



MACHINE SPECIALTIES, INC.

1750 HOWARD DR., NORTH MANKATO, MN. 56001

"MIG" AND "TIG" WELDING TOOLS (507) 625-6200

MECHANIZED and ROBOTIC WELDING

QUICK DISCONNECT AIR COOLED MACHINE BARREL
SERIES 400 – MODEL MAT-QD/MAC-QD

MAT-QD MACHINE AIR THREADED – Quick Disconnect
Threaded Current Tip

MAC-QD MACHINE AIR COLLET – Quick Disconnect
Slip-In Current Tip



SPECIFICATIONS AND MAINTENANCE MANUAL

SAFETY

Welding is not particularly hazardous when certain safety practices are followed. Anyone using this equipment should be thoroughly trained in safe welding practices. Failure to observe safe practices may cause serious injury.

For more information, refer to the following standards in their latest revisions and comply as applicable.

1. ANSI Standard Z49.1, SAFETY IN WELDING AND CUTTING obtainable from the American Welding Society, 2501 NW 7th St., Miami, FL 33125.
2. ANSI Standard Z41.1, STANDARD FOR MEN'S SAFETY - TOE FOOTWEAR obtainable from the American National Standards Institute, 1430 Broadway, New York, NY 10018.
3. ANSI Standard Z49.2, FIRE PREVENTION IN THE USE OF CUTTING AND WELDING PROCESSES obtainable from the American National Standards Institute, 1430 Broadway, New York, NY 10018.
4. OSHA, SAFETY AND HEALTH STANDARDS, 29CFR 1910, obtainable from the U.S. Government Printing Office, Washington, D.C. 20402.
5. AWS Standard A6.0, WELDING AND CUTTING CONTAINERS WHICH HAVE HELD COMBUSTIBLES obtainable from the American Welding Society, 2501 NW 7th Street, Miami, FL 33125.
6. NFPA Standard 70-1978, NATIONAL ELECTRICAL CODE obtainable from the National Fire Protection Association, 470 Atlantic Avenue, Boston, MA 02210.
7. ANSI Standard Z88.2 "Practice for Respiratory Protection" obtainable from the American National Standards Institute, 1430 Broadway, New York, NY 10018.
8. ANSI Standard Z87.1, SAFE PRACTICES FOR OCCUPATION AND EDUCATIONAL EYE AND FACE PROTECTION obtainable from the American National Standards Institute, 1430 Broadway, New York, NY 10018.
9. NIOSH, SAFETY AND HEALTH IN ARC WELDING AND GAS WELDING AND CUTTING obtainable from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.
10. American Welding Society Standard AWSF4.1 "Recommended Safe Practices for the Preparation for Welding and Cutting of Containers and Piping That Have Held Hazardous Substances", obtainable from the American Welding Society, 2501 NW 7th Street, Miami, FL 33125.

DESCRIPTION

These Air Cooled - Quick Disconnect Machine Barrels are readily adaptable to mechanized or robotic welding. They are furnished completely assembled and ready for installation. Both models have the feature of individual replaceable service connections with a removable cable hose sheath to add to the durability and long life of the barrel assemblies.

MODEL EXPLANATION

MAT-QD – M achine, A ir cooled, T hreaded current tip - Q uick D isconnect

MAC-QD – M achine, A ir cooled, C ollet (slip-in current tip) - Q uick D isconnect

