 235	AWS/ASME SFA-5.9 ER 502 EN 12070 W Cr Mo 5	0.05	0.40	0.60	0.60	5.50	-	-	500	650	18	+20°C : 60 J		
TG 295	AWS/ASME SFA-5.28 ER 90S - B9 EN 12070 W Cr Mo 91	0.12	0.3	0.5	0.9	9	0.7	0.055	690	780	21	+20°C : 150 J		

MIG / MAG SOLID WIRES

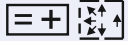
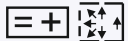
Product Name	Standards		Typical Chemical Analysis of All-weld (%)							R _m [N/mm ²]	R _s [N/mm ²]	Elong. %	Charpy Impact Energy ISO-V(J)		Current Type Polarity Welding Positions
			C	Si	Mn	Mo	Cr	Ni	V						
MG 181	AWS/ASME SFA-5.28 EN 12534	ER 100 S-G G Mn 3 Ni Cr Mo	0.08-0.10	0.60-0.80	1.60-1.80	0.25-0.30	0.55-0.65	0.50-0.60	-	>620	>700	>18	-40°C >40 J		
MG 201	AWS/ASME SFA-5.28 EN 12070	ER 80 S-G G Mo Si	0.08-0.10	0.50-0.70	1.00-1.20	0.45-0.55	-	-	-	480	590	22	+20°C : 80 J		
MG 201A	AWS/ASME SFA-5.28	ER 80 S-D2	<0.08	0.70	1.80	0.50	-	-	-	>500	>550	>25	-29°C : 65 J		
MG 211	AWS/ASME SFA-5.28 AWS/ASME SFA-5.28 EN 12070	ER 80 S-G ~ER 80 S-B2 G Cr Mo 1 Si	0.08	0.60	1.10	0.50	1.15	-	-	510	620	24	+20°C : 80 J		
MG 222	AWS/ASME SFA-5.28 AWS/ASME SFA-5.28 EN 12070	ER 90 S-G ~ER 90 S - B3 G CrMo 2 Si	0.60	0.60	1.00	1.00	2.50	-	-	480	620	20	+20°C : 80 J		



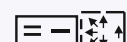
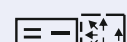
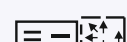
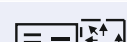
STICK ELECTRODES

Product Name	Standards	Typical Chemical Analysis of All-weld (%)							R _s [N/mm ²]	Elongation %	Charpy Impact Energy ISO-V(J)	Current Type Polarity Welding Positions
		C	Si	Mn	Cr	Ni	Mo	Nb				
EIS 307	AWS/ASME SFA-5.4 ~E 307 - 16 EN 1600 E 18 8 Mn B 22	0.13	0.50	5.00	19.00	9.00	-	-	650	35	+20°C : 70 J	
EI 307	AWS/ASME SFA-5.4 ~E 307 - 15 EN 1600 E 18 8 Mn B 22	0.13	0.50	5.00	19.00	9.00	-	-	650	35	+20°C : 70 J	
EI 307 Mn	AWS/ASME SFA-5.4 ~E 307 - 15 EN 1600 E 18 8 Mn B 22	0.08	0.50	4.00	19.00	9.00	1.00	-	650	35	+20°C : 80 J	
EI 308 L	AWS/ASME SFA-5.4 E 308 L - 16 EN 1600 E 19 9 LR 12	max.0.04	0.70	0.80	19.00	10.00	-	-	600	38	+20°C : 70 J	
EIS 308	AWS/ASME SFA-5.4 E 308-16 EN 1600 E 19 9 R 52	0.07	0.08	0.07	19.00	10.00	-	-	600	40	+20°C : 65 J	
EIS 308 Mo	AWS/ASME SFA-5.4 E 308 Mo-15 EN 1600 E 20 10 3 B 22	0.08	0.05	2.40	19.00	9.00	2.40	-	690	40	+20°C : 70 J	
EIS 309	AWS/ASME SFA-5.4 E 309 - 16 EN 1600 E Z 23 12 R 52	0.10	0.70	0.80	23.00	12.00	-	-	600	35	+20°C : 70 J	
EI 309 L	AWS/ASME SFA-5.4 E 309L - 16 EN 1600 E 23 12 LR 12	0.025	0.90	0.70	24.00	13.00	-	-	600	30	+20°C : 60 J	 
EIS 309 Mo	AWS/ASME SFA-5.4 E 309 Mo - 16	0.04	0.80	1.00	22.00	12.00	2.80	-	600	30	+20°C : 50 J	
EI 309 Mo L	AWS/ASME SFA-5.4 E 309MoL - 16 EN 1600 E 23 12 2 LR 12	0.025	0.90	0.70	22.50	13.50	2.60	-	640	30	+20°C : 50 J	 
EI 310	AWS/ASME SFA-5.4 E 310 - 16 EN 1600 E 25 20 R 12	0.10	0.40	1.40	25.00	20.00	-	-	580	35	+20°C : 70 J	
EI 310 B	AWS/ASME SFA-5.4 E 310 - 15 EN 1600 E 25 20 B 12	0.10	0.30	2.00	25.00	20.00	-	-	600	35	+20°C : 100 J	
EI 312	AWS/ASME SFA-5.4 E 312 - 16 EN 1600 E 29 9 R 12	0.10	0.90	1.00	29.00	10.00	-	-	810	24	+20°C : 50 J	 
EIS 316	AWS/ASME SFA-5.4 E 316 - 16 EN 1600 E 19 12 3 R 53	0.05	0.70	0.80	19.00	12.00	3.00	-	600	35	+20°C : 65 J	
EI 316 L	AWS/ASME SFA-5.4 E 316L - 16 EN 1600 E 19 12 3 LR 32	max.0.04	0.70	0.80	19.00	12.00	2.60	-	560	37	+20°C : 70 J	
EI 316 LB	AWS/ASME SFA-5.4 E 316L-15 EN 1600 E 19 12 3 LB 32	max.0.04	0.30	1.80	18.00	12.00	2.60	-	575	32	+20°C : 70 J	
EI 318	AWS/ASME SFA-5.4 E 318 - 16 EN 1600 E 19 12 3 Nb R 32	0.04	0.70	0.80	19.00	12.00	2.50	0.35	570	32	+20°C : 70 J	
EI 347	AWS/ASME SFA-5.4 E 347 - 16 EN 1600 E 19 9 Nb R 32	0.04	0.80	0.80	19.00	10.00	-	0.35	600	35	+20°C : 70 J	

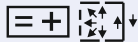
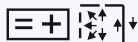
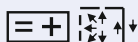
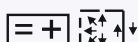
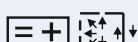
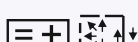
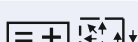
STICK ELECTRODES

Product Name	Standards	Typical Chemical Analysis of All-weld (%)							R _m [N/mm ²]	Elongation %	Charpy Impact Energy ISO-V(J)		Current Type Polarity Welding Positions
		C	Si	Mn	Cr	Ni	Mo	Nb					
EIS 410	AWS/ASME SFA-5.4 E 410 - 15 EN 1600 E Z 13 1 B 42	0.06	0.50	0.80	13.00	0.80	-	-	735	23	+20°C : 50 J		
EIS 410 NiMo	AWS/ASME SFA-5.4 E 410 NiMo-15 EN 1600 E 13 4 B 42	0.06	0.50	0.80	12.00	4.00	0.50	-	850	17	+20°C : 47 J		
EI 2209	AWS/ASME SFA-5.4 E 2209 - 16 EN 1600 E 22 9 3 LR 12	0.03	0.5-0.9	0.5-1.5	21-23	8-10	2.50-3.00	0.10-0.16	700	25	+20°C > 47 J	-20°C > 35 J	

