The Lincoln Electric Company
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Weld Set Reference: Z264503
Power Wave® S500/R450 (SI units)

§ *Advanced Module Required*
₪ *STT® Module Required*
‡ *STT® or Advanced Module Required*
Ψ *AutoDrive® S/SA Required*

Θ *External HF Starter Required*
Δ *Tandem Controller Required*
~ *Three Phase Input Required*
Ж AutoDrive® 4RS Required

¥ *R450 Rapid Model Required*

□ *Availability of mode determined by output rating of equipment setup*

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

	Type	Size	Procedure	Waveform	Gas Type	Mode #	Arc Control	Max. Range(*)
GMAW	All	All	GMAW CV	STD CV (~)		5	Pinch	10 — 45 V
			GMAW Power	Power Mode® (~)		40	Pinch	0.1 — 23 kW
	Steel	0.8 mm	GMAW CV	CV	CO_2	93	Pinch	75 — 1200 ipm (1.91 — 30.48 m/min)
					Argon Mix	94		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)
				Precision Pulse™	Argon Mix	410		100 — 600 ipm (2.54 — 15.24 m/min)
		0.9 mm	GMAW CV	CV	CO_2	138	Pinch	50 — 1200 ipm (1.27 — 30.48 m/min)
					Argon Mix	139		50 — 1200 ipm (1.27 — 30.48 m/min)
			GMAW Pulse	Pulse	Argon Mix	140	UltimArc®	60 — 1200 ipm (1.52 — 30.48 m/min)
				RapidArc®	Argon Mix	141		75 — 1200 ipm (1.91 — 30.48 m/min)
				Precision Pulse™	Argon Mix	411		100 — 600 ipm (2.54 — 15.24 m/min)
				Rapid X®(‡)	Argon Mix	272		75 — 1200 ipm (1.91 — 30.48 m/min)
			GMAW STT®	Synergic STT®(‡)	CO_2	324	UltimArc®, Hot Start	100 — 225 ipm (2.54 — 5.72 m/min)
					Argon Mix	325		100 — 225 ipm (2.54 — 5.72 m/min)
				NonSynergic STT®(‡)	CO_2	304	Peak, Background, Tailout, Hot Start	100 — 300 ipm (2.54 — 7.62 m/min)
					Argon Mix	305		100 — 300 ipm (2.54 — 7.62 m/min)
			GMAW AC STT®	Synergic AC STT®(§)	CO_2	380	Balance, UltimArc®	50 — 200 ipm (1.27 — 5.08 m/min)
					Argon Mix	381		50 — 200 ipm (1.27 — 5.08 m/min)
		1.0 mm	GMAW CV	CV	CO_2	10	Pinch	50 — 1200 ipm (1.27 — 30.48 m/min)
					Argon Mix	11		50 — 1200 ipm (1.27 — 30.48 m/min)
			GMAW Pulse	Pulse	Argon Mix	12	UltimArc®	75 — 1200 ipm (1.91 — 30.48 m/min)
				RapidArc®	Argon Mix	13		60 — 1200 ipm (1.52 — 30.48 m/min)
				Precision Pulse™	Argon Mix	412		75 — 600 ipm (1.91 — 15.24 m/min)
				Rapid X®(‡)	Argon Mix	273		75 — 800 ipm (1.91 — 20.32 m/min)
				Rapid X® LS C10(‡)	90Ar/10CO_2	592		100 — 800 ipm (2.54 — 20.32 m/min)
				Rapid X® LS C20(‡)	80Ar/20CO_2	593		100 — 600 ipm (2.54 — 15.24 m/min)
				Low Fume Pulse™(‡)	Argon Mix	551		75 — 1200 ipm (1.91 — 30.48 m/min)