MAT-QD/MAC-QD "400" SERIES SPECIFICATIONS

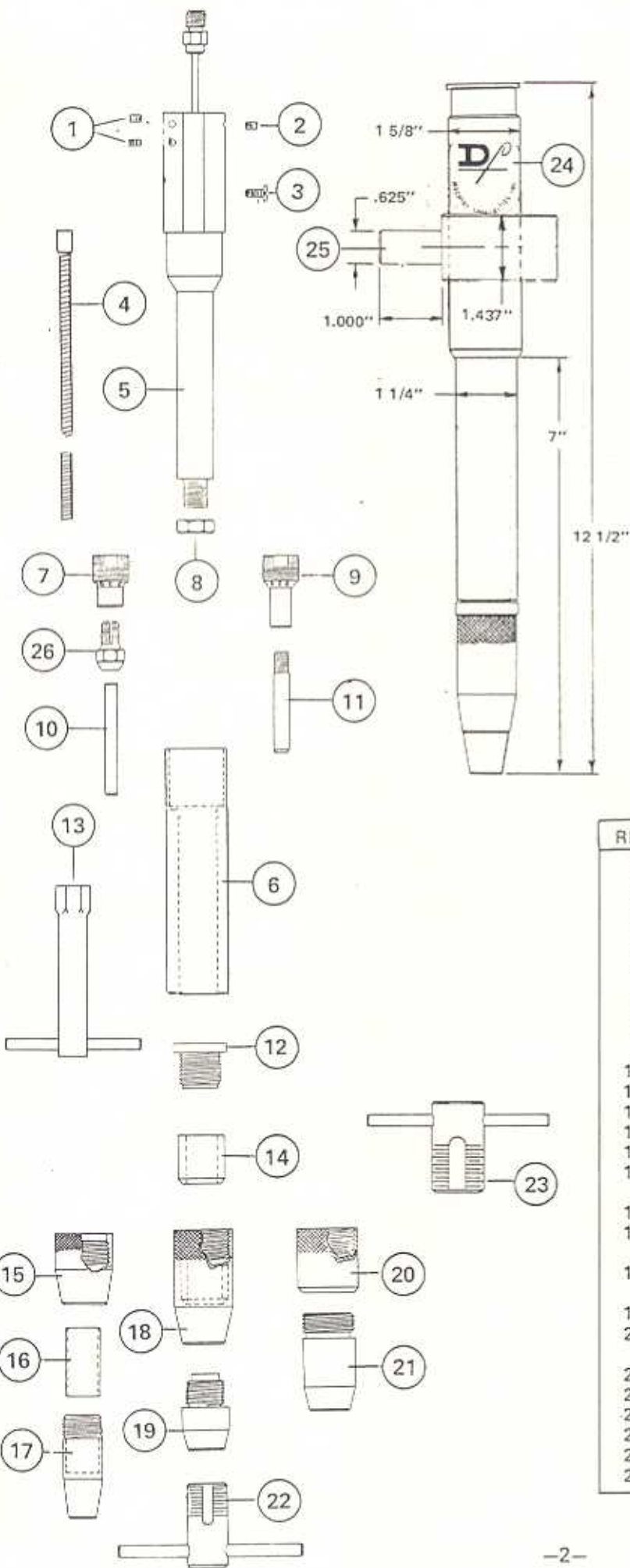
Current Capacity	400 amp CO ₂ 275 amp Argon
Barrel Dimensions	
Length	12 1/2" (Depends on Nozzle Selected)
Upper body diameter	1 5/8"
Lower body diameter	1 1/4"
Recommended Wire Diameter Range	.030"-.062", 5/64" Hard/Cored 3/64" Soft
Weight (approx.)	2 lbs.

DESCRIPTION	CODE AND MODEL NO. FOR AVAILABLE LENGTHS							
	4 Ft.	5 Ft.	6 Ft.	7 Ft.	8 Ft.	10 Ft.	12 Ft.	15 Ft.
MAT-QD (Threaded Tip)	17818 Model MAT-4QD	17819 Model MAT-5QD	17820 Model MAT-6QD	17821 Model MAT-7QD	17822 Model MAT-8QD	17823 Model MAT-10QD	17824 Model MAT-12QD	17825 Model MAT-15QD
MAC-QD (Slip-In Tip)	17827 Model MAC-4QD	17828 Model MAC-5QD	17829 Model MAC-6QD	17830 Model MAC-7QD	17831 Model MAC-8QD	17832 Model MAC-10QD	17833 Model MAC-12QD	17834 Model MAC-15QD

Barrel assemblies include casing with quick disconnect assembly (12981), liner, gas nozzle, current tip, cable hose protector, gas quick disconnect plug and cable connector (male 16875) on power cable.

