

# PRODUCT CATALOGUE



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**PT. YONTOMO SUKSES ABADI**  
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# OUR PROFILE



PT. YONTOMO SUKSES ABADI

was establish in 1999 and grew to be one of leading companies and have a focus in welding industry, i.e. welding consumables supply, welding sparepart, welding machine and automation.

We start this business with capital around 30 billion Indonesian Rupiah, we have too focus in welding machine accesories and hardfacing workshop for steel mill roll, forging dies, cement plant, crusher roll, etc.

Totally satisfaction for all customers is our mission in achieving the long-term profitable partnership and alliances.

## OUR QUALITY ASSURANCE

PT. Yontomo Sukses Abadi is committed to a policy of providing the highest level of quality products and services. In additions, we are also constantly seeking out to get in touch with global credible customers and principals who are able to perform to match the ever high expectations of customers of today. By focusing our attention on our customers, and combined it with the high standard of manufactured products of our principals, we will continue to meet the challenges ahead as demanded in the market.

## QUALITY POLICY

We are committed to provide good, stable and reliable quality products with competitive price. We are also supported with well experienced team with thorough know-how in their fields to support customers need. Just in time delivery to assure customer's production continuity and to cut their stock level.

## OUR FACILITIES

The company owns its warehousing facilities. In the competitive business environment, we seek to provide a service which is reliable, flexible and versatile to ensure total customer satisfaction by making their deliveries always on time and to specifications. To meet these requirements, we have an adequate and efficient team of trained material handling personnel and delivery trucks to provide a reliable and prompt delivery service.

## MAN POWER & TEAM WORK

Synergy and Team Work shall be executed together in every problem that aim to the achievement of customers satisfaction and requirements. Partnership and alliances are the expected result in all activities. PT. Yontomo Sukses abadi has a strong commitment to the industry that supported by qualified dynamic people who have good experience at their fields

We have developed and expanded as follows:

- Streamlined our sales operations into seven divisions, namely Industry, retail, maintenance and repair, machine, spare part, work Shop, and New business in oil and gas.
- Develop and commitment in serving the needs of the entire Republic of Indonesia. currently available in 8 major cities in Indonesia.
- In this fast-changing and demanding market environment, we constantly need to listen our customers and cooperate with our principals at the same time. With this in mind, we shall continue to strive towards expanding our business operations to meet your requirements.

# BUSINESS PLAN

## PRODUCTS

### WELDING CONSUMABLE

Stick Electrodes (SMAW), Solid Welding Wire (GMAW), Flux Cored Welding Wire (FCAW), TIG (GTAW) & SAW

### ADHESIVE TAPE

D/S Tape Splicing, Flexo, Easy Splice, Floor Marking, Masking, Packaging, Polyester and Repulpable

### WELDING MACHINE

SMAW, GMAW / FCAW, GTAW, SAW, Plasma Cutting & Engine Driven

### STUD WELDING

Capacitor Discharge, Drawn Arc, Accessories (Stud Welding) and Consumables

### FUME EXTRACTOR

Special Filter Systems, Centralized System, Single Filter and Accessories

### WELDING ACCESSORIES

MIG Gun & Accessories, Tig Torch & Accessories, Gouging Torch, Gas Cutting Machine, Electrode Holder, Welding Mask & Helmet, Welding Oven, Gas Regulator, Backing Ceramic, Welding Plug & Socket, Welding Cable, Cutting Tip & Ground Clamp

### AUTOMATION

Roll Rotator, Welding Positioner, Manipulator, Welding Carriage, Arc Welding Robot & CNC Cutting System.

### WELDING CHEMICAL DAN METAL TREATMENT

Stainless Steel Picking Range and Spatter Protection.

### NON DESTRUCTIVE TESTING

Visible Penetrant, Magnetic Particle, Ultra Sonic Flow Detector and Equipment & Accessories.

### ABRASIVE WHEEL

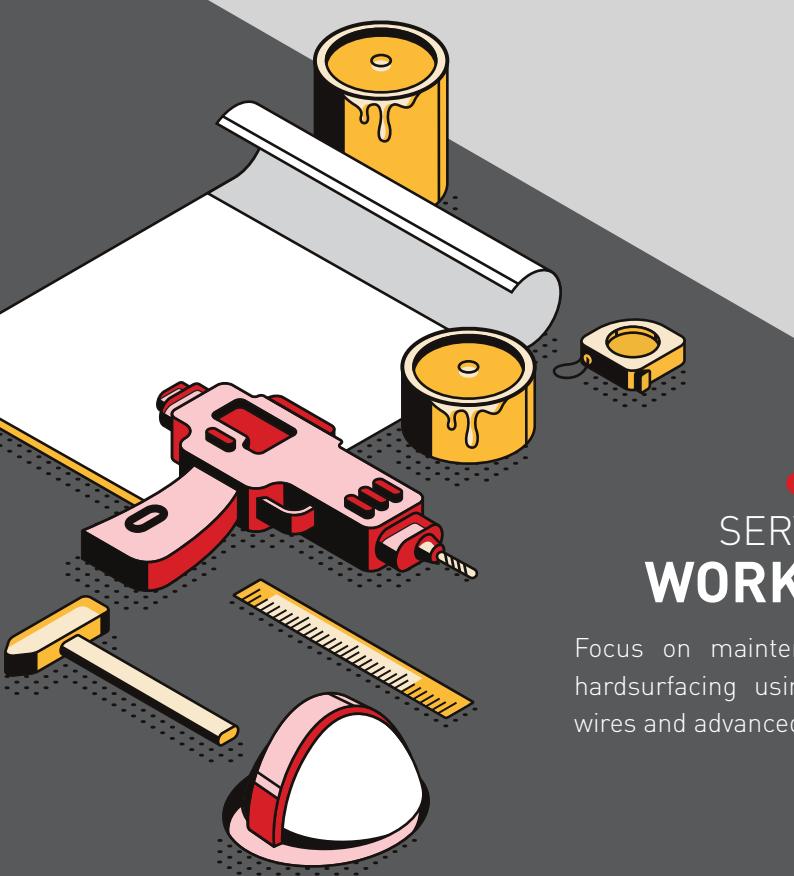
Cutting Wheel and Grinding Wheel.

### STAR MATERIAL

Stainless Steel, Low Alloy Steel, Special Low Alloy Steel and Dual Layer Wear Resistant Plate.

## SERVICE WORKSHOP

Focus on maintenance, repair and hardsurfacing using quality welding wires and advanced technology.



# ACTIVITY

## IMPORT

We hold to distribution agencies to most of our products, which we import from :

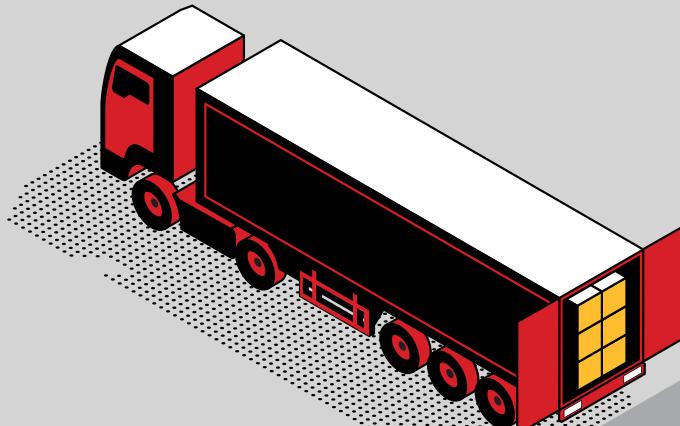


## STOCK

We have warehousing facilities in all branches in Indonesia.

## INDENT

In order to serve our customer better, we will be dynamic and flexible in our outlook.



## DISTRIBUTION

We have an adequate and efficient team of material handling and delivery trucks to provide real and fast delivery services.



# OUR PRODUCT

## WELDING CONSUMABLES

**ATLANTIC®**

Manufacturer welding consumables of high technologies, over 400 types, which divided into welding rods, welding wires and automatic welding fluxes.

### Product Range:

SMAW, GMAW, FCAW, GTAW & SAW

for carbon steel, low alloy steel, stainless steel, cast iron, hardfacing, etc.

### WELDING ELECTRODES FOR MILD STEEL

Type & Specification	DIA (mm)	Current (Amp.)	Chemical Composition (%)				Mechanical Properties		Description & Application
<b>CHE 40</b> AWS A5.1 E6013 JIS Z 3211D4313	2.0	40~80	C	0.07	S	0.021	YP	395 MPa	CHE40 is mild steel welding electrode with high titania type coating. It has excellent welding performance such as arc stability, easy slag removal, good re-striking, and shiny appearance and designed for all position welding. It has widely used for general purpose; shipbuilding, vehicles, constructions, and especially suitable for welding sheet steel and small work pieces. Current: AC, DC+. Approved grade 2 by: BKI, LR, ABS, BV, CCS, CWB, DNV, GL, NK.
	2.5	50~90	Mn	0.41	P	0.023	TS	480 MPa	
	3.2	80~130	Si	0.26			E	29%	
	4.0	130~190					CIV	80 J (0°C)	
	5.0	180~250							
<b>CHE 422</b> JIS Z 3211 D4303 GB/T 5117 E4303	2.0	35~70	C	0.08	S	0.016	YP	390 MPa	CHE422 is suitable for welding structures made by mild steels or low strength low alloy steels. It is also suitable for spot welding of light structures, general vehicles & construction structures. The weld metal has excellent mechanical appropriate penetration & good crack resistance.
	2.5	60~110	Mn	0.40	P	0.028	TS	480 MPa	
	3.2	80~150	Si	0.18			E	30%	
	4.0	160~210					CIV	90 J (0°C)	
	5.0	200~260							
<b>CHE 425GX</b> AWS A5.1 E6010 GBT/5117 E4310	2.5	50~90	C	0.09	S	0.007	YP	390 MPa	CHE425GX is mild steel welding electrode with high cellulose sodium type coating. It shows a very good performance and welding all position and vertical down. It is suitable for welding root passes, hot passes as well as for capping of general pipes and similar structures. Application for boiler, pipes, galvanizing plates and pipes. Current: DC±.
	3.2	60~110	Mn	0.56	P	0.011	TS	520 MPa	
	4.0	100~160	Si	0.19			E	30%	
	5.0	140~210					CIV	80 J (-30°C)	



## WELDING ELECTRODES FOR HIGH TENSILE STEEL & LOW ALLOY STEEL

Type & Specification	DIA (mm)	Current (Amp.)	Chemical Composition (%)				Mechanical Properties		Description & Application	
<b>CHE56</b> AWS A5.1 E7016 JIS Z 3212 D5016	2.5	50~110	C	0.07	S	0.007	YP	450 MPa	CHE56 is low hydrogen potassium type coating electrode shows a satisfactory plasticity, impact toughness and crack resistance. It is widely used for fabrications of 50 kgf/mm <sup>2</sup> high tensile steel structures, such as ships, boilers, bridges and pressure vessel. Current: AC/DC+. Approved grade 3Y by: BKI, LR, ABS, BV, CCS, GL, DNV, NK.	
	3.2	80~140	Mn	1.12	P	0.018	TS	550 MPa		
	4.0	130~180	Si	0.54					E	30%
	5.0	180~230					CIV	150 J (-30°C)		
<b>CHE58-1</b> AWS A5.1 E7018-1 AWS A5.1 E7018 JIS Z 3212 D5016	2.5	60~110	C	0.07	S	0.010	YP	440 MPa	CHE58-1 is iron powder low hydrogen type coating electrode shows excellent low temperature toughness and high crack resistance. Its nominal welding efficiency is about 110% due to iron powder is contained. It is widely used for fabrication of 50 kgf/mm <sup>2</sup> high tensile steel structures, such as high pressure vessels, bridges, power plants and offshore drilling platforms. Current: AC/DC+. Approved grade 3Y by: BKI, LR, ABS, BV, CCS, CWB, DNV, GL, KR.	
	3.2	80~140	Mn	1.36	P	0.016	TS	540 MPa		
	4.0	130~170	Si	0.51					E	30%
	5.0	190~240					CIV	130 J (-46°C)		
<b>CHE505GX</b> AWS A5.5 E7010-P1	2.5	50~90	C	0.11	Mo	0.43	YP	470 MPa	CHE505GX is high cellulose sodium type coating electrode shows a very good performance in welding of all position, including vertical down. It performs on double side by one side welding and used for welding root passes, hot passes, and capping of pipelines fabricated by X60, X65, and X70 grade steel and similar structures. Current: DC+.	
	3.2	60~110	Mn	0.57	S	0.009	TS	540 MPa		
	4.0	110~150	Si	0.31	P	0.013	E	23%		
			Ni	0.10	Cr	0.017	CIV	50 J (-30°C)		
<b>CHE507</b> AWS A5.1 E7015	2.5	60~110	C	0.082	S	0.010	Yp	440 MPa	CHE507 it used for fabricating important structures made by equivalent tensile strength mild steels or low alloy steels, such as bridges, lifts, vehicles, constructions, healthy, machineries and so on. The Weld metal has good performance of mechanical properties & crack resistance. Current: AC/DC+.	
	3.2	80~140	Mn	1.18	P	0.021	Ts	550 MPa		
	4.0	120~180	Si	0.53					E	30%
							CIV	140 J (-30°C)		
<b>CHE758</b> AWS A5.1 E11018-G JIS Z 3212 D8016	2.5	40~90	C	0.07	Cr	0.54	Yp	690 MPa	The Nominal deposited efficiency of CHE758 is about 110% and it is use for welding important structures fabricated 760 MPa grade tensile strength low alloy steels such as 15MnMoVn, 14MnMoNbB, WELTEN 80 and so on. The weld metal has good performance of low temperature impact toughness & crack resistance. Current : AC/DC+.	
	3.2	70~100	Mn	1.45	Mo	0.33	Ts	790 MPa		
	4.0	120~180	Si	0.32	V	0.01	E	20%		
			Ni	1.76	Cu	0.01	CIV	50 J (-50°C)		