			GMAW STT®	Synergic STT®(‡)	CO_2	326	UltimArc®, Hot Start	90 — 225 ipm (2.29 — 5.72 m/min)
					Argon Mix	327		90 — 225 ipm (2.29 — 5.72 m/min)
				NonSynergic STT®(‡)	CO_2	306	Peak, Background, Tailout, Hot Start	90 — 225 ipm (2.29 — 5.72 m/min)
					Argon Mix	307		90 — 225 ipm (2.29 — 5.72 m/min)
			GMAW AC STT®	Synergic AC STT®(§)	CO_2	382	Balance, UltimArc®	45 — 185 ipm (1.14 — 4.7 m/min)
					Argon Mix	383		45 — 185 ipm (1.14 — 4.7 m/min)
		1.2 mm	GMAW CV	CV	CO_2	20	Pinch	50 — 800 ipm (1.27 — 20.32 m/min)
					Argon Mix	21		50 — 800 ipm (1.27 — 20.32 m/min)
			GMAW Pulse	Pulse	Argon Mix	22	UltimArc®	60 — 800 ipm (1.52 — 20.32 m/min)
				RapidArc®	Argon Mix	18		60 — 800 ipm (1.52 — 20.32 m/min)
				Precision Pulse™	Argon Mix	413		75 — 600 ipm (1.91 — 15.24 m/min)
				Rapid X®(‡)	Argon Mix	274		100 — 800 ipm (2.54 — 20.32 m/min)
				Rapid X® LS C10(‡)	90Ar/10CO_2	594		100 — 600 ipm (2.54 — 15.24 m/min)
				Rapid X® LS C20(‡)	80Ar/20CO_2	595		100 — 500 ipm (2.54 — 12.7 m/min)
				RapidArc® CP (Ж)	Argon Mix	757		75 — 650 ipm (1.91 — 16.51 m/min)
				Low Fume Pulse™(‡)	Argon Mix	552		60 — 800 ipm (1.52 — 20.32 m/min)
			GMAW STT®	Synergic STT®(‡)	CO_2	328	UltimArc®, Hot Start	90 — 200 ipm (2.29 — 5.08 m/min)
					Argon Mix	329		90 — 200 ipm (2.29 — 5.08 m/min)
				NonSynergic STT®(‡)	CO_2	308	Peak, Background, Tailout, Hot Start	90 — 225 ipm (2.29 — 5.72 m/min)
					Argon Mix	309		90 — 225 ipm (2.29 — 5.72 m/min)
			GMAW AC STT®	Synergic AC STT®(§)	CO_2	384	Balance, UltimArc®	40 — 170 ipm (1.02 — 4.32 m/min)
					Argon Mix	385		40 — 170 ipm (1.02 — 4.32 m/min)
		1.32 mm	GMAW CV	CV (□)	Argon Mix	540	Pinch	50 — 550 ipm (1.27 — 13.97 m/min)
			GMAW Pulse	RapidArc® (□)	Argon Mix	541	UltimArc®	60 — 905 ipm (1.52 — 22.99 m/min)
				Low Fume Pulse™(‡,□)	Argon Mix	544		50 — 600 ipm (1.27 — 15.24 m/min)
		1.4 mm	GMAW CV	CV (□)	CO_2	24	Pinch	50 — 640 ipm (1.27 — 16.26 m/min)
					Argon Mix	25		50 — 550 ipm (1.27 — 13.97 m/min)
			GMAW Pulse	Pulse (□)	Argon Mix	26	UltimArc®	50 — 580 ipm (1.27 — 14.73 m/min)
				RapidArc® (□)	Argon Mix	27		60 — 735 ipm (1.52 — 18.67 m/min)
				Rapid X®(‡,□)	Argon Mix	275		75 — 600 ipm (1.91 — 15.24 m/min)
				Low Fume Pulse™(‡,□)	Argon Mix	553		50 — 600 ipm (1.27 — 15.24 m/min)
		1.6 mm	GMAW CV	CV (□)	Argon Mix	107	Pinch	50 — 350 ipm (1.27 — 8.89 m/min)
			GMAW Pulse	Pulse (□)	Argon Mix	108	UltimArc®	50 — 400 ipm (1.27 — 10.16 m/min)

