

**Weld Set Reference: Z194537**  
**Power Wave® S700 (Imperial units)**



Δ Tandem Controller Required

\* Range is limited by power source rating, module rating, or feeder configuration

Type	Size	Procedure	Waveform	Gas Type	Mode #	Arc Control	Max. Range (*)		
All	All	GMAW CV	STD CV		5	Pinch	10 – 55	V	
		GMAW Power	Power Mode®		40	Pinch	0.1 – 40	kW	
GMAW	Steel	0.030	GMAW CV	CV	CO <sub>2</sub>	93	Pinch	75 – 1200	ipm (1.91 – 30.48 m/min)
			GMAW CV	CV	Argon Mix	94	Pinch	75 – 1200	ipm (1.91 – 30.48 m/min)
		GMAW Pulse	Pulse	Argon Mix	95	UltimArc®	65 – 1200	ipm (1.65 – 30.48 m/min)	
		0.035	GMAW CV	CV	CO <sub>2</sub>	10	Pinch	50 – 1200	ipm (1.27 – 30.48 m/min)
			GMAW CV	CV	Argon Mix	11	Pinch	50 – 1200	ipm (1.27 – 30.48 m/min)
			GMAW Pulse	Pulse	Argon Mix	12	Pinch	60 – 1200	ipm (1.52 – 30.48 m/min)
	GMAW Pulse	RapidArc®	Argon Mix	13	UltimArc®	60 – 1200	ipm (1.52 – 30.48 m/min)		
	GMAW Pulse	Precision Pulse™	Argon Mix	411	UltimArc®	100 – 600	ipm (2.54 – 15.24 m/min)		
	0.040	GMAW CV	CV	CO <sub>2</sub>	138	Pinch	50 – 1200	ipm (1.27 – 30.48 m/min)	
		GMAW CV	CV	Argon Mix	139	Pinch	50 – 1200	ipm (1.27 – 30.48 m/min)	
		GMAW Pulse	Pulse	Argon Mix	140	Pinch	60 – 1200	ipm (1.52 – 30.48 m/min)	
	GMAW Pulse	RapidArc®	Argon Mix	141	UltimArc®	60 – 1200	ipm (1.52 – 30.48 m/min)		
	GMAW Pulse	Precision Pulse™	Argon Mix	412	UltimArc®	75 – 600	ipm (1.91 – 15.24 m/min)		
	0.045	GMAW CV	CV	CO <sub>2</sub>	20	Pinch	50 – 800	ipm (1.27 – 20.32 m/min)	
		GMAW CV	CV	Argon Mix	21	Pinch	50 – 800	ipm (1.27 – 20.32 m/min)	
		GMAW Pulse	Pulse	Argon Mix	22	Pinch	50 – 800	ipm (1.27 – 20.32 m/min)	
	GMAW Pulse	RapidArc®	Argon Mix	18	UltimArc®	75 – 800	ipm (1.91 – 20.32 m/min)		
	GMAW Pulse	Precision Pulse™	Argon Mix	413	UltimArc®	75 – 600	ipm (1.91 – 15.24 m/min)		
	0.052	GMAW CV	CV	CO <sub>2</sub>	24	Pinch	50 – 750	ipm (1.27 – 19.05 m/min)	
		GMAW CV	CV	Argon Mix	25	Pinch	50 – 700	ipm (1.27 – 17.78 m/min)	
		GMAW Pulse	Pulse	Argon Mix	26	Pinch	50 – 700	ipm (1.27 – 17.78 m/min)	
	GMAW Pulse	RapidArc®	Argon Mix	27	UltimArc®	60 – 750	ipm (1.52 – 19.05 m/min)		
	GMAW Pulse	Precision Pulse™	Argon Mix	414	UltimArc®	75 – 500	ipm (1.91 – 12.7 m/min)		
	1/16	GMAW CV	CV	Argon Mix	107	Pinch	75 – 700	ipm (1.91 – 17.78 m/min)	