TIG ELECTRODES

Product Name	Standards		Typical Chemical Analysis of All-weld Metal (%)							R _m [N/mm ²]	R _e [N/mm ²]	Elong. %	Charpy Impact Energy ISO-V(J)	Current Type Polarity Welding Positions
			C	Si	Mn	Cr	Ni	Mo	Nb					
TI 308 L	AWS/ASME SFA-5.9 EN 12072	ER 308 L W 19 9 L	< 0.03	0.30-0.65	1.0-2.5	19.5-22.0	9.0-11.0	-	-	420	620	36	+20°C : 135 J	
TI 309 L	AWS/ASME SFA-5.9 EN 1600	ER 309 L W 23 12 L	< 0.03	0.30-0.65	1.0-2.5	23.0-25.0	12.0-14.0	-	-	>400	550-650	>30	+20°C : 47 J	
TI 310	AWS/ASME SFA-5.9 EN 12072	ER 310 W 25 20	0.08-0.15	0.30-0.65	1.0-2.5	25.0-28.0	20.0-22.5	0.75	-	380	630	32	+20°C : 80 J	
TI 316 L	AWS/ASME SFA-5.9 EN 12072	ER 316 L W 19 12 3 L	< 0.03	0.30-0.65	1.0-2.5	18.0-20.0	11.0-14.0	2.0-3.0	-	450	620	33	+20°C : 130 J	
TI 318	AWS/ASME SFA-5.9 EN 12072	ER 318 W 19 12 3 Nb	< 0.08	< 0.65	1.0-2.5	18.0-20.0	11.0-14.0	2.0-3.0	<1.0	480	640	32	+20°C : 130 J	
TI 347	AWS/ASME SFA-5.9 EN 12072	ER 347 W 19 9 Nb	< 0.08	0.30-0.65	1.0-2.5	19.0-21.5	9.0-11.0	-	<1.0	>350	570-670	>30	+20°C : 65 J	

MIG SOLID WIRES

Product Name	Standards		Typical Chemical Analysis of All-weld (%)							R _m [N/mm ²]	R _s [N/mm ²]	Elongation %	Charpy Impact Energy ISO-V(J)	Current Type Polarity Welding Positions
			C	Si	Mn	Cr	Ni	Mo	Nb					
MI 307 Si	AWS/ASME SFA-5.9 EN 12072	~ER 307 G 18 8 Mn	< 0.20	0.65-1.00	4.5-7.5	17.0-20.0	7.0-10.0	-	-	>350	560-660	>40	+20°C : 100 J	
MI 308 LSi	AWS/ASME SFA-5.9 EN 12072	ER 308 LSi G 19 9 LSi	< 0.03	0.65-1.00	1.0-2.5	19.5-22.0	9.0-11.0	-	-	>400	580	38	+20°C : 80 J	
MI 309 LSi	AWS/ASME SFA-5.9 EN 12072	ER 309 LSi G 23 12 LSi	< 0.03	0.65-1.00	1.0-2.5	23.0-25.0	12.0-14.0	-	-	>400	600	>30	+20°C : 47 J	
MI 310	AWS/ASME SFA-5.9 EN 12072	ER 310 G 25 20	0.08-0.15	0.30-0.65	1.0-2.5	25.0-28.0	20.0-22.5	-	-	360	600	35	+20°C : 70 J	
MI 312	AWS/ASME SFA-5.9 EN 12072	ER 312 G 29 9	< 0.15	0.30-0.65	1.0-2.5	28.0-32.0	8.0-10.5	-	-	550	750	25	+20°C : 80 J	
MI 316 LSi	AWS/ASME SFA-5.9 EN 12072	ER 316 LSi G 19 12 3 LSi	< 0.03	0.65-1.00	1.0-2.5	18.0-20.0	11.0-14.0	2.0-3.0	-	390	550	36	+20°C : 65 J	
MI 347	AWS/ASME SFA-5.9 EN 12072	ER 347 G 19 9 Nb	< 0.08	0.30-0.65	1.0-2.5	19.0-21.50	9.0-11.0	-	<1.00	430	620	32	+20°C : 80 J	



STICK ELECTRODES

Product Name	Standards	Typical Chemical Analysis of All-weld (%)				R _m [N/mm ²]	R _s [N/mm ²]	Elongation %	Current Type Polarity Welding Positions
		Al	Si	Fe	Cu				
EAL 1100	AWS/ASME SFA-5.3 E 1100	>99.5	-	-	-	75	115	26	
EAL 4043	AWS/ASME SFA-5.3 E 4043	93.80	5.20	0.80	0.20	40	120	>8	
EAL 4047	AWS/ASME SFA-5.3 E 4047	87.00	12.00	0.80	0.20	165	283	7	

TIG RODS

Product Name	Standards	Typical Chemical Analysis of All-weld Metal (%)								R _m [N/mm ²]	R _s [N/mm ²]	Elongation %	Current Type Polarity Welding Positions
		Al	Si	Fe	Cu	Mg	Mn	Cr	Ti				
TAL 1100	AWS/ASME SFA-5.10 ER 1100	99.50	-	-	-	-	-	-	-	>20	>65	>35	
TAL 4043	AWS/ASME SFA-5.10 EN ISO 18273 ER 4043 R 4043A	94.00	5.00	0.40	-	0.05	0.05	-	0.15	>40	>120	>8	
TAL 4047	AWS/ASME SFA-5.10 EN ISO 18273 ER 4047 R 4047A	88.00	12.00	0.60	0.20	-	0.15	-	-	>60	>130	>5	
TAL 5183	AWS/ASME SFA-5.10 EN ISO 18273 ER 5183 R 5183	rest	0.15	0.40	-	4.3-5.2	0.50	0.05	0.10	>120	>250	>16	
TAL 5356	AWS/ASME SFA-5.10 EN ISO 18273 ER 5356 R 5356	94.00	0.10	0.40	-	5.00	0.15	0.13	0.10	>110	>235	>17	

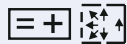
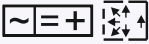
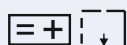


MIG WIRES

Product Name	Standards		Typical Chemical Analysis of All-weld (%)						R _m [N/mm ²]	R _s [N/mm ²]	Elongation %	Current Type Polarity Welding Positions
			Al	Si	Fe	Mg	Mn	Cr				
MAL 1100	AWS/ASME SFA-5.10 EN ISO 18273	~ER 1100 R Al 99.5	>99.35	<0.25	<0.40	-	-	-	>20	>65	>35	 
MAL 4043	AWS/ASME SFA-5.10 EN ISO 18273	ER 4043 R 4043A	rest	4.5-5.5	-	-	-	-	>40	>120	>8	 
MAL 4047	AWS/ASME SFA-5.10 EN ISO 18273	ER 4047 R 4047A	rest	11-13	-	-	-	-	>60	130	>5	 
MAL 5183	AWS/ASME SFA-5.10 EN ISO 18273	ER 5183 R 5183	rest	-	-	4.3-5.2	0.6-1.0	0.05-0.25	>125	>275	>17	 
MAL 5356	AWS/ASME SFA-5.10 EN ISO 18273	ER 5356 R 5356	rest	-	-	4.5-5.5	0.1-0.2	0.05-0.20	>110	>235	>17	 