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	Type	Size	Procedure	Waveform	Gas Type	Mode #	Arc Control	Range*						
GMAW	Metal Core	0.9mm	GMAW AC Pulse	Rapid Z®(§)	Argon Mix	472	UltimArc®	75	—	900	ipm	(1.91	—	22.86 m/min)
		1.0mm	GMAW AC Pulse	Rapid Z®(§)	Argon Mix	473	UltimArc®	70	—	700	ipm	(1.78	—	17.78 m/min)
		1.2 mm	GMAW CV	Constant Penetration (Ж)	Argon Mix	772	UltimArc® & Magnet Start	50	—	700	ipm	(1.27	—	17.78 m/min)
				CV	Argon Mix	81	Pinch	50	—	700	ipm	(1.27	—	17.78 m/min)
			GMAW Pulse	Pulse	Argon Mix	82	UltimArc®	50	—	700	ipm	(1.27	—	17.78 m/min)
				RapidArc® CP (Ж)	Argon Mix	767		75	—	650	ipm	(1.91	—	16.51 m/min)
				Rapid X®(‡)	Argon Mix	294		75	—	700	ipm	(1.91	—	17.78 m/min)
		1.4 mm	GMAW CV	CV (□)	CO2	252	Pinch	100	—	960	ipm	(2.54	—	24.38 m/min)
					Argon Mix	83	Pinch	50	—	1120	ipm	(1.27	—	28.45 m/min)
			GMAW Pulse	Pulse (□)	Argon Mix	84	UltimArc®	50	—	600	ipm	(1.27	—	15.24 m/min)
				Rapid X®(‡,□)	Argon Mix	295		60	—	650	ipm	(1.52	—	16.51 m/min)
		1.6 mm	GMAW CV	CV (□)	Argon Mix	85	Pinch	50	—	450	ipm	(1.27	—	11.43 m/min)
			GMAW Pulse	Pulse (□)	Argon Mix	86	UltimArc®	50	—	450	ipm	(1.27	—	11.43 m/min)
				Rapid X®(‡,□)	Argon Mix	296		75	—	450	ipm	(1.91	—	11.43 m/min)
	Stainless	0.8 mm	GMAW CV	CV	Argon Mix	61	Pinch	100	—	1200	ipm	(2.54	—	30.48 m/min)
					Ar He CO_2	63		100	—	1200	ipm	(2.54	—	30.48 m/min)
			GMAW Pulse	Pulse	Ar He CO_2	64	UltimArc®	100	—	1200	ipm	(2.54	—	30.48 m/min)
					Argon Mix	66		100	—	1200	ipm	(2.54	—	30.48 m/min)
		0.9 mm	GMAW CV	CV	Argon Mix	29	Pinch	75	—	1200	ipm	(1.91	—	30.48 m/min)
			GMAW Pulse	Pulse	Argon Mix	30	UltimArc®	60	—	1200	ipm	(1.52	—	30.48 m/min)
				Precision Pulse™	Argon Mix	421		100	—	600	ipm	(2.54	—	15.24 m/min)
			GMAW STT®	Synergic STT®(‡)	Argon Mix	364	UltimArc®, Hot Start	100	—	300	ipm	(2.54	—	7.62 m/min)
					Ar He CO_2	365		100	—	250	ipm	(2.54	—	6.35 m/min)
				NonSynergic STT®(‡)	Argon Mix	344	Peak, Background,	100	—	300	ipm	(2.54	—	7.62 m/min)
					Ar He CO_2	345	Tailout, Hot Start	100	—	300	ipm	(2.54	—	7.62 m/min)
		1.0 mm	GMAW CV	CV	Argon Mix	31	Pinch	75	—	1200	ipm	(1.91	—	30.48 m/min)
					Ar He CO_2	33		75	—	1000	ipm	(1.91	—	25.4 m/min)
			GMAW Pulse	Pulse	Ar He CO_2	34	UltimArc®	60	—	1200	ipm	(1.52	—	30.48 m/min)
					Argon Mix	36		60	—	1200	ipm	(1.52	—	30.48 m/min)
				Precision Pulse™	Argon Mix	422	UltimArc®	60	—	600	ipm	(1.52	—	15.24 m/min)
				Rapid X®(‡)	Argon Mix	283	UltimArc®	100	—	800	ipm	(2.54	—	20.32 m/min)
			GMAW STT®	Synergic STT®(‡)	Argon Mix	366	UltimArc®, Hot Start	100	—	300	ipm	(2.54	—	7.62 m/min)
					Ar He CO_2	367		100	—	250	ipm	(2.54	—	6.35 m/min)
				NonSynergic STT®(‡)	Argon Mix	346	Peak, Background,	100	—	300	ipm	(2.54	—	7.62 m/min)
					Ar He CO_2	347	Tailout, Hot Start	100	—	300	ipm	(2.54	—	7.62 m/min)
		1.2 mm	GMAW CV	CV	Argon Mix	41	Pinch	75	—	700	ipm	(1.91	—	17.78 m/min)
					Ar He CO_2	43		75	—	700	ipm	(1.91	—	17.78 m/min)
			GMAW Pulse	Pulse	Ar He CO_2	44	UltimArc®	50	—	700	ipm	(1.27	—	17.78 m/min)
					Argon Mix	46		50	—	800	ipm	(1.27	—	20.32 m/min)
				Precision Pulse™	Argon Mix	423	UltimArc®	50	—	400	ipm	(1.27	—	10.16 m/min)
				Rapid X®(‡)	Argon Mix	284	UltimArc®	100	—	800	ipm	(2.54	—	20.32 m/min)
			GMAW STT®	Synergic STT®(‡)	Argon Mix	368	UltimArc®, Hot Start	90	—	200	ipm	(2.29	—	5.08 m/min)
					Ar He CO_2	369		90	—	200	ipm	(2.29	—	5.08 m/min)
				NonSynergic STT®(‡)	Argon Mix	348	Peak, Background,	90	—	225	ipm	(2.29	—	5.72 m/min)
					Ar He CO_2	349	Tailout, Hot Start	90	—	225	ipm	(2.29	—	5.72 m/min)
		1.6 mm	GMAW CV	CV (□)	Argon Mix	51	Pinch	50	—	480	ipm	(1.27	—	12.19 m/min)
			GMAW Pulse	Pulse (□)	Argon Mix	56	UltimArc®	50	—	505	ipm	(1.27	—	12.83 m/min)
	Stainless Metal Core EC4XX	1.2 mm	GMAW Pulse	Rapid X®(‡)	Argon Mix	290	UltimArc®	75	—	800	ipm	(1.91	—	20.32 m/min)
	SiBr	1.0mm	GMAW Pulse	Pulse	Argon	192	UltimArc®	80	—	1000	ipm	(2.03	—	25.4 m/min)
			GMAW STT®	Synergic STT®(‡)	Argon	336	UltimArc®	120	—	350	ipm	(3.05	—	8.89 m/min)
				Pulse	Argon	191	UltimArc®	50	—	600	ipm	(1.27	—	15.24 m/min)
	Cu	1.0mm	GMAW Pulse	Pulse	Argon Helium	198	UltimArc®	75	—	500	ipm	(1.91	—	12.7 m/min)
		1.2mm	GMAW Pulse	Pulse	Argon Helium	196	UltimArc®	75	—	500	ipm	(1.91	—	12.7 m/min)
	NiCr	1.0mm	GMAW Pulse	Pulse	Ar He	502	UltimArc®	75	—	800	ipm	(1.91	—	20.32 m/min)
		1.2mm	GMAW Pulse	Pulse	Ar He	504	UltimArc®	75	—	600	ipm	(1.91	—	15.24 m/min)