WELDING ELECTRODES FOR STAINLESS STEEL									
Type & Specification	DIA (mm)	Current (Amp.)	Chemical Composition (%)				Mechanical Properties		Description & Application
<b>CHS102</b> AWS A5.4 E308-16 JIS Z 3221 D308-16	2.0	25~50	C	0.05	Ni	9.70	TS 595 MPa E 44 %	CHS102 is lime titania type coating electrode for general stainless steel in all position welding with excellent weldability, such as arc stability, easy slag removal, low spatter and good heat resistance of coating. It is widely used for welding AISI/SUS 301, 302, 304, 308 which working temperature is below 300°C. Current: AC/DC+.	
	2.5	50~85	Mn	0.86	Mo	0.14			
	3.2	80~120	Si	0.66	Cu	0.23			
	4.0	90~170	Cr	19.88					
<b>CHS002</b> AWS A5.4 E308L-16 JIS Z 3221 D308L-16	2.0	30~50	C	0.03	Ni	9.60	TS 575 MPa E 46 %	CHS002 is lime titania type coating electrode for extra-low carbon stainless steel in all position welding. It has excellent resistance to inter-crystalline corrosion. It is suitable for welding of AISI/SUS 304L stainless steel structures, which working conditions need to be resistance corrosion and working temperature is below 300°C.	
	2.5	50~85	Mn	0.86	Mo	0.08			
	3.2	70~130	Si	0.63	Cu	0.10			
	4.0	90~170	Cr	19.80					
<b>CHS302</b> AWS A5.4 E309-16 JIS Z 3221 D309-16	2.5	50~90	C	0.06	Ni	12.85	TS 595 MPa E 39 %	CHS302 is lime titania type coating electrode for welding stainless steel of AISI/SUS 309, 309S or similar alloys in wrought or cast form. It has excellent heat and corrosion resistibility. It is suitable for welding dissimilar steel, such as joining 304 to carbon steel. Current: AC/DC+.	
	3.2	70~110	Mn	0.98	Mo	0.29			
	4.0	90~160	Si	0.64	Cu	0.20			
			Cr	24.34					
<b>CHS402</b> AWS A5.4 E310-16 JIS Z 3221 D310-16	2.5	40~80	C	0.13	Ni	21.44	TS 655 MPa E 39 %	CHS402 is lime titania type coating electrode for welding heat resisting stainless steel structures and high hardenability steel, such as AISI/SUS 310, 310S, Cr5Mo, Cr13 and special for high temperature service material. Also it could weld dissimilar steel. It has excellent heat and corrosion resistibility and shows distinguished ductility. Current: AC/DC+.	
	3.2	70~110	Mn	1.99	Mo	0.13			
	4.0	90~160	Si	0.38	Cu	0.10			
			Cr	27.01					
<b>CHS022</b> AWS A5.4 E316L-16 JIS Z 3221 D316L-16	2.5	50~90	C	0.03	Ni	11.86	TS 575 MPa E 44 %	CHS022 is lime titania type coating electrode for extra-low carbon stainless steel. It shows excellent resistance to heat, corrosion and cracking. It is mainly used for welding of AISI/SUS 316L or similar composition. Extra-low carbon of weld metal deposit reduces the possibility of intergranular carbide precipitation. Current: AC/DC+.	
	3.2	70~120	Mn	0.85	Mo	2.50			
	4.0	90~160	Si	0.62	Cu	0.16			
			Cr	19.00					
<b>CHK202</b> AWS A5.4 E410-16 JIS Z 3221 D410-16	2.5	50~80	C	0.054	Ni	0.15	Ts 520 MPa E 30%	CHK202 it is suitable for welding stainless steel structures that fabricated by 06Cr13 & 12Cr13 ferritic stainless steels also it could surface workpiece for wear-resisting of corrosion-resisting. Current: AC/DC+.	
	3.2	65~120	Mn	0.14	Mo	0.016			
	4.0	80~160	Si	0.44	Cu	0.03			
			Cr	12.30					
<b>CHS2209</b> AWS A5.4 E2209-16	2.5	45~70	C	0.026	Ni	9.45	Ts 785 MPa E 29%	CHS2209 it is mainly used for welding structures of petrochemical or water conservancy project that fabricated by extra low carbon stainless steel e.g 022CrNi5Mo3N duplex one. The weld metal has good performance of heat crack-resisting particularly it has excellent performance of resistance to stress corrosion. Current: AC/DC+.	
	3.2	65~110	Mn	0.90	Mo	3.05			
	4.0	110~150	Si	0.61	N	0.12			
			Cr	22.84	Cu	0.09			

## WELDING ELECTRODES FOR DISSIMILAR AND PROBLEM STEEL

Type & Specification	DIA (mm)	Current (Amp.)	Chemical Composition (%)				Mechanical Properties		Description & Application	
<b>CHS29.9</b> AWS A5.4 E312-16 JIS Z 3221 D312-16	2.5	50~85	C	0.09	Ni	9.97	TS 785 MPa E 29 %		CHS29.9 is lime titania type coating electrode shows a ferritic-austenitic duplex weld metal with around 40% ferrite, which has excellent crack resistance and high tensile strength. It is suitable for welding of cast steel, high carbon steel, tool steel, problem steel, as well as dissimilar steel. It can be used as a buffer layer for hard surfacing layer. Current: AC/DC+.	
	3.2	75~120	Mn	1.11	Mo	0.16				
	4.0	100~160	Si	0.78	Cu	0.20				
<b>CHS102MnMo</b> AWS A5.4 E307-16 GB/T 983 E307-16			Cr	29.39					CHS102MnMo is lime titania type coating electrode used primarily for moderate strength welds with good crack resistance between dissimilar steel, such as austenitic manganese steel and carbon steel forgings or castings. It is suitable for welding structures made by ASTM307 stainless steel, also it can be used for surfacing, impingement and corrosion resisting steel and transition layers. Current: AC/DC+.	
	2.5	40~80	C	0.06	Mo	1.14				
	4.0	60~110	Mn	4.60	Cu	0.25				
	5.0	90~160	Si	0.80	S	0.008				
			Cr	19.77	P	0.025				
			Ni	9.07						

## WELDING ELECTRODES FOR CAST IRON

Type & Specification	DIA (mm)	Current (Amp.)	Chemical Composition (%)				Mechanical Properties		Description & Application	
<b>CHC208</b> AWS A5.15 ECI	2.5	60~90	C	2.71	S	0.004			CHC208 is graphite type coating electrode with mild steel core, suitable for crack repairing and surfacing of gray iron or nodular cast iron parts where machining is unnecessary. It shows high carbon content, and then it gives high hardness. Current: AC/DC+.	
	3.2	90~120	Mn	0.40	P	0.016				
	4.0	150~180	Si	4.20	Fe	Bal.				
<b>CHC308</b> AWS A5.15 ENi-CI JIS Z 3252 DFCNi	2.5	60~90	C	0.59	S	0.004			CHC308 is graphite type coating electrode with pure nickel core, the best for crack repairing and joining cast iron parts with dissimilar metals. The deposit metal is very good machinable with high toughness and excellent crack resistibility. In welding, use lower current, hammering or peening the deposit after welding. Current: AC/DC+.	
	3.2	90~110	Mn	0.07	P	0.016				
	4.0	120~150	Si	1.50	Cu	0.002				
			Fe	0.21	Ni	Bal.				
<b>CHC408</b> AWS A5.15 ENiFe-CI JIS Z 3252 DFCNiFe	2.5	50~80	C	0.71	S	0.007			CHC408 is graphite type coating electrode with nickel-ferro core, suitable for crack repairing and surfacing of grey cast iron or nodular cast iron parts. It can be used for joining dissimilar metals, such as: cast iron with carbon steel. In welding, use lower current, hammering or peening the deposit after welding, avoid continuous welding for cold welding method. Current: AC/DC+.	
	3.2	80~100	Mn	0.24	P	0.012				
	4.0	110~140	Si	1.00	Cu	0.055				
			Fe	Bal.	Ni	54.00				

## WELDING ELECTRODES FOR HARD SURFACING

Type & Specification	DIA (mm)	Current (Amp.)	Chemical Composition (%)			Mechanical Properties	Description & Application
<b>CHR256</b>	2.5	60~80	C	0.80		H $\geq$ 170 HB	CHR256 it is used for hardfacing preclusive and abraded parts of crusher machines, excavators, bulldozers, steel rail and so on. The deposited metal is one kind of austenitic high manganese steel so it would be harder, tougher and more abrasion-resisting after processing. Current : AC/DC+. Weld metal provides good machining properties, good work-hardening properties, good toughness & good resistance to abrasion accompanied by heavy impact. Current AC/DC+.
	3.2	70~90	Mn	13.30			
	4.0	100~140	Si	0.50			
	5.0	150~180					
<b>CHR132</b>	3.2	90~120	C	0.29	Mo	0.74	H $\geq$ 30 HRC
	4.0	150~180	Cr	2.00			
	5.0	170~220					
<b>CHR212</b>	3.2	90~120	C	0.45	Mo	1.30	H $\geq$ 50 HRC
	4.0	150~180	Cr	4.00			
	5.0	190~230					
<b>CHR322</b>	2.5	60~80	C	0.42	V	0.60	H $\geq$ 55 HRC
	3.2	90~120	Cr	4.3			
	4.0	160~190	Mo	2.0			
	5.0	190~180	W	8.6			
<b>CHR507Mo</b>	3.2	80~120	C	0.12	Mo	1.60	H $\geq$ 37 HRC
	4.0	120~160	Cr	12.30	W	1.20	
			Ni	1.50			
<b>CHR707</b>	3.2	70~120	C	2.70	W	43.00	H $\geq$ 55 HRC
	4.0	140~180	Mn	1.33	Fe	Bal.	
	5.0	190~220					

WELDING WIRE GMAW, GTAW & FCAW FOR CARBON STEEL												
Type & Specification	DIA (mm)	Current (Amp.)	Chemical Composition (%)				Mechanical Properties		Description & Application			
<b>CHW-50C6SM</b> AWS A5.18 ER70S-6 JIS Z 3312 YGW12	0.8	40~140	C	0.08	S	0.010	YP	425 MPa	CHW-50C6SM is coppered solid wire for welding high tensile steel with all position welding. It has very good welding performance and the weld metal shows lower temperature impact toughness for both single pass and multi pass welding. It is mainly for butt and fillet welding structures, such as: ships, containers, vehicles, engineering and construction machinery, bridges. Current: DC+. Approved grade 3Y by: BKI, LR, ABS, CCS, CWB, GL, NK, BV, DNV, DB, CE, TUV.			
	0.9	50~200	Mn	1.53	P	0.011	TS	540 MPa				
	1.0	50~230	Si	0.85				E	30 %			
	1.2	80~350					CIV	102 J (-20°C)				
	1.6	120~550										
<b>CHG-56</b> AWS A5.18 ER70S-6 JIS Z 3316 YGT50	2.0	110~200	C	0.07	S	0.011	YP	450 MPa	CHG-56 is TIG wire for welding high tensile steel is suitable for single pass or multi pass welding of 50 kgf/mm <sup>2</sup> high tensile steel structures, such as: vehicles, containers, pipes, bridges and machinery parts. Current: DC-.			
	2.4	150~250	Mn	1.47	P	0.012	TS	550 MPa				
			Si	0.90	Cu	0.18	E	29 %				
							CIV	160 J (-30°C)				
<b>CHT711</b> AWS A5.36 E71T1-C1A0-CS1 JIS Z 3313 YFW-C50DR	1.2	120~300	C	0.06	S	0.009	YP	440 MPa	CHT711 is rutile type flux cored for welding high tensile steel with all position and uses CO <sub>2</sub> shielding. It shows excellent welding performance and higher efficiency in welding. It is widely used in mild steel and high tensile steel structures, such as: ships, pressure vessels, bridges and machinery parts. Current: DC+. Approved grade 3Y by: BKI, LR, ABS, BV, CCS, CWB, DNV, GL, NK, KR.			
	1.6	180~430	Mn	1.35	P	0.018	TS	535 MPa				
			Si	0.40				E	32 %			
							CIV	110 J (-20°C)				

CARBON STEEL WIRE AND FLUXES FOR SAW										
Type & Specification	DIA (mm)	Current (Amp.)	Chemical Composition (%)				Mechanical Properties		Description & Application	
<b>CHF101+ CHW-S12</b> AWS A5.17 F7A4 EM12K	2.0	300~450	C	0.06	S	0.011	YP	420 MPa	Flux and wire combination has excellent welding performance in welding. The weld metal shows fine appearance and it has satisfactory low temperature toughness. It is suitable to weld structures made by equivalent tensile strength mild steel or low alloy steels, such as ship structures, boilers, pressure vessels, as well as LPG cylinders. Current : AC/DC+. Approved 3Y by: LR, ABS, GL, BV, DNV, NK.	
	2.4	400~500	Mn	1.30	P	0.020	TS	510 MPa		
	3.2	450~550	Si	0.30	Cr	0.020	E	30 %		
	4.0	500~800	Ni	0.010	Cu	0.042	CIV	110 J (-40°C)		
<b>CHF101+ CHW-S3</b> AWS A5.17 F7A0 EH14	2.0	300~450	C	0.05	S	0.10	YP	440 MPa	Flux and wire combination has excellent welding performance in welding. The weld has fine appearance and good performance of low temperature impact toughness. It is suitable to weld important structures made by equivalent tensile strength low alloy steels, such as petrochemical industrial equipments, boilers, bridges, as well as H-bean structures. Current : AC/DC+. Approved 3Y by: LR, ABS, GL, BV, DNV, CCS, NK, CWB, KR.	
	2.4	400~500	Mn	1.60	P	0.020	TS	540 MPa		
	3.2	450~550	Si	0.32	Cr	0.015	E	30 %		
	4.0	500~800	Ni	0.004	Cu	0.040	CIV	120 J (-20°C)		



Changzhou Huatong Welding Industry Co.,ltd specializes in manufacturing all kinds of welding materials and fittings such as mild steel welding wires, stainless steel welding wires, aluminum alloy welding wires, flux-cored wires, low alloy steel welding wires, submerged arc welding wires.

**Product Range:**

GMAW - FCAW - GTAW - SAW

GMAW, GTAW & FCAW FOR CARBON STEEL								
Type & Specification	DIA (mm)	Current (Amp.)	Chemical Composition (%)			Mechanical Properties		Description & Application
<b>HTW-50</b> AWS A5.18 ER70S-6 JIS Z 3312 YGW12	0.8	40~140	C 0.09	P 0.010	YP 450 MPa	TS 550 MPa		HTW-50 is CO <sub>2</sub> carbon steel gas shielded welding wire for all position welding, mainly used in industries like steel structures, pressure vessels, containers, construction machinery, ships making, automotive. It has excellent welding performance and mechanical performance, such as: arc stability, low spatter good bead appearance. Current: DC+.
	1.0	50~230	Mn 1.13	S 0.012				
	1.2	80~350	Si 0.83		E 30 %	CIV 66 J (-29°C)		
<b>HTW-711</b> AWS A5.20 E71T-1C JIS Z 3313YFW-C50DR	1.2	120~300	C 0.05	S 0.010	YP 440 MPa	TS 535 MPa		HTW-711 is Flux cored for welding of 50 kgf/mm <sup>2</sup> high tensile steel with all position welding and uses CO <sub>2</sub> shielding. It shows good mechanical properties. It is widely used in mild steel and high tensile steel structures, such as: ships, pressure vessels, bridges and machinery parts. Current: DC+.
	1.6	180~430	Mn 1.35	P 0.012				
			Si 0.45		E 32 %	CIV 110 J (-20°C)		

GMAW & GTAW FOR STAINLESS STEEL								
Type & Specification	DIA (mm)	Current (Amp.)	Chemical Composition (%)			Mechanical Properties		Description & Application
<b>HTW-ER308</b> AWS A5.9 ER308 JIS Z 3321 Y308	0.8	50~140	C 0.05	Ni 9.40	TS 600 MPa	E 41 %		HTW-ER308 is used for welding of AISI / SUS 301, 302, 304, and 308 austenitic stainless steel structures it has good corrosion resistance and working temperature is below 300°C. Current: DC+.
	1.0	80~190	Mn 1.79	S 0.013				
	1.2	180~280	Si 0.48	P 0.022	Cr 19.72			
<b>HTW-ER316L</b> AWS A5.9 ER316L JIS Z 3321 Y316L	0.8	60~150	C 0.025	Ni 12.58	TS 558 MPa	E 40 %		HTW-ER316L is austenite extra-low carbon stainless steel wire. Its weld metal has good anticorrosion to acetic acid, phosphoric acid, sulphurous acid, salt, particularly anticorrosion to chloridion and it has good performance of heat-resisting and crack-resisting. It is mainly used for welding structures in chemical industry or in power engineering projects that fabricated by stainless steel SUS 316L.
	1.0	70~200	Mn 1.91	S 0.009				
	1.2	150~280	Si 0.42	P 0.018	Cr 19.10 Mo 2.57			

GMAW FOR NON FERROUS									
Type & Specification	DIA (mm)	Current (Amp.)	Chemical Composition (%)				Mechanical Properties		Description & Application
<b>HTW-S11</b> AWS A5.7 ERCuSi-A	0.8	90~140	Si	3.0	Sn	1.1	TS	385 MPa	HTW-S11 is copper base alloys containing silicon, and also contains small percentages of manganese, tin or zinc. It has used argon gas for welding of copper alloys and MIG brazing of steel, which is done with DC, electrode positive. The deposit metal has good mechanical properties. It is suitable for MIG brazing applications, such as: automotive part and automotive applications.
	1.0	110~180	Mn	1.2	Fe	0.3	H	90 HB	
	1.2	160~350	Zn	1.1	Cu	Bal.			
<b>HTW-ER5356</b> AWS A5.10 ER5356 ISO 18273:2004 AlMg5Cr(A)	0.8	50~150	Si	0.05	Mg	4.9	YP	130 MPa	HTW-ER5356 has good mechanics performance, good weldability and corrosion resistance. It is widely used in aerospace, railway, train, ship, chemical, sports equipment, furniture, nuclear industry, refrigeration industry, etc.
	0.9	80~180	Fe	0.12	Cr	0.12	TS	269 MPa	
	1.0	110~220	Cu	0.005	Zn	0.005	E	17 %	
	1.2	150~250	Mn	0.12	Ti	0.09			

GMAW FOR LOW ALLOY STEEL									
Type & Specification	DIA (mm)	Current (Amp.)	Chemical Composition (%)				Mechanical Properties		Description & Application
<b>HTW-60E</b> AWS A5.28 ER80S-G	0.8	60~160	C	0.08	P	0.010	YP	545 MPa	HTW-60E is a coppered low alloy steel with all welding positions for high tensile steel 550 MPa. The wire has excellent welding performance and the weld metal has good mechanical properties. It is suitable for pressure vessels, pipes, vehicles, petroleum & chemical industries, power plant.
	1.0	80~250	Si	0.58	Cu	0.09	TS	630 MPa	
	1.2	110~380	Mn	1.65	Mo	0.25	E	25 %	
<b>HTW-80B</b> AWS A5.28ER110S-G			S	0.014			CIV	78 J (-30°C)	HTW - 80B is used for mild and high strength steel, use rich-argon gas shielded arc welding, soft of arc, burning stability, less spatter. It is suitable for structure steel weld and required submarines, coach, shipyard and railway vehicle hook, such as material 25MnCrNiMoA.
	1.0	70~250	C	0.08	S	0.013	YP	741 MPa	
	1.2	80~300	Si	0.55	P	0.013	TS	818 MPa	
	1.6	170~390	Mn	1.72	Ni	1.63	E	20 %	
			Cr	0.38	Mo	0.35	CIV	66 J (-30°C)	





Hankook weldtek co .Ltd , .warrant to perform continual improvement processes, develops into producers wire las leading and become a pioneer in the development of technological innovations in the welding. Specialization for producing a kind of wire welding FCAW for the application of low alloy steel, hard surfacing , stainless steel .A quality management system ISO 9001 of DNV in 2010.

