

# Victor Tip Charts

## ACETYLENE

### Cutting Tip Chart Cutting Tip Series 1-101 and 3-101

Metal Thickness	Tip Size	Cutting Oxygen (PSIG)***	Preheat Oxygen (PSIG)*	Acetylene Pressure (PSIG)	Speed I.P.M.	Kerf Width
1/8"	000	20/25	3/5	3/5	20/30	.04
1/4"	00	20/25	3/5	3/5	27/30	.05
3/8"	0	25/30	3/5	3/5	24/28	.06
1/2"	0	30/35	3/6	3/5	20/24	.06
3/4"	1	30/35	4/7	3/5	17/21	.07
1"	2	35/40	4/8	3/6	15/19	.09
2"	3	40/45	5/10	4/8	12/15	.11
3"	4	40/50	5/10	5/11	9/12	.12
4"	5	45/55	6/12	6/13	8/11	.15
6"	6**	45/55	6/15	8/14	6/8	.15
10"	7**	45/55	6/20	10/15	4/5	.34
12"	8**	45/55	7/25	10/15	3/5	.41

\* Applicable for 3-hose machine cutting torches only. With a 2-hose cutting torch, preheat pressure is set by the cutting oxygen.

\*\* For best results use appropriate capacity torches and 3/8" hose when using tip size 6 or larger. Torches with flashback arrestors require up to 25% more pressure as tip size increases (15 PSI maximum acetylene pressure).

\*\*\* All pressures are measured at the regulator using a 25' X 3/8" hose for tip size 6 and larger.

### ⚠ CAUTION

At no time should the withdrawal rate of an individual acetylene cylinder exceed 1/7 of the cylinder contents per hour. If additional flow capacity is required, use an acetylene manifold system of sufficient size to supply the necessary volume.

### Welding Nozzle Flow Data

Metal Thickness	Tip Size	Drill Size	Oxygen Pressure (PSIG)		Acetylene Pressure (PSIG)		Acetylene Consumption (SCFH)	
			Min	Max	Min	Max	Min	Max
Up to 1/32"	000	75 (.022)	3	5	3	5	1	2
1/16" - 3/64"	00	70 (.028)	3	5	3	5	1 1/2	3
1/32" - 5/64"	0	65 (.035)	3	5	3	5	2	4
3/64" - 3/32"	1	60 (.040)	3	5	3	5	3	6
1/16" - 1/8"	2	56 (.046)	3	5	3	5	5	10
1/8" - 3/16"	3	53 (.060)	4	7	3	6	8	18
3/16" - 1/4"	4	49 (.073)	5	10	4	7	10	25
1/4" - 1/2"	5	43 (.089)	6	12	5	8	15	35
1/2" - 3/4"	6	36 (.106)	7	14	6	9	25	45
3/4" - 1 1/4"	7	30 (.128)	8	16	8	10	30	60
1 1/4" - 2"	8	29 (.136)	10	19	9	12	35	75
2 1/2" - 3"	10	27 (.144)	12	24	12	15	50	100
3 1/2" - 4"	12*	25 (.149)	18	28	12	15	80	160

### MFA Heating Nozzles

Tip Size	Acetylene Pressure Range (PSIG)	Oxygen Pressure Range (PSIG)	Acetylene ft³/hr		Oxygen ft³/hr		BTU per Hour
			Min	Max	Min	Max	
4	6 - 10	8 - 12	6	20	7	22	SEE BELOW **
6	8 - 12	10 - 15	14	40	15	44	
8	10 - 15	20 - 30	30	80	33	88	
10	12 - 15	30 - 40	40	100	44	110	
12*	12 - 15	50 - 60	60	150	66	165	
15*	12 - 15	50 - 60	90	220	99	244	

\* Use model HD310C torch and 3/8" hose.

\*\* Approximately 1470 gross BTU per cubic foot.

# Victor Tip Charts

## PROPANE, LPG and NATURAL GAS

### Cutting Tip Chart Cutting Tip Series GPN and HPN

Metal Thickness	Tip Size	Cutting Oxygen (PSIG)***	Preheat Oxygen (PSIG)*	Preheat Fuel Gas (PSIG)	Speed I.P.M.	Kerf Width
1/8"	000	20/25	FOR 3-HOSE MACHINE TORCHES ONLY	3/5	24/28	.04
1/4"	00	20/25		3/5	21/25	.05
3/8"	0	25/30		3/5	20/24	.06
1/2"	0	30/35		3/5	18/22	.06
3/4"	1	30/35		3/6	15/20	.08
1"	2	35/40	SEE TABLE BELOW	3/6	14/18	.09
1 1/2"	2	40/45		5/9	12/16	.09
2"	3	40/45		5/9	10/14	.10
2 1/2"	3	45/50		6/10	9/12	.10
3"	4	40/50		8/12	8/11	.12
4"	5	45/55		8/12	7/10	.14
5"	5	50/55		8/12	6/9	.14
6"	6**	45/55		10/15	5/7	.17
8"	6**	55/65		10/15	4/6	.18
12"	8**	60/70		10/15	3/5	.24

\* Applicable for 3-hose machine cutting torches only. With a 2-hose cutting torch, preheat pressure is set by the cutting oxygen.

