PT 109
Regulator selection guide
May 8, 2026

Definitions and Conditions

Source: Device operated at the pressure from the gas delivery vessel (source pressure).

Line / Point of Use (POU): Device operated at lower pressure than the gas delivery vessel, downstream of the source pressure regulator.

Model number: Applies to both W (UHP welded) and T (HP threaded) models.

1225/1210: Indicates two regulators of the specified models in series (two stage regulation).

Red: Model number in red indicates heating required for this device.

Conditions: 1) Recommendations based upon standard conditions.

2) Source pressure: non-liquified 150 psig minimum or liquified vapor pressure.

3) Line (POU): 30 psig or vapor pressure of liquified gas if source pressure less than 30 psig.

4) Outlet pressure: 10 psig minimum, unless vapor pressure of liquified gas lower than 10 psig.

Understand definitions and conditions prior to using the guide.

The customer is entirely responsible for product selection and it should be based upon the customer's own analysis regardless of any recommendations, published or communicated, by Pure T. Products must also be installed, operated and maintained correctly for safe, problem free usage.

Specific application conditions and system design may enable higher flow rates than indicated or cause flow rates to be less.

Please consult the factory for recommendations not included herein or should there be any questions.

Process Gas	SOURCE		LINE / POU	
	Maximum Flow (slpm)	Regulator	Maximum Flow (slpm)	Regulator
Acetylene* (C_2H_2)	3 50 75	**1500S*** **1400SH** **1200SH***	6 50 75 95 95	**1000S** **1400SH** **1200SH** **1200SH** **1300S**
Air	30 100 200 800	**1500S** **1400SH** **1400SH** **1200SH**	30 50 150 400 600 600	**1000S** **1000S** **1400SH** **1200SH** **1200SH** **1300S**
Ammonia (NH_3)	5 50 75 400 600 1100	**1500S** **1400SH** **1200SH** **1200SH** **1200SH** **8000S**	5 30 60 125 250 250 500 1000	**1000S** **1000S** **1400SH** **1200SH** **1200SH** **1300S** **1200SH** **8000S**
Argon (Ar)	10 300 600	**1500S** **1400SH** **1200SH**	10 25 50 100 200 200 400 1000	**1000S** **1000S** **1400SH** **1200SH** **1200SH** **1300S** **1200SH** **8000S**

Red indicates heating required for device highlighted.

Acetylene, 15 psig maximum outlet pressure for source regulator.

*15 psig maximum source regulator outlet pressure

Process Gas	SOURCE		LINE / POU	
	Maximum Flow (slpm)	Regulator	Maximum Flow (slpm)	Regulator
Arsine (AsH3)	5 40	**1500S** **1400SH**	20	**1000S**
Arsine Mixtures (Nitrogen Balance)	15 50 150	**1500S** **1400SH** **1400SH**	50 150	**1000S** **1400SH**
Boron Trichloride (BCl_3)	6	**1403SHA**	0.4 6	**1003SA** **1403SHA**
Boron Trichloride Mix (Nitrogen Balance)	15 60	**1500S** **1400SH**	30 60	**1000S** **1400SH**
Boron Trifluoride (BF_3)	5 25	**1500S** **1400SH**	10 25	**1000S** **1400SH**
Boron 11 Trifluoride ($11BF_3$)	5 25	**1500S** **1400SH**	10 25	**1000S** **1400SH**
Butadiene (C_4H_6)	3 40	**1500S** **1400SH**	5	**1000S**
Butane (normal) (C_4H_{10})	3 40	**1500S** **1400SH**	5	**1000S**
Butene-1 (C_4H_8)	3 50	**1500S** **1400SH**	5	**1000S**
Carbon Dioxide (CO_2)	3 75 150 500 1000	**1500S** **1400SH** **1200SH VS** **1225SH VS / 1200SH VS** **8030S VS / 8000S VS**	8 20 40 100 160 160 325 800	**1000S** **1000S** **1400SH** **1200SH** **1200SH** **1300S** **1200SH** **8000S**
Carbon Monoxide (CO)	5 50	**1500S** **1400SH**	15 50	**1000S** **1400SH**
Carbonyl Fluoride (COF_2)	5 25	**1500S** **1400SH**	10	**1000S**
Chlorine (Cl_2)	3 50 200	**1500SVH** **1400SH** **1200SVH**	15 30 125 125 250	**1000SVH** **1400SVH** **1200SVH** **1300SVH** **1200SVH**
Chlorine Trifluoride (ClF_3)	6	**1403SHA**	0.5 6	**1003SA** **1403SHA**
Diborane Mixtures (Nitrogen Balance)	5	**1700S**	10 20	**1000S** **1000S**
Dichlorosilane (SiH_2Cl_2)	7	**1403SHA**	1 7	**1003SA** **1403SHA**
Diethyltelluride ($Te(C_2H_5)_2$)	5 25	**1500S** **1400SH**	5 25	**1000S** **1400SH**
Difluoroethylene ($C_2H_2F_2$)	3 50 75	**1500S** **1400SH** **1200SH**	6 50 75	**1000S** **1400SH** **1200SH**
Dimethylsilane (C_2SiH_8)	3 50 75	**1500S** **1400SH** **1200SH**	3 50 75	**1000S** **1400SH** **1200SH**
Disilane (Si_2H_6)	1 7	**1000S** **1403SHA**	1 7	**1000S** **1403SHA**
Ethylene (C_2H_4)	3 50 75	**1500S** **1400SH** **1200SH**	5 50 75	**1000S** **1400SH** **1200SH**
Fluorine* (F_2)	**Consult Factory**	**Consult Factory**	**Consult Factory**	**Consult Factory**
Fluorine Mixtures* (20%maximum F_2)	5 50	**Consult Factory**	10 50	**1000SVH** **1400SVH**
Germane (GeH_4)	1 7	**1003S** **1403SH**	1 7	**1003S** **1403SH**
Germane Mixtures (Nitrogen Balance)	20 50	**1500S** **1400SH**	20 50	**1000S** **1400SH**

