



## Argon Gas Regulator Quick Set-up Guide



### **LaserStar Technologies Corporation**

2461 Orlando Central Parkway , Orlando 32809, U.S.A.

Phone: 407-248-1142 • Fax: 866-708-5274

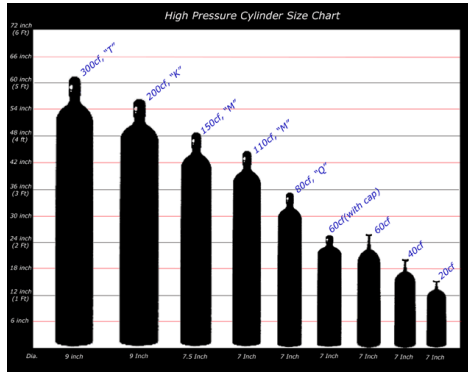
Email: [sales@laserstar.net](mailto:sales@laserstar.net)

**TOOLS NEEDED:** Adjustable Wrench

## SELECTING GAS:

A tank of Argon Gas must first be selected. Industrial grade Argon Gas (99.99%) or higher can be used as a cover gas. Tank size should also be taken into consideration. (See Facts below †)

**NOTE:** When welding any metals which are Oxygen and/or Nitrogen reactive or metals with high carbon contents, Ultra High Pure (UHP) 99.999% pure Argon will yield better results and is highly recommended. (These include, but are not limited to Titanium, Palladium, Nickel and all alloys containing Nickel.)



## FACTS ABOUT ARGON GAS:

Argon is colorless, odorless, tasteless and nontoxic as a solid, liquid and gas. Argon is inert and forms no confirmed stable compounds at room temperature. Argon Gas is used as a shielding gas during the welding process which displaces Oxygen thus reducing or eliminating Oxidation Contamination within the metal or alloy.

† Since liquid Argon has a boiling point of  $-302.6^{\circ}\text{F}$  ( $-185.9^{\circ}\text{C}$ ), and needs special equipment to hold it in liquid form, your Argon will be delivered to you in the form of a gas.

**NOTE:** Do not compare cylinder size to that of Oxygen as Oxygen will almost always be delivered in liquid form.

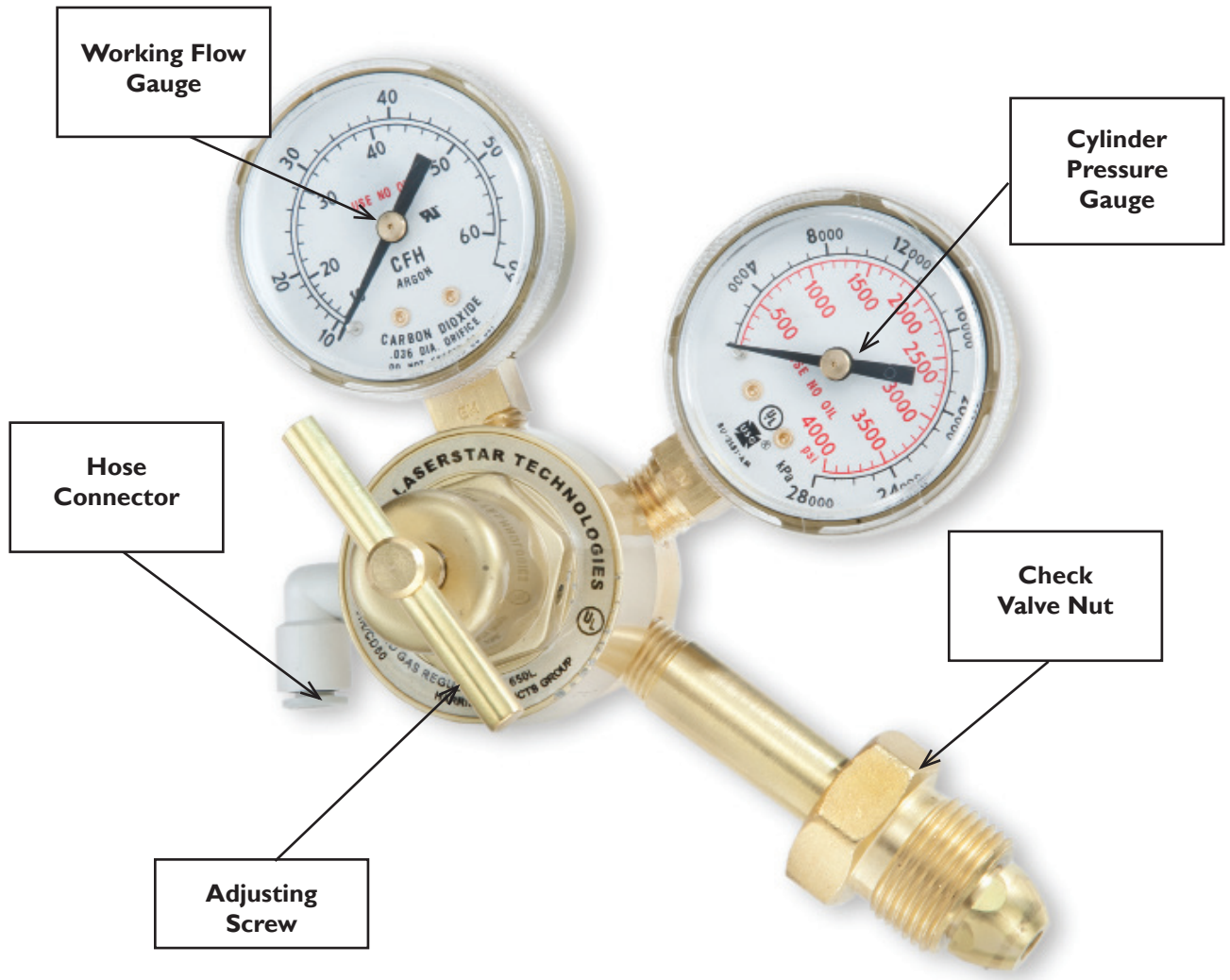
PERIODIC TABLE															
GROUPS: IIA, IIIA, IVA, VA, VIA, VIIA, VIIIA															
PERIODS: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18															
ELEMENTS: H, He, Li, Be, B, C, N, O, F, Ne, Na, Mg, Al, Si, P, S, Cl, Ar, K, Ca, Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Ga, Ge, As, Se, Br, Kr, Rb, Sr, Y, Zr, Nb, Mo, Tc, Ru, Rh, Pd, Ag, Cd, In, Sn, Sb, Te, I, Xe, Ba, La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Hf, Ta, W, Re, Os, Ir, Pt, Au, Hg, Tl, Pb, Bi, Po, At, Rn, Fr, Ra, Ac, Th, Pa, U, Np, Pu, Am, Cm, Bk, Cf, Es, Fm, Md, No, Lr, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000															