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	Type	Size	Procedure	Waveform	Gas Type	Mode #	Arc Control	Range*
GMAW	Aluminum (AlSi)	1.0 mm	GMAW CV	CV	Argon	148	Pinch	125 — 800 ipm (3.18 — 20.32 m/min)
			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)
				Precision Pulse™	Argon	566		125 — 800 ipm (3.18 — 20.32 m/min)
			GMAW Pulse-on-Pulse®	Pulse-on-Pulse®	Argon	98	Frequency	100 — 500 ipm (2.54 — 12.7 m/min)
			GMAW AC Pulse	AC Precision Pulse™(§)	Argon	576	UltimArc®	150 — 700 ipm (3.81 — 17.78 m/min)
				AC Pulse (§)	Argon	392		125 — 700 ipm (3.18 — 17.78 m/min)
		1.2 mm	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)
				Precision Pulse™	Argon	567		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)
			GMAW AC Pulse	AC Precision Pulse™(§)	Argon	577	UltimArc®	125 — 500 ipm (3.18 — 12.7 m/min)
				AC Pulse (§)	Argon	393		100 — 500 ipm (2.54 — 12.7 m/min)
		1.6 mm	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)
				Precision Pulse™ (□)	Argon	568		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)
			GMAW AC Pulse	AC Precision Pulse™(§,□)	Argon	578	UltimArc®	100 — 350 ipm (2.54 — 8.89 m/min)
				AC Pulse (§,□)	Argon	394		100 — 400 ipm (2.54 — 10.16 m/min)
		1.8mm	GMAW Pulse	AluMax ™ (Ψ)	Argon	569	UltimArc®	75 — 250 ipm (1.91 — 6.35 m/min)
	Aluminum (AlMg)	1.0 mm	GMAW CV	CV	Argon	151	Pinch	175 — 750 ipm (4.45 — 19.05 m/min)
			GMAW Pulse	Pulse	Argon	152	UltimArc®	125 — 700 ipm (3.18 — 17.78 m/min)
				CC Pulse	Argon	153		125 — 700 ipm (3.18 — 17.78 m/min)
				Precision Pulse™	Argon	571		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)
			GMAW AC Pulse	AC Precision Pulse™(§)	Argon	581	UltimArc®	125 — 700 ipm (3.18 — 17.78 m/min)
				AC Pulse (§)	Argon	397		125 — 800 ipm (3.18 — 20.32 m/min)
		1.2 mm	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)
				Precision Pulse™	Argon	572		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)
			GMAW AC Pulse	AC Precision Pulse™(§)	Argon	582	UltimArc®	100 — 700 ipm (2.54 — 17.78 m/min)
				AC Pulse (§)	Argon	398		85 — 600 ipm (2.16 — 15.24 m/min)
		1.6 mm	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)
				Precision Pulse™ (□)	Argon	573		100 — 500 ipm (2.54 — 12.7 m/min)
			GMAW Pulse-on-Pulse®	Pulse-on-Pulse® (□)	Argon	103	Frequency	75 — 350 ipm (1.91 — 8.89 m/min)
			GMAW AC Pulse	AC Precision Pulse™(§,□)	Argon	583	UltimArc®	100 — 400 ipm (2.54 — 10.16 m/min)
				AC Pulse (§,□)	Argon	399		100 — 400 ipm (2.54 — 10.16 m/min)
		1.8mm	GMAW Pulse	Alumax ™ (Ψ)	Argon	574	UltimArc®	75 — 350 ipm (1.91 — 8.89 m/min)

