

DIRECT REPLACEMENT CUTTING TIPS



At present there is no standard method among Original Equipment Manufacturers (OEM) to designate tip sizes. The following charts were designed to provide operational data for the user, regardless of OEM, by utilizing the common denominators, OXYGEN ORIFICE DRILL SIZE and MATERIAL THICKNESS.

1. Use the Cross Reference Chart to find drill size of OEM tip to be used and apply to Operation and Performance Chart to determine operating parameters. Check metal thickness column to be sure tip is correct size for thickness to be cut.

2. Use the Operational and Performance Chart to determine drill size needed to cut specific thickness of metal. Select OEM tip and size from Cross Reference Chart.

STANDARD PRESSURE TIP SIZE CROSS-REFERENCE

O.E.M size to corresponding oxygen orifice drill size

O.E.M.	TIP STYLE	OXYGEN ORIFICE DRILL SIZE																		
		74	71	68	64	62	60	58	56	54	52	50	48	44	39	31	28	25	19	13
AIRCO®	144			00		0			1	2	3		4	5	6					
	164			00		0			1	2	3		4	5	6	8	9		10	
	261			0			1		2	3				5	7	8			10	
	263	00			0		1		2			4		5	7	8			10	
	Mapp (FS)			68	65		60		56	54	52		49	44	38	31	29		19	
	Stinger 200 Series		00	0		1			2	3	4		5		6	7			8	
HARRIS®	NX (M)			000	00		0		1		2		3	4	5	6	7	8		
	NFF								1	2	3		4		5	6				
	NH (M)														5	6	7	8		
	6290, 2490			00	00		0		1		2		3	4						
	6290S, 2490S								1		2		3	4	5	6				
KOIKE®	103			00		0	1			2	3		4	5	6		7		8	
	106			00		0	1			2	3		4	5	6		7		8	
	107			00		0	1			2	3		4	5	6		7		8	
MECO®	LM				0			1	2	3		4		5						
OXWELD®	1502			3			4			6				8	10	12			16	
	1534	2		3			4			5				8	10	12			16	20
	1564						4				6			8		10		12		
	1567	1/8		1/4	1/2		3/4			1	2	3			5	10		14		
PUROX®	4202			3			4			5		7		9		13				
	4213			3			4			5			7	8	10					
	4216			3			4				6		8		10	12				
REGO®	KX105			68		62			56	53	51		46	42	35	30		25	18	
SCORPION®	All Styles	5/0	4/0	000	00	00 1/2	0	0 1/2	1	1 1/2	2	2 1/2	3	4	5	6	7	8	9	10
SMITH®	SC40, 50, 60, 90			00		0			1	2	3			4	5	6	7		8	
VICTOR®	GP (N, P, M)		000	00			0		1	2		3	3	4	5	6	7		8	10
	BT (N, P, M)													4	5	6				
	HP (N, P, M)								1	2		3	3	4	5	6	7		8	10
	3GP (N, P, M)		000	00			0		1	2		3	3	4	5					
	1-101		000	00			0		1		2		3	4	5	6	7	8		
	3-101, 303M			00			0		1		2		3	4	5	6				

