

# TESCOM™ Recommendations for Semiconductor Gases

## Ideal Regulator for Process Gas and Application

Process Gas	Gas Cabinet				Valve Manifold Box		
	Maximum Flow (slpm)	Gas Cabinet Regulator	BSGS Gas Supply System	Threadless Series	Maximum Flow (slpm)	VMB Regulator	Threadless Series
Acetylene* (C <sub>2</sub> H <sub>2</sub> )	5	64-2800		74-2400	3	64-2600	
	50	64-3200		74-3800	6	64-2600-055	
	100	64-3200			50	64-5400	74-3000
					100	64-5400-100	
Air	30	64-2600			30	64-2600	
	100	64-2600-055			50	64-2600-055	
	200			74-3000	300	64-5400	
					600	64-5400-100	
					1500	DH-16	
Ammonia (NH <sub>3</sub> )	5	64-2800		74-2400	5	64-2600	
	400		64-3200	74-3800	30	64-2600-055	
	1500		DH-124/15 series		100	64-5400	74-3000
					250	64-5400-100	
Argon (Ar)	100	64-2800		74-2400	10	64-2600	
	600		449-254/44-3200* 64-3200*		100	64-2600-055	
					250	64-5400	
Arsine (AsH <sub>3</sub> )	10	64-2800		74-2400	5	64-2600	
	40	64-3200		74-3800	20	64-2600-055	
Arsine Mixtures (Nitrogen Balance)	15	64-2800		74-2400	15	64-2600	
				74-3800	50	64-2600-055	
	50	64-3200			150	64-5400	74-3000
Boron Trichloride (BCl <sub>3</sub> )	2	64-5000H			0.4	64-5000H	74-3000A
	10	74-3000A		74-3000A	6	74-3000A	74-3000A
Boron Trifluide (BF <sub>3</sub> )	5	64-2800		74-2400	5	64-2600	
	25	64-3200		74-3800	10	64-2600-055	
					25	64-5400	74-3000
Boron-11 Trifluide Enriched (B <sub>11</sub> F <sub>3</sub> )	5	64-2800H		74-2400H	5	64-2600H	
	25			74-3800H	10	64-2600-055H	
					25	64-5400H	
Butene-1 (C <sub>4</sub> H <sub>6</sub> )	3	64-2800		74-2400	3	64-2600	
	50			74-3800	5	64-2600-055	
Carbon Dioxide (CO <sub>2</sub> )	3	64-2800V		74-2400V	8	64-2600	
	75			74-3800V	20	64-2600-055	
	150	64-3200V		23-3V	100	64-5400	
	500		449-254/44-3200V* 64-3200*		160	64-5400-100	
					800	DH-16	
Carbon Monoxide (CO)	10	64-2800		74-2400	5	64-2600	
	100			74-3800	20	64-2600-055	
	200		44-3200		100	64-5400	74-3000
Chlorine (Cl <sub>2</sub> )	3	64-2800H		74-2400H	10	64-2600H	74-2400H
	50			74-3800H	50	64-2600H-055	
	200		64-3200H		100	64-5400H	74-3000
					150	64-5400H-100	
Chlorine Trifluoride (ClF <sub>3</sub> )	2	64-5000			1	64-5000	
	6			74-3000A	6	74-3000A	