GMAW Pulse		Pulse	Argon Mix	108	UltimArc®	50 – 500	ipm (1.27 – 12.7 m/min)		
Stainless	0.030	GMAW CV	CV	Argon Mix	61	Pinch	100 – 1200	ipm (2.54 – 30.48 m/min)	
		GMAW CV	CV	He Ar CO <sub>2</sub>	63	Pinch	100 – 1200	ipm (2.54 – 30.48 m/min)	
		GMAW Pulse	Pulse	He Ar CO <sub>2</sub>	64	UltimArc®	90 – 1200	ipm (2.29 – 30.48 m/min)	
			Pulse	Argon Mix	66	UltimArc®	80 – 1200	ipm (2.03 – 30.48 m/min)	
	0.035	GMAW Pulse	Precision Pulse™	Argon Mix	420	UltimArc®	100 – 800	ipm (2.54 – 20.32 m/min)	
			Precision Pulse™	He Ar CO <sub>2</sub>	430	UltimArc®	100 – 800	ipm (2.54 – 20.32 m/min)	
		GMAW CV	CV	Argon Mix	31	Pinch	75 – 1200	ipm (1.91 – 30.48 m/min)	
		GMAW CV	CV	He Ar CO <sub>2</sub>	33	Pinch	75 – 1200	ipm (1.91 – 30.48 m/min)	
	0.045	GMAW Pulse	Pulse	He Ar CO <sub>2</sub>	34	UltimArc®	75 – 1200	ipm (1.91 – 30.48 m/min)	
			Pulse	Argon Mix	36	UltimArc®	60 – 1200	ipm (1.52 – 30.48 m/min)	
		GMAW Pulse	Precision Pulse™	Argon Mix	421	UltimArc®	100 – 600	ipm (2.54 – 15.24 m/min)	
			Precision Pulse™	He Ar CO <sub>2</sub>	431	UltimArc®	100 – 700	ipm (2.54 – 17.78 m/min)	
0.045	GMAW CV	CV	Argon Mix	41	Pinch	75 – 800	ipm (1.91 – 20.32 m/min)		
		CV	He Ar CO <sub>2</sub>	43	Pinch	75 – 800	ipm (1.91 – 20.32 m/min)		
	GMAW Pulse	Pulse	He Ar CO <sub>2</sub>	44	UltimArc®	75 – 800	ipm (1.91 – 20.32 m/min)		
		Pulse	Argon Mix	46	UltimArc®	50 – 800	ipm (1.27 – 20.32 m/min)		
1/16	GMAW Pulse	Precision Pulse™	Argon Mix	423	UltimArc®	50 – 400	ipm (1.27 – 10.16 m/min)		
		Precision Pulse™	He Ar CO <sub>2</sub>	433	UltimArc®	60 – 400	ipm (1.52 – 10.16 m/min)		
Metal Core	0.045	GMAW CV	CV	Argon Mix	81	Pinch	100 – 700	ipm (2.54 – 17.78 m/min)	
		GMAW Pulse	Pulse	Argon Mix	82	Pinch	50 – 700	ipm (1.27 – 17.78 m/min)	
	0.052	GMAW Pulse	RapidArc®	Argon Mix	87	UltimArc®	75 – 800	ipm (1.91 – 20.32 m/min)	
		GMAW CV	CV	Argon Mix	83	Pinch	50 – 600	ipm (1.27 – 15.24 m/min)	
	1/16	GMAW Pulse	Pulse	Argon Mix	84	Pinch	50 – 600	ipm (1.27 – 15.24 m/min)	
		GMAW Pulse	RapidArc®	Argon Mix	88	UltimArc®	60 – 800	ipm (1.52 – 20.32 m/min)	
	1/16	GMAW CV	CV	Argon Mix	85	Pinch	50 – 450	ipm (1.27 – 11.43 m/min)	
		GMAW Pulse	Pulse	Argon Mix	86	Pinch	50 – 450	ipm (1.27 – 11.43 m/min)	
GMAW Pulse	RapidArc®	Argon Mix	89	UltimArc®	60 – 450	ipm (1.52 – 11.43 m/min)			