FCAW Welding Consumables Products for Carbon Steel, Low Alloy Steel, Stainless Steel and Hardfacing

HIGH TENSILE STEEL									
Type & Specification	DIA (mm)	Current (Amp.)	Chemical Composition (%)				Mechanical Properties		Description & Application
<b>WT-71</b> AWS A5.36 E71T1 -C1[M21]A0-CS1-H8 JIS Z 3313 T49J0T1 -1CA-U H10	1.2 1.6	120-340 160-420	C 0.04 Mn 1.29 Si 0.55	S 0.010 P 0.013	YP 548 MPa TS 580 MPa E 28 % CIV 76 J (-20°C)	WT-71 is designed for welding of 50kgf/mm <sup>2</sup> class high tensile steel. All position welding of building, shipbuilding, bridges, machineries, vehicles, offshore structures and general fabrications. WT-71 is titania type flux cored wire for all position welding with CO <sub>2</sub> . Compared with solid wire, it is has good X-ray safety, spatter loss is low, bead appearance is beautiful and arc is soft with good stability, and has very efficient welding to higher deposition rate. Approved by KS, ABS, DNV, KR, NK, LR, BV, JIS, CE. Current DC+			
<b>WT-111K3</b> AWS A5.36 E111T1 -C1A0-K3-H4 JIS Z 3313 T762T1 -1MA-N3M2 H5	1.2 1.6	120-340 160-420	C 0.04 Mn 1.78 Si 0.36 Ni 2.03	S 0.005 P 0.011 Mo 0.360	YP 767 MPa TS 802 MPa E 20 % CIV 114 J (-20°C)	WT-111K3 is designed for welding of 760MPa high steel with outstanding mechanical properties. Typical applications include high tensile steels that will be used a low temperature environment. Wire is a titania type of flux cored wire for all- position welding, it provides smooth arc, low spatter levels, good weldability and good bead appearance, and it provides excellent values at low temperature. Current : DC+			

CAST IRON									
Type & Specification	DIA (mm)	Current (Amp.)	Chemical Composition (%)				Mechanical Properties		Description & Application
<b>WT-45Ni</b>	1.2 1.6	- -	C 1.04 Si 0.70	Mn 0.22 Ni 45.0	TS 470 MPa E 12 %	WT-45Ni is cast iron metal cored wire. The weld deposit contains approximately 45% Nickel. Machining is possible. It is used for joining and repairing nearly all types of cast iron. It has an extremely low thermal expansion rate, and the physical property of this alloy is suitable for cast iron parts and all applications where tension of shrinkage should be avoided.			

**HARDFACING**

Type & Specification	DIA (mm)	Current (Amp.)	Chemical Composition (%)				Mechanical Properties		Description & Application	
<b>WT-350H</b>	1.2	-	C 0.12	S 0.011	Mn 1.36	P 0.015	H 360 HV		WT-350H is flux cored wire for semi-automatic hardfacing deposit with hardness 33-39 HRC. It is used for the surfacing of gears, wheels, rollers, shaft, etc.	
	1.6	-	Si 0.45	Mo 0.21	Cr 1.30					
<b>WT-450H</b>	1.2	-	C 0.17	S 0.010	Mn 1.50	P 0.012	H 452 HV		WT-450H is flux core wire for semi-automatic hardfacing deposit with hardness 41-47 HRC. It is used for the surfacing of wheel runners, track link, pin ejector.	
	1.6	-	Si 0.45	Mo 0.30	Cr 3.08					
<b>WT-650H</b>	1.2	-	C 0.34	S 0.008	Mn 1.55	P 0.013	H 653 HV		WT-650H is flux cored wire for semi-automatic hardfacing deposit with hardness 55-62 HRC. It is used for the surfacing of gears, cutting edge, screw, bucket teeth, etc.	
	1.6	-	Si 2.80	Mo 0.51	Cr 7.0					
<b>WT-H60C</b>	1.6	150~300	C 4.8	Mn 1.5	Si 1.5	Cr 28	H 60 HRC/ 700 HV		WT-H60C is flux cored wire for heavy-duty wear. It is used for agriculture, mixer blades, screw conveyors, sand dredge parts, undergoing wear by earth, sand and abrasives core wire with high chromium carbide.	

**STAINLESS STEEL**

Type & Specification	DIA (mm)	Current (Amp.)	Chemical Composition (%)				Mechanical Properties		Description & Application	
<b>WT-308LP</b> AWS A5.22 E308LT1-1/4	1.2	130~240	C 0.03	S 0.009	Mn 1.38	P 0.022	YP 422 MPa TS 572 MPa E 41 % CIV 46 J (0°C)		WT-308LP is designed for the welding of low carbon 18%Cr-8%Ni stainless steels. It is a titania type of flux cored wire for all-position welding. It provides the excellent usability with stable arc, less spattering, good bead appearance, better slag removal, and less quantity of welding fume comparable to solid wire. The weld metal contains optimum ferrite contents in their austenitic structures, therefore their weldability is excellent with lower crack susceptibility. Approved by ABS, DNV, JIS, CE.	
	1.6	170~290	Si 0.62	Ni 9.800	Cr 19.8	FN 10.00				
<b>WT-316LP</b> AWS A5.22 E316LT1-1/4	1.2	130~240	C 0.03	S 0.010	Mn 1.33	P 0.021	YP 422 MPa TS 572 MPa E 41 % CIV 46 J (0°C)		WT-316LP is suitable for welding 18%Cr- 12%Ni- 2%Mo stainless steel and designed for all position welding. It provides the excellent usability with stable arc, less spattering, good bead appearance, better slag removal, and less quantity of welding fume comparable to solid wire. It has been used in applications involving special alloy or high temperature services. The presence molybdenum provides increased creep resistance at elevated temperature. Approved by ABS, DNV, JIS, EC.	
	1.6	170~280	Si 0.60	Ni 12.44	Cr 18.61	Mo 2.500				
<b>WT-2209</b> AWS A5.22 E2209T1-1/4	1.2	120~220	C 0.03	S 0.007	Mn 0.80	P 0.020	YP 685 MPa TS 800 MPa E 27 % CIV 54 J (-20°C)		WT-2209 is designed for the welding of 23%Cr- 9%Ni- 3%Mo duplex stainless steels and application in chemical plant and shipbuilding as well as nuclear plant industries. It is titania type of flux cored wire for all-position welding. It has low spatter generation, easy slag removal and good weld soundness. It is excellent in pitting corrosion resistance and stress corrosion cracking resistance. Approved by CE, JIS.	
	1.6	150~250	Si 0.60	Ni 8.600	Cr 22.4	Mo 2.900				

## WELDING CONSUMABLES

Metrode was founded in 1963 as a privately owned company. In the subsequent years it has grown to become the UK's leading manufacturer and supplier of alloyed welding consumables. In November 2006 Metrode joined the Lincoln Electric Company as a business unit within Lincoln Electric Europe. Metrode is particularly strong in those industries which require the highest integrity from their welding consumables, such as: power generation, chemical and petrochemical, offshore oil and gas, LNG and nuclear.

NICKEL BASE CONSUMABLES										
Type & Specification	DIA (mm)	Current (Amp.)	Chemical Composition (%)				Mechanical Properties		Description & Application	
<b>20.70.Nb</b> AWS A5.14 ERNiCr-3	1.6 2.4	300 100	C	0.02	S	0.005	YP	360 MPa	20.70.Nb is TIG wire of nickel base alloys and dissimilar joint between nickel alloys, ferritic and austenitic stainless steel. Nb and Mn are added to give high resistance to hot cracking, tolerance to dilution by many combinations of nickel- base and ferrous alloys, with stable properties over a wide range of service temperature from -269°C to above 900°C. It is widely used for heat-resisting nickel base alloys to themselves for use in furnace equipment and petrochemical plants up to about 900°C. Approved by TUV. Current : DC-	
			Mn	3.00	P	0.010	TS	640 MPa		
			Si	0.10	Nb	2.500	E	40 %		
			Cr	20.0	Cu	0.010	CIV	100 J (-196°C)		
			Ni	73.0	Ti	0.40				
			Fe	1.00						
<b>NIMROD 625KS</b> AWS A5.11 ENiCrMo-3	2.5 3.2	60~80 70~110	C	0.04	S	0.005	YP	500 MPa	Nimrod 625KS is MMA electrode with a basic flux system made on 625 core wire. The electrode is designed to combine easy operation with the deposition of high quality, radiographically sound weld metal and a finished bead of good appearance. It is widely used for its resistance to general corrosion, pitting, crevice and stress corrosion cracking in severe chloride media. In addition to matching alloy 625, suitable for welding heat resisting alloys including Inconel 601 (except severe sulphidising conditions), Incoloy 800/800H, or combinations of these with other alloys for furnace equipment. Approved by TUV. Current : DC +	
			Mn	0.70	P	0.005	TS	800 MPa		
			Si	0.40	Nb	3.2	E	40 %		
			Cr	22	Cu	0.01	CIV	60 J (-196°C)		
			Ni	63	Ti	9.3	H	250 HV		
			Fe	1.5						
<b>62-50</b> AWS A5.14 ERNiCrMo-3	2.4	100	C	0.015	S	0.004	YP	470 MPa	62-50 is solid wire for TIG of nickel base 625 consumables. It is widely used for its resistance to general corrosion, pitting, crevice and stress corrosion cracking in severe chloride media. In addition to matching alloy 625, suitable for welding heat resisting alloys including Inconel 601 (except severe sulphidising conditions), Incoloy 800/800H, or combinations of these with other alloys for furnace equipment. Approved by TUV. Current : DC-	
			Mn	0.02	P	0.004	TS	745 MPa		
			Si	0.05	Nb	3.500	E	42 %		
			Cr	22.0	Cu	0.05	CIV	80 J (-196°C)		
			Ni	65.0	Al	0.200				
			Fe	0.20	Ti	0.200				
			Mo	9.00						

Cr- Mo CREEP RESISTING CONSUMABLES									
Type & Specification	DIA (mm)	Current (Amp.)	Chemical Composition (%)				Mechanical Properties		Description & Application
<b>CHROMET 9MV-N</b> AWS A5.5 E9015-B91 H4	2.5 3.2	70-110 80-140	C	0.10	S	0.008	YP	640 MPa	Chromet 9MV-N is basic metal powder type made on high purity steel core wire with Ni addition and lower Nb for improved toughness. It is specifically intended for high integrity structural service at elevated temperature. It is widely used for component such as headers, main steam piping, valve and turbine casings, in fossil fuelled power generating plants. Approved by TÜV. Current : AC/DC+.
			Mn	0.60	P	0.01	TS	770 MPa	
			Si	0.25	V	0.20	E	22 %	
			Cr	9.00	N	0.05	CIV	65 J (20°C)	
			Ni	0.70	Cu	0.05	H	450 HV	
			Mo	1.00	Nb	0.05			
<b>9CrMoV-N</b> AWS A5.28 ER90S-B9	2.4	100	C	0.10	Nb	0.05	YP	675 MPa	9CrMoV-N is TIG wire for low alloy steel modified 9CrMo (P91). It is specifically intended for high integrity structural service at elevated temperature. It is widely used for component such as headers, main steam piping, valve and turbine casings, in fossil fuelled power generating plants. Approved by TÜV. Current : DC-.
			Mn	0.50			TS	780 MPa	
			Si	0.25	V	0.200	E	22 %	
			Cr	9.00	N	0.050	CIV	220 J (20°C)	
			Ni	0.60	Cu	0.030	H	265 HV	
			Mo	1.00	Al	<0.01			
<b>9CrWV</b> AWS A5.28 ER90S-G (92)	2.0 2.4	100	C	0.10	S	0.004	YP	700 MPa	9CrWV is 9Cr steel alloyed with W, Mo, V, Nb, and N for high temperature creep resistance. It is designed to weld equivalent 'type 92' 9%Cr steels modified with tungsten, vanadium, niobium, nitrogen and a small addition boron to give improved long term creep properties. Current : DC-.
			Mn	0.75	P	0.008	TS	800 MPa	
			Si	0.30	V	0.2	E	22 %	
			Cr	9.00	N	0.05	CIV	220 J (20°C)	
			Ni	0.5	Nb	0.06	H	265 HV	
			Mo	0.45	W	1.7			
<b>1NiMo.B</b> AWS A5.5 E9018-G H4	3.2 4.0	80-140 100~180	C	0.07	Ni	1.0	YP	677 MPa	1NiMo.B is MMA electrode with a basic flux coating on high purity mild steel core wire. Moisture resistant coating provides very low weld metal hydrogen levels. It is used for welding WB36/P36 steel. Current : AC/DC+.
			Mn	1.2	Mo	0.4	TS	744 MPa	
			Si	0.3	Cu	0.05	E	25 %	
			P	0.01	V	0.01	CIV	130 J (0°C)	
			Cr	0.1					

OXIDATION RESISTANT 253MA ALLOY CONSUMABLES									
Type & Specification	DIA (mm)	Current (Amp.)	Chemical Composition (%)				Mechanical Properties		Description & Application
<b>SUPERMET 253MA</b>	2.5 3.2	50-75 75~120	C	0.06	Ni	10.3	YP	550 MPa	Supermet 253 Ma is MMA electrode with an acid rutile flux system on alloyed core wire. It is design to match equivalent alloy with excellent resistance to oxidation up to about 1100 °C. Resistance to sulphidation under oxidising conditions is superior to many higher nickel heat-resistant alloy. Application include furnaces & furnace parts, high temperature flues, exhausts and heat recuperator system, combustion nozzles. Current AC/ DC+.
			Mn	0.8	Mo	0.1	TS	705 MPa	
			Si	1.5	N	0.16	E	40 %	
			Cr	22	Cu	0.1	CIV	50 J (-196°C)	

## OUR PRODUCT WELDING MACHINE

### LORCH

Smart welding machine solutions for Industry, Production, and Assembly – More than 50 years, we have been engineering and manufacturing premium-quality welding equipment for industrial and commercial use made in Germany.