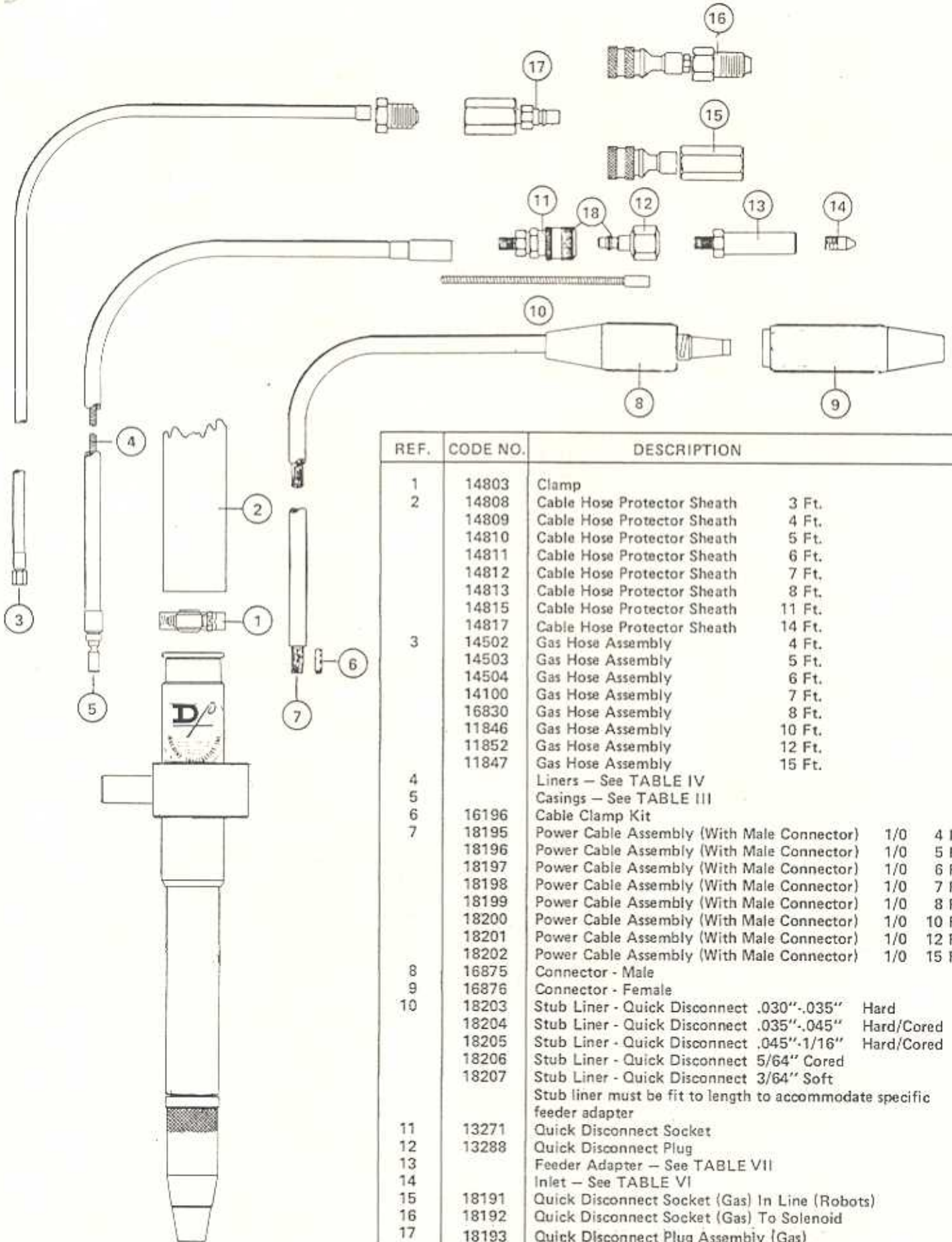
To complete an initial installation the following items would be required consisting of: feeder adapter (specify mfr's type - select Page 6 and 7), stub liner for specific wire diameter to be used, inlet, gas solenoid adapter (18192) Item 16, Page 3 or in line adapter (18191) Robots Item 15, Page 3 and cable connector (female 16876) Item 9, Page 3.