\* Use as a set, two stage pressure reduction

A: Vespel seat

H: Hastelloy trim

A: Vacuum pressure

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Diborane (B <sub>2</sub> H <sub>6</sub> )	25	64-3400			10	64-2600	
					20	64-2600-055	74-3000
Dichlorosilane (SiH <sub>2</sub> Cl <sub>2</sub> )	2	64-5000H			1	64-5000	
	7			74-3000A	7	74-3000A	74-3000A
Diethyltelluride (Te(C <sub>2</sub> H <sub>5</sub> ) <sub>2</sub> )	5	64-2800		74-2400	3	64-2600	
					5	64-2600-055	
Dimethylsilane (C <sub>2</sub> SiH <sub>8</sub> )	25	64-3200		74-3800	25	64-5400	74-3000
	3	64-2800		74-2400	3	64-2600	
Disilane (Si <sub>2</sub> H <sub>6</sub> )	50			74-3800	50	64-5400	74-3000
	75	64-3200			75	64-5400-100	
Ethylene (C <sub>2</sub> H <sub>4</sub> )	1	64-2800		74-2400	1	64-2600	
	7			74-3800	7		74-3000
Fluorine (F <sub>2</sub> )	3	64-2800		74-2400	3	64-2600	
	50			74-3800	20	64-2600-055	
Fluorine Mixtures (10%, 500 psig) (Nitrogen Balance)	75	64-3200			50	64-5400	74-3000
					75	64-5400-100	
Fluorine (F <sub>2</sub> )	Consult factory						
Fluorine Mixtures (10%, 500 psig) (Nitrogen Balance)							
Germane (GeH <sub>4</sub> )	1	64-2800		74-2400	1	64-2600	
	7			74-3800	7		74-3000
Germane Mixtures (Nitrogen Balance)	10	64-2800		74-2400	10	64-2600	
	50			74-3800	20	64-2600-055	
Halocarbon-12 Dichlorodifluoromethane (CCl <sub>2</sub> F <sub>2</sub> )	50				50	64-5400	74-3000
	3	64-2800		74-2400	3	64-2600	
Halocarbon 12B2 (CBrF)	50	64-3200		74-3800	5	64-2600-055	
	5			74-3800	1	64-2600	
Halocarbon-13 Chlorotrifluoromethane (CClF <sub>3</sub> )	5				5	64-5400	74-3000
	3	64-2800		74-2400	3	64-2600	
Halocarbon-13B1 (CBrF <sub>3</sub> )	50	64-3200		74-3800	5	64-2600-055	
					50	64-5400	74-3000
Halocarbon-14 Tetrafluoromethane (CF <sub>4</sub> )	3	64-2800		74-2400	3	64-2600	
	50	64-3200		74-3800	5	64-2600-055	
Halocarbon-14 Tetrafluoromethane (CF <sub>4</sub> )	50	64-2800		74-2400	5	64-2600	
	200	64-3200		74-3800	30	64-2600-055	
Halocarbon-14 Tetrafluoromethane (CF <sub>4</sub> )	500		449-254/44-3200* 64-3200*		100	64-5400	74-3000
					250	64-5400-100	
Halocarbon 21 (CHCl <sub>2</sub> F)					1000	DH-16	
	1	64-5000			1	64-5000	
Halocarbon-23 Fluoroform (CHF <sub>3</sub> )	5			74-3000A	5	74-3000A	
	10	64-2800		74-2400	10	64-2600	
Halocarbon 32 (CH <sub>2</sub> F <sub>2</sub> )	50	64-3200		74-3800	20	64-2600-055	
	100	64-3200			50	64-5400	
Halocarbon 32 (CH <sub>2</sub> F <sub>2</sub> )	3	64-2800		74-2400	3	64-2600	
	50	64-3200		74-3800	6	64-2600-055	
Halocarbon 32 (CH <sub>2</sub> F <sub>2</sub> )	75	64-3200			50	64-5400	
					75	64-5400-100	