**5 years** for main rectifiers and main transformers (solely material replacement from the fourth year, see Section II, Clause 2),

**3 years** on Lorch welding systems and on the products „Control“, „Feed“, „Q-Data“, „Q-Sys“,

**2 years** for EC-Clean products and welding machines from Lorch special sales,

**1 year** for automation products, TEG equipment and remote controls, water-circulation cooling devices and drives – like Wirefeed Case, Intermediate Drive, NanoFeeder and RoboFeeder –, water pumps, ventilators and main contactors, helmets and battery chargers, as well as „MobilePower 1“, up to a maximum quantity of 1000 charging cycles or a remaining capacity of 70%,

**6 months** for replacement parts which were not supplied in conformance with this manufacturer warranty.



*MicroStick 160 Accu Ready*

#### BENEFITS

- Arc-Force regulation.
- Dependable.
- Robust and protected against falls from a height of up to 80 cm.
- Energy-efficient.
- Cutting-edge inverter technology.
- Mobile.
- Safety (Bearing the IP23 and S-symbol).

#### MicorStick MicorStick & MobilePower

Cut off from the mains supply, yet still powerful. High-performance battery technology makes it possible. First-rate welding performance where you need it. Up to 28 electrodes (ø 2.5 mm) powered with just one battery charge. MicorStick "Accu-ready" and MobilePower 1 by Lorch – the dream team for your mobile welding applications.

MicorStick series	MicorStick 160	Mobile Power (Battery)	
<b>Welding range (A)</b>	10-150/160	Power (Wh)	604.8
<b>Duty cycle 100% (Amps)</b>	110	Dimensions (mm)	323x131x215
<b>Duty cycle 60% (Amps)</b>	120	Weight (kg)	7
<b>Duty cycle at max. current (%)</b>	30%	Charge Time	150 Min
<b>Weldable electrodes (mm)</b>	1,5 - 4,0		
<b>Mains voltage (V)</b>	230	Max. Welding Electrode Capacity	
<b>Mains tolerance</b>	+15%/-40%	ø 2,5 mm	28 electrodes
<b>Dimensions (mm)</b>	360x130x215	ø 3,2 mm	12 electrodes
<b>Weight (kg)</b>	4,9		

# LORCH SMAW WELDING MACHINE

Manufactured and tested according to DIN EN 60974-1  
with CE mark, S-Symbol and IP 23

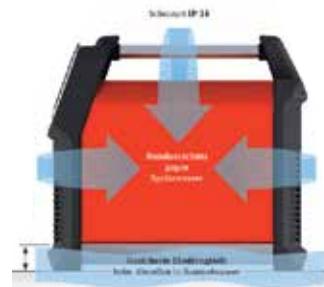
Model	MicorStick 160	Handy 160	Handy 180	Handy 200
<b>Welding Range (A)</b>	10 – 150	5 – 160	5 – 180	10 – 200
<b>Weldable electrode (mm)</b>	1.0 – 4.0	1.5 – 4.0	1.5 – 4.0	1.5 – 5.0
<b>Weldable TIG (mm)</b>	1.0 – 2.4	1.0 – 2.4	1.0 – 2.4	1.0 – 3.2
<b>Mains Voltage (V)</b>	1 – 230	1 – 230	1 – 230	3 – 400
<b>Mains Tolerance</b>	+15 % / -40 %	+15 % / -25 %	+15 % / -25 %	+15 % / -25 %
<b>Duty Cycle 100%</b>	110 A	115 A	115 A	130 A
<b>Duty Cycle 60%</b>	120 A	135 A	135 A	150 A
<b>Duty Cycle I Max</b>	30 %	40 %	40 %	30 %
<b>Dimensions (mm)</b>	340 x 131 x 215	337 x 130 x 211	337 x 130 x 211	337 x 130 x 211
<b>Net Weight (Kg)</b>	4.9	5.3	5.7	5.8
<b>Features</b>	<ul style="list-style-type: none"> <li>Extremely robust with minimal weight.</li> <li>Fall protection up to 80 cm.</li> <li>Inside Coating for long service life.</li> <li>Generator Compatible.</li> <li>With Anti-stick System, Arc Force regulation and Hotstart technology for perfect ignition.</li> <li>Highly efficient and low energy consumption due to the most modern power electronics.</li> </ul>			



Handy Series



X 350



X 350

## X 350

Built for extreme use.

Extra powerful for large electrodes and, thanks to MicorBoost, excellent for CEL. The X is used wherever demanding welding jobs need to be performed on a daily basis. More often than not, these jobs must be performed in the harshest conditions and rough terrain. For this reason, the X is equipped with everything you might need for operation outside of the workshop.



### BENEFITS

- Electrode vertical seam welding with MicorUp
- Wear-resistant
- Dependable
- Gouging
- CC and CV curve for MIG-MAG welding

X 350 Basic Plus/Control Pro	
<b>Welding range (A)</b>	10-350
<b>Duty cycle 100% (Amps)</b>	230
<b>Duty cycle 60% (Amps)</b>	280
<b>Duty cycle at max. current (%)</b>	35%
<b>Weldable electrodes (mm)</b>	1.5-8.0 (CEL 6.0)
<b>Weldable TIG (mm)</b>	1,0-4,0
<b>Mains voltage (V)</b>	400
<b>Mains tolerance</b>	+25%/-40%
<b>Dimensions (mm)</b>	515x185x400
<b>Weight (kg)</b>	18,6/20,2

# LORCH GMAW WELDING MACHINE

## MicorMIG - SERIES

It's time to start thinking differently.

Lorch MicorMIG sets new standards and makes switching to a modern, infinitely variable welding system as easy and effective as can be.

Apart from offering outstanding welding performance on sheet metal and in the area of medium to heavy steel work the system also offers an exceptional price-performance ratio and simply comes across as a better alternative to the common transformer system. Also, certified in accordance with EN 1090.



### BENEFITS

- EN 1090-certified.
- Ready for Speed.
- Job management.
- PushPull.
- Welder identification made easy.
- Gouging.

MicorMIG series	MicorMIG 300	MicorMIG 350	MicorMIG 400	MicorMIG 500
Welding range (A)	25-300	25-350	30-400	30-500
Duty cycle 100% 40 °C (Amps)	200	250	300	370
Duty cycle 60% 40 °C (Amps)	250	300	370	430
Duty cycle at max. current 40 °C (in%)	45%	45%	45%	45%
Weldable wires steel (mm)	0,6-1,2	0,6-1,2	0,6-1,6	0,6-1,6
Weldable wires aluminium (mm)	1,0-1,2	1,0-1,2	1,0-1,6	1,0-1,6
Weldable wires copper silicon (mm)	0,8-1,2	0,8-1,2	0,8-1,2	0,8-1,2
Mains voltage (V)	400			
Mains tolerance	+15/-30			
Dimensions (mm)	880x490x955	880x490x955	880x490x955	880x490x955
Weight (kg)	58	58	61	64

## S - SERIES

Extra fast. Extra low-spatter.

Extra proficient handling.

### BENEFITS

S-SpeedPulse XT turns you into the undisputed Master of the Arc. This is assured by the patented control technology of the new Lorch S-series. It combines the new S-SpeedPulse XT process and all of the benefits of the earlier SpeedPulse welding process. Add the extremely robust and stable properties of the arc, and you will get: improved handling, higher quality with next to no spatter and, consequently, a much lower amount of rework. This is what we call welding at the pulse of time.

- Compact
- SpeedPulse XT
- Variable arc length adjustment
- Welding over tack welds
- EN 1090-certified
- Data documentation
- Remote control
- Case variants
- Adaptable
- PushPull-ready
- Job tool
- Energy-efficient

- Quatromatic
- Intuitive operation
- TipTronic
- Plug & Weld



S series	S3 SpeedPulse XT	S3 SpeedPulse XT mobile	S5 SpeedPulse XT	S8 SpeedPulse XT
Welding range (A)	25-320	25-320	25-400	25-500
Duty cycle 100% 40 °C (Amps)	250	250	320	400
Duty cycle 60% 40 °C (Amps)	280	280	350	500
Duty cycle at max. current 40 °C (%)	40%	40%	50%	60%
Weldable wires steel (mm)	0,6-1,2	0,6-1,2	0,6-1,6	0,6-1,6
Weldable wires aluminium (mm)	1,0-1,2	1,0-1,2	1,0-1,6	1,0-2,4
Weldable wires copper silicon (mm)	0,8-1,2	0,8-1,2	0,8-1,2	0,8-1,2
Mains voltage (V)	400			
Mains tolerance	+/-15%			
Dimensions (mm)	1116x463x812	812x340x518	1116x463x812	1116x463x812
weight (kg)	92,8	34	97,3	107,3

# LORCH GMAW WELDING MACHINE

## THE P - SERIES

Productive, stable, fast.

The P series is already impressive with outstanding MIG-MAG welding characteristics which let every welder work more easily and in a more productive way. We offer an incredibly stable and easy to control arc across the complete current range. The SpeedArc feature of the P series also allows you to activate the MIG-MAG "turbo" and weld up to 30% faster. It is ideal for narrow joints, saves material and achieves higher strength due to the improved deeper penetration.

P series	P 3000 mobile	P 3500	P 4500	P 5500
<b>Welding range (A)</b>	25-300	25-350	25-450	25-550
<b>Duty cycle 100% 40 °C (Amps)</b>	250	260	360	400
<b>Duty cycle 60% 40 °C (Amps)</b>	280	300	400	500
<b>Duty cycle at max. current 40 °C (%)</b>	50%	30%	30%	30%
<b>Weldable wires steel (mm)</b>	0,6-1,2	0,6-1,2	0,6-1,6	0,6-1,6
<b>Weldable wires aluminium (mm)</b>	1,0-1,2	1,0-1,2	1,0-1,6	1,0-2,4
<b>Weldable wires copper silicon (mm)</b>	0,8-1,2	0,8-1,2	0,8-1,2	0,8-1,2
<b>Mains voltage (V)</b>	400			
<b>Mains tolerance</b>	+/-15%			
<b>Dimensions (mm)</b>	812x340x518	1116x463x812	1116x463x812	1116x463x812
<b>weight (kg)</b>	34	92,8	97,3	107,3



## BENEFITS

- Infinitely variable welding inverter for MIG-MAG welding and electrode welding function
- Digital regulation technology for reliable, faster, and spatter-free ignition
- Automatic arc length regulation for balancing unevenness
- Automatic, infinitely variable welding choke adjustment for dynamic welding behavior
- Double feeder variants with one or two separate wire feeders

## THE MX 350

Daily routine at the construction site:

Hard installation work, inspections looming, all trades are rushing to finish the job. Costly rework or delays are out of the question. Not a challenge at all if you have the Lorch MX 350.

## BENEFITS

- Gouging.
- Dependable
- Electrode welding function



MX 350	
<b>Welding range (A)</b>	10-350
<b>Duty cycle 100% 40 °C (Amps)</b>	230
<b>Duty cycle 60% 40 °C (Amps)</b>	280
<b>Duty cycle at max. current 40 °C (%)</b>	35%
<b>Weldable wires steel (mm)</b>	0,8-1,2
<b>Weldable wires aluminium (mm)</b>	1,0-1,2
<b>Weldable wires copper silicon (mm)</b>	0,8-1,2
<b>Mains voltage (V)</b>	400
<b>Mains tolerance</b>	+25%/-40%
<b>Dimensions (mm)</b>	515x185x400
<b>Weight (kg)</b>	18,6
MX 350 Feeder Case	
<b>Feeder Speed</b>	2.0-15.0 m/min
<b>Dimensions (mm)</b>	480x200x270
<b>Weight (kg)</b>	10
<b>Interpass length (m)</b>	5/10/15

# LORCH GTAW WELDING MACHINE

## THE HANDY TIG - SERIES

Professional TIG welding quality in DC or AC modes does not have to be complicated

HandyTIG series	HandyTIG 160	HandyTIG 180	HandyTIG 200
Welding range (A)	5-160	3-180	3-200
Weldable TIG (mm)	1.0-2.4	1.0-3.2	1.0-3.2
Weldable electrodes (mm)	1.5-4.0	1.5-4.0	1.5-4.0
Duty cycle 100% (Amps) – AC/DC	115/115	130/130	160/160
Duty cycle 60% (Amps) – AC/DC	135/135	150/150	180/180
Duty cycle at max. Current (%) – AC/DC	40	30/35	45/45
Mains voltage (V)	230	230	230
Mains tolerance (%)	+15/-25	+15/-25	+15/-25
Dimensions (mm)	337x130x211	337x130x211 480x185x326	480x185x326
Weight (kg)	5.3	6.5/13.3	13.4



## BENEFITS

- Compact and protected against falls
- Electrode welding function
- Intelligent Torch Control
- Energy-efficient
- Job memory

## THE T - SERIES

TIG perfection on the move and in your manufacturing operation.

T series	T 180	T 220	T 250	T 300
Welding range (A)	3-180	3-220	5-250	5-300
Weldable TIG (mm)	1.0-3.2	1.0-3.2	1.0-4.0	1.0-4.0
Weldable electrodes (mm)	1.5-4.0	1.5-4.0	1.5-5.0	1.5-5.0
Duty cycle 100% (Amps) – AC/DC	130/130	160/160	175/175	180/200
Duty cycle 60% (Amps) – AC/DC	150/150	180/180	200/200	220/250
Duty cycle at max. Current (%) – AC/DC	35/35	40/40	35/35	35/35
Mains voltage (V)	230	230	400	400
Mains tolerance (%)	+/-15			
Dimensions (mm)	483x185x325	483x185x325	483x185x325	483x185x325
weight (kg)	12.2/13.3	12.3/13.4	14.3/16.3	14.5/16.3



## BENEFITS

- Intelligent Torch Control
- Low energy consumption
- Protected against falls from a height of up to 60 cm
- Non-contacting HF ignition

## THE V - SERIES

The V is the professional TIG industrial system.