AIR COOLED ROBOTIC MACHINE BARREL
MODEL MAT/MAC Quick Disconnect



REF.	CODE NO.	DESCRIPTION
1	14713	Socket Set Screw (2 each)
2	14712	Socket Set Screw
3	12610	Flat Head Screw
4		Body Liner - See TABLE V
5	16967	Inner Body
6	16968	Insulation Tube - Split - Full Diameter
	18097	Insulation Tube - No Split - Full Diameter
7	13205	Adapter - Collet Type
8	16202	Jam Nut
9	13207	Adapter - Threaded Type
10		Current Tip - See TABLE I
11		Current Tip - See TABLE I
12	13163	Insulator
13	12111	Collet Wrench
14	16605	Insulator - Nozzle Body 13197
15	16383	Nozzle Body (With Insulator)
	16384	Nozzle Body (Less Insulator)
16	16426	Insulator - (Gas Nozzles 16379/16380)
17	16379	Gas Nozzle .540" I.D. x 2.125"
	16380	Gas Nozzle .625" I.D. x 2.125"
18	13176	Nozzle Body (With Insulator)
	13197	Nozzle Body (Less Insulator)
19		Gas Nozzle - See TABLE II
20	13177	Nozzle Body (With Insulator)
	13198	Nozzle Body (Less Insulator)
21		Gas Nozzle - See TABLE II - Item 6
22	14610	Nozzle Thread Chaser Tap - Front
23	14612	Nozzle Thread Chaser Tap - Rear
24	16969	Body Tube
25	14085	Mounting Bracket
26	11950	Collet Nut

QUICK DISCONNECT – CABLE AND HOSE ACCESSORIES



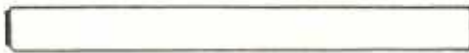
REF.	CODE NO.	DESCRIPTION
1	14803	Clamp
2	14808	Cable Hose Protector Sheath 3 Ft.
	14809	Cable Hose Protector Sheath 4 Ft.
	14810	Cable Hose Protector Sheath 5 Ft.
	14811	Cable Hose Protector Sheath 6 Ft.
	14812	Cable Hose Protector Sheath 7 Ft.
	14813	Cable Hose Protector Sheath 8 Ft.
	14815	Cable Hose Protector Sheath 11 Ft.
	14817	Cable Hose Protector Sheath 14 Ft.
3	14502	Gas Hose Assembly 4 Ft.
	14503	Gas Hose Assembly 5 Ft.
	14504	Gas Hose Assembly 6 Ft.
	14100	Gas Hose Assembly 7 Ft.
	16830	Gas Hose Assembly 8 Ft.
	11846	Gas Hose Assembly 10 Ft.
	11852	Gas Hose Assembly 12 Ft.
	11847	Gas Hose Assembly 15 Ft.
4		Liners – See TABLE IV
5		Casings – See TABLE III
6	16196	Cable Clamp Kit
7	18195	Power Cable Assembly (With Male Connector) 1/0 4 Ft.
	18196	Power Cable Assembly (With Male Connector) 1/0 5 Ft.
	18197	Power Cable Assembly (With Male Connector) 1/0 6 Ft.
	18198	Power Cable Assembly (With Male Connector) 1/0 7 Ft.
	18199	Power Cable Assembly (With Male Connector) 1/0 8 Ft.
	18200	Power Cable Assembly (With Male Connector) 1/0 10 Ft.
	18201	Power Cable Assembly (With Male Connector) 1/0 12 Ft.
	18202	Power Cable Assembly (With Male Connector) 1/0 15 Ft.
8	16875	Connector - Male
9	16876	Connector - Female
10	18203	Stub Liner - Quick Disconnect .030"-.035" Hard
	18204	Stub Liner - Quick Disconnect .035"-.045" Hard/Cored
	18205	Stub Liner - Quick Disconnect .045"-1/16" Hard/Cored
	18206	Stub Liner - Quick Disconnect 5/64" Cored
	18207	Stub Liner - Quick Disconnect 3/64" Soft
		Stub liner must be fit to length to accommodate specific feeder adapter
11	13271	Quick Disconnect Socket
12	13288	Quick Disconnect Plug
13		Feeder Adapter – See TABLE VII
14		Inlet – See TABLE VI
15	18191	Quick Disconnect Socket (Gas) In Line (Robots)
16	18192	Quick Disconnect Socket (Gas) To Solenoid
17	18193	Quick Disconnect Plug Assembly (Gas)
	18226	Quick Disconnect Plug Assembly With Shank
18	12981	Quick Disconnect Assembly (Socket 13271 and Plug 13288)