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A: Vespel seat

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A: Vacuum pressure

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Halocarbon 114 (C <sub>2</sub> ClF <sub>4</sub> )	7			74-3000A	1	64-5000	
					7	74-3000A	
Halocarbon-115 Chloropentafluethane (C <sub>2</sub> ClF <sub>5</sub> )	3	64-2800		74-2400	3	64-2600	
	50	64-3200		74-3800	5	64-2600-055	
	75	64-3200			50	64-5400	
					75	64-5400-100	
Halocarbon-116 Hexafluethane (C <sub>2</sub> F <sub>6</sub> )	3	64-2800		74-2400	3	64-2600	
	50	64-3200		74-3800	10	64-2600-055	
	125	64-3200			50	64-5400	
					90	64-5400-100	
					450	DH-16	
Halocarbon 125 (C <sub>2</sub> HF <sub>5</sub> )	3	64-2800		74-2400	3	64-2600	
	25	64-3200		74-3800	5	64-2600-055	
	75	64-3200			25	64-5400	
					75	64-5400-100	
Halocarbon 134A (C <sub>2</sub> H <sub>2</sub> F <sub>4</sub> )	3	64-2800		74-2400	3	64-2600	
	50	64-3200		74-3800	5	64-2600-055	
	75	64-3200			50	64-5400	
					75	64-5400-100	
Halocarbon R218 (C <sub>3</sub> F <sub>8</sub> )	3	64-2800		74-2400	3	64-2600	
	50	64-3200		74-3800	5	64-2600-055	
	75	64-3200			50	64-5400	
					75	64-5400-100	
Halocarbon C318 (C <sub>4</sub> F <sub>8</sub> )	6	64-3200		74-3800	1	64-2600	
					6	64-5400	74-3000
Helium (He)	125	64-2800		74-2400	65	64-2600	
	300	64-3400			125	64-2600-055	
	2000		449-254/44-3200* 64-3200*		500	64-5400	74-3000
					900	64-5400-100	
					2500	DH-16	
Hydrogen (H <sub>2</sub> )	125	64-2800		74-2400	65	64-2600	
	300	64-3400			125	64-2600-055	
	2000		449-254/44-3200* 64-3200*		500	64-5400	74-3000
					900	64-5400-100	
					3000	DH-16	
Hydrogen Bromide (HBr)	10	64-2800H		74-2400H	1	64-2600H	
	30	74-3800H		74-3800H	10	64-2600-055H	74-3000H
	50	64-3200H		74-3800H	50	64-5400H	74-3000H
Hydrogen Chloride (HCl)	2	64-2800H		74-2400H	8	64-2600H	
	90	74-3800H		74-3800H	20	64-2600-055H	74-3000H
	500		449-254/44-3200* 64-3200*	74-3800H	100	64-5400H	74-3000H
	600		449-254/44-3200* 64-3200*	74-3800H	150	64-5400H-100	
Hydrogen Chloride Mixtures (Nitrogen Balance)	10	64-2800H		74-2400H	10	64-2600H	
	40			74-3800H	20	64-2600-055H	
					40	64-5400H	74-3000H
Hydrogen Fluoride (HF)	Consult factory						
Hydrogen Selenide (H <sub>2</sub> Se)	5	64-2800		74-2400	5	64-2600	
	40			74-3800	20	64-2600-055	
					40	64-5400	74-3000

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Hydrogen Selenide Mixtures (Nitrogen Balance)	10	64-2800		74-2400	10	64-2600	
	40			74-3800	20	64-2600-055	
					50	64-5400	74-3000
Hydrogen Sulfi (H <sub>2</sub> S)	5	64-2800		74-2400	5	64-2600	
	40	74-3800		74-3800	10	64-2600-055	
					50	64-5400	74-3000
Krypton (Kr)	20	64-2800		74-2400	20	64-2600	
	60			74-3800	30	64-2600-055	74-3000
					100	CN: 64-5400	
Methane (CH <sub>4</sub> )	10	64-2800		74-2400	10	64-2600	
	100	74-3800		74-3800	50	64-2600-055	74-3000
					100	64-5400	
Methanol (CH <sub>3</sub> OH)	3	64-2800			3	64-2600	
	50	74-3800		74-3800	50	64-2600-055	
Methyl Chloride CH <sub>3</sub> Cl	1	64-2800			10	64-2600	
	10			74-3800			74-3000
Methyl Fluoride (CH <sub>3</sub> F)	5	64-2800			5	64-2600	
	50	64-3200		74-3800	25	64-2600-055	
					100	64-5400	74-3000
Neon (Ne)	20	64-2800			20	64-2600	
	100	64-3200		74-3800	40	64-2600-055	
	300		449-254/44-3200* 64-3200*		100	64-5400	74-3000
Nitrogen (N <sub>2</sub> )	100	64-2600			25	64-2600	
	350			74-3000	50	64-2600-055	
					500	64-5400	
					800	64-5400-100	
					2000	DH-16	
Nitrogen Triflride (NF <sub>3</sub> )	5	64-2800		74-2400	6	64-2600	
	150		74-3800	74-3800	30	64-2600-055	74-3000
	400		449-254/44-3200* 64-3200*		150	64-5400	74-3000
Nitric Oxide (NO)	3	64-2800		74-2400	3	64-2600	
	150	74-3800		74-3800	50	64-2600-055	
	200	64-3200			150	64-5400	74-3000
					200	64-5400-100	
Nitrous Oxide (N <sub>2</sub> O)	3	64-2800V		74-2400V	8	64-2600	
	60	74-3800V		74-3800V	20	64-2600-055	74-3000
	150	64-3200V			100	64-5400	
	500		449-254/44-3200V* 64-3200V*		150	64-5400-100	
					800	DH-16/15 series	
Octafluorocyclopentene (C <sub>5</sub> F <sub>8</sub> )	5	64-5000A		74-3000A	0.3	64-5000A	
					5	74-3000A	
Oxygen (O <sub>2</sub> )	80	64-2800		74-2400	10	64-2600	
	1000		449-254/44-3200* 64-3200*		25	64-2600-055	
					100	64-5400	74-3000
					150	64-5400-100	
				1000	DH-16		