V series	V 24	V 24 mobile	V 27	V 30	V 30 mobile	V 40	V 50
Welding range (A)	3-240	3-240	3-270	3-300	3-300	3-400	3-500
Weldable TIG (mm)	1.0-3.2	1.0-3.2	1.0-3.2	1.0-4.0	1.0-3.2	1.0-4.0	1.0-4.0
Weldable electrodes (mm)	1.5-4.0	1.5-4.0	1.5-4.0	1.5-6.0	1.5-6.0	1.5-6.0	1.5-6.0
Duty cycle 100% (Amps) – AC/DC	210/220	190/220	250/250	250/250	240/270	360/360	380/380
Duty cycle 60% (Amps) – AC/DC	230/240	220/240	270/270	300/300	280/300	400/400	500/500
Duty cycle at max. Current (%) – AC/DC	50/60	50/60	60/60	60/60	50/60	60/60	60/60
Mains voltage (V)	400						
Mains tolerance (%)	+/-15						
Dimensions (mm)	1130x450x815	812x283x518	1130x450x815	1130x450x815	812x283x518	1130x450x860	1130x450x860
weight (kg)	84,6/90,5	29,4/35,1	85,0/92,0	86,4/93,6	31,0/37,0	107,6/121,5	108,7/123,2



## BENEFITS

- The SmartBase expert database provides for optimum arc conditions
- Low energy consumption
- Pulse and fast pulse up to 20 kHz
- Plain text display with language selection and TipTronic
- Automatic final current reduction

## TIME SMAW WELDING MACHINE



**TAZ 2100**



**PE10-160**



**PE60-400**



**PE12-3 X 400**

Model	TAZ 2100	ZX7-160 (PE10-160)	ZX7-400 (PE60-400)	ZX7-400 (PE12-3 X 400)	ZX7-500 (PE50-500)	ZX7-630 (PE52-630)
<b>Welding Range (A)</b>	30 - 210	10 - 160	20 - 400A	15 - 400	25 - 520	50 - 630
<b>Arc force adjusting range ( A )</b>	-	-	0 - 200	-	0 ~ 200	-
<b>Rated Input Current (A)</b>	32	24	26A	3 x 28	34	50
<b>Mains Voltage (V)</b>	1 - 220	1 - 220	3 - 380	3 - 380	3 - 380	3 - 380
<b>Mains Tolerance</b>	10 %	15 %	± ( 15-20 ) %	± ( 15-20 ) %	± ( 15-20 ) %	± ( 15-20 ) %
<b>No-load Voltage (V)</b>	63	60	76	< 80	65 - 75	83
<b>Duty Cycle</b>	35 %	60 %	60 %	60 %	60 %	100 %
<b>Case Protection Grade</b>	IP21	IP23S	IP23S	IP21S	IP21	IP23
<b>Dimensions (mm)</b>	325 x 180 x 280	408 x 181 x 323	560 x 300 x 530	788 x 327 x 1056	698 x 360 x 780	700 x 360 x 783
<b>Net Weight (Kg)</b>	5	7.5	33	120	58	75
<b>Description</b>	Dual power input adaptive	MOSFET technology, invert frequency is 100 Hz. Plastic Case	Over 200m long welding cable can be used; Gouging	It can be used as three welder independence and widely used in the field of shipbuilding.	The cable can be lengthened. Be suitable for air carbon arc gouging (lower than 520A/45V).	High efficiency of air carbon arc gouging. Switch for MMA/Gouging on front panel. 100% duty cycle.

### Main Feature :

- 6 sets or 4 sets of ZX7-400/500, WS-400 install centralized in one container.
- Excellent shape, cables are tidy.
- Easy to arc striking. Arc is stable. Good welding seam.
- Container with lock, it is convenient to manage.
- The container's ventilation is good due to the persian blinds structure on its sides except the door and it is waterproof.
- The covers can be opened with angle adjustable.
- Welding cable leads from the bottom of the power so the power structure is simple and easy to connect.
- The remote control socket is placed in one side of the container, so it is tidy.
- Suitable for shipyard and other field environment, installation convenient and easy to manage.



### Whole sets specifications:

Item	Container with 4 sets ZX7 - 400	Container with 6 sets ZX7-400
<b>Rated Input Voltage (V)</b>	3 phase 380V + 15% 50-60 Hz	3 phase 380V + 15% 50-60 Hz
<b>Rated input power (KW)</b>	56	87
<b>Dimension ( L x W x H ) (mm)</b>	1070 x 750 x 1640	1430 x 750 x 1640
<b>Container net weight ( kg )</b>	125	195
<b>Total weight ( kg )</b>	281	429

### Single Power Source specifications:

Model	ZX7-400 (PE50-400)	No-load Voltage (V)	< 80
<b>Welding Range (A)</b>	-	No-load Voltage (V)	< 80
<b>Arc force adjusting range ( A )</b>	26 -410	Duty Cycle	60 %
<b>Rated Input Current (A)</b>	-	Case Protection Grade	IP21S
<b>Mains Voltage (V)</b>	3 - 380	Dimensions (mm)	700 x 340 x 610
<b>Mains Tolerance</b>	± ( 15-20 ) %	Net Weight (Kg)	36.5

## TIME MIG/ GMAW WELDING MACHINE

Model	NB-200 (A150-200)	NB-250 (A150-250)	NB-350 (A160-350)	NB-500 (A160-500S)	NB-500 (A160-500)	NB-630 (A160-630)	
<b>Welding Range (A)</b>	50 – 200	50 – 250	20 – 350	30 – 500	20 – 500	100 – 630	
<b>Wire Feed Rate Range (m/min)</b>	15 – 16	18 – 20	2 – 25	2 – 22	2 – 25	15 – 50	
<b>Suitable Welding Wire Dia (mm)</b>	0.8 – 1.0 (steel)	0.8 – 1.0 (steel)	0.8 / 1.0 / 1.2 (steel)	0.8 / 1.0 / 1.2 (steel)	1.0 / 1.2 / 1.6 (steel)	1.0 / 1.2 / 1.6 (steel)	
<b>Suitable Welding Wire Type</b>	Solid	Solid	Solid / Flux-cored	Solid / Flux-cored	Solid / Flux-cored	Solid / Flux-cored	
<b>Rated Input Current (A)</b>	29	14	22	34	34	40	
<b>Mains Voltage (V)</b>	1 – 220	3 – 380	3 – 380	3 – 380	3 – 380	3 – 380	
<b>Mains Tolerance</b>	± 15%	± 15%	± 10%	± 10%	± 10%	± (15-20) %	
<b>No-load Voltage (V)</b>	50	50	66 ± 5%	64 ± 5%	76 ± 5%	73 ± 5%	
<b>Duty Cycle</b>	60%	60%	60%	60%	60%	85%	
<b>Case Protection Grade</b>	IP21S	IP21S	IP23S	IP23S	IP23S	IP23S	
<b>Dimensions (mm)</b>	500 x 273 x 500	500 x 273 x 500	560 x 300 x 530	660 x 300 x 530	660 x 300 x 530	700 x 360 x 783	
<b>Power Source Net Weight (Kg)</b>	24	27	40	45	49	82	
<b>Wire Feeder Net Weight (Kg)</b>	-	-	9	9	9	9	
<b>Description</b>	Compact (Built in wire feeder)	Compact (Built in wire feeder)	Separated Wirefeeder Plastic Case	Separated Wirefeeder			



NB-200



NB-350/S



NB-500/S



NB-630

## TIME TIG/GTAW WELDING MACHINE

Model	WS-180 (PNE60-180)	WS-200 (PNE60-200)	WS-250 (PNE10-250)	WS-315 (PNE61-315)	WS-400 (PNE13-400)	WS-400 (PNE61-400)
<b>Welding Range (A)</b>	10 – 180	10 – 200	5 – 250	5 – 320	15 – 400	5 – 410
<b>Slope up time (s)</b>	-	-	10	0.1 – 99.9	0 – 15	0.1 – 99.9
<b>Slope down time (s)</b>	-	-	0 – 12	0.1 – 99.9	0 – 15	0.1 – 99.9
<b>Pre-flow time (s)</b>	-	-	0.4	0 – 13	0.5	0 – 13
<b>Post-flow time (s)</b>	-	-	5	0.1 – 50	5	0.1 – 50
<b>Rated Input Current (A)</b>	24	20	-	-	-	-
<b>Rated Input Power (KW)</b>	-	-	8.8	12.1	17	17
<b>Mains Voltage (V)</b>	1 – 220	1 – 220	3 – 380	3 – 380	3 – 380	3 – 380
<b>Mains Tolerance</b>	± 15%	± 15%	± (10-20) %	± (10-20) %	± (10-20) %	± (10-20) %
<b>No-load Voltage (V)</b>	60	42	65 ± 5%	50 – 70	75 ± 5%	50 – 70
<b>Duty Cycle</b>	60%	60%	60%	60%	60%	60%
<b>Case Protection Grade</b>	IP23S	IP23S	IP21S	IP23S	IP32S	IP23S
<b>Dimensions (mm)</b>	408 x 181 x 323	408 x 181 x 323	460 x 210 x 438	560 x 300 x 530	700 x 340 x 610	560 x 300 x 530
<b>Power Source Net Weight (Kg)</b>	7.5	8	18	32	44	34
<b>Description</b>	Mosfet technology, invert frequency 100Hz. Plastic case	Mosfet technology, invert frequency 100Hz. Plastic case	IGBT technology.	IGBT technology. Whole digital control. Easy to operate.	Suitable for cellulose welding.	Whole digital control. Easy to operate.



WS-180/200



WS-315/400 (PNE61)



WS-400 (PNE13)

## TIME TIG/GTAW PULSE WELDING MACHINE

	Pulse TIG		AC/DC Pulse TIG	
Model	WSM-160 (PNE10-160P)	WSM-200 (PNE20-200P)	WSE-250 (PNE20-250ADP)	WSE-315 (PNE20-315ADP)
<b>Welding Range (A)</b>	5 – 160	10 – 200	10 – 250	5 – 320
<b>Slope up time (s)</b>	1	1	0.1 – 10	0.1 – 99.9
<b>Slope down time (s)</b>	0 – 10	0 – 10	0.1 – 10	0.1 – 99.9
<b>Pre-flow time (s)</b>	-	-	0.1 – 15	0 – 13
<b>Post-flow time (s)</b>	-	-	1 – 15	0.1 – 50
<b>AC Frequency (Hz)</b>	-	-	0.5 – 100	0.5 – 100
<b>AC Balance</b>	-	-	10% – 50%	10% – 50%
<b>Rated Input Power (KW)</b>	4.77	4.77	8.8	12.1
<b>Mains Voltage (V)</b>	1 – 220	1 – 220	3 – 380	3 – 380
<b>Mains Tolerance</b>	± 15%	± 15%	± ( 15-20 ) %	± ( 15-20 ) %
<b>No-load Voltage (V)</b>	50 – 70	50 – 70	63 ± 6	67 ± 5
<b>Duty Cycle</b>	35%	35%	60%	100%
<b>Case Protection Grade</b>	IP21S	IP21S	IP21S	IP21S
<b>Dimensions (mm)</b>	455 x 214 x 340	455 x 214 x 340	700 x 340 x 530	700 x 340 x 530
<b>Power Source Net Weight (Kg)</b>	11	11	40	63
<b>Description</b>	TIG Pulse TIG/MMA function.		Multi functions : AC Square wave, DC Pulse, DC TIG, MMA & Spot TIG welding.	



WSM-200

WSE-250/315

## TIME PLASMA CUTTING MACHINE

Model	LGK-40	TDL 600	TDL 800	TDL 1000	TDL 1200
Rated input voltage	1-220V + 10% 50-60Hz	3-380 + ( 15-20 ) % 50-60Hz	3-380V +15% 50/60Hz	3-380V +15% 50/60Hz	3-380 + ( 15-20 ) % 50-60Hz
Rated input power (KW)	4	6.5	9	13.8	17.7
No-load voltage (V)	230	307±5%	307±5%	307±5%	307±5%
Current adjusting range (A)	10 - 40	20 - 60	25 - 80	30 - 100	30 - 120
Rated output voltage (V)	96	104	112	120	128
Duty cycle	60 %	60 %	60 %	60 %	60 %
Quality cutting thickness (mm)	8	20	25	30	35
Max. cutting thickness (mm)	12	35	40	45	50
Dimensions (mm)	375 x 155 x 240	592 x 290 x 503	592 x 290 x 503	650x326x567	650 x 326 x 567
Net weight (Kg)	8	33	33	46	46
Gas flow (L/mim)			180 - 400		
Efficiency ( η )			90 %		
Case Protection Grade	IP 21		IP 23S		
Features	<ul style="list-style-type: none"> <li>Continuous adjustment for cutting current.</li> <li>Outstanding cutting quality.</li> <li>Two cutting states: hold and no hold.</li> <li>Post gas function.</li> <li>Protective functions: overheat, over-current, under-voltage and power phase absence, etc.</li> </ul>				



LGK-40



TDL Series



MZ Series

## TIME AUTOMATIC SUBMERGED ARC WELDING MACHINE

Model	MZ-630 ( A310-630 )	MZ-1000 ( A310-1000 )	MZ-1250 ( A310-1250 )
Welding Range (A)	120 - 630	150 - 1000	150 - 1250
Mains Voltage (V)		3-380 + ( 15-20 ) % 50-60Hz	
Rated input current (A)	50	80	100
Rated input power (KW)	33	52	65
Voltage adjusting range (V)		20 - 50	
Duty cycle	100 %	100 %	60 %
Welding tractor travel speed (m/hr)		6 - 72	
Wire feed rate range (m/min)	1 - 6.5	0.5 - 2.5	0.5 - 2.5
Suitable welding wire Dia. ( mm )	1.6 - 2.4	3.2 - 5.0	3.2 - 5.0
Dimensions of power source (mm)	810 x 345 x 1022	810 x 345 x 1022	810 x 345 x 1022
Net weight of power source (Kg)	90	98	98
Dimensions of welding tractor (mm)	1038 x 480 x 628	1038 x 480 x 628	1038 x 480 x 628
Net weight of welding tractor (Kg)	51	51	51
Efficiency ( η )		90 %	
Case Protection Grade		IP 23	
Features	<ul style="list-style-type: none"> <li>Remote/panel control selection. Tractor traveling mode and direction control function.</li> <li>MMA welding and air carbon arc gouging with suitable carbon electrode.</li> <li>Welding current and welding voltage as well as travel speed of welding tractor can all be preset and welding voltage.</li> <li>Protective functions: overheat, over-current, under-voltage and power phase absence, etc.</li> </ul>		

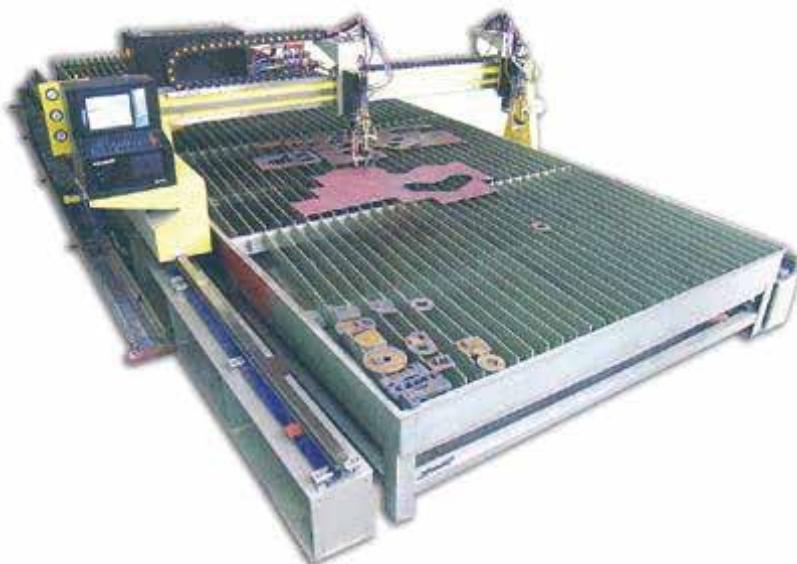
## NUMERICAL CONTROL CUTTING MACHINE

### **TDC I (Single Drive)**

Track width: 2-4m, Track length: As per customers  
 Sturdy portal design, nest-structured crossbeam  
 Track guide surface is made by precise mechanical process with good rigidity, high precision, excellent radiator effect. Suitable for varieties of numerical control system and plasma sources

### **TDC II (Double Drive)**

Portal design with bilateral longitudinal drives Excellent rigidity, small inertia Track width: 4-7m Suitable for oxy-gas and plasma cutting



Model	Track distance	Working width	Machine width
TDC I	2500	1800	3300
	3000	2300	3800
	3500	2800	4300
	4000	3300	4800
TDC II	4500	3800	5300
	5000	4300	5800
	5500	4800	6300
	6000	5300	6800
	6500	5800	7300
	7000	6300	7800

Standart Outfit

Quantity of torch: 2 for basic outfit (or as per customer)

Torch lifting height: < 170mm

Cutting thickness: 6~160mm for flame cutting: 0.5~60mm for plasma cutting

Speed: 0~10000mm/min for travel speed, 0~6000mm/min for cutting speed Longitudinal track: 2m/piece (or as per customer)

- Multiform building block system
- Holistic table-flap
- Fitting cable with plastic pulling
- Built-in weight balance
- Reliable hoist or lower parts
- Machine tool rail design

This unit adopts building block system, it can be transformed to various models. All above various X arm achieve hoists or lower and flexible on column by sliding devices, to accomplish welding of unbent seam by X arm's flexibility, to accomplish welding of girth seam by rubber wheel driving workpiece along with rotators. TZ 3.5 \* 3.5 upwards can be added inner-extension arm. TZ-5\*5 upwards can add chair for the operating worker. TZ6 upwards can add walk platform on the boom.