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GMAW	Type	Size	Procedure	Waveform	Gas Type	Mode #	Arc Control	Max. Range (*)	
	Aluminum 4XXX	0.035		GMAW CV	CV	Argon	148	Pinch	150 – 750
GMAW Pulse				Pulse	Argon	149	UltimArc®	125 – 800	ipm (3.18 – 20.32 m/min)
				CC Pulse	Argon	150		125 – 800	ipm (3.18 – 20.32 m/min)
GMAW Pulse on Pulse®		Pulse on Pulse®	Argon	98	Frequency		125 – 800	ipm (3.18 – 20.32 m/min)	
3/64			GMAW CV	CV	Argon	71	Pinch	125 – 700	ipm (3.18 – 17.78 m/min)
			GMAW Pulse	Pulse	Argon	72	UltimArc®	85 – 600	ipm (2.16 – 15.24 m/min)
				CC Pulse	Argon	69		85 – 600	ipm (2.16 – 15.24 m/min)
GMAW Pulse on Pulse®		Pulse on Pulse®	Argon	99	Frequency		85 – 500	ipm (2.16 – 12.7 m/min)	
1/16			GMAW CV	CV	Argon	73	Pinch	75 – 375	ipm (1.91 – 9.53 m/min)
			GMAW Pulse	Pulse	Argon	74	UltimArc®	75 – 350	ipm (1.91 – 8.89 m/min)
				CC Pulse	Argon	79		75 – 350	ipm (1.91 – 8.89 m/min)
GMAW Pulse on Pulse®		Pulse on Pulse®	Argon	100	Frequency		80 – 400	ipm (2.03 – 10.16 m/min)	
Aluminum 5XXX	0.035		GMAW CV	CV	Argon	151	Pinch	175 – 750	ipm (4.45 – 19.05 m/min)
			GMAW Pulse	Pulse	Argon	152	UltimArc®	150 – 800	ipm (3.81 – 20.32 m/min)
				CC Pulse	Argon	153		150 – 800	ipm (3.81 – 20.32 m/min)
	GMAW Pulse on Pulse®	Pulse on Pulse®	Argon	101	Frequency		140 – 800	ipm (3.56 – 20.32 m/min)	
	3/64		GMAW CV	CV	Argon	75	Pinch	125 – 750	ipm (3.18 – 19.05 m/min)
			GMAW Pulse	Pulse	Argon	76	UltimArc®	85 – 700	ipm (2.16 – 17.78 m/min)
				CC Pulse	Argon	70		85 – 700	ipm (2.16 – 17.78 m/min)
	GMAW Pulse on Pulse®	Pulse on Pulse®	Argon	102	Frequency		100 – 600	ipm (2.54 – 15.24 m/min)	
	1/16		GMAW CV	CV	Argon	77	Pinch	125 – 500	ipm (3.18 – 12.7 m/min)
			GMAW Pulse	Pulse	Argon	78	UltimArc®	100 – 500	ipm (2.54 – 12.7 m/min)
				CC Pulse	Argon	80		100 – 450	ipm (2.54 – 11.43 m/min)
	GMAW Pulse on Pulse®	Pulse on Pulse®	Argon	103	Frequency		75 – 350	ipm (1.91 – 8.89 m/min)	
SiBr	0.035		GMAW Pulse	Pulse	Argon	192	UltimArc®	80 – 1200	ipm (2.03 – 30.48 m/min)
	0.045		GMAW Pulse	Pulse	Argon	191	UltimArc®	50 – 600	ipm (1.27 – 15.24 m/min)
Cu	0.035		GMAW Pulse	Pulse	Argon Helium	198	UltimArc®	100 – 700	ipm (2.54 – 17.78 m/min)
	0.045		GMAW Pulse	Pulse	Argon Helium	196	UltimArc®	75 – 500	ipm (1.91 – 12.7 m/min)
NiCr	0.035		GMAW Pulse	Pulse	Ar/ Ar He	501	UltimArc®	75 – 800	ipm (1.91 – 20.32 m/min)
	0.045		GMAW Pulse	Pulse	Ar/ Ar He	503	UltimArc®	75 – 600	ipm (1.91 – 15.24 m/min)
	1/16		GMAW Pulse	Pulse	Ar/ Ar He	505	UltimArc®	75 – 350	ipm (1.91 – 8.89 m/min)
NiCu	0.035		GMAW Pulse	Pulse	Ar/ Ar He	507	UltimArc®	75 – 800	ipm (1.91 – 20.32 m/min)
	0.045		GMAW Pulse	Pulse	Ar/ Ar He	509	UltimArc®	75 – 600	ipm (1.91 – 15.24 m/min)
	1/16		GMAW Pulse	Pulse	Ar/ Ar He	511	UltimArc®	50 – 350	ipm (1.27 – 8.89 m/min)
NiFe-CI	0.035		GMAW Pulse	Pulse	Ar/ Ar He	513	UltimArc®	75 – 800	ipm (1.91 – 20.32 m/min)
	0.045		GMAW Pulse	Pulse	Ar/ Ar He	515	UltimArc®	75 – 600	ipm (1.91 – 15.24 m/min)
Ni-1	0.035		GMAW Pulse	Pulse	Ar/ Ar He	519	UltimArc®	75 – 800	ipm (1.91 – 20.32 m/min)
	0.045		GMAW Pulse	Pulse	Ar/ Ar He	521	UltimArc®	75 – 600	ipm (1.91 – 15.24 m/min)
	1/16		GMAW Pulse	Pulse	Ar/ Ar He	523	UltimArc®	50 – 300	ipm (1.27 – 7.62 m/min)
Ni-CI	0.035		GMAW Pulse	Pulse	Ar/ Ar He	525	UltimArc®	75 – 800	ipm (1.91 – 20.32 m/min)
	0.045		GMAW Pulse	Pulse	Ar/ Ar He	527	UltimArc®	75 – 500	ipm (1.91 – 12.7 m/min)

