

Direct Replacement Cutting Tips



Currently there is no standard method among Original Equipment Manufacturers (OEM) to designate tip sizes. The following charts are designed to provide operational data for the user, regardless of OEM, by utilizing the common denominators, "Oxygen Orifice Drill Size" and "Metal Thickness." Using information you have available, the following charts can help find information you need.

You Know the Tip Size: Use the Cross Reference Chart to find drill size of OEM tip to be used, and then refer to Operation and Performance Chart to determine operating parameters. Check "Metal Thickness" column to be sure tip is correct size for the cut.

You Know the Metal Thickness: 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 (OEM SIZE TO OXYGEN ORIFICE DRILL SIZE)

O.E.M.	TIP STYLES	OXYGEN ORIFICE DRILL SIZES																			
		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	00		0			1		2	3				5	7	8			10		
	263				0		1		2			4		5	7	8				10	
	AFS			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			000	00		0		1		2		3	4	5	6	7	8			
	NFF							1	2	3		4		5	6						
	NH													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				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	
Flame Tech® Scorpion®	All Styles	5/0	4/0	000	00	00½	0	0½	1	1½	2	2½	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)		000	00		0			1	2		3	3	4	5	6	7		8	10	
	BT (N, P)													4	5	6					
	HP (N, P)								1	2		3	3	4	5	6	7		8	10	
	3GP (N, P)		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 (OEM SIZE TO OXYGEN ORIFICE DRILL SIZE)

O.E.M.	TIP STYLES	OXYGEN ORIFICE DRILL SIZES														
		74	71	68	64	62	60	58	56	54	52	50	48	44	42	39
Airco®	361	0		1	2				3	4	6		8			
	363						1		2	3	4		5	6		
	AFH			68	65		60		56	54	52		49	44	38	
	Stinger (375)			0		1		1	2	3	4		5			
Harris®	VVC	5/0		4/0	000		0	0½	1	1½	2	2½	3	4	5	5½
Koike®	103D7		00	0	1				2	3	4	5	6		7	8
	106D7		00	0	1				2	3	4	5	6		7	8
	107D7		00	0	1				2	3	4	5	6		7	8
Oxweld®	1535			31			4	43	47	52	60		80		100	120
	1566			1/2	3/4		1		1½	2	4		5	8	10	14
Rego®	KX205			68			60			53						
Flame Tech® Scorpion®	All Styles	5/0	4/0	000	00	00½	0	0½	1	1½	2	2½	3	4	5	6
Smith®	SC12A	00		0	1			2	3	4		6	6	8		
Victor®	MTH (N, P)		000	00			0		1		2		3	4	5	

*** MAPP gas is no longer produced. Flame Tech does not make MAPP specific tips. Propylene tips may be used if needed. ***

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	5/0	74	75	7	20-30	5-9	2-5	18-26	0.035
3/16	4/0	71	72	8	30-40	5-9	2-5	18-25	0.04
1/4	000	68	69	10	30-40	5-9	3-5	17-24	0.05
3/8	00	64	65	14	35-45	5-10	3-5	17-23	0.06
1/2	1/2	62	63	15	35-45	5-10	3-6	16-22	0.06
5/8	0	60	61	15	35-45	5-10	3-6	15-20	0.07
3/4	1/2	58	59	17	35-50	5-10	3-6	15-19	0.07
1	1	56	57	18	35-50	5-10	3-6	14-18	0.08
1 1/2	1 1/2	54	55	22	40-55	10-17	4-8	12-16	0.09
2	2	52	53	24	40-55	10-17	4-8	10-14	0.1
2 1/2	2 1/2	50	51	26	40-55	10-17	5-9	9-13	0.11
3	3	48	49	28	45-60	10-17	6-10	8-11	0.11
4	4	44	45	32	50-65	10-17	6-10	7-10	0.13
5	4	44	45	32	50-65	10-17	6-10	6-9	0.13
6	5	39	36	42	60-75	10-17	8-12	5-8	0.15
8	6	31	32	44	60-85	30-43	9-15	4-6	0.19
10	7	28	29		30-60	30-43	9-15	3-5	0.22
12	8	25	26		25-55	30-43	9-15	3-4	0.24
14	9	19	20		25-55	30-43	9-15	2-3	0.26
15	10	13	14		25-50	30-43	10-18	2-3	0.34
16	11	9	10		25-50	30-43	10-18	1 1/2-2 1/2	0.37
18	12	5	6		25-45	30-43	10-18	1-2	0.4

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	5/0	74	75	7	40-50	5-10	2-5	24-30	0.035
3/16	4/0	71	72	8	50-60	5-10	2-5	23-29	0.04
1/4	000	68	69	10	70-80	8-15	2-5	21-28	0.045
3/8	00	64	65	14	80-90	8-15	3-5	19-26	0.05
5/8	1/2	62	63	15	80-90	8-15	3-5	19-26	0.05
3/4	0	60	61	15	80-100	8-15	3-5	18-26	0.055
7/8	1/2	58	59	17	80-100	8-15	3-5	17-25	0.06
1	1	56	57	18	80-100	8-15	3-6	16-24	0.06
1 1/2	1	56	57	18	80-100	8-15	3-6	15-20	0.06
2	1 1/2	54	57	18	80-100	8-15	3-6	12-16	0.06
2 1/2	1 1/2	54	55	22	80-100	10-20	4-8	10-15	0.07
3	2	52	55	22	80-100	10-20	4-8	9-13	0.07
4	2	52	53	24	80-100	15-25	4-8	9-12	0.08
5	2 1/2	50	53	24	80-100	15-25	4-8	8-11	0.08
5 1/2	2 1/2	50	51	26	80-100	15-25	5-9	8-11	0.09
6	3	48	49	28	80-100	15-25	6-10	8-10	0.1
8	4	44	45	32	80-100	20-30	8-12	6-8	0.11
9	5H	42	43	34	80-100	25-35	8-12	5-7	0.13
10	6H	39	40	37	80-100	25-40	9-15	4-6	0.17

* NOTE: If using propylene, 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 5/0 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.