TABLE I – CURRENT TIPS

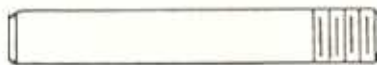
SLIP-IN CURRENT TIP



4" Slip-In Tip



1/4" Dia. – Slip-In Tip - 2 1/2" Long



5/16" Threaded Tip

WIRE TYPE	WIRE SIZE	CODE NO.
SOFT	3/64"	10781
HARD	.035"	10788
HARD/CORED	.045"	10789
CORED	1/16"	10790

HARD	.030"	10794
HARD	.035"	10795
HARD	.045"	10796
HARD	.052"	10840
HARD	1/16"	10797

Tip Provides 1/8" Set Back

THREADED CURRENT TIP

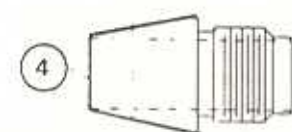
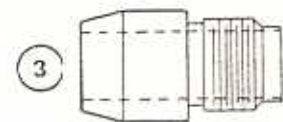
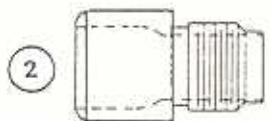
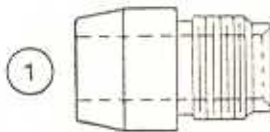
HARD	.030"	10850
HARD	.035"	10756
HARD	.045"	10757
HARD	.052"	10841
HARD	1/16"	10759

Tip Provides 1/8" Set Back

CORED	.035"	10852
CORED	.045"	10750
CORED	.052"	10853
CORED	1/16"	10751
CORED	5/64"	10752

Tip Provides 3/8" Set Back

TABLE II – GAS NOZZLES



REF.	CODE NO.	type	O.D.	I.D.
1	10362	Copper Tapered	15/16"	5/8"
2	10340	Copper Straight	1"	3/4"
3	11941	Copper Tapered	15/16"	17/32"
4	10359	Copper Tapered	15/16"	5/8"
5	10374	Copper Straight	5/8"	7/16"
6	10379	Use With Nozzle Body 13198	1 1/16"	3/4"

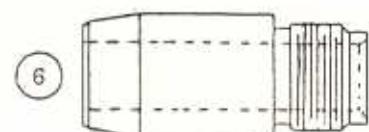
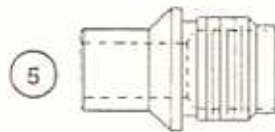


TABLE III – CASINGS

DESCRIPTION	3 Ft.	4 Ft.	5 Ft.	6 Ft.	7 Ft.	8 Ft.	10 Ft.	12 Ft.	15 Ft.
Casing Assembly (Flexible)									
Select Liner .030"	14441	14442	14443	12291	12292	12285	12286	12287	12290
Select Liner .035"-1/16" **	14445	14446	14447	16173	16561	13565	13751	13757	13752
Casing Assembly (Reinforced)									
Single Piece .035"-.045"	16736	16737	16738	16739	16740	16512	15988	15991	16055
Single Piece .045"-1/16"	15751	15752	15753	15754	15755	16513	12380	12383	12386
Single Piece 5/64"-3/32"	15730	15731	15732	15733	15734	16514	12441	12449	12443

TABLE IV – LINERS

DESCRIPTION	WIRE SIZE	3 Ft.	4 Ft.	5 Ft.	6 Ft.	7 Ft.	8 Ft.	10 Ft.	12 Ft.	15 Ft.
Hard	.030"	14130	14131	14132	16818	16819	16820	12320	12321	12322
Hard/Cored	.035"-.045" **	16444	16445	16446	16447	16448	16449	16407	16408	16409
Hard/Cored	.045"-1/16" **	16148	16149	16150	16151	16152	16153	16119	16120	16121
Stainless	.035"-.045" **	16155	16156	16157	16158	16159	16160	12336	12337	12338
Stainless	.045"-1/16" **	16502	16503	16504	16505	16506	16507	16508	16509	16510
Aluminum	3/64" **	14146	14148	14150	16618	16619	12410	12411	12412	12413