STICK ELECTRODES

Product Name	Standards	Typical Chemical Analysis of All-weld (%)								R _m [N/mm ²]	R _s [N/mm ²]	Elongation %	Hardness HB	Current Type Polarity Welding Positions
		Cu	Sn	Al	Mn	Si	Fe	Others						
ECu	AWS/ASME SFA-5.6 E Cu	99	-	-	-	-	-	1	80	200	34	50		
ECu Sn 7	AWS/ASME SFA-5.6 E Cu Sn - C	92	7	-	-	-	-	1	130	290	-	110		
ECu Al 8	AWS/ASME SFA-5.6 E Cu Al - A2	91	-	7.5	0.5	0.5	0.5	-	180	410	-	125		

TIG RODS

Product Name	Standards	Typical Chemical Analysis of All-weld (%)				R _m [N/mm ²]	R _s [N/mm ²]	Elongation %	Hardness HB	Current Type Polarity Welding Positions
		Cu	Al	Mn	Ni					
TCu Al 8	AWS/ASME SFA-5.7 ER Cu Al - A1	>88.9	8.5	<1.8	<0.8	200	380-450	>45	60-80	

MIG WIRES

Product Name	Standards	Typical Chemical Analysis of All-weld (%)								R _m [N/mm ²]	R _s [N/mm ²]	Elongation %	Hardness HB	Current Type Polarity Welding Positions
		Cu	Sn	Al	Mn	Si	Fe	Ni						
MCu Sn	AWS/ASME SFA-5.7 ER Cu	rest	0.8	-	0.2	0.2	-	-	100	220	30	80		
MCu Sn 6	AWS/ASME SFA-5.7 ER Cu Sn - A	rest	6.5	-	-	-	-	-	160	280	25	90		
MCu Al 8	AWS/ASME SFA-5.7 ER Cu Al - A1	rest	-	8.0	1.0	-	0.4	0.8	200	430	40	90		
MCu Si 3	AWS/ASME SFA-5.7 ER CuSi-A	rest	0.1	-	1.0	3	0.07	-	120	350	40	80		

NICKEL ALLOY ELECTRODES

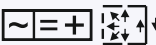
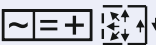
Product Name	Standards	Typical Chemical Analysis of All-weld (%)												Hardness HB	R _m [N/mm ²]	R _s [N/mm ²]	Elong. %	Impact Toughness ISO-V(J)	Current Type Polarity Welding Positions
		Ni	Cu	Fe	C	Si	Mn	Cr	Mo	W	Co	Nb	Others						
ENI 400	AWS/ASME SFA-5.15 E Ni - Cl	98	-	-	-	-	-	-	-	-	-	-	2	~160	-	-	-	-	
ENI 402	AWS/ASME SFA-5.15 E Ni - Cl	98	-	-	-	-	-	-	-	-	-	-	2	~160	-	-	-	-	
ENI 404	AWS/ASME SFA-5.15 E NiCu - B	64	32	-	-	-	-	-	-	-	-	-	4	~160	-	-	-	-	
ENI 406	AWS/ASME SFA-5.15 E NiCu - B	64	32	-	-	-	-	-	-	-	-	-	4	~160	-	-	-	-	
ENI 416	AWS/ASME SFA-5.15 E NiFe - C I	55	-	43	1.00	0.60	0.40	-	-	-	-	-	-	~210	-	-	-	-	
ENI 420	AWS/ASME SFA-5.11 E Ni Cu - 7	65.4	30	1.5	0.10	-	2.50	-	-	-	-	-	-	-	320	500	40	+20°C:120J	
ENI 422	AWS/ASME SFA-5.11 E Ni Cr Fe - 3 EN ISO 14172 E Ni 6182	>68	-	6.0	0.04	0.40	6.00	16.50	0.20	-	-	2.00	-	-	>380	>620	>35	+20°C > 80J -196°C > 65J	
ENI 424	AWS/ASME SFA-5.11 E Ni Cr Mo-4	rest	-	6.5	0.02	1.00	0.50	15.00	15.00	3.10	1.40	-	-	AW:200 WH:375-420	520 -	720 -	33 -	-	



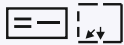
COVERED ELECTRODES

Product Name	Standards	Typical Chemical Analysis of All-weld (%)												Hardness	Current Type Polarity Welding Positions
		C	Si	Mn	Cr	Ni	Mo	V	W	Nb	B	Co	Fe		
EH 245	AWS/ASME SFA-5.13 E Fe Mn - A DIN 8555 E7-UM-200 KP	0.70	-	12.00	-	3.00	-	-	-	-	-	-	rest	AW:200 HB WH:400-450 HB	 
EH 330	DIN 8555 E1 - UM - 300	0.10	0.70	0.90	3.00	-	-	-	-	-	-	-	rest	300 HB	 
EH 340	DIN 8555 E1 - UM - 400	0.17	0.90	0.40	2.70	0.10	0.40	-	-	-	-	-	rest	42 HRc	 
EH 360 R	DIN 8555 E 6 UM-60 (65W) T	0.40	0.50	0.30	7.00	-	-	0.50	-	-	-	-	rest	59 HRc	  
EH 360 B	DIN 8555 E 6 UM-60 (65W) T	0.40	0.50	0.30	7.00	-	-	0.50	-	-	-	-	rest	59 HRc	 
EH 380	AWS/ASME SFA-5.13 E Fe 5 - B DIN 8555 E 4 UM 60 (65) S	1.00	1.00	1.30	5.00	-	8.00	2.50	1.90	-	-	-	rest	AW:57-63 HRc AHT:62-66 HRc	 
EH 515	DIN 8555 E 10 - UM - 60 CR	4.30	-	0.30	35.00	-	-	-	-	-	-	-	rest	60 HRc	 
EH 528	DIN 8555 E 10 - UM - 65 GR	7.00	-	-	24.00	-	-	-	-	7.00	-	-	rest	1st pass 62 HRc 2nd pass 63 HRc 3rd pass 64 HRc	 
EH 540	DIN 8555 E 10 - UM - 65 GR	6.00	1.00	-	22.00	-	6.00	1.00	2.00	6.00	-	-	rest	65 HRc	 
EH 531	AWS/ASME SFA-5.13 E Fe Cr - A2 DIN 8555 E 10-UM-65 GRZ	4.20	1.30	0.30	31.00	-	-	-	-	-	1.20	-	rest	65 HRc	 
EH 801	AWS/ASME SFA-5.13 E Co Cr - C DIN 8555 E 20 UM-55 CTZ	2.30	1.00	1.00	32.00	-	-	-	13.00	-	-	rest	-	55 HRc	 
EH 806	AWS/ASME SFA-5.13 E Co Cr - A DIN 8555 E 20 UM-45 CTZ	1.00	1.00	1.00	27.00	-	-	-	5.00	-	-	rest	-	43 HRc	 
EH 812	AWS/ASME SFA-5.13 E Co Cr - B DIN 8555 E 20 UM-50 CTZ	1.80	1.00	1.00	30.00	-	-	-	9.00	-	-	rest	-	52 HRc	 