FCAW	Type	Size	Procedure	Waveform	Gas Type	Mode #	Arc Control	Max. Range (*)	
	Flux Core	All	FCAW-S	Self Shield CV	NA		6	Pinch	10 – 45
FCAW-G			Gas Shield CV			7	Pinch	10 – 45	V
Cored Wire	0.045	FCAW-G	CV	CO <sub>2</sub>	90	Pinch	175 – 600	ipm (4.45 – 15.24 m/min)	
				Argon Mix	91	Pinch	175 – 600	ipm (4.45 – 15.24 m/min)	
	0.052	FCAW-G	CV	CO <sub>2</sub>	187	Pinch	150 – 500	ipm (3.81 – 12.7 m/min)	
				Argon Mix	188	Pinch	150 – 500	ipm (3.81 – 12.7 m/min)	
1/16	FCAW-G	CV	CO <sub>2</sub>	189	Pinch	125 – 400	ipm (3.18 – 10.16 m/min)		
			Argon Mix	190	Pinch	125 – 400	ipm (3.18 – 10.16 m/min)		

SMAW	Type	Size	Procedure	Waveform	Gas Type	Mode #	Arc Control	Max. Range (*)	
	NA	NA	DCEP SMAW	SMAW Soft	NA		1	Arc Force, Hot Start	15 – 900
SMAW Crisp				NA		2	Arc Force, Hot Start	15 – 900	A
SMAW Pipe				NA		4	Arc Force	50 – 250	A

GTAW	Type	Size	Procedure	Waveform	Gas Type	Mode #	Arc Control	Max. Range (*)	
	NA	NA	DCEN GTAW	Touch Start TIG	Ar / He		3	Hot Start	5 – 900
Touch Start TIG Pulse				Ar / He		8	Frequency, Background, Hot Start	5 – 800	A

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CAG	Type	Size	Procedure	Waveform	Gas Type	Mode #	Arc Control	Max. Range (*)
	NA	NA	CAG	Arc Gouge	Compressed Air	9		60 – 900 A

GMAW-Tandem	Type	Size	Procedure	Waveform	Gas Type	Mode #	Arc Control	Max. Range (*)
	Steel							
GMAW-Tandem	0.035	GMAW Tandem (Δ)	Sync Pulse Lead	Argon Mix	400	UltimArc®, Phase Angle	100 – 1000 ipm	(2.54 – 25.4 m/min)
			Sync Pulse Trail	Argon Mix	401	UltimArc®	100 – 800 ipm	(2.54 – 20.32 m/min)
			HotWire Pulse Trail	Argon Mix	460		80 – 900 ipm	(2.03 – 22.86 m/min)
	0.040	GMAW Tandem (Δ)	Sync Pulse Lead	Argon Mix	402	UltimArc®, Phase Angle	150 – 800 ipm	(3.81 – 20.32 m/min)
			Sync Pulse Trail	Argon Mix	403	UltimArc®	150 – 800 ipm	(3.81 – 20.32 m/min)
			HotWire Pulse Trail	Argon Mix	461		80 – 800 ipm	(2.03 – 20.32 m/min)
	0.045	GMAW Tandem (Δ)	Sync Pulse Lead	Argon Mix	404	UltimArc®, Phase Angle	100 – 700 ipm	(2.54 – 17.78 m/min)
			Sync Pulse Trail	Argon Mix	405	UltimArc®	100 – 700 ipm	(2.54 – 17.78 m/min)
			HotWire Pulse Trail	Argon Mix	462		75 – 800 ipm	(1.91 – 20.32 m/min)
	0.052	GMAW Tandem (Δ)	Sync Pulse Lead	Argon Mix	406	UltimArc®, Phase Angle	100 – 800 ipm	(2.54 – 20.32 m/min)
			Sync Pulse Trail	Argon Mix	407	UltimArc®	100 – 800 ipm	(2.54 – 20.32 m/min)
			HotWire Pulse Trail	Argon Mix	463		50 – 800 ipm	(1.27 – 20.32 m/min)
1/16	GMAW Tandem (Δ)	Sync Pulse Lead	Argon Mix	408	UltimArc®, Phase Angle	100 – 500 ipm	(2.54 – 12.7 m/min)	
		Sync Pulse Trail	Argon Mix	409	UltimArc®	100 – 500 ipm	(2.54 – 12.7 m/min)	
		HotWire Pulse Trail	Argon Mix	464		50 – 500 ipm	(1.27 – 12.7 m/min)	

GMAW-HyperFill	Type	Size	Procedure	Waveform	Gas Type	Mode #	Arc Control	Max. Range (*)
	Steel							
GMAW-HyperFill	Steel	0.035	GMAW	HyperFill	Argon Mix	601		100 – 800 ipm (2.54 – 20.32 m/min)
		0.040	GMAW	HyperFill	Argon Mix	602		100 – 600 ipm (2.54 – 15.24 m/min)
		0.045	GMAW	HyperFill	Argon Mix	602		100 – 465 ipm (2.54 – 11.81 m/min)