TABLE V – BARREL LINERS

CODE NO.	WIRE SIZE	TYPE WIRE
18040	.030"-.035"	Hard
18041	.035"-.045"	Hard/Cored
18042	.045"-1/16"	Hard/Cored
18044	3/64"	Aluminum
18208	5/64"	Cored

TABLE VI – FEEDER ADAPTER INLETS

WIRE SIZE	Hardened Steel			Brass	Nylon
	CODE NO.	CODE NO.	CODE NO.	CODE NO.	CODE NO.
.030"	13801			16417	
.035"	13803			16418	
.045"	13806			16419	
.052"	13844			16420	
1/16"	13809			16421	
3/64"AL.					13807

TABLE VII - FEEDER ADAPTERS

MFR.	MODELS	WIRE DIAMETER	Hard or AL.	Cored
Cyclomatic	Scorpion	.030"-.035" Hard	13147	
	612, 1024	.035"-.045" Hard	"	
		.045"-.1/16" Hard	"	
		3/64" Soft	"	
		1/16" Soft	"	
		3/32" Soft		13132
		5/64"-.3/32" Cored		"
		7/64" Cored		"
Dynaweld	See Air Products			
Gilliland		.035"-.045" Hard	16224	
		.045"-.1/16" Hard	"	
		5/64"-.3/32" Cored	"	16224
Hobart	ALL MODELS	.030"-.035" Hard	13067	
		.035"-.045" Hard	"	
		.045"-.1/16" Hard	"	
		3/64" Soft	"	
		1/16" Soft	"	
		3/32" Soft	"	
		5/64"-.3/32" Cored		16087
7/64" Cored		"		
Lincoln	LN7, L18	.030"-.035" Hard	13110	
		.045"-.1/16" Hard	"	
		3/64"-.3/32" AL	13111	
		5/64"-.3/32" Cored	"	13112
		7/64" Cored	"	"
Water Cooled Guns	LN9 No Lug	.035"-.045" Hard	16581	
		.045"-.1/16" Hard	"	
		5/64"-.3/32" Cored	"	16582
		7/64" Cored	"	"
Air Cooled Guns	LN9 Adapter with Lug	.035"-.045" Hard	16373	
		.045"-.1/16" Hard	"	
		5/64"-.3/32" Cored	"	16527
		7/64" Cored	"	"

MFR.	MODELS	WIRE DIAMETER	Hard or AL.	Cored
Airco	AHF-T	.030"-.035" Hard	13031	
	AHF-N	.045"-.1/16" Hard	"	
	AHF-R1	3/64" Soft	"	
	AHF-U1	1/16" Soft	"	
	AHF-V1	3/32" Soft	"	
	AHF-V6	5/64"-.3/32" Cored		13029
	AHF-NP	7/64" Cored	"	"
	AHF-N6			
Air Products	AP500, AP250	.030"-.1/16" Hard	13056	
Auto Arc	ALL MODELS	.035"-.045" Hard	13130	
		.045"-.1/16" Hard	"	
		3/64" Soft	"	
		1/16" Soft	"	
		3/32" Soft		13010
Bancroft		.030"-.1/16" Hard	13009	
		3/64"-.3/32" Soft	"	
		5/64"-.7/64" Cored	"	
		.035"-.045" Hard	13486	
		.045"-.1/16" Hard	"	
		3/64" Soft	"	
		1/16" Soft	"	
		3/32" Soft	"	16612
		5/64"-.3/32" Cored	"	"
		7/64" Cored	"	"
Compak-O-Matic	430, 120, 125			
10, 25, 103-B, 500	No. 75	.035" Hard	13481	
		.045" Hard	"	
		1/16" Hard	"	
		3/64"-.3/32" AL		13491
		5/64"-.3/32" Cored		13492
		7/64" Cored		