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FCAW	Flux Core	All	FCAW-S	Self Shield CV (~)	NA	6	Pinch	10 — 45 V
			FCAW-G	Gas Shield CV (~)		7	Pinch	10 — 45 V
	Cored Wire	1.2 mm	FCAW-G	CV	CO_2	90	Pinch	175 — 600 ipm (4.45 — 15.24 m/min)
					Argon Mix	91		175 — 600 ipm (4.45 — 15.24 m/min)
		1.4 mm	FCAW-G	CV (□)	CO_2	187	Pinch	150 — 500 ipm (3.81 — 12.7 m/min)
					Argon Mix	188		150 — 500 ipm (3.81 — 12.7 m/min)
		1.6 mm	FCAW-G	CV (□)	CO_2	189	Pinch	125 — 400 ipm (3.18 — 10.16 m/min)
					Argon Mix	190		125 — 400 ipm (3.18 — 10.16 m/min)

	Type	Size	Procedure	Waveform	Gas Type	Mode #	Arc Control	Range*
SMAW	NA	NA	DCEP SMAW	Soft	NA	1	Arc Force, Hot Start	15 — 555 A
				Crisp	NA	2	Arc Force, Hot Start	15 — 555 A
				Pipe	NA	4	Arc Force	50 — 250 A
			DCEN SMAW	SMAW DC- (§)	NA	379	Arc Force, Hot Start	15 — 350 A
			AC SMAW	AC SMAW (§)	NA	374	Arc Force, Hot Start, Frequency	15 — 350 A

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GTAW

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NA	NA	DCEN GTAW	Touch Start GTAW	Ar / He	3	Hot Start	5 — 555 A
			Touch Start TIG Pulse	Ar / He	8	Frequency, Background Hot Start	5 — 555 A
			HF TIG (Θ)	Ar / He	375	Hot Start	5 — 450 A
			HF TIG Pulse (Θ)	Ar / He	376	Frequency, Background Hot Start	5 — 450 A
		AC GTAW	Touch Start AC TIG(§)	Ar / He	377	AC Frequency, AC Balance, DC Offset, Hot Start	10 — 350 A
			HF Start AC TIG (§)	Ar / He	378	AC Frequency, AC Balance, DC Offset, Hot Start	10 — 350 A

CAG

Type	Size	Procedure	Waveform	Gas Type	Mode #	Arc Control	Range*
NA	NA	CAG	Arc Gouge (~)	Compressed Air	9		60 — 555 A

GMAW-Tandem

Type	Size	Procedure	Waveform	Gas Type	Mode #	Arc Control	Range*
Steel	1.0 mm	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)
	1.2 mm	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)
	1.4 mm	GMAW Tandem (Δ,~,□)	Sync Pulse Lead	Argon Mix	406	UltimArc®, Phase Angle	100 — 600 ipm (2.54 — 15.24 m/min)
			Sync Pulse Trail	Argon Mix	407	UltimArc®	100 — 600 ipm (2.54 — 15.24 m/min)
			HotWire Pulse Trail	Argon Mix	463		50 — 800 ipm (1.27 — 20.32 m/min)