## TIME MANIPULATOR

This unit is made up of elevator, trolley, rotator and electric control system. The basic model is fixed column, customers can choice rotator, trolley and crossed electric-inching dragging board according to their requirement. Below are the specification of various models:

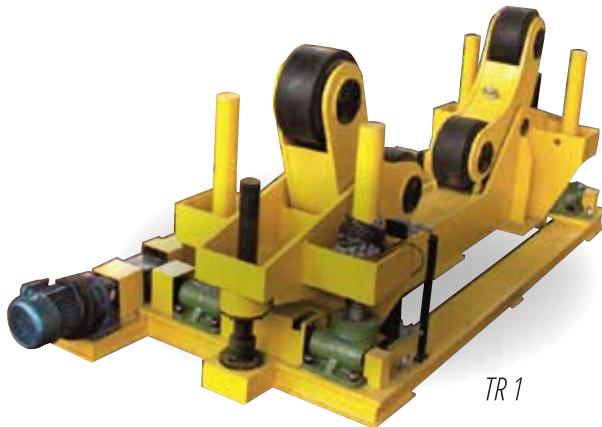
- “TZ” do not have a trolley, and the column can't rotate.
- “TZ1” do not have a trolley, but the column can rotate manually.
- “TZ2” do not have a trolley, but the column can rotate electrically.
- “TZ3” has electric driving trolley, but the column can't rotate.
- “TZ4” has electric driving trolley, and electric column rotation function is available.

Specification	2 x 2	3 x 3	4 x 4	5 x 5	6 x 6	7 x 7	8 x 8
<b>The X arm hoists or lower journey ( m )</b>	2	3	4	5	6	7	8
<b>Effective flexible journey of X arm ( m )</b>	2-4	2.5-5	3-7	4-8	4-8	4-8	4-8
<b>Turning range round in the post</b>	$\pm 180^{\circ}$						
<b>The X arm hoists or lower speed ( mm/min )</b>	1000						
<b>Flexible speed of X arm ( mm/min )</b>	150-1500 ( stepless speed regulation )						
<b>Turning speed round in the post</b>	0.2						
<b>The total load capacity on the X arm ( Kg )</b>	100	200	300	400	500	500	500
<b>Rail type / center distance of rail</b>	P43/2000(P34/2500)						

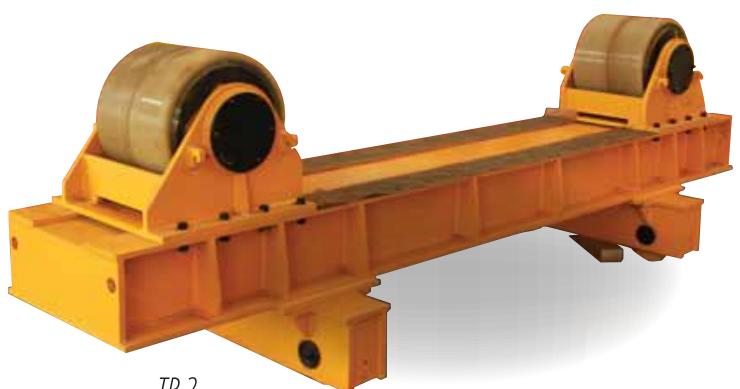
# TIME ROLL ROTATOR

TR1-Series (Self-aligning welding rotator)

Model			TR1-5T	TR1-10T	TR1-20T	TR1-30T	TR1-40T	TR1-50T	TR1-60T	TR1-80T	TR1-100T	TR1-150T	TR1-200T		
Load capacity (T)			5	10	20	30	40	50	60	80	100	150	200		
Roller group	Two	Steel	Diameter (mm)	-	-	-	340	340	390	390	490	490	540		
			Width (mm)	-	-	-	30	30	40	40	60	60	100		
	One	Rubber	Diameter (mm)	250	250	300	350	350	400	400	500	500	600		
			Width (mm)	120	120	140	120	120	120	120	120	120	400		
Diameter of work piece			Min (mm)	350	350	600	600	600	750	800	900	900	1000		
			Max (mm)	2500	2500	4000	4500	4500	5000	5000	5500	5500	6000		
Roller speed (m/h)			100-1000												
Motor power			1×0.25	2×0.25	2×0.37	2×0.37	2×0.55	2×0.75	2×0.75	2×1.1	2×1.5	2×2.2	2×5.5		
Speed regulating mode			Stepless speed regulation												
Overall size	Length (mm)	Power	1220	1220	1740	1980	1980	2240	2240	2540	2540	3050	4610		
		Idle	1220	1220	1740	1980	1980	2240	2240	2540	2540	3050	3720		
	Width (mm)	Power	850	850	920	1080	1100	1180	1280	1640	1640		1720		
		Idle	310	310	400	480	480	540	540	620	620		1150		
Height (mm)			685	685	890	1070	1070	1050	1050	1280	1280	1610	1665		



TR 1



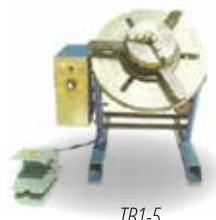
TR 2

TR2-Series (Adjustable welding rotator)

Model			TR2-5T	TR2-10T	TR2-20T	TR2-30T	TR2-40T	TR2-50T	TR2-60T	TR2-80T	TR2-100T	TR2-150T	TR2-200T	TR2-300T	TR2-400T	TR2-600T		
Load capacity (t)			5	10	20	30	40	50	60	80	100	150	200	300	400	600		
Roller group	Two	Steel	Diameter (mm)	-	-	-	340	340	390	440	510	510	620	700	700	800		
			Width (mm)	-	-	-	30	30	40	50	240	240	240	250	300	350		
	One	Rubber	Diameter (mm)	250	250	300	350	350	400	450	-	-	-			-		
			Width (mm)	120	120	140	120	120	120	120	-	-	-			-		
Diameter of work piece			Min (mm)	250	300	350	600	600	850	850	850	1000	1000	1000	1000	1000		
			Max (mm)	1800	3000	3600	4200	4200	5000	5000	5000	5500	6000	6500	6500	7000		
Roller speed (m/h)			100-1000															
Motor power(kw)			1×0.25	2×0.25	2×0.37	2×0.55	2×0.55	2×0.75	2×0.75	2×1.1	2×1.5	2×2.2	2×5.5	2×5.5	2×7.5	2×11		
Speed regulating mode			Stepless speed regulation															
Overall size	Length (mm)	Power	1200	1710	1870	2310	2310	2700	2700	3070	3070	3570	5200	5330	5380			
		Idle	1200	1710	1870	2310	2310	2700	2700	3070	3070	3570	4710	4980	4770			

## TIME MINI TYPE POSITIONER

Model	TB1-01	TB1-05	TB1-1	TB1-3	TB1-5
Rated weight bearing (kg)	10/5	50/25	100-50	300/150	500
Turning velocity (r/min)	2-20	1-7/15	0.2-7/15	0.2-2.5	0.05-0.5
Overspeeding velocity (r/min)	Manual turning	Manual turning	Manual turning	Manual turning	0.5
Overspeeding angle (°)	0-90	0-90	0-90	0-90	0-90
Diameter of working table (mm)	180	315	345	450	650
Height of working table (mm)	215	375	415	500	675
Max Load Eccentricity (mm)	-	-	-	150	300
Max Load Gravity (mm)	-	-	-	-	300
Turning motor power (w)	10	80	120	200	300
Overspeeding motor power (w)	-	-	-	-	300
Dimension	L(mm)	370	430	500	650
	B(mm)	270	430	470	800
	H(mm)	215	375	415	675



TB1-01

TB1-5

## SEAT TYPE POSITIONER

Model	TB1-6	TB1-12	TB1-20	TB1-30	TB1-40	TB1-50	TB1-80	TB1-100	TB1-150	TB1-200	TB1-250	TB1-500
load capacity (kg)	600	1200	2000	3000	4000	5000	8000	10000	15000	20000	25000	50000
Rotating speed r/min	0.1-1	0.09-0.9	0.09-0.9	0.06-0.6	0.06-0.6	0.05-0.5	0.05-0.5	0.05-0.5	0.02-0.2	0.04-0.4	0.04-0.4	0.02-0.4
Turning speed r/min	0.73	0.35	0.36	0.27	0.24	0.24	0.25	0.24	0.15	0.15	0.15	0.15
Turning angle (°)	0-120	0-120	0-120	0-120	0-120	0-120	0-120	0-120	0-90	-45-90	-45-90	-45-90
Diameter Of Work table (mm)	800	1100	1200	1300	1400	1600	1800	2000	2200	2500	3000	5000
Height Of Work table (mm)	830	1100	1200	1490	1500	1520	1800	2030	2300	2400	2400	3225
Allowable work piece off-center (mm)	Max load eccentricity	150	200	200	200	200	200	200	200	200	200	200
	Max load gravity	200	250	300	300	300	350	400	500	500	500	500
Rotating Motor Power (kw)	0.37	1.5	1.1	1.5	1.5	2.2	3	4	4	2 x 2.2	23	2 x 7.5
Turning Motor Power (kw)	0.37	0.75	1.5	2.2	2.2	3	4	5.5	7.5	2 x 3	2 x 5.5	2 x 11

## OUR PRODUCT

### ABB INDUSTRIAL ROBOT

## ARC WELDING ROBOT

Improve the efficiency of your processes with robot automation.

Complete integration with robot, parameter settings made on FlexPendant.

Manipulator	
<b>Model</b>	IRB 1520ID
<b>Payload</b>	4 Kg
<b>Reach</b>	1.50 m
<b>Number of axis</b>	6
<b>Repeatability (ISO 9283)</b>	0.05 mm
<b>Protection</b>	IP 40
<b>Mounting</b>	Floor, Inverted
<b>Weight</b>	170 Kg

Manipulator	
<b>Model</b>	IRB 1410
<b>Payload</b>	5 Kg
<b>Reach</b>	1.44 m
<b>Number of axis</b>	6
<b>Repeatability (ISO 9283)</b>	0.05 mm
<b>Protection</b>	
<b>Mounting</b>	Floor
<b>Weight</b>	225 Kg

Controller	
<b>Model</b>	IRC5
<b>Dimensions</b>	970 x 725 x 710
<b>Protection</b>	IP 54

Teach Pendant	
<b>Display / Key</b>	Touch Screen
<b>Motion Axis</b>	Joy Stick
<b>Cable Length</b>	10 m



ABB IRB 1520ID



ABB IRB 1400



Controller



Teach Pendant



LORCH P 3000



LORCH Robo MIG



TBi Robo Torch



Robo Wire Feeder

Welding Power Source	
<b>Model</b>	LORCH P 3000
<b>Welding Range</b>	25 – 300 A
<b>Duty Cycle 100%</b>	250 A
<b>Duty Cycle 60%</b>	280 A
<b>Voltage</b>	3 ph – 400 V
<b>Mains Tolerance</b>	± 15%
<b>Dimension</b>	812 x 340 x 518
<b>Weight</b>	34 Kg

Pulse Welding Power Source	
<b>Model</b>	LORCH S3 RoboMIG
<b>Welding Range</b>	25-320 A
<b>Duty Cycle 100%</b>	250 A
<b>Duty Cycle 60%</b>	280 A
<b>Voltage</b>	3 ph – 400 V
<b>Mains Tolerance</b>	± 15%
<b>Insulation Class</b>	F
<b>Protection Class</b>	IP 23

Robo Torch	
<b>Model</b>	TBi RM42G/L
<b>Mix 100%</b>	250 A
<b>CO2 100%</b>	300 A
Wire Feeder	
<b>Model</b>	LORCH RF-05/06
<b>Protection</b>	IP 54

## AUTO WELDING CARRIAGE

MODEL	CS-7WC	CS-51WE	CS-100C	S1-WEAVER
Input Power	AC 110V-230V, 50 / 60Hz			
Dimension	334(W) x 224(L) x 273(H)	332(W) x 309(L) x 237(H)	340(W) x 209(L) x 241(H)	420(W) x 241(L) x 232(H)
Weight	8 Kg	9.21 Kg	6.8 Kg	3.8 Kg
Driving Method	4 Wheels-Driven	4 Wheels-Driven	RACK-PINION Driven	-
Traveling Speed	0~98 cm/min	0~98 cm/min	0~88 cm/min	-
Traveling Motor	DC24V, 12 W, 5000 RPM	DC24V, 12 W, 5000 RPM	DC24V, 12 W, 5000 RPM	-
<b>WEAVER</b>				
Weaving Motor	DC24V, 12 W, 5000 RPM			
Reducer	1000 : 1	1000 : 1	1000 : 1	100 : 1
Weaving width	±50°	±16°	±16°	0 – 5mm / ±5%
Weaving speed	0 – 5rpm / min	0 – 5rpm / min	0 – 5rpm / min	26 Times / min
Left / right Stop	0.0 – 9.9(sec)	0.0 – 9.9(sec)	0.0 – 9.9(sec)	0.0 – 9.9(sec)
Center Shift	0° - 360°	0° - 360°	0° - 360°	50.8mm
Distance for operating Remocon	10m	10m	10m	10m
<b>BODY TORCH ADJUSTMENT PART</b>				
Up/Down Angle	-	45° ± 10°	45° ± 10°	-
Up / Down Distance	0 – 40mm ±5%		0 – 40mm ± 5°	
Left/Right Distance	-	-		0 - 120mm
Front/Back Distance	0 – 40mm ±5%	0 – 32mm	0 – 60mm ± 5°	0 - 70mm
Running Angle	±5°	±5°	±5°	±5°
<b>RAIL</b>				
Fixing	Magnet ON/OFF Type	-	Magnet ON/OFF Type	-
Material / size	AL / 1.5M	-	AL / 1.5M / 5,4kg	-

**CS-7WC**  
fillet/ Butt Multi Curved (3D)  
welder with flexible guide rail



**CS-100C**  
Butt / Fillet Weaving welder  
with Magnet On-Off switch



**CS-51WE**  
fillet with Weaving welder for vertical-up



**S1-WEAVER**  
Weaver (Straight)



MODEL	CS-71	CS-41	CS-51B	CS 201
Input Power	AC 110V-230V, 50/60Hz	AC 110V-230V, 50/60Hz	AC 110V-230V, 50/60Hz	AC 110V-230V, 50/60Hz
Dimension	198(W) x 314(L) x 281(H)	370(W) x 210(L) x 288(H)	359(W) x 585(L) x 544(H)	237(W) x 391(L) x 423(L) x 239(H)
Weight	5.7 Kg	7.5 Kg	10,5 Kg	6.5 Kg
Driving Method	4 Wheels-Driven	4 Wheels-Driven	4 Wheels-Driven	RACK-PINION Driven
Traveling Speed	0~98 cm/min	0~98 cm/min	0~98 cm/min	0~98 cm/±5%
Traveling Motor	DC24V, 12 W, 5000 RPM	DC24V, 12 W, 5000 RPM	DC24V, 12 W, 5000 RPM	DC24V, 12 W, 5000 RPM
Traction Power	20Kg Angle of Inclination 75°	14Kg	40Kg Angle of Inclination 50°	-
Magnetic Power	32Kg	30Kg	30Kg	-

**BODY TORCH ADJUSTMENT PART**

Up/Down Angle	45° ± 10°	45° ± 10°	45° ± 10°	0 ~ 45 ± 10
Up/Down Distance	-	-	-	0 - 32mm
Left/Right Distance	40mm	0 - 32mm	0 - 32mm	-
Front/Back Distance	±5°	0 - 32mm	0 - 32mm	0 - 32mm
Running Angle	-	±5°	±5°	±5°
Arm Front/Back Distance	-	-	-	0 - 120mm

**EXTENSTION ARM TORCH ADJUSTMENT**

Up/Down Angle	-	-	45° ± 10°	-
Front/Back Distance	-	-	0 - 52mm	-
Up/Down Distance	-	-	0 - 52mm	-
Running Angle	-	-	±10°	-
Arm Up/Down Distance	-	-	0 - 200mm	-
Clamp Slide Up/Down	-	-	0 - 80mm	-

**RAIL**

Fixing	-	-	-	Magnet ON/OFF Type
Material / size	-	-	-	AL / 1.5M

**CS-71**filet stitch continuous welder,  
Light weight**CS-51B**filet Stitch and continuous  
Dual side welder**CS-41**filet Wall Travel ling welder,  
and continuous welder**CS-201**filet Stitch and continuous  
Dual side welder

# OUR PRODUCT

## FUME EXTRACTOR



HERR Industry System is a technologically oriented company for the production of air filtration systems, which manufactures quality products that are energy efficient and provide excellent results.