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*F2 and F2 mixes require system passivation, please consult gas supplier for proper procedures

Process Gas	SOURCE		LINE / POU	
	Maximum Flow (slpm)	Regulator	Maximum Flow (slpm)	Regulator
Halocarbon 12 (CCl_2F_2)	3 50	**1500S** **1400SH**	5 50	**1000S** **1400SH**
Halocarbon 12B2 (CBr_2F_2)	5	**1403SHA**	0.5 5	**1003SA** **1403SHA**
Halocarbon 13 ($CClF_3$)	3 50	**1500S** **1400SH**	5 50	**1000S** **1400SH**
Halocarbon 13B1 ($CBrF_3$)	3 50	**1500S** **1400SH**	5 50	**1000S** **1400SH**
Halocarbon 14 (CF_4)	40 80 500	**1500S** **1400SH** **1200SH**	15 60 250 250 500	**1000S** **1400SH** **1300S** **1200SH** **8000S**
Halocarbon 21 ($CHCl_2F$)	5	**1403SHA**	0.5 5	**1003SA** **1403SHA**
Halocarbon 23 (CHF_3)	10 50	**1500S** **1400SH**	10 20 50	**1000S** **1000S** **1400SH**
Halocarbon 32 (CH_2F_2)	3 50 75	**1500S** **1400SH** **1200S**	6 50 75	**1000S** **1400SH** **1200SH**
Halocarbon 114 (C_2ClF_4)	7	**1403SHA**	1 7	**1000SA** **1403SHA**
Halocarbon 115 (C_2ClF_5)	3 50 75	**1500S** **1400SH** **1200SH**	5 50 75	**1000S** **1400SH** **1200SH**
Halocarbon 116 (C_2F_6)	3 50 75 125	**1500S** **1400SH** **1200SH** **1200SH**	10 25 90 175 450	**1000S** **1400SH** **1200SH** **1300S** **8000S**
Halocarbon 125 (C_2HF_5)	3 25 75	**1500S** **1400SH** **1200SH**	5 25 75	**1000S** **1400SH** **1200SH**
Halocarbon 134A ($C_2H_2F_4$)	3 50 75	**1500S** **1400SH** **1200SH**	5 50 75	**1000S** **1400SH** **1200SH**
Halocarbon R218 (C_3F_8)	3 50 75	**1500S** **1400SH** **1200SH**	5 50 75	**1000S** **1400SH** **1200SH**
Halocarbon C318 (C_4F_8)	6	**1403SHA**	1 6	**1003SA** **1403SHA**
Halocarbon C1418 (Octafluorocyclopentene) (C_5F_8)	0.2 3	**1003SA** **1403SHA**	N/A	**Regulator not required**
Helium (He)	125 625 2000	**1500S** **1400SH** **1200SH**	125 450 900 1200 2500	**1000S** **1400SH** **1200SH** **1300S** **8000S**
Hexafluoropropane ($C_3H_2F_6$)	6	**1403SHA**	6	**1403SHA**
Hexafluoropropylene (C_3F_6)	3 50 75	**1500S** **1400SH** **1200SH**	5 50 75	**1000S** **1400SH** **1200SH**
Hydrogen (H_2)	125 625 1200	**1500S** **1400SH** **1200SH**	125 275 900 1200 3000	**1000S** **1400SH** **1200SH** **1300S** **8000S**
Hydrogen Bromide (HBr)	1 30 50	**1500SVH** **1400SVH** **1200SVH**	2 30 50	**1000SVH** **1400SVH** **1200SVH**