MFR.	MODELS	WIRE DIAMETER	Hard or AL.	Cored
Miller	Swing Auto Arc	.035"-.045" Hard	13117	
		.045"-.1/16" Hard	"	
		3/64" Soft	"	
		1/16" Soft	"	
		3/32" Soft	"	16481
		5/64"-.3/32" Cored		
		7/64" Cored		
NCG	WC5, WC50, WC50S	.030"-.035" Hard	13140	
		.045" Hard	13141	
		1/16" Hard	13142	
		5/64" Cored		13143
		3/32" Cored		13144
		7/64" Cored		13145
		1/8" Cored		13146
NCG-PH	RF3, RF5, RF6		13095	
		(D/F)	13096	
Oxo	ALL MODELS	.035" Hard	13125	
		.045"-.1/16" Hard	"	
		5/64"-.3/32" Cored		13127
		7/64" Cored		"
Ranger		Inserts	13137	
		.030"-.035" AL.	13137	
		3/64" AL.	"	
		1/16" AL.		
Systematics	FW101 CF201		13056	
Westinghouse	SA2, SA605, SA625, SA505C	.035" Hard	13003	
		.045" Hard	13004	
		1/16" Hard	13005	
		3/64"-.3/32" Soft	13006	
		5/64"-.3/32" Cored		13007
		7/64" Cored		13008

MFR.	MODELS	WIRE DIAMETER	Hard or AL.	Cored
Linde	SWM31 SWM34 SWM37 SWM38 EH8	Casing to Feeder (Accepts Linde Outlet Guide)	13046	
		D/F Insert		
		.035"-.045" Hard	13047	
		.045"-.1/16" Hard	13048	
		5/64"-.3/32" Cored		13049
		3/64"-.3/32" AL.		13050
Linde	SWM11 SWM113 SWM23 SWM25 EH35 EH10	.035"-.045" Hard	13043	
		.045"-.1/16" Hard	"	
		3/64" Soft	"	
		1/16" Soft	"	
		3/32" Soft	"	
		5/64"-.3/32" Cored		13052
		7/64" Cored		"
Machinery & Welder	MW100 MW200		13108	
		.030"-.035" Hard	16590	
		.035"-.045" Hard	"	
		.045"-.1/16" Hard	"	
		3/64" Soft	"	
		1/16" Soft	"	
		3/32" Soft		
		5/64"-.3/32" Cored		16591
		7/64" Cored		"
Miller	MHFC 10A, 30A		13115	
		.030"-.035" Hard	13120	
		.035"-.045" Hard	13121	
		.045"-.1/16" Hard	13122	
		5/64"-.3/32" Cored		13123
		3/64"-.3/32" AL.		13124
Miller ("50" Series)	S52A, S52E, S54E, S52D, S54D, D52D	.030"-.035" Hard	16557	
		.035"-.045" Hard	"	
		.045"-.1/16" Hard	"	
		3/64" Soft	"	
		1/16" Soft	"	
		3/32" Soft	"	
		5/64"-.3/32" Cored		16559
		7/64" Cored		"

WARRANTY

This Equipment is sold by D/F Machine Specialties, Incorporated, under the warranty set forth in the following paragraph. Such warranty is extended only to the buyer who purchases the equipment directly from D/F or its authorized distributor as new merchandise.

The barrel and cable assemblies are warranted by D/F to be free from manufacturing defects for 90 days after delivery by D/F, provided that the equipment is properly operated under conditions of normal use and that regular periodic maintenance and service is performed. Expendable parts are not warranted for any specific time. Expendable parts referred to herein would be the nozzles, current tips, spatter discs, insulators, casing liners and wire inlets. D/F's sole obligation under this warranty is limited to making replacement at its manufacturing facility for barrel assemblies which are returned to it with transportation charges prepaid, and upon D/F's examination have been found to be so defective.

The foregoing warranty shall not apply if the barrel assemblies have been repaired or altered by anyone other than a D/F representative or if the equipment has been subject to abuse, misuse, negligence or accident. There are no warranties which extended beyond the description of the barrel assemblies in this manual.

The user of the barrel assemblies shall have the sole responsibility for any malfunction which results from improper use or repair by anyone other than D/F.