### MECHANICAL EXHAUST SYSTEM, SINGLE ARM

#### TECHNICAL SPECIFICATIONS

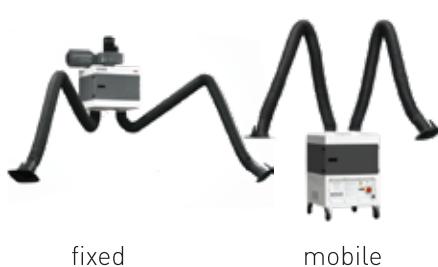
Volume rate	: 2.000 m <sup>3</sup> /h
Flow rate (arm)	: 1.200 m <sup>3</sup> /h
Motor power	: 1,1 kW
Power supply	: 380 - 400 V / 50 Hz or 60 Hz (optional)
Filter effectivity	: > 99,9 %
Noise level	: < 68 dB(A)
Dimensions	: 700x700x1.115 mm
Weight	: 139 kg
Arm length	: up to 4m



### MECHANICAL EXHAUST SYSTEM, DUAL ARMS

#### TECHNICAL SPECIFICATIONS

Volume rate	: 3.000 m <sup>3</sup> /h
Flow rate (arm)	: 2x 1.000 m <sup>3</sup> /h
Motor power	: 1,5 kW
Power supply	: 380-400V/50Hz or 60 Hz (optional)
Filter effectivity	: > 99,9 %
Noise level	: < 72 dB(A)
Dimensions	: 700x700x1.115 mm
Weight	: 149 kg
Arm length	: up to 4 m



### HIGH VACUUM EXHAUST SYSTEM WOLF

#### APPLICATION

- Direct extraction of welding and grinding dusts
- 2 connectors for suction hoses
- mobile and versatile

#### TECHNICAL SPECIFICATIONS

	83030	83055
Filter efficiency	> 99,9%	
Motor, flow rate (m <sup>3</sup> /h)	3,0 kW, 450	5,5 kW, 700
Filter	HISTec® cartridge filter	
Dimensions (mm)	700 x 700 x 1.840	
Weight (kg)	274	290

SCOPE OF DELIVERY

- Complete machine incl. HISTec® cartridge filter
- Power cable



### PLASVENT CUTTING TABLE

Complete system with table, filter system, fan and piping

#### APPLICATION

automated cutting of sheet metal

- The modular design of the cutting table fulfills almost all sizes requirements for cutting tables.
- We'll solve your special cutting needs with pleasure and competence - contact us!



### CENTRAL CARTRIDGE EXHAUST SYSTEM

For the central suction and filtering of dust and smoke

#### SCOPE OF DELIVERY DEPENDING ON THE APPLICATION:

- Single complete machine or in combination with f.e. cutting table
- Complete with piping, depending on application
- Designed according to your individual needs

### WELDING PROTECTION AND SOUND REDUCING BOOTHS

- Sound-absorbing walls
- Protective curtains and windows
- A central filter system
- Automatic Pressure Sensor / frequency converter control
- Automatically opening and closing valves and flaps
- Extraction, hoods for welding or plasma cutting
- Cutting tables, grinding tables with integrated suction
- Pipelines



# OUR PRODUCT

## WELDING ACCESSORIES

### MIG/MAG Welding Torches



TBI  
Industries

TYPE	Basic 150	Basic 250	Basic 360
CO <sub>2</sub>	180 A	230 A	330 A
Mixed Gases	150 A	200 A	300 A
Duty Cycle	35 %	35 %	35 %
Wire Ø (mm)	0.6-1.0	0.8-1.2	1.0-1.6
Cooler	Gas	Gas	Gas
Connector	Euro	Euro	Euro



### TBI Industries



TYPE	7G (S/L)	7W (S/L)	9W (L)	XP 363	XP 463
CO <sub>2</sub>	360 A / 380 A	450 A / 500 A	550 A	340 A	380 A
Mixed Gases	325 A / 345 A	400 A / 450 A	500 A	310	350 A
Duty Cycle	50 %	50 %	50 %	60 %	60 %
Wire Ø (mm)	1.0-1.2	1.0-1.6	1.0-1.6	1.0-1.6	1.0-1.6
Cooler	Gas	Liquid	Liquid	Gas	Gas
Connector	Euro	Euro	Euro	Euro, Pana, OTC	Euro, Pana, OTC

### HUATONG



TYPE	MB 15 AK	MB 24 KD	MB 25 AK	MB 36 KD	MB 40 KD	MB 501 D
CO <sub>2</sub>	180 A	250 A	230 A	330 A	300 A	550 A
Mixed Gases	150 A	220 A	200 A	300 A	270 A	500 A
Duty Cycle	60 %	35 %	35 %	60 %	60 %	100 %
Wire Ø (mm)	0.6-1.0	0.8-1.2	0.8-1.2	0.8-1.6	0.8-1.2	1.0-1.6
Cooler	Gas	Gas	Gas	Gas	Gas	Liquid
Connector	Euro	Euro	Euro	Euro	Euro	Euro



**HANTO**

TYPE	200	350	500	TYPE	350 Flexible Neck	500 Flexible Neck
CO <sub>2</sub>	200 A	350 A	500 A	CO <sub>2</sub>	350 A	500 A
Mixed Gases	160 A	300 A	350 A	Mixed Gases	300 A	350 A
Duty Cycle	60 %	60 %	60 %	Duty Cycle	60 %	60 %
Wire Ø (mm)	0.8-1.2	0.8-1.2	1.2-1.6	Wire Ø (mm)	0.8-1.2	1.2-1.6
Cooler	Gas	Gas	Gas	Cooler	Gas	Gas
Connector	Pana,OTC,Euro	Pana,OTC,Euro	Pana,OTC	Connector	Euro, Pana, OTC	Euro

## TIG **華通** Welding Torches

TIG stands for tungsten inert gas and is technically called gas tungsten arc welding (GTAW).



TYPE	WP 17 HF WP 17	WP 18 HF WP 18	WP 26 HF WP 26
AC	100 A	225 A	140 A
DC	140 A	320 A	200 A
Duty Cycle	60 %	60 %	60 %
Wire Ø (mm)	0.5-2.4	0.5-3.2	0.5-4.0
Cooler	Air	Liquid	Air

## TBi Industries



TYPE	SR 9/SR 9 V (FX)	SR 17/SR 17 V (FX)	SR 18/SR 18 V (FX)	SR 26/SR 26 V (FX)
AC	80 A	100 A	225 A	170 A
DC	110 A	140 A	320 A	240 A
Duty Cycle	60 %	60 %	100 %	35 %
Wire Ø (mm)	0.5-1.6	0.5-2.4	0.5-4.0	0.5-4.0
Cooler	Air	Air	Water	Air

## MIG/MAG

Consumable Parts



Gas Nozzles



Contact Tips



Tip Holder

## TIG

Consumable Parts



Collets



Gas Lenses



Collet Bodies



Gas Diffusers



Wire Conduits & Liners



Wire Cap + Liners



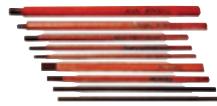
Ceramic Gas Nozzles



Tungsten Electrodes



Back Caps



Carbon Gouging



Gouging Torch



Welding Helmet



Gas Cutting Machine



Gas Pipe Cutting Machine



Gas Regulator



Electrode  
Oven 5 & 10 kg



Hypertherm  
Plasma Cutting



Lincoln Welding  
Consumables



Machine Panel  
Socket



Cable Plug &  
Socket



Electrode Holder

## WELDING CABLE

**ARCTIC®**  
100% REAL SIZE WELDING CABLE

ARCTIC WELDING CABLE

- High flexibility & durability, reduced voltage drop over long distance and mechanical strength. Our welding cables has a 100% full rubber insulation, which is highly resistant to oil diesel, sea water, grease and most common solvents.
- Rubber Insulated flexible welding cable are suitable for connections from electrode holders and clamps to arc welders, bus welding box or transformers and for better welding proficiency.
- Real size and 100% full cooper conductor for your satisfaction.
- Colour black, packaging 100 meter/roll.
- Available size : 16, 25, 35, 50, 60, 70, 95, 120 mm<sup>2</sup>





Your Abrasive Specialist, Grinding and Cutting Wheel for Carbon Steel, Foundry and Stainless Steel. Manufacturer was established in 1987 and it has been engaged in manufacturing of resin-bonded abrasive cutting disc, grinding disc and flap disc.

## GRINDING & CUTTING WHEEL



MPA Grinding Wheel For Foundry (Aluminum Oxide)				
D x H x d		Max Speed 80 m/s	Outer Packing	Volume (cm)
Inches	mm			
4 x 1/4 x 5/8	100 x 6 x 16	15,200 rpm	22 kg / 200 pcs / 1 ctn	38 x 22 x 23
5 x 1/4 x 7/8	125 x 6 x 22.2	12,200 rpm	17 kg / 100 pcs / 1 ctn	40 x 27 x 14
6 x 1/4 x 7/8	150 x 6 x 22.2	10,200 rpm	26 kg / 100 pcs / 1 ctn	40 x 32 x 17
7 x 1/4 x 7/8	180 x 6 x 22.2	8,500 rpm	38 kg / 100 pcs / 1 ctn	40 x 22 x 38



Cutting Wheel & MPA Cutting Wheel For Metal (Aluminum Oxide)				
D x H x d		Max Speed 80 m/s	Outer Packing	Volume (cm)
Inches	mm			
4 x 1/25 x 5/8	105 x 6 x 16	15,200 rpm	25 kg / 1,000 pcs / 1 ctn	44 x 23 x 23
4 x 5/64 x 5/8	100 x 6 x 22.2	15,200 rpm	25 kg / 600 pcs / 1 ctn	42 x 22 x 23
5 x 1/8 x 7/8	125 x 3 x 22.2	12,200 rpm	17 kg / 200 pcs / 1 ctn	40 x 27 x 14
6 x 1/8 x 7/8	150 x 3 x 22.2	10,200 rpm	26 kg / 200 pcs / 1 ctn	40 x 32 x 17
7 x 1/8 x 7/8	180 x 3 x 22.2	8,500 rpm	38 kg / 200 pcs / 1 ctn	40 x 20 x 38
14 x 1/8 x 1	350 x 3 x 25.4	4,400 rpm	16 kg / 25 pcs / 1 ctn	36 x 36 x 9
16 x 1/8 x 1	400 x 3 x 25.4	3,800 rpm	24 kg / 25 pcs / 1 ctn	41 x 41 x 9



Grinding Wheel & MPA Grinding Wheel For Metal (Aluminum Oxide)				
D x H x d		Max Speed 80 m/s	Outer Packing	Volume (cm)
Inches	mm			
4 x 1/4 x 5/8	100 x 6 x 16	15,200 rpm	24 kg / 200 pcs / 1 ctn	38 x 22 x 23
5 x 1/4 x 7/8	125 x 6 x 22.2	12,200 rpm	17 kg / 100 pcs / 1 ctn	40 x 27 x 14
6 x 1/4 x 7/8	150 x 6 x 22.2	10,200 rpm	26 kg / 100 pcs / 1 ctn	40 x 32 x 17
7 x 1/4 x 7/8	180 x 6 x 22.2	8,500 rpm	38 kg / 100 pcs / 1 ctn	40 x 20 x 38



Flexible Grinding Disc For Stainless Steel (White Aluminum Oxide)				
D x H x d		Max Speed 72 m/s	Outer Packing	Volume (cm)
Inches	mm			
4 x 3/32 x 5/8	100 x 2.5 x 16	13,700 rpm	15 kg / 250 pcs / 1 ctn	59 x 23.5 x 11



Flap Disc For Metal					
D x H x d		Max Speed 72 m/s	Grit	Outer Packing	Volume (cm)
Inches	mm				
4 x 5/8	100x16	13,700 rpm	36,40,60,80,100	18kg / 300pcs / 1ctn	49 x 33 x 25

## WELDING CHEMICAL & METAL TREATMENT PRODUCTS RANGE

### SPATTER PROTECTION



#### CALGUARD

#### ANTI-SPATTER SPRAY

water based, paintable, cost effective and non-flammable agent for the prevention of weld-spatter adhering to metal surfaces during the welding process.

- Non-toxic
- Water based / silicone free
- Easy clean-up for painting preparation
- Non-flammable , CFC free aerosol
- Available in trigger pack, aerosols and bulk packaging



#### S-WELD

#### SPATTERGUARD

s-weld spatter guar is a paintable, cost effective and non flammable agent for the prevention of weld-spatter adhering to metal surfaces during the welding process.

- Effective for mild steel, stainless steel and high performance alloys.
- Non flammable
- Paintable, contains no silicones



#### NOZZLE DIP GEL

advanced, non toxic, nozzle dip gel for the prevention of spatter adhering to sensitive components of welding torches, the end and outer surfaces of contact tips and positional and fixtures.

- Non-toxic
- Biodegradable
- Ready to use no mixing
- Silicone free – paintable
- Designed to increase life cycle of welding torch components

### STAINLESS STEEL PICKING



#### WELDBRITE

Thixotropic Pickling Paste for Stainless Steel Conforms to ASTM a380-06 Standard Practice for Cleaning, Descaling and Passivation of Stainless Steel Parts, Equipment, and Systems

- Quick acting
- One step treatment
- Completely water rinseable
- Convenient size packs - no wastage
- Can be used on vertical surfaces



#### S-WELD CLEAN

Used to remove the black oxide marks and heat tint left during welding of stainless steel. S-Weld Clean leaves a clean professional finished stainless-steel weld area. It is suitable for use on stainless steels, duplex steel and inconel alloys.

- Removes black oxide marks and heat tint during the welding of stainless steel.
- Quick acting single application process
- Can be used on vertical and overhead surfaces.



#### S-WELD PASSIVATOR

Powerful oxidising gel for the passivation of stainless steel, duplex steel and inconel alloys. Used following pickling, grinding or mechanical polishing of stainless steel to ensure a passive surface is obtained prior to installation or commissioning of the final product.

- A powerful oxidising gel for the passivation of stainless steel fabricated products.
- Can be used for pickling, grinding, or mechanical polishing of stainless steel.