CUTTING AND GOUGING ELECTRODES

Product Name	Standards	Applications	Materials	Current Type Polarity Welding Positions
ECUT S		Covered Electrode cutting and gouging	Non-alloy steels, low alloy steels, stainless steels, Mn 'ed steels, armor plates, cast iron, aluminum, materials.	
ECUT		Covered Electrode for cutting		
EGOUGE		Covered Electrode for gouging		

TIG VE OXY-GAS RODS

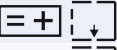
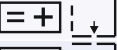
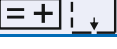
Product Name	Standards	Typical Chemical Analysis of All-weld Metal (%)								Hardness	Current Type Polarity Welding Positions
		C	Si	Mn	Cr	Ni	W	Fe	Co		
TH 801	AWS/ASME SFA-5.13 R CoCr-C DIN 8555 WSG 20 GO 55 CTZ	2.5	1.0	1.0	28	2.0	12.0	3.5	50.0	55 HRc	
TH 806	AWS/ASME SFA-5.13 R CoCr-A DIN 8555 WSG 20 GO 45 CTZ	1.2	1.0	1.0	28	2.0	5.0	3.5	58.3	45 HRc	
TH 812	AWS/ASME SFA-5.13 R CoCr-B DIN 8555 WSG 20 GO 50 CTZ	1.6	1.0	1.0	29	2.0	8.5	3.5	53.4	50 HRc	
TCARBIDE 3000	DIN 8555 G 21 UM 65 G	Ni-Cr-B-Si matrix + tungsten carbids (WC, WC)								Matrk : 40 - 45 HRc / 3000 HV	



FLUX CORED WIRES

Product Name	Standards		Typical Chemical Analysis of All-weld (%)													Hardness	Current Type Polarity Welding Positions
			C	Si	Mn	Cr	Ni	Mo	V	W	Nb	B	Co	Ti	Fe		
FCH 330	DIN 8555	MSG 1 GF C1 300 MSG 1 GF M21 300	0.15	0.50	1.50	1.60	-	-	-	-	-	-	-	-	rest	300 HB	
FCH 355	DIN 8555 DIN 8555	MSG 6 GF C1 55 GP MSG 6 GF M21 55 GP	0.55	0.70	1.50	5.50	-	0.40	-	-	-	-	-	-	rest	52 - 57 HRc	
FCH 360	DIN 8555 DIN 8555	MSG 6 GF C1 60 GP MSG 6 GF M21 60 GP	0.60	0.70	1.60	5.00	-	0.40	-	-	-	-	-	-	rest	59 HRc	
FCH 371	EN 14700	T Z Fe 8	1.20	1.00	1.00	6.00	-	0.20	-	0.25	7.00	-	-	-	rest	58 HRc	
FCH 801	DIN 8555 MF 20 GF 55 CTZ		2.50	1.00	1.00	28.00	2.00	-	-	11.50	-	-	rest	-	3.50	51-55 HRc	
FCH 806	DIN 8555 MF GF 45 CTZ		1.20	0.80	0.80	28.00	-	-	-	5.00	-	-	rest	-	5.50	42-43 HRc	
FCH 812	DIN 8555 MF 20 GF 50 CTZ		1.60	1.00	1.00	28.50	2.00	-	-	8.50	-	-	rest	-	3.50	45-49 HRc	
FCO 240	DIN 8555 MF 8 GF 150/400 KPZ		0.10	0.30	6.50	18.00	8.00	-	-	-	-	-	-	-	rest	A.W. 160 HB / W.H. 400 HB	
FCO 245	DIN 8555 MF 7 GF 200/450 KP		1.10	0.30	0.30	3.50	0.40	-	-	-	-	-	-	-	rest	A.W. 200 HB / W.H. 450 HB	
FCO 250	DIN 8555 MF 7 GF 200/50 KP		0.40	0.45	16.50	13.00	-	-	-	-	-	-	-	-	rest	A.W. 200 HB / W.H. 450 HB	
FCO 330	DIN 8555 MF 1 GF 300 GP		0.10	0.70	1.50	0.50	-	0.30	-	-	-	-	-	0.95	rest	310 HB	
FCO 356	DIN 8555 MF 6 GF 55 G		0.45	0.50	1.50	5.80	-	1.50	-	1.40	-	-	-	-	rest	58 HRc	
FCO 370	DIN 8555	MF 10 GF 60 GP	1.60	0.40	0.90	6.00	-	1.30	-	-	-	-	-	4.70	rest	57 HRc	
FCO 435	DIN EN 14700 DIN 8555	T Fe 7-40-CPT MF 5-40-CPT	1.15	0.35	0.80	18.50	5.50	1.00	0.35	-	0.20	-	-	-	rest	43 HRc	
FCO 510	DIN 8555	MF 10 GF 65 C	5.50	1.40	0.20	27.00	-	-	-	-	-	-	-	-	rest	62 HRc	
FCO 531	DIN 8555	MF 10 GF 65 G	4.30	0.90	0.80	26.00	-	-	-	-	-	0.40	-	-	rest	62 HRc	
FCO 528	DIN 8555	MF 10 GF 65 G	5.00	1.50	0.30	21.00	-	-	-	-	7.00	0.90	-	-	rest	63 HRc (1st pass)	
FCO 540	DIN 8555	MF 10 GF 65 GT	5.50	0.80	0.20	21.00	-	6.50	1.00	1.90	6.50	-	-	-	rest	63 HRc@20°C 54 HRc@550°C 50 HRc@600°C	

SAW FLUXES

Product Name	Standards	Welding Wire Added	Typical Chemical Analysis of All-weld (%)					Hardness	Current Type Polarity Welding Positions
			C	Si	Mn	Cr	Mo		
SF 525	EN 760 SACS 3 97 CCr Mo AC	SW 702	0.10	0.50	1.30	0.30	0.10	220 HB	
SF 535	EN 760 SACS 3 99 CCr Mo AC	SW 702	0.10	0.60	1.50	1.20	0.20	260 HB	
SF 545	EN 760 SACS 3 87 CCr Mo AC	SW 702	0.14	0.40	1.20	1.90	0.10	400 -500 HB	

STICK ELECTRODES
INNER CARDBOARD BOX


Box Type	Height (mm)	Width (mm)	Length (mm)	Average Weight (kg)
M300	41	62	302	2,25
M350	41	62	352	2,50
B350	60	80	352	5,00
B450	63	80	452	6,50
K300	36	62	302	1,75
K350	36	62	352	2,00
O350	39	82	352	3,50

OUTER CARDBOARD BOX


Box Type	Height (mm)	Width (mm)	Length (mm)	Average Weight (kg)
MK300	116	215	330	13,50
MK300P	150	222	325	12,00
MK350	70	275	365	15,00
MK350P	150	222	370	15,00
BK350	68	260	365	15,00
BK350P	91	270	370	15,00
KK300	116	215	330	15,75
KK350	116	215	380	18,00
KK400	110	205	430	20,25
OK350	86	175	375	21,00

PLASTIC BOX


Box Type	Length (mm)	Diameter (ø mm)	Average Weight (kg)
PS35-1	350	65	2,50
PS35-2	350	84	4,50
PS45-2	450	84	6,50

TIN BOX


Box Type	Height (mm)	Width (mm)	Length (mm)	Average Weight (kg)
B350T	100	100	355	11,00

MIG/MAG AND FLUX CORED WIRES

M1

D100



Spool Type	Box Type	Inner Diameter (mm)	Width (mm)	Net Weight (kg)
D100	M1	16,5	100	1