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Process Gas	SOURCE		LINE / POU	
	Maximum Flow (slpm)	Regulator	Maximum Flow (slpm)	Regulator
Hydrogen Chloride (HCl)	2 90 150 600	**1500SVH** **1400SVH** **1200SVH** **1225SVH / 1200SVH**	20 40 160 160 300 800	**1000SVH** **1400SVH** **1200SVH** **1300SVH** **1200SVH** **8000SH**
Hydrogen Chloride Mixtures (Nitrogen Balance)	10 40	**1500SVH** **1400SVH**	20 40	**1000SVH** **1400SVH**
Hydrogen Fluoride (HF)	5	**1403SHA**	5	**1403SHA**
Hydrogen Selenide (H_2Se)	5 40	**1500S** **1400SH**	20 40	**1000S** **1400SH**
Hydrogen Selenide Mixtures (Nitrogen Balance)	20 50	**1500S** **1400SH**	20 50	**1000S** **1400SH**
Hydrogen Sulfide (H_2S)	5 40	**1500S** **1400SH**	10 40	**1000S** **1400SH**
Krypton (Kr)	20 60	**1500S** **1400SH**	30 60	**1000S** **1400SH**
Methane (CH_4)	20 40	**1500S** **1400SH**	20 40	**1000S** **1400SH**
Methanol (CH_3OH)	3 50	**1500S** **1400SH**	5	**1000S**
Methyl Bromide (CH_3Br)	5	**1403SHA**	5	**1403SHA**
Methyl Chloride (CH_3Cl)	1 10	**1000S** **1403SHA**	10	**1403SHA**
Methysilane (CH_3SiH_3)	3 50 75	**1500S** **1400SH** **1200SH**	5 50 75	**1000S** **1400SH** **1200SH**
Methyl Fluoride (CH_3F)	5 50	**1500S** **1400SH**	10 50	**1000S** **1400SH**
Neon (Ne)	40 300	**1500S** **1200SH**	40 100	**1000S** **1400SH**
Nitrogen (N_2)	50 50 250 1000	**1500S** **1700S** **1400SH** **1200SH**	50 150 300 400 1000	**1000S** **1400SH** **1200SH** **1300S** **8000S**
Nitrogen Dioxide (NO_2)	4 45	**1500S** **1400SH**	6	**1000S**
Nitrogen Trifluoride (NF_3)	5 60 150 400	**1500S** **1400SH** **1400SH** **1200SH**	15 30 125 125 600	**1000S** **1400SH** **1200SH** **1300S** **8000S**
Nitric Oxide (NO)	3 50 75	**1500S** **1400SH** **1200SH**	6 50 75	**1000S** **1400SH** **1200S**
Nitrous Oxide (N_2O)	3 60 100 150 500 1000	**1500S VS** **1400SH VS** **1200SH VS** **1200SH VS** **1225SH VS / 1200SH VS** **8030S VS / 8000S VS**	20 35 160 160 320 800	**1000S** **1400SH** **1200SH** **1300S** **1300S** **8000S**
Oxygen (O_2)	10 400 1000	**1500S** **1400SH** **1200SH**	25 100 300 400 1000	**1000S** **1400SH** **1200SH** **1300S** **8000S**
Perfluoropropane* (C_3F_8)	2 20	**1500S** **1400SH**	4 20	**1000S** **1400SH**