HyperFill®[1]

Type	Size	Procedure	Waveform	Gas Type	Mode #	Arc Control	Max. Range (*)
Steel	0.9 mm	GMAW	HyperFill® (□)	Argon Mix	601	UltimArc®	150 — 650 ipm (3.81 — 16.51 m/min)
			HyperFill® STT® (₪)	Argon Mix	651	UltimArc®	100 — 250 ipm (2.54 — 6.35 m/min)
	1.0 mm	GMAW	HyperFill® (□)	Argon Mix	602	UltimArc®	100 — 500 ipm (2.54 — 12.7 m/min)
			Hyperfill - RA (□)	Argon Mix	626		100 — 475 ipm (2.54 — 12.07 m/min)
			HyperFill® STT® (₪)	Argon Mix	653	UltimArc®	75 — 200 ipm (1.91 — 5.08 m/min)
	1.2 mm	GMAW	HyperFill® (□)	Argon Mix	603	UltimArc®	100 — 370 ipm (2.54 — 9.4 m/min)
Metal Core	1.2 mm	GMAW	HyperFill® (□)	Argon Mix	608	UltimArc®	150 — 415 ipm (3.81 — 10.54 m/min)
Cored Wire	1.2 mm	FCAW-G	HyperFill® (□)	CO_2	617	Pinch	100 — 500 ipm (2.54 — 12.7 m/min)
			HyperFill® (□)	Argon Mix	618	Pinch	100 — 480 ipm (2.54 — 12.19 m/min)
Stainless	0.9 mm	GMAW	HyperFill® STT® (₪)	Argon Mix	660	UltimArc®	100 — 300 ipm (2.54 — 7.62 m/min)
			HyperFill® STT® (₪)	He Ar CO_2	661	UltimArc®	100 — 300 ipm (2.54 — 7.62 m/min)
			HyperFill® RapidArc® (□)	Argon Mix	629	UltimArc®	100 — 500 ipm (2.54 — 12.7 m/min)
	1.0 mm	GMAW	HyperFill® STT® (₪)	Argon Mix	662	UltimArc®	100 — 250 ipm (2.54 — 6.35 m/min)
			HyperFill® STT® (₪)	He Ar CO_2	663	UltimArc®	100 — 200 ipm (2.54 — 5.08 m/min)

GTAW - APEX®[2]

Type	Size	Procedure	Waveform	Gas Type	Mode #	Arc Control	Max. Range (*)
NA	NA	DCEN GTAW	Touch Start TIG	NA	490	Transition Speed	5 — 500 A
			HF TIG (Θ)	NA	491	Transition Speed	5 — 500 A
		AC GTAW	Hotwire AC TIG Square Wave(§)	NA	495	Frequency, Balance	0 — 350 A

GTAW – LincMaster[3]

Type	Size	Procedure	Waveform	Gas Type	Mode #	Arc Control	Max. Range (*)
NA	NA	DCEN GTAW	HF TIG pulse	Ar/He	645	Peak Time, Background Time, and Background	5 — 450 A

PAW– LincMaster[3]

Type	Size	Procedure	Waveform	Gas Type	Mode #	Arc Control	Max. Range (*)
NA	NA	PAW	Plasma	Ar/He	640		5 — 410 A
			Plasma Pulse	Ar/He	641	Peak Time, Background Time, Background	5 — 410 A

Hot Wire

Type	Size	Procedure	Waveform	Gas Type	Mode #	Arc Control	Max. Range (*)
NA	NA	Hot Wire	AC Hotwire	NA	780	Frequency, DC Offset	0 — 4 kW

[1] ***HyperFill® & Process HDT™ Waveform Activation Capability with Power Wave® and PIPEFAB™ Systems***
Your purchase of a Lincoln Power Wave or PIPEFAB Welding System comes with (i) a license to use Lincoln Electric standard Power Wave / PIPEFAB waveforms, and (ii) HyperFill & Process HDT waveform capability, which requires a separate license. Without the separate license, the HyperFill and Process HDT waveforms are not available for use on these machines, and only the standard Power Wave / PIPEFAB waveforms are usable.

[2] ***APEX® System Required***

[3] ***LincMaster System Required***