



RAPID CONTROL SERVICE, INC.

Partners In Automation Since 1964

PNEUMATIC / ELECTRICAL / RESISTANCE WELDING

Phone: 616-538-1111

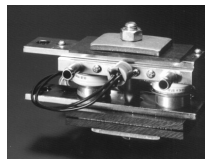
WATTS: 1-800-632-1857

Fax: 616-538-6847

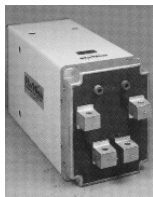
Website: www.rapidcontrol.com

E-Mail: sales@rapidcontrol.com

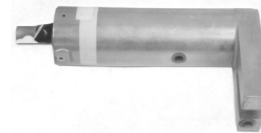
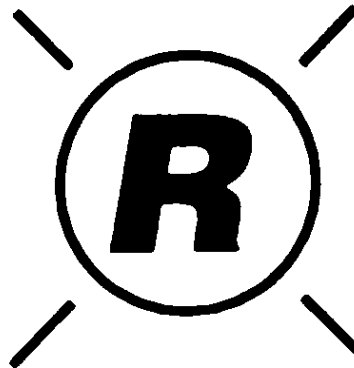
RESISTANCE WELDING GUIDELINES



SCR'S



TRANSFORMERS



WELD CYLINDERS



WELD SHUNTS

2479 28th Street - Grand Rapids, MI - 49519



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SUGGESTED SHEET METAL WELDING SCHEDULES

Low Carbon Bare

Sheet In.	Tip Dia In.	Weld Force	Weld Cycles	AMPS
.02	.19	550 lbs	7	8,500
.03	.19	610 lbs	8	10,000
.04	.25	750 lbs	10	11,800
.05	.25	850 lbs	11	13,500
.06	.31	1000 lbs	14	14,800
.07	.31	1200 lbs	17	16,000
.08	.31	1400 lbs	19	16,700
.09	.38	1700 lbs	23	18,000
.10	.38	1800 lbs	26	18,800
.11	.38	2000 lbs	32	19,300
.12	.38	2300 lbs	38	20,000
.13	.38	2500 lbs	44	20,600

Low Carbon Galv

Weld Force	Weld Cycles	AMPS
550 lbs	9	11,400
610 lbs	10	13,000
750 lbs	12	14,800
850 lbs	13	16,500
1000 lbs	16	16,500
1200 lbs	19	18,400
1400 lbs	21	19,300
1700 lbs	25	20,400
1800 lbs	28	21,100
2000 lbs	35	21,500
2300 lbs	41	22,100
2500 lbs	47	22,400

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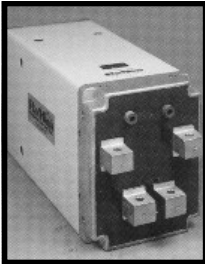
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RULE OF THUMB



SIZING TRANSFORMERS

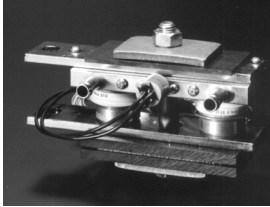
.060 Thickness of Material = 60 KVA

.070 Thickness of Material = 70 KVA

.080 Thickness of Material = 85 KVA

.100 Thickness of Material = 100 KVA

Note: The rule does not apply when welding stainless steel material, galvanize material and other special material types.



SIZING SCR'S

440 Volts primary at 10% duty cycle

30 - 85 KVA Transformer use 300 amp SCR

85 - 150 KVA Transformer use 600 amp SCR

150 - 300 KVA Transformer use 1200 amp SCR



SIZING SHUNTS

50 - 70 KVA Transformer - 750 MCM Size

85 - 100 KVA Transformer - 1000 MCM Size

120 - 150 KVA Transformer - 1200 MCM Size

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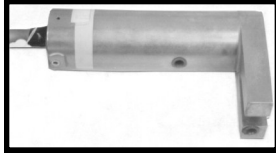
RULE OF THUMB

Sizing Weld Cylinders

FORMULA: 2 X The Thinnest Thickness of Material X 6000

EXAMPLE: (2 X .050) = .100 X 6000 = 600 lbs of Tip Force

Review Savair Size Chart

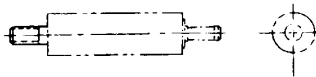


Standard Dual Piston Cylinder

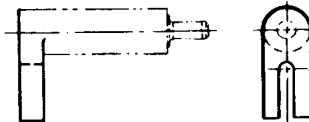
Cylinder SQ Area	Force At 60 PSI	Force At 70 PSI	Force At 80 PSI	Force At 100 PSI
436	262 lbs	305 lbs	350 lbs	436 lbs
584	350 lbs	409 lbs	467 lbs	584 lbs
750	450 lbs	525 lbs	600 lbs	750 lbs
937	562 lbs	655 lbs	749 lbs	937 lbs
1143	685 lbs	800 lba	914 lbs	1143 lbs

Standard Triple Piston Cylinder

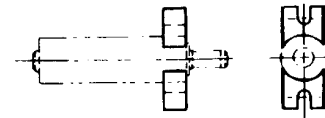
Cylinder SQ Area	Force At 60 PSI	Force At 70 PSI	Force At 80 PSI	Force At 100 PSI
620	372 lbs	434 lbs	496 lbs	620 lbs
840	504 lbs	588 lbs	672 lbs	840 lbs
1087	652 lbs	761 lbs	870 lbs	1087 lbs
1370	822 lbs	959 lbs	1096 lbs	1370 lbs
1680	1008 lbs	1176 lba	1344 lbs	1680 lbs



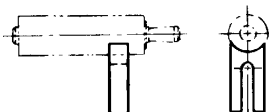
Mount Style "A" Stud



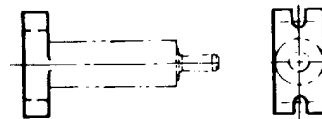
Mount Style "C"
Rear Hairpin



Mount Style "J"
Double Front Hairpin



Mount Style "B 3/4"
Front Hairpin



Mount Style "F"
Double Rear Hairpin