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Process Gas	Gas Cabinet				Valve Manifold Box		
	Maximum Flow (slpm)	Gas Cabinet Regulator	BSGS Gas Supply System	Threadless Series	Maximum Flow (slpm)	VMB Regulator	Threadless Series
Perfluoropropane (C <sub>3</sub> F <sub>8</sub> )	2	64-2800		74-2400	2	64-2600	
	20			74-3800	10	64-2600-055	
					40	64-5400	
Perfluorobutadiene (C <sub>4</sub> F <sub>6</sub> )	5			74-3000A	0.5	64-5000	
					5	74-3000A	
Phosphine (PH <sub>3</sub> )	5	64-2800		74-2400	5	64-2600	
	40		64-3200	74-3800	10	64-2600-055	
Phosphine Mixtures (Nitrogen Balance)	10	64-2800		74-2400	10	64-2600	
	40		44-3200	74-3800	20	64-2600-055	
Phosphorus Pentafluoride (PF <sub>5</sub> )	10	64-2800		74-2400	10	64-2600	
	50		64-3200	74-3800	20	64-2600-055	
Propane (C <sub>3</sub> H <sub>8</sub> )	3	64-2800		74-2400	3	64-2600	
	50			74-3800	5	64-2600-055	
	100		64-3200		50	64-5400	74-3000
Silane (SiH <sub>4</sub> )	5	64-2800		74-2400	10	64-2600	
	40			74-3800	25	64-2600-055	
	100		64-3200		100	64-5400	74-3000
	500		449-254/44-3200* 64-3200*		150	64-5400-100	
					1000	DH-16	
Silane Mixtures (Nitrogen Balance)	10	64-2800		74-2400	10	64-2600	
	40			74-3800	20	64-2600-055	
					100	64-5400	74-3000
Silicon Tetrachloride (SiCl <sub>4</sub> )	0.5	64-5000A		74-3000A	0.5	64-5000A	
	5	74-3000A		74-3000A	5	74-3000A	
Silicon Tetrafluoride (SiF <sub>4</sub> )	10	64-2800H		74-2400H	10	64-2600H	
	40	74-3800H		74-3800H	20	64-2600-055H	
					100	64-5400H	
Sulfur Dioxide (SO <sub>2</sub> )	5	64-2800H		74-2400H	5	64-2600H	
	20	74-3800H		74-3800H	20	64-2600-055H	
Sulfur Hexafluoride (SF <sub>6</sub> )	3	64-2800		74-2400	5	64-2600	
	40	74-3800		74-3800	12	64-2600-055	
	150	64-3200			50	64-5400	
	400		DH-124/15 Series		90	64-5400-100	
Sulfur Tetrafluoride (SF <sub>4</sub> )	3	64-2800H		74-2400H	3	64-2600H	
	15	74-3800H		74-3800H	5	64-2600-055H	
					30	64-5400H	74-3000H
Trichlorosilane (SiHCl <sub>3</sub> )	3			64-5000	0.5	64-5000	
	10			74-3000A	10	74-3000A	
Trimethylsilane ((CH <sub>3</sub> ) <sub>3</sub> SiH)	2	64-5000A			0.5	64-5000	
	7			74-3000A	7	74-3000A	
Tungsten Hexafluoride (WF <sub>6</sub> )	0.5	64-5000H			0.5	64-5000H	
	5	74-3000AH		74-3000AH	5	74-3000AH	
Xenon (Xe)	5	64-2800		74-2400	5	64-2600	
	25	74-3800		74-3800	10	64-2600-055	
					50	64-5400	

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