M2

D200



Spool Type	Box Type	Inner Diameter (mm)	Width (mm)	Net Weight (kg)
D200	M2	52	200	5

M3

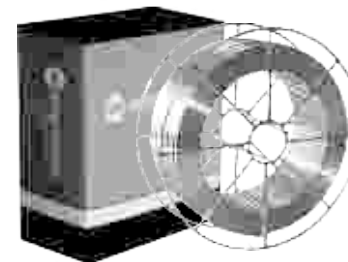
D300



Spool Type	Box Type	Inner Diameter (mm)	Width (mm)	Net Weight (kg)
D300	M3	52	300	15

M3

K300MS



Spool Type	Box Type	Inner Diameter (mm)	Width (mm)	Net Weight (kg)
K300MS	M3	52	300	15

M3

K300



Spool Type	Box Type	Inner Diameter (mm)	Width (mm)	Net Weight (kg)
K300	M3	180	300	15

MIG/MAG AND FLUX CORED WIRES

DR110



Drum Type	Height (mm)	Width (mm)	Net Weight (kg)
DR110	200	500	50

DR500 / DR800



Drum Type	Height (mm)	Width (mm)	Net Weight (kg)
DR500	800	510	250
DR800	1000	610	400
DR880	1000	600	400

SAW WIRES & FLUXES

M4



K435

Spool Type	Box Type	Inner Diameter (mm)	Width (mm)	Net Weight (kg)
K435	M4	300	345	25

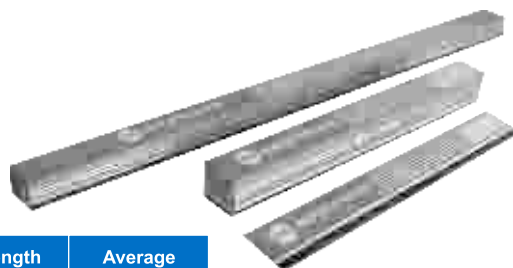
DR600 / DR1100

Drum Type	Height (mm)	Width (mm)	Net Weight (kg)
DR600	1000	615	400
DR1100	950	660	500
DR1000	1054	1055	1000



TIG & OXY-FUEL GAS WELDING WIRES / BRAZING WIRES

CARDBOARD BOXES



Box Type	Height (mm)	Width (mm)	Length (mm)	Average Weight (kg)
TK1000	40	60	1040	5
TB1000	100	140	1110	20
T1000	30	46	1010	2,5-5
T500	46	46	510	1-2,5
TK500	40	60	540	1-2,5

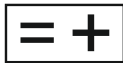
SAW WIRES & FLUXES

BAGS



Plastic Bag Type	Height (mm)	Width (mm)	Gross Weight (kg)
TP25	70	50	25

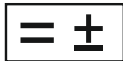
POLARITY



Direct current: (DC),
electrode connected to positive pole



Direct current: (DC),
electrode connected to negative pole



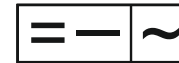
Direct current: (DC),
electrode connected to negative or positive pole



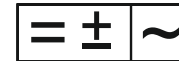
Alternative current: (AC)



Direct current (DC) preferred,
electrode connected to positive pole; AC



Direct current (DC) preferred,
electrode connected to negative pole; AC



Direct current (DC) preferred,
electrode connected to positive or negative pole; AC



Alternating current (AC) preferred,
electrode connected to positive pole; AC

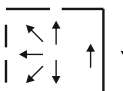


Alternating current (AC) preferred,
electrode connected to negative pole; AC

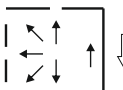


Covered electrodes suitable for 230 V lighting
current transformer and transformers with

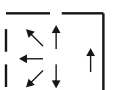
WELDING POSITIONS



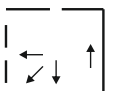
w, h, s, q, hũ, ü, f = all positions



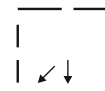
w, h, s, q, hũ, ü = all positions, vertical-down
conditionally



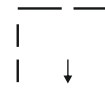
w, h, s, q, hũ, ü = all positions, except vertical-down



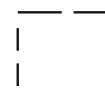
w, h, s, q = all positions, except vertical-down
and overhead



w, h = flat butt and filled welds only



w = flat butt welds only



f = vertical-down only

AWS	1G	2F	2G	4F	4G	5G	5G
EN 287	PA	PB	PC	PD	PE	PF	PG
DIN 8560	w	h	q	hũ	ü	s	f

PRODUCTS	CE (0035-CPD-C610)	DB	TÜV	ABS	BV	DNV	GL	LR	RINA	TL	CWB
ESR 11	EN ISO 2560 E 38 0 RC	E 38 0 RC	EN ISO 2560 E 38 0 RC	-	grade 2	-	-	-	-	-	-
ESR 13	EN ISO 2560 E 42 0 RR	E 42 0 RR	EN ISO 2560 E 42 0 RR	-	grade 2	-	-	-	-	-	W 48-06 E 4313
ESR 14	-	-	-	-	-	-	-	-	-	-	W 48-06 E 4314
ESA 20	-	-	-	-	-	3 Y	-	-	-	-	-
ESR 35	-	EN ISO 2560 E 38 2 RB	EN ISO 2560 E 38 2 RB	-	-	-	-	-	-	-	-
ESB 44	EN ISO 2560 E 38 2 B	E 38 2 B	EN ISO 2560 E 38 2 B	-	-	grade 3YH10	-	-	-	-	-
ESB 48	EN ISO 2560 E 42 3 B	E 42 3 B	EN ISO 2560 E 42 3 B	grade 3Y	grade 3YHH	grade 3YH10	-	-	grade 3YH10	-	W 48-06 E 4918-H8
ESB 50	EN ISO 2560 E 42 3B 42	E 42 3B 42	EN ISO 2560 E 42 3B 42	3YH10	grade 3YH	-	grade 3Y	-	grade 3YH10	grade 3YH10	-
ESB 52	EN ISO 2560 E 42 6B 42 H5	E 42 6 B	EN ISO 2560 E 42 6B 42 H5	grade 3YH10	grade 3Y	3YH5	grade 3YH5	3YH5	-	-	W 48-06 E 4918-1
ESC 60	EN ISO 2560 E 35 2 C 21	E 352 C	EN ISO 2560 E 42 2 C 21	grade 3	grade 3	-	-	-	-	-	W 48-06 E 4310
ESC 61	-	-	-	-	-	-	-	-	-	-	W 48-06 E 4311
ESH 180 R	EN ISO 2560 E 38 A RR	-	-	-	grade 1	-	-	-	-	-	-
EI 307	EN 1600 E 18 8 Mn B	E 18 8 Mn B	EN 1600 E 18 8 Mn B	-	-	-	-	-	-	-	-
EI 308 L	EN 1600 E 19 9 LR	-	EN 1600 E 19 9 LR	-	-	-	-	-	-	-	W 48-06 E 308L-16
EI 309 L	EN 1600 E 23 12 LR	E 23 12 LR	EN 1600 E 23 12 LR	-	E 309 L	-	E 309L	-	-	-	-
EI 312	EN 1600 E 29 9 R	-	EN 1600 E 29 9 R	-	-	-	-	-	-	-	-

For latest updates of approvals & certificates please refer to our website.