### PENETRANT PROCESS



#### DP-50

##### Visible Penetrant

- Water washable
- Solvent removable
- Intense red colour
- Easy removability
- Sharp & clear



#### DP-40

##### Visible Penetrant

- Post emulsifiable
- Solvent removable
- Intense colour
- Reliable
- Less fading



#### HM-604

##### Fluorescent Penetrant

- Water washable
- Solvent removable
- Level 3 sensitivity
- Sharp & precise
- Bio-degradable
- Rapid interpretation



#### DR-60

##### Cleaner / Remover

- Non-chlorinated
- Slower evaporation
- Non-miscible in water



#### DR-64

##### Cleaner / Solvent Remover

- Non-chlorinated
- Fast evaporation
- Removes white contrast paint
- Easy direct spray tube
- Used in the MT & PT methods



#### D-100

##### Developer

- Non aqueous
- Thinner layer
- More uniform
- Absorbant
- May be used with visible or fluorescent penetrant
- Easily removed

### HI-TEMP PENETRANT PROCESS



#### KO-17

##### Penetrant

- Water washable
- Solvent removable
- Operating temperature up to 176°C
- Complies with low sulfur and halogen requirement



#### KO-19

##### Cleaner / Remover

- Non-flammable remover
- Save time for weldment inspection
- Operating temperature up to 176°C
- Complies with low sulfur and halogen requirement



#### D-350

##### Developer

- White suspended particles
- Thin layer
- Save time for weldment inspection
- Operating temperature up to 176°C
- Complies with low sulfur and halogen requirement



Clean the surface



Apply penetrant on a clean, dry surface. Let stand for >5 min



Wipe off surface penetrant



Maisten a towel with cleaner/ Remove and wipe remaining penetrant

### MAGNETIC PARTICLE PROCESS



#### BO-1

##### Black Oxide with MPF

- Meets industry specs
- 360° valve
- Comfort nozzle
- Multiple spray patterns
- Fast acting



#### CP-2

##### White Contrast Paint

- Solvent removable
- Fast drying
- Low odour
- High contrast
- Resistant to suspension fluid
- Multiple spray patterns



#### GLO-NETIC

##### Fluorescent Oxide with MPF

- Fluorescent green under UV light
- 360° valve
- Comfort nozzle
- Easily agitated
- Fast acting
- Improved reliability

All products available in aerosols, 3.8L, 18.9L & 208L packaging

#### Dusting Powder

##### Dry Magnetic Particle

- Blue Powder No.6
- Grey Powder No.6
- Red Powder No.6
- Yellow Powder No.6
- Green Powder No.7
- Red Powder No.7

#### Coloured & Dual Powders

##### Clear contrasting colours

- Dual powders are fluorescent under UV light
- Fast acting
- Use at elevated temperatures



Do not spray cleaner/ Remove directly to remove penetrant



Shake the developer and apply 2 or 3 light applications



Allow >5 min. for flaw indications to appear



Fluorescent penetrant reveals flaw under UV light

All product available in aerosols, 3.8L, 18, 9L & 208L packaging.

# STAR

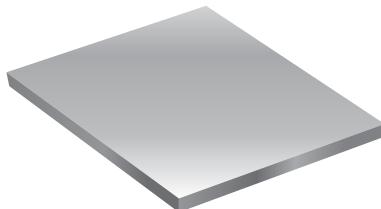
## SPECIAL MATERIAL

Our Products have been applied in mining industries, cement industries, steel industries, power plants, construction-earth moving and metallurgy industries. The best support and resistance shall be our solution to guarantee your satisfaction.

# HIGH QUALITY PRODUCT

## STAR-C

STAR-C is high quality of stainless steel, which the alloy is well known for its multi-purpose applications; good corrosion resistance, high temperature, high oxidation, good creep resistance, good abrasive resistance and all grades can be easily welded.



The alloy can be also used in slightly oxidizing atmosphere, nitriding, cementing conditions as well as thermal cycling. Our products for STAR-C:

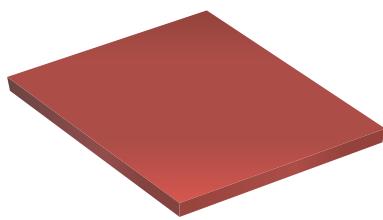
### APPLICATIONS:

- Chemical
- Tube and Boiler Industry
- Refractory
- Coal Hopper Lining
- Pulp & Paper Industry
- Food Processing Industry

Grade & Standards (ASTRM)	Chemical Composition *				Mechanical Properties **	Description & Application
<b>STAR-C 304/304L AISI 304/304L</b>	C : 0.03	S : 0.03	YS : 170 MPa	Austenitic stainless steel containing 18%Cr, 8%Ni additions and lower carbon content. It has excellent combination of corrosion resistance and easily fabrication		
	Si : 0.75	Cr : 17.5~19.5	UTS : 485 MPa			
	Mn : 2.00	Ni : 8~12	EI : 40 %			
	P : 0.045	Mo : -	HRB : 92 Max			
<b>STAR-C 316/316L AISI 316/316L</b>	C : 0.03	S : 0.03	YS : 170 MPa	Austenitic stainless steel containing 17% Cr, 12% Ni, 2.5% Mo. its increases general corrosion resistance, improves resistance to pitting corrosion from chloride ion solution, and provides increased strength at elevated temperatures.		
	Si : 0.75	Cr : 16~18	UTS : 485 MPa			
	Mn : 2.00	Ni : 10~14	EI : 40 %			
	P : 0.045	Mo : 2~3	HRB : 95 Max			
<b>STAR-C 310 AISI 310</b>	C : 0.08	S : 0.03	YS : 205 MPa	Austenitic stainless steel containing 25%Cr and 20%Ni additions. Its design to high temperature application up to 1100° C in oxidizing atmospheres.		
	Si : 1.50	Cr : 24~26	UTS : 515 MPa			
	Mn : 2.00	Ni : 19~22	EI : 40 %			
	P : 0.045	Mo : -	HRB : 95 Max			
<b>STAR-C 3Cr12L AISI 3Cr12L</b>	C : 0.03	S : 0.03	YS : 280 MPa	Ferritic stainless steel containing 12% Cr. It has excellent atmospheric corrosion resistance than mild steel weathering steel, copper and aluminium.		
	Si : 1.00	Cr : 11.5~13.5	UTS : 455 MPa			
	Mn : 1.50	Ni : 1.50	EI : 18 %			
	P : 0.04	Mo : -	HRB : 98 Max			

Note: \*Single Values Are Maximum | \*\*Single Values Are Minimum

# STAR-D



STAR-D is grade of high quality special material, which is used in mining machinery, engineering machinery, power plant, cement plant, construction-earth moving equipment and metallurgy industry.

It has good combination physical properties of resistant to abrasion wear, good toughness, high hardness and high strength.

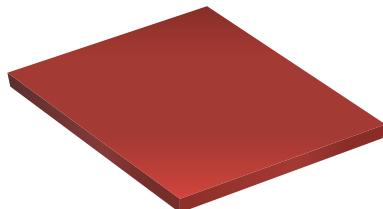
## APPLICATIONS:

- Mining Dump Truck
- Excavator
- Crusher
- Reclaimer
- Silo
- Paver

Grade	Chemical Composition *				Mechanical Properties **		
<b>STAR-D 400S</b>	C : 0.18	S : 0.010	Ceq : 0.70	Mo : 0.50	YS : 800 MPa	HB : 360~440	
	Si : 0.60	Cr : 1.00			UTS : 1250 MPa	CIV : 30 J at - 40 °C	
	Mn : 2.10	P : 0.025		P : 0.002	EI : 10 %		
<b>STAR-D 450S</b>	C : 0.23	S : 0.010	Ceq : 0.73	Mo : 0.50	YS : 1200 MPa	HB : 410~490	
	Si : 0.60	Cr : 1.00			UTS : 1450 MPa	CIV : 30 J at - 40 °C	
	Mn : 2.10	P : 0.025		P : 0.002	EI : 9 %		
<b>STAR-D 500S</b>	C : 0.30	S : 0.010	Ceq : 0.77	Mo : 0.50	YS : 1250 MPa	HB : 460~540	
	Si : 0.60	Cr : 1.00			UTS : 1600 MPa	CIV : 30 J at - 40 °C	
	Mn : 2.10	P : 0.025		P : 0.023	EI : 8 %		

Note: \*Single Values Are Maximum | \*\*Single Values Are Minimum

# STAR-X



STAR-X is a special low alloy structural with minimum yield strength of 650 ~ 700 N/mm<sup>2</sup> depending on thickness. It has excellent notch toughness, good weldability and formability with featuring low carbon.

## APPLICATIONS:

### STANDARD

- Surface quality : EN 10163-2 Class A1
- Heavy plates : EN 10029
- Thickness tolerances for plates : EN 10029 Class A
- Flatness : EN 10029 Class N

## APPLICATIONS:

- Machine building
- Steel constructions
- Framework structures
- Lifting and mobile equipment
- Vehicles and transport equipment
- Passenger Bridges

Grade	Chemical Composition *				Mechanical Properties **		
<b>STAR-X 700S</b>	C : 0.20	S : 0.010	Cu : 0.50		YS : 650 MPa		
	Si : 0.80	Cr : 1.50	Ni : 2.00		UTS : 760~940 MPa		
	Mn : 1.70	Mo : 0.70			EI : 14 %		
	P : 0.020	B : 0.005			CIV : 69 J at-40 °C		

Note: \*Single Values Are Maximum | \*\*Single Values Are Minimum

# STAR-0



STAR-0 is high-chromium and high-carbon alloy overlay steel plate. It has excellent abrasion resistance with corrosion, abrasion resistance with high temperature, and low impact stress.

Material for the plate are all weldable steels, structural steel and high alloyed temperature. Layer thickness for overlay is 3 to 10 mm.

## APPLICATIONS:

- Cement Industry
- Mining Industry
- Power Plant
- Steel Industry
- Sand and Gravel Industry
- Metallurgical Plants

Grade	Chemical Composition		Mechanical Properties	Description & Application
<b>STAR-0 835S</b>	C : 4.8 Fe : Bal. Cr : 28		Hardness: 61-65HRC	For high abrasive wear at medium corrosion and low impact: linings of ventilators, separators, cyclones, linings of mills in the cement and coal industry, screens in the iron and steel industry.
<b>STAR-0 850S</b>	C : 5.0 Mn : 3.0 Cr : 28 Mo : 1.0		Hardness: 62-67HRC	For applications requiring good abrasion resistance along with high corrosion and low impact resistance: linings of fans for operating temperatures up to 550°C screens in the iron and steel industry for operating temperatures up to 550°C
<b>STAR-0 865S</b>	C : 5.5 Cr : 21 Mn : 3.0 Mo : 2.0 W&V : Additional Element		Hardness: 63-68HRC	For high abrasive wear and high temperature on average corrosion and low impact stress: hot gas ventilators, hot screens for temperatures up to 650°C, hot dust pipes and bell linings.

## Available Form & Shapes :

Base Material (mm)	Overlay (mm)	Total (mm)
3	3	6
5	3	8
6	4	10
6	6	12
8	5	13
10	10	20
15	10	25
20	10	30

1.500x3.000mm or 2.000x3.000mm or tailor made size

and forms to meet your requirement

# SPECIAL STEEL BAR



Round bar AISI 4140 steel is a low alloy steel containing chromium, molybdenum, and manganese. It is widely used across numerous industries and is an excellent material choice due to its toughness, high fatigue strength, and abrasion and impact resistant.

## SPECIFICATIONS

AISI	4140
EN	42CrMoS3
DIN	42CrMoS4
JIS	G4105 SCM 440

## Chemical Composition\*

C	Si	Mn	P	S	Cr	Mo
0.38~0.43	0.15~0.35	0.60~0.85	0.03	0.03	0.90~1.20	0.5~0.30

Note: \*Single Values Are Maximum

## APPLICATION

High and moderately stressed components for automobile industry and mechanical engineering – shafts, connecting rods, crankshafts, screws, etc.

## HARDENING AND TEMPERING

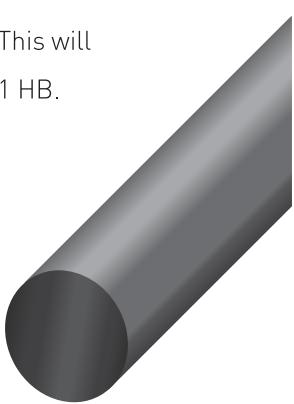
Harden from a temperature of 820 ~ 860 °C followed by oil or water quenching. Tempering temperature of 540 ~ 680 °C.

## SOFT ANNEALING

Heat to 680 ~ 720 °C, cool slowly in furnace. This will produce a maximum Brinell Hardness of 241 HB.

## NORMALIZING

Temperature : 840 ~ 880 °C.



## Mechanical Properties in Quenched and Tempered Condition\*\*

Diameter (mm)	0.2 proof Stress (N/mm <sup>2</sup> )	Tensile Strength (N/mm <sup>2</sup> )	Elongation (%)	Reduction (%)	Impact Energy (J)
Up to 16	900	1100~1300	10	40	30
17~40	750	1000~1200	11	45	35
41~100	650	900~1100	12	50	35
101~160	550	800~950	13	50	35
161~250	500	750~900	14	55	35

Note: \*\*Single Values Are Minimum



## Business Line

PT YONTOMO SUKSES ABADI is focusing in welding industry, welding material, welding machine and automation, and workshop services. Our motto "ALL ABOUT WELDING".

For workshop services, we serve are:

- Repair & Hardfacing Welding
- Machining Process
- Fabrication Process

## Delivering Customer Benefit

PT YONTOMO SUKSES ABADI has a good track record of delivering real customer benefits through combination of our materials, machines and knows how our clients have been able to:

- Increase lifetime of equipment
- Reduction in maintenance costs by more than 50%
- Reduction in material costs for subsequent repair
- Reduction in material/spare part down time
- Good Quality Product



*High quality, excellent service, integrity, teamwork, and commitment*

# Providing solution to customers in:

- Roll Welding Technology
- Die Welding Technology
- Hard Surfacing Reclamations

For welding services, the industry we serve are:

- Steel mill industry
- Non ferrous mill industry
- Pulp & paper industry
- Forging Industry
- Cement industry
- Mining Industry
- Power plant

# Workshop Facilities

Successfull welding job not just depends on good welding materials and welding procedure only, but also on other factor such as equipment facilities in workshop.

We have equipment facilities in our workshop, for workpiece with:

- Roll welding machine
- Automatic Forgeweld Machine
- Welding positioner
- Welding manipulator
- Machining Facilities
- Fabrication Facilities
- Furnace
- Robotic welding machine
- Testing equipment, such as: UT, hardness tester, dye penetrate set, dial indicator, welding gauge, infrared thermometer
- And other equipment



## NOTE

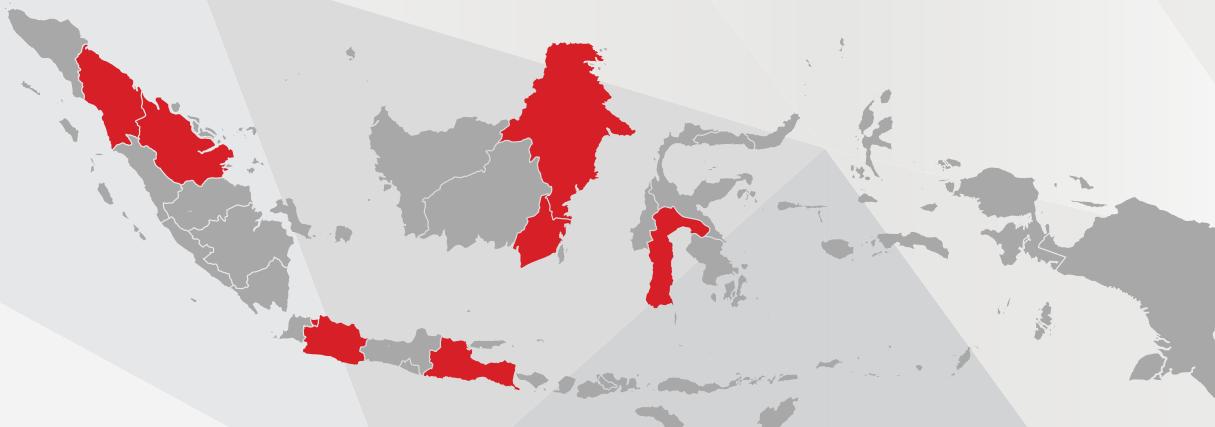


## PT. YONTOMO SUKSES ABADI



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0812 7088 9998/

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