\*\* For best results use appropriate capacity torches and 3/8" hose when using tip size 6 or larger. Torches with flashback arrestors require up to 25% more pressure as tip size increases.

\*\*\* All pressures are measured at the regulator using a 25' X 1/4" hose through tip size 5 and 25' X 3/8" hose for tip sizes 6 and larger.

### Cutting Tip Series MTHN (High Speed Machine Cutting)

Metal Thickness	Tip Size	Cutting Oxygen (PSIG)	Preheat Oxygen (PSIG)*	Preheat Fuel Gas (PSIG)	Speed I.P.M.	Kerf Width
1/4"	00	85/95	SEE BELOW		23/30	.05
3/8"	00	85/95			22/29	.06
1/2"	0	85/95			18/26	.06
3/4"	0	85/95			17/24	.06
1"	1	85/95			15/22	.07
1 1/2"	1	85/95			12/16	.07
2"	2	85/95			11/15	.09
2 1/2"	2	85/95			10/13	.09
3"	2	85/95			9/11	.09
4"	3	85/95			7/10	.11
6"	3	85/95			5/7	.11
8"	4	85/95			4/6	.14
10"	5	85/95			3/5	.18
3 1/2" - 4"	12*	25 (.149)	18	28	12	15

NOTE: The above data applies to all torches with the following exceptions:

Torch Series	Preheat Oxygen	Preheat Fuel
MT200N Series	N/A	8 oz. – up
MT300N Series	10-25 PSIG	8 oz. – up

NOTE: Data compiled used clean mild steel as test material.

\*Pressure is measured at the torch inlet on MTH Series Tips. Torches with flashback arrestors require up to 25% more pressure as tip size increases.

# Victor Tip Charts

## PROPYLENE

### Cutting Tip Chart Cutting Tip Series GPP and HPP

Metal Thickness	Tip Size	Cutting Oxygen (PSIG)***	Preheat Oxygen (PSIG)*	Preheat Fuel Gas (PSIG)	Speed I.P.M.	Kerf Width
1/8"	000	20/25	FOR 3-HOSE MACHINE TORCHES ONLY	2/5	24/28	.04
1/4"	00	20/25		2/5	21/25	.05
3/8"	0	25/30		3/5	20/24	.06
1/2"	0	25/35		3/5	18/22	.06
3/4"	1	30/35		3/6	15/20	.08
1"	2	35/40		3/6	14/18	.09
1 1/2"	2	40/45		4/8	12/16	.09
2"	3	40/45		4/8	10/14	.10
2 1/2"	3	45/50		5/9	9/12	.10
3"	4	40/50		6/9	8/11	.12
4"	5	45/55	SEE TABLE BELOW	6/9	7/10	.14
5"	5	50/55		6/10	6/9	.14
6"	6**	45/55		6/10	5/7	.17
8"	6**	55/65		8/12	4/6	.18
10"	7**	55/65		8/12	3/5	.34
12"	8**	60/70		10/14	3/4	.41
15"	10**	50/70		10/16	2/4	--
18"	12**	45/65		--	2/3	--

\* Applicable for 3-hose machine cutting torches only. With a 2-hose cutting torch, preheat pressure is set by the cutting oxygen.

\*\* For best results use appropriate capacity torches and 3/8" hose when using tip size 6 or larger. Torches with flashback arrestors require up to 25% more pressure as tip size increases (15 PSI maximum acetylene pressure).

\*\*\* All pressures are measured at the regulator using a 25' X 3/8" hose for tip size 6 and larger.

### Cutting Tip Series MTHP (High Speed Machine Cutting)

Metal Thickness	Tip Size	Cutting Oxygen (PSIG)	Preheat Oxygen (PSIG)	Preheat Fuel Gas (PSIG)	Speed I.P.M.	Kerf Width
1/4"	00	85/95	SEE BELOW		23/30	.05
3/8"	00	85/95			22/29	.05
1/2"	0	85/95			20/28	.06
3/4"	0	85/95			18/26	.06
1"	1	85/95			17/24	.07
1 1/4"	1	85/95			16/20	.07
1 1/2"	1	85/95			12/16	.07
2"	2	85/95			11/15	.09
2 1/2"	2	85/95			10/13	.09
3"	2	85/95			9/11	.09
4"	3	85/95			7/10	.11
5"	3	85/95			6/8	.11
6"	3	85/95			5/7	.11
7"	4	85/95			5/6	.14
8"	4	85/95			4/6	.14
9"	5	85/95			4/5	.18
10"	5	85/95			3/5	.18

NOTE: The above data applies to all torches with the following exceptions:

Torch Series	Preheat Oxygen	Preheat Fuel
MT200N Series	N/A	8 oz. – up
MT300N Series	10-25 PSIG	8 oz. – up

NOTE: These speeds and pressure settings apply only to mild steel in good condition. Torches with flashback arrestors require up to 25% more pressure as tip size increases.



**CAUTION**

High gas withdrawal rates may require cylinder manifold. Consult your gas supplier.