CE : Council of European Communities
TÜV : Technische Überwachungs Verein
DB : Deutsche Bundesbahn
CWB : Canadian Welding Bureau
TSE : Türk Standardları Enstitüsü

ABS : American Bureau of Shipping
DNV : Det Norske Veritas
BV : Bureau Veritas
RINA : Registro Italiano Navale

GL : Germanischer Lloyds
LR : Lloyds Register of Shipping
TL : Türk Loydu

PRODUCTS	CE (0035-CPD-C610)	DB	TÜV	ABS	BV	DNV	GL	LR	RINA	TL	CWB
EI 316 L	EN 1600 E 19 12 3 LR	-	EN 1600 E 19 12 3 LR	-	E 316 L	-	E 316 L	-	-	-	W 48-06 E 316L-16
EI 318	EN 1600 E 19 12 3 Nb R	-	EN 1600 E 19 12 3 Nb R	-	-	-	-	-	-	-	-
EI 347	EN 1600 E 19 9 Nb R	-	EN 1600 E 19 9 Nb R	-	-	-	-	-	-	-	-
MG 1	-	-	-	-	-	-	-	-	-	-	W 48-06 ER49S-3
MG 2	EN ISO 14341 G 46 4 M G3 Si 1	G3Si1	EN ISO 14341 G3 Si1	-	-	grade 3YMS	grade 3YMS	-	grade 3YS	-	W 48-06 ER49S-6
MG 3	EN ISO 14341 G 46 4 M G4 Si1 G 42 4 C G4 Si1	G4Si1	EN ISO 14341 G4 Si1	-	-	-	-	-	-	-	-
FCW 11	EN 758 T 42 2 P C 1 T 46 2 P M 1	T 42 2 P C 1	EN 758 T 42 2 P C 1 T 46 2 P M 1	grade 3YSA	grade 3YSA	3SA 3YSA H10	3SA 3YSA H10	-	3SA 3YSA H10	3SA 3YSA H10	W 48-06 E 49T1-1
FCW 30	-	-	EN ISO 17632 T 424 BM 3	-	-	-	-	-	-	3SA 3YSA H5	-
TI 316L	-	-	-	-	ER 316 L	-	ER 316 L	-	-	-	-
TI 309L	-	-	-	-	ER 309 L	-	ER 309 L	-	-	-	-
TG 2	-	-	EN ISO 636 W3 Si 1	-	3 Y	-	3 Y	-	-	-	-
FCW 21	-	-	EN ISO 17632 T 424 PM1	-	-	-	-	-	-	-	-
FCW 201	-	-	EN ISO 17634 T MoL PM1	-	-	-	-	-	-	-	-
ESR 13M	-	-	EN ISO 2560 E 35 AR 12	-	-	-	-	-	-	-	-
MG 201	-	-	EN ISO 21952 G MoSi EN ISO 14341 G2 Mo	-	-	-	-	-	-	-	-
TG 201	-	-	EN ISO 21952 W MoSi	-	-	-	-	-	-	-	-

Monostick 160i

- Single phase portable MMA (SMAW) DC Welding Inverter.
- Excellent arc characteristics with all types of electrodes up to 4mm (5/32").
- Low Energy consumption.
- Works with Generator Sets and long cables.
- Fan Cooled and Thermally Protected against overloading.
- Light but rugged design.

Monotig 160ip

- Single phase portable DC TIG and MMA (SMAW) Welding Inverter.
- Easy Arc Striking with HF or Arc Lifting.
- Enhanced professional TIG Controls; Such as Pre-gas, Slope-up, **Pulse**, Slope-down, Post-gas & Crater Filling.
- Up to 10 Program Storage.
- Easy Monitoring of Welding Parameters with Digital Display.
- Fan Cooled and Thermally Protected against overloading.

Monomag 180

- Single Phase Traditional MIG/MAG (GMAW) equipment.
- Low Spatter even with CO₂ gas.
- 2/4 Stroke, Burnback & Post Gas flow controls.
- Fan Cooled and Thermally Protected against Overloading.
- Running Gear, Lockable Wheels & Gas Cylinder Rack.



Technical Properties	Monostick 160i	Monotig 160ip	Monomag 180
Line Voltage(1 phase)	115-230 V / 50-60 Hz	115-230 V / 50-60 Hz	230 V / 50 Hz
Input Power (25%)	7.2 kVA	7.2 kVA	6.2 kVA
Input Current (25%)	31.5 A	31.5 A	28 A
Recommended Line Fuse	25 A	25 A	32 A
Welding Current Range	10-160 ADC	10-160 ADC	30-140 ADC
Rated Welding Current (25%)	150 ADC	150 ADC	140 ADC
Max. Open Circuit Voltage	75 VDC	75 VDC	14-29 VDC
Voltage Adjustment Steps	-	-	7
Electrode / Wire Range	2.0-4.0 mm	1.6-2.4 mm	0.6-0.9 mm
Dimensions (l x w x h)	405x160x312 mm	550x160x312 mm	888x455x870 mm
Weight	7.8 kg	10.5 kg	79 kg
Protection Class	IP 23S	IP 23S	IP 21
Wire Feeding Roll Size	-	-	V grooved 0.6/0.8 mm
Wire Feeding Speed	-	-	1-17 m/min.
Standard Accessories	Product Code		Product Code
Work Clamp and Cable (16mm ² 3m)	K301100203		K301100203
Electrode Holder with Cable (16mm ² 3m)	K301000203		-
Torch	-		K301500002
Optional Accessories	Product Code	Product Code	Product Code
Torch Abitig 200 (200 A 35% DC-4m)	-	S510032004	-
Gas Pressure Regulator (Ar-CO ₂)	-	S520001002	S520001002
CO ₂ Heater	-	-	S520009002
Torch Sintig 18W-4 (320 A 100% DC-4m)	-	S510031211	-
Torch Sintig 18W-8 (320 A 100% DC-8m)	-	S510031212	-
Water Cooling Unit (CS 200)	-	K307000010	-

MMA

- Rugged design for DC MMA welding of all type of metals at construction sites where severe conditions such as excessive heat or cold, humidity and dust exist.
- Excellent welding characteristics with all types of electrodes including cellulosic. Models over 400 A are good for carbon gouging.
- Simple & Easy operation to save training time.
- While welding current adjustment is by a potentiometer at RA models, this is done by a turning arm at TD & GL models. Optionally remote current control is possible for RA models.
- Due to telescopic arms and big wheels it is easy to move across the construction site. Racking is possible.
- Fan cooled and thermally protected against overheating.
- Digital V/A meters, Hot Start & Arc Force control at RA models.
- Possible changes on welding parameters due to line voltage fluctuations, long welding cable usages, cabinet temperature changes are automatically compensated to assure welding at desired parameters at RA models.