HIGH PRESSURE (DIVERGED) TIP SIZE CROSS REFERENCE

O.E.M size to corresponding oxygen orifice drill size

GENERAL OPERATION AND PERFORMANCE DATA FOR FLAME TECH TIPS STANDARD PRESSURE

METAL THICKNESS INCHES	TIP SIZE		DRILL CLEANER SIZE	WYPO CLEANER NUMBER	OXYGEN		** FUEL GAS P.S.I.	* SPEED I.P.M.	KERF WIDTH INCHES
	NUMBER	CUTTING OXYGEN ORIFICE			CUTTING P.S.I.	PREHEAT P.S.I.			
1/8		74	75	7	20-30	5-9	2-5	18-26	.035
3/16		71	72	8	30-40	5-9	2-5	18-25	.04
1/4		68	69	10	30-40	5-9	3-5	17-24	.05
3/8		64	65	14	35-45	5-10	3-5	17-23	.06
1/2		62	63	15	35-45	5-10	3-6	16-22	.06
5/8		60	61	15	35-45	5-10	3-6	15-20	.07
3/4		58	59	17	35-50	5-10	3-6	15-19	.07
1		56	57	18	35-50	5-10	3-6	14-18	.08
1 1/2		54	55	22	40-55	10-17	4-8	12-16	.09
2		52	53	24	40-55	10-17	4-8	10-14	.10
2 1/2		50	51	26	40-55	10-17	5-9	9-13	.11
3		48	49	28	45-60	10-17	6-10	8-11	.11
4		44	45	32	50-65	10-17	6-10	7-10	.13
5		44	45	32	50-65	10-17	6-10	6-9	.13
6		39	36	42	60-75	10-17	8-12	5-8	.15
8		31	32	44	60-85	30-43	9-15	4-6	.19
10		28	29		30-60	30-43	9-15	3-5	.22
12		25	26		25-55	30-43	9-15	3-4	.24
14		19	20		25-55	30-43	9-15	2-3	.26
15		13	14		25-50	30-43	10-18	2-3	.34
16		9	10		25-50	30-43	10-18	1 1/2-2 1/2	.37
18		5	6		25-45	30-43	10-18	1-2	.40

The highlighted sizes will cover most applications

** Acetylene not to exceed 15 P.S.I.

HIGH PRESSURE (DIVERGED)

METAL THICKNESS INCHES	TIP SIZE		DRILL CLEANER SIZE	WYPO CLEANER NUMBER	OXYGEN		FUEL GAS P.S.I.	SPEED I.P.M.	KERF WIDTH INCHES
	NUMBER	CUTTING OXYGEN ORIFICE			CUTTING P.S.I.	PREHEAT P.S.I.			
1/8		74	75	7	40-50	5-10	2-5	24-30	.035
3/16		71	72	8	50-60	5-10	2-5	23-29	.040
1/4		68	69	10	70-80	8-15	2-5	21-28	.045
3/8		64	65	14	80-90	8-15	3-5	19-26	.050
5/8		62	63	15	80-90	8-15	3-5	19-26	.050
3/4		60	61	15	80-100	8-15	3-5	18-26	.055
7/8		58	59	17	80-100	8-15	3-5	17-25	.060
1		56	57	18	80-100	8-15	3-6	16-24	.060
1 1/2		56	57	18	80-100	8-15	3-6	15-20	.060
2		54	57	18	80-100	8-15	3-6	12-16	.060
2 1/2		54	55	22	80-100	10-20	4-8	10-15	.070
3		52	55	22	80-100	10-20	4-8	9-13	.070
4		52	53	24	80-100	15-25	4-8	9-12	.080
5		50	53	24	80-100	15-25	4-8	8-11	.080
5 1/2		50	51	26	80-100	15-25	5-9	8-11	.09
6		48	49	28	80-100	15-25	6-10	8-10	.10
8		44	45	32	80-100	20-30	8-12	6-8	.11
9		42	43	34	80-100	25-35	8-12	5-7	.13
10		39	40	37	80-100	25-40	9-15	4-6	.17

*NOTE: If using propylene or MGP gas, use high side range of this chart. If using natural gas use low side of range.

NOTE: Data was compiled using mild steel as test material. This data should be used as a guide only. Your specific job may require slightly different pressures and speeds. However, the data will provide you with an excellent starting point if you begin on the low side and work up to the optimum speeds for maximum production. For thin plate through 3/8", slightly feathered or carburizing preheat flames are recommended. For heavy plate cutting, strong oxidizing preheat flames are recommended for piercing or starting the cut. The data on this chart was gathered using a 3-hose torch. All pressures were measured at the regulator using 25' of 1/4" diameter hose for sizes 5/8 through 5 and 25' of 3/8" hose for sizes 6 and larger. For hose lengths longer than 25', the drop is about 3 PSI per 25'. Therefore, pressures at the regulator must be adjusted accordingly. Values shown are for optimum results with **FLAME TECH®** tips. Check for the actual requirements of your torch in that they vary for equal pressure versus injector type design and from one OEM to another.

CAUTION: HIGH GAS WITHDRAWAL RATES WILL REQUIRE MANIFOLDING OF CYLINDERS.
CONSULT YOUR SUPPLIER FOR GASES