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Process Gas	SOURCE		LINE / POU	
	Maximum Flow (slpm)	Regulator	Maximum Flow (slpm)	Regulator
Perfluorobutadiene (C_4F_6)	5	**1403SHA**	0.5 5	**1003SA** **1403SHA**
Phosphine (PH_3)	5 40	**1500S** **1400SH**	10	**1000S**
Phosphine Mixtures (Nitrogen Balance)	10 20	**1500S** **1400SH**	20	**1000S**
Phosphorous Pentafluoride (PF_5)	20	**1500S**	20	**1000S**
Propane (C_3H_8)	3 50	**1500S** **1400SH**	5 50	**1000S** **1400SH**
Propene (C_3H_6)	3 50	**1500S** **1400SH**	5 50	**1000S** **1400SH**
Silane (SiH_4)	5 40 100 500	**1500S** **1400SH** **1200SH** **1225SH / 1200SH**	25 50 200 400 1000	**1000S** **1400SH** **1200SH** **1300S** **8000S**
Silane Mixtures (Nitrogen Balance)	20 40	**1500S** **1400SH**	20 40	**1000S** **1400SH**
Silicon Tetrachloride ($SiCl_4$)	2	**1403SHA**	0.2 2	**1003SA** **1403SHA**
Silicon Tetrafluoride (SiF_4)	10 40	**1500S** **1400SH**	20 40	**1000S** **1400SH**
Sulfur Dioxide (SO_2)	1 6	**1003SA** **1403SHA**	6	**1403SHA**
Sulfur Hexafluoride (SF_6)	3 40 150 500	**1500S** **1400SH** **1200SH** **8000S**	15 50 150 180 400	**1000S** **1400SH** **1200SH** **1300S** **8000S**
Sulfur Tetrafluoride (SF_4)	3 15	**1500S** **1400SH**	5 15	**1000S** **1400SH**
Trichlorosilane ($SiHCl_3$)	10	**1403SHA**	0.5 10	**1003SA** **1403SHA**
Trimethylsilane ($(CH_3)_3SiH$)	7	**1403SHA**	0.5 7	**1003SA** **1403SHA**
Tungsten Hexafluoride (WF_6)	5	**1403SHA**	0.3 5	**1003SVHA** **1403SVHA**
Xenon (Xe)	5 25	**1500S** **1400SH**	10 25	**1000S** **1400SH**

Red indicates heating required for device highlighted.

*Same as Halocarbon R218

Alphabetical Listing by Gas Formula

$11BF_3$	Boron 11 Trifluoride	$C_3H_2F_6$	Hexafluoropropane	CH_3F	Methyl Fluoride	He	Helium	SiH_2Cl_2–	Dichlorosilane
Ar	Argon	C_3H_6	Propene	CH_3OH	Methanol	HF	Hydrogen Fluoride	SiH_4	Silane
AsH_3	Arsine	C_3H_8	Propane	CH_3SiH_3	Methysilane	Kr	Krypton	$SiHCl_3$	Trichlorosilane
BCl_3	Boron Trifluoride	C_4F_6	Perfluorobutadiene	CH_4	Methane	N_2	Nitrogen	SO_2	Sulfur Dioxide
BF_3	Boron Trichoride	C_4F_8	Halocarbon C318	$CHCl_2F$	Halocarbon 21	N_2O	Nitrous Oxide	$Te(C_2H_5)_2$	Diethyltelluride
B_2H_6	Diborane	C_4H_6	Butadiene	CHF_3	Halocarbon 23	Ne	Neon	WF_6	Tungsten Hexafluoride
C_2ClF_4	Halocarbon 114	C_4H_8	Butene-1	Cl_2	Chlorine	NF_3	Nitrogen Trifluoride	Xe	Xenon
C_2ClF_5	Halocarbon 115	C_4H_{10}	Butane (normal)	ClF_3	Chlorine Trifluoride	NH_3	Ammonia		
C_2F_6	Halocarbon 116	C_5F_8	Halocarbon C1418	CO	Carbon Monoxide	NO	Nitric Oxide		
C_2H_2	Acetylene	CBr_2F_2	Halocarbon 12B2	CO_2	Carbon Dioxide	NO_2	Nitric Dioxide		
$C_2H_2F_2$	Difluoroethylene	$CBrF_3$	Halocarbon 13B1	COF_2	Carbonyl Fluoride	O_2	Oxygen		
$C_2H_2F_4$	Halocarbon 134A	CCl_2F_2	Halocarbon 12	F_2	Fluorine	PF_5	Phosphorous Pentafluoride		
C_2H_4	Ethylene	$CClF_3$	Halocarbon 13	GeH_4	Germane	PH_3	Phosphine		
C_2HF_5	Halocarbon 125	CF_4	Halocarbon 14	H_2	Hydrogen	SF_4	Sulfur Tetrafluoride		
C_2SiH_8	Dimethylsilane	CH_2F_2	Halocarbon 32	H_2Se	Hydrogen Selenide	SF_6	Sulfur Hexafluoride		
C_3F_6	Hexafluoropropylene	$(CH_3)_3SiH$	Trimethylsilane	H_2S	Hydrogen Sulfide	Si_2H_6	Disilane		
C_3F_8	Halocarbon R218	CH_3Br	Methyl Bromide	HBr	Hydrogen Bromide	$SiCl_4$	Silicon Tetrachoride		
C_3F_8	Perfluoropropane	CH_3Cl	Methyl Chloride	HCl	Hydrogen Chloride	SiF_4	Silicon Tetrafluoride		