Technical Properties	TD 355	GL 451	GL 600	RA 300 E	RA 400 E	RA 650 E
Line Voltage (3 Phase)	380 V / 50 Hz	380 V / 50 Hz	380 V / 50 Hz	380 V / 50 Hz	380 V / 50 Hz	380 V / 50 Hz
Input Power (35%)	20 kVA	27 kVA	35 kVA	17.1 kVA	25 kVA	45 kVA
Input Current (35%)	31 A	41 A	53 A	28 A	38 A	68 A
Recommended Line Fuse	3x32 A	3x63 A	3x80 A	3x32 A	3x40 A	3x80 A
Welding Current Range	60-350 ADC	60-450 ADC	90-600 ADC	10-300 ADC	20-400 ADC	20-650 ADC
Rated Welding Current (35%)	350 ADC	450 ADC	600 ADC	300 ADC	400 ADC	650 ADC
Max. Open Circuit Voltage	54-64 VDC	73 VDC	72 VDC	66 VDC	58 VDC	68 VDC
Welding Electrode Diameter	2.0-5.0 mm	2.5-6.0 mm	2.5-6.0 mm	2.0-4.0 mm	2.0-5.0 mm	2.0-6.0 mm
Dimensions (l x w x h)	950x660x650 mm	920x660x900 mm	920x660x900 mm	950x660x640 mm	950x660x640 mm	950x660x640 mm
Weight	125 kg	228 kg	244 kg	155 kg	173.5 kg	208 kg
Carbon Cutting	-	8 mm	10 mm	-	6 mm	9 mm
Protection Class	IP 22	IP 22	IP 22	IP 22	IP 22	IP 22

Standard Accessories	Product Code	Product Code	Product Code	Product Code	Product Code	Product Code
Electrode Holder and Cable	K301000405 (35mm ² 5m)	K301000505 (50mm ² 5m)	K301000605 (70mm ² 5m)	K301000405 (35mm ² 5m)	K301000405 (35mm ² 5m)	K301000605 (70mm ² 5m)
Work Clamp and Cable	K301100403 (35mm ² 3m)	K301100503 (50mm ² 3m)	K301100603 (70mm ² 3m)	K301100403 (35mm ² -3m)	K301100403 (35mm ² -3m)	K301100603 (70mm ² 3m)

Optional Accessories	Product Code	Product Code	Product Code	Product Code	Product Code	Product Code
Remote Control Box	-	-	-	K301400210 (10m cable)	K301400210 (10m cable)	K301400310 (10m cable)
Remote Control Box	-	-	-	K301400220 (20m cable)	K301400220 (20m cable)	K301400320 (20m cable)
Remote Control Box	-	-	-	K301400250 (50m cable)	K301400250 (50m cable)	K301400350 (50m cable)

MIG/MAG/FCW

- Rugged design for MIG/MAG & FCW welding of all type of metals at manufacturing facilities.
- Excellent welding characteristics, smooth burning with less spatters.
- Simple & Easy operation to save welder training time.
- Digital V/A meters to weld with correct parameters.
- Standard running gear with lockable wheels and cylinder rack for better mobility on the factory floor.
- 220V AC auxiliary socket for CO2 heater.
- Fan cooled and thermally protected against overheating.



Technical Properties	RS 200 MK	RS 300 MK	RS 400 MK	RS 300 M	RS 400 M	RS 400 MW	RS 500 MW
Power Source							
Line Voltage (3 Phase)	380 V / 50 Hz	380 V / 50 Hz	380 V / 50 Hz	380 V / 50 Hz	380 V / 50 Hz	380 V / 50 Hz	380 V / 50 Hz
Input Power (60%)	4.6 kVA	9.9 kVA	14.5 kVA	9.9 kVA	14.5 kVA	14.5 kVA	28.3 kVA
Input Current (60%)	7 A	15 A	22 A	15 A	22 A	22 A	43 A
Recommended Line Fuses	3x16 A	3x25 A	3x32 A	3x25 A	3x32 A	3x32 A	3x50 A
Welding Current Range	40-240 ADC	40-300 ADC	45-400 ADC	40-300 ADC	45-400 ADC	45-400 ADC	45-500 ADC
Welding Current Capacity (60%)	200 ADC	300 ADC	400 ADC	300 ADC	400 ADC	400 ADC	500 ADC
Max. Open Circuit Voltage	17-36 VDC	19-44 VDC	18.5-45 VDC	19-44 VDC	18.5-45 VDC	18.5-45 VDC	19-53 VDC
Voltage Adjustment Steps	2x7	3x7	4x7	3x7	4x7	4x7	3x10
Dimensions (l x w x h)	890x460x950 mm	890x510x950 mm	890x510x950 mm	890x510x950 mm	870x590x790 mm	1015x590x735 mm	1015x590x735 mm
Weight	101 kg	112.5 kg	121.5 kg	101.5 kg	121 kg	151 kg	191.5 kg
Protection Class	IP 21	IP 21	IP 21	IP 21	IP 21	IP 21	IP 21
Wire Feeding System							
Wire Feeding Roll Size	V grooved 0.6/0.8 mm	V grooved 0.8/1.0 mm	V grooved 1.0/1.2 mm	V grooved 1.0/1.2 mm	V grooved 1.0/1.2 mm	V grooved 1.0/1.2 mm	V grooved 1.0/1.2 mm
Wire Feeding Speed	1-24 m/min.	1-24 m/min.	1-24 m/min.	1-24 m/min.	1-24 m/min.	1-24 m/min.	1/24 m/min.
Trigger Control	2/4	2/4	2/4	2/4	2/4	2/4	2/4
Dimensions (l x w x h)	-	-	-	560x225x450 mm	560x225x450 mm	560x225x450 mm	560x225x450 mm
Weight	-	-	-	22.5 kg	23 kg	25 kg	27 kg
Cooling Unit							
Water Tank Capacity	-	-	-	-	-	6.5 lt	6.5 lt
Dimensions (l x w x h)	-	-	-	-	-	760x440x260 mm	760x440x260 mm
Weight (without water)	-	-	-	-	-	33.5 kg	33.5 kg
Standard Accessories							
	Product Code	Product Code	Product Code	Product Code	Product Code	Product Code	Product Code
Work Clamp and Cable	K301100203 (16mm-3m)	K301100303 (25mm-3m)	K301100403 (35mm-3m)	K301100405 (35mm-5m)	K301100405 (35mm-5m)	K301100405 (35mm-5m)	K301100605 (70mm-3m)
Optional Accessories							
	Product Code						
Gas Pressure Regulator (Ar-CO) ₂	S520001002						
CO ₂ Heater	S520009002						
Torch MTB 25-3	S5200022203	-	-	S5200022203	-	-	-
Torch MTB 25-4	S5200022204	-	-	S5200022204	-	-	-
Torch MTB 35-3	-	-	S520022303	-	S520022303	-	-
Torch MBG 501 DW-3	-	-	-	-	-	-	S520022505
Torch MBG 501 DW-4	-	-	-	-	-	-	S520022506

TIG

- Rugged design for DC PULSE TIG welding of all type of metals except Aluminum and DC MMA welding of all type of electrodes at manufacturing facilities.
- Easy arc starting with HF.
- Enhanced professional TIG controls, such as pre-gas, slope up, pulse, slope down, post gas & crater filling.
- Digital displays.
- Up to 10 program storage.
- Standard running gear with lockable wheels and cylinder rack for better mobility on the factory floor.
- Fan cooled and thermally protected against overheating.



Technical Properties	RD 400 TW DC
Power Source	
Line Voltage (3 Phase)	380 V / 50-60 Hz
Input Power (35%)	25 kVA
Input Current (35%)	38 A
Recommended Line Fuses	3x40 A
Welding Current Range	10 - 400 ADC
Rated Welding Current (35%)	400 ADC
Max. Open Circuit Voltage	64 VDC
Protection Class (EN 60 529)	IP 22
Dimensions (l x w x h)	1030x590x730 mm
Weight	215.5 kg
Cooling Unit	
Water Tank Capacity	6.5 lt
Dimensions (l x w x h)	760x440x260 mm
Weight (without water)	33.5 kg
Standard Accessories	
Electrode Holder and Cable	K301000403 (35mm ² 3m)
Work Clamp and Cable	K301100403 (35mm ² 3m)
Torch Sintig 18W-4 (320 A 100% DC - 4m)	S510031211
Optional Accessories	
Pressure Regulator	S520001002

GENERATOR SETS

- Rugged design for primarily DC MMA welding of all types of electrodes at construction sites where severe conditions such as excessive heat or cold, humidity and dust exist. Optionally MIG/MAG and DC TIG processes can also be used.
- Excellent welding characteristics with all types of electrodes including cellulosic electrodes and enough capacity for carbon gouging.
- Auxiliary 1 and 3 phase electric outlets can deliver full power beside welding.
- Remote control.
- Battery starter.
- Automatic idling for energy saving.
- Warnings like, battery charge, fuel level, oil pressure, cooling water level and temperature.
- Optional Trailer.



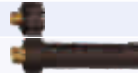
Technical Properties	MPM 15/400 I-CL	MPM 15/400 I-KA	MPM 20/500 P
Motor			
Type	Lombardini 9LD625-2	Kubota D1105-E	Perkins 1103 A-33G1
Power	28.5 HP (21 kVA)	28 HP (20.6 kVA)	41.3 HP (30.4 kVA)
Total Cylinder Volume	1248 cm ³	1123 cm ³	3300 cm ³
Number of Cylinders	2	3	3
Cooling Type	Air	Water	Water
Starting System	Electric	Electric	Electric
Fuel	Diesel	Diesel	Diesel
Fuel Consumption (75%)	4.7 lt/hour	4.9 lt/hour	5.4 lt/hour
Fuel Tank Capacity	38 lt	38 lt	74 lt
AC Generator			AC Generator (1500 R/min. 50 Hz)
Type	GenSet Asynchronous Brushless		GenSet Asynchronous Brushless
Max. Power (3 Phase)	15 kVA - 400 VAC		20 kVA-400 VAC
Max. Power (1 Phase)	10 kVA - 230 VAC		12 kVA-230 VAC
Max. Power (1 Phase)	5 kVA - 48 VAC		-
Power Factor	0.8		0.8
DC Welding			
Input Welding Current	400 A-36 VDC (35%)	370 A-35 VDC (35%)	400 A-36 VDC (100%)
Input Welding Current (60%)	350 A-34 VDC	350 A-34 VDC	500 A-40 VDC
Welding Current Range	30-400 ADC	30-400 ADC	30-500 ADC
Open Circuit Voltage	70 VDC	70 VDC	70 VDC
Usable Max. Electrode Diameter	6.0 mm	6.0 mm	10 mm
Complete System			
Dimensions (lxwxh)	1400x630x1023 mm	1590x730x920 mm	2000x900x1200 mm
Weight	434 kg	450 kg	1080 kg
Noise Level (Lwa)	99	98	99
Insulation Class	F	F	F
Protection Class	IP 23	IP 23	IP 23
Trailer	2 wheels (Standart-Y550550208)	2 wheels (Optional-Y550550209)	2 wheels (Ops.-Y550550211) or 4 wheels (Ops.-Y550550450)
Standard Accessories			
		Product Code	Product Code
Electrode Holder and Cable	K301000505 (50 mm ² - 5m)		K301000605 (50 mm ² - 5m)
Work Clamp and Cable	K301100505 (50 mm ² - 5m)		K301100605 (50 mm ² - 5m)
Remote Control Unit	Y503000005 (20 m)		Y503000005 (20 m)

TIG

≤200 A	≤400 A
	
TT-26	WWT 18SC UD

Welding Capacity	DC	180 A	400 A
	AC	150 A	280 A
Duty Cycle		35%	100%
Product Code	4 m	S510031201	S510031214
	8 m	S510031202	S510031218
Tungsten Electrode Diameter (mm)		0.5-4.0	1.6-4.8
Cooling Type		AIR	WATER

CONSUMABLES

NOZZLE		6 mm	S510031331	-
		6.5 mm	-	S510031430
		8 mm	S510031332	-
		9.5 mm	-	S510031432
		10 mm	S510031333	-
		11 mm	-	S510031333
COLLET BODIES		12 mm	S510031334	-
		16 mm	S510031335	-
		1.0 mm	S510031320	-
		1.6 mm	S510031321	S510031421
		2.4 mm	S510031323	S510031423
		3.2 mm	S510031324	S510031424
INSULATOR BOTTOM TOP		4.0 mm	S510031325	-
			S510031341	S510031341
COLLET			S510031342	S510031342
CAP LONG SHORT		1.0 mm	S510031310	-
		1.6 mm	S510031311	-
		2.0 mm	S510031312	-
		2.4 mm	S510031313	S510031413
		3.2 mm	S510031314	S510031414
		4.0 mm	S510031315	-
TUNG. ELEC. 175 mm			S510031351	
			S510031352	
			WT-20 (Red)	WP (Green) WC-20 (Gray)
		1.6 mm	S510038101	S510038201 S510038301
		2.0 mm	S510038102	S510038202 S510038302
		2.4 mm	S510038103	S510038203 S510038303
		3.2 mm	S510038104	S510038204 S510038304
		4.0 mm	S510038105	S510038205 S510038305

MIG/MAG

100 - 200 A	200 - 300 A	300 - 350 A	500 A
			
Ergoplus 15	Ergoplus 25	Ergoplus 36	MB Grip 501 D

Welding Capacity	CO ₂	180 A	230 A	320 A	500 A
	Mix/Argon	150 A	200 A	290 A	450 A
Working Ratio		60%	60%	60%	%100
Product Code	3 m	S520022103	S520022203	S520022303	S520022505
	4 m	-	S520022204	-	S520022506
Wire Diameter (mm)		0.6-1.0	0.8-1.2	0.8-1.2	1.0-1.6
Cooling Type		AIR	-	-	WATER
NOZZLE		12 mm	S520022122	S520022222	-
		15 mm	-	S520022225	-
		16 mm	-	-	S520021626
			-	S520022326	-
NOZZLE SPRING		S520022155	S520022255	-	-
CONTACT TIP		Fe 0.6 mm	-	S520022310	S520022310
		Fe 0.8 mm	S520022321	S520022311	S520022311
		Fe 1.0 mm	S520022322	S520022312	S520022312
		Fe 1.2 mm	-	S520022313	S520022313
		Fe 1.4 mm	-	-	S520022314
		Fe 1.6 mm	-	S520022314	S520022314
		Fe 2.0 mm	-	-	S520022315
		Fe 2.4 mm	-	-	S520022316
GAS CT DIFFUSER HOLDER		Al 1.0 mm	-	S520022317	S520022317
		Al 1.2 mm	-	S520022318	S520022318
		FCW 1.0 mm	-	-	S520022520
		FCW 1.2 mm	-	-	S520022521
		M6	-	-	S520022330
		M8	-	-	S520022530
STEEL LINER		Seramic	-	-	S520022341
		Copper	-	S520022230	-
		0.6-0.9 mm	3 m S520021560	S520021560	S520021560
		1.0-1.2 mm	4 m S520022361	S520022361	S520022361
TEFLON LINER		1.2-1.6 mm	3 m S520021561	S520021561	S520021561
		1.6-2.4 mm	4 m S520021662	S520021662	S520021662
			3 m S520021562	S520021562	S520021562
			4 m S520022365	S520022365	S520022365
		0.6-0.9 mm	3 m S520021661	S520021661	S520021661
			S520021666	S520021666	S520021666



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