## STORING GAS CYLINDERS

**WARNING:** Always use proper handling and storage procedures when handling and/or storing compressed gas cylinders.

Store cylinders upright and secure them with a chain, strap or cable to a stationary building support (i.e. Structural Beam) or to a cylinder cart to prevent cylinders from tipping or falling. Examples of properly stored gas cylinders follow.



## ARGON REGULATOR COMPONENTS

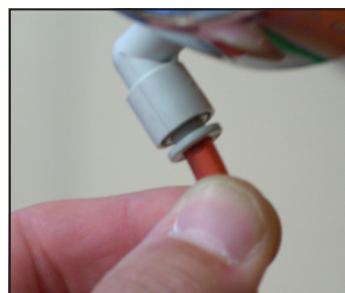
## REGULATOR INSTALLATION

- I. Remove Argon Regulator from its packaging and finger tighten the threads of the regulator **Check Valve Nut** to the tank. Using an adjustable wrench, tighten the regulator **Check Valve Nut** until snug.

*NOTE: Teflon tape is not necessary.*



Select the Argon hose (provided with laser) and push the open end into the plunger fitting on the regulator; make sure the hose is pushed in all the way. Pull on the hose; this will lock the hose into place inside the fitting.



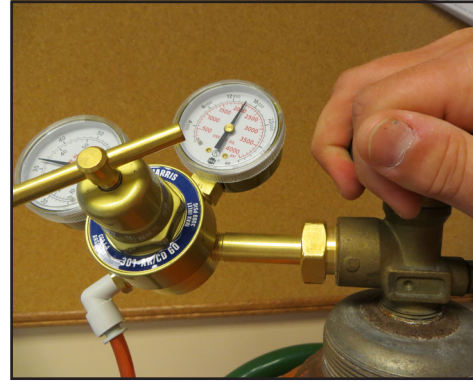
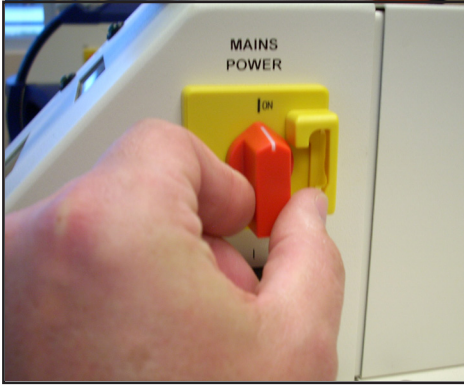
Plug the other end (quick disconnect) fitting into the quick disconnect nipple marked **ARGON GAS** located at the rear of the laser.





## GAS FLOW ADJUSTMENT:

- Turn on the Mains power (Red & Yellow) switch and the key switch of the laser. Open the gas tank and make sure there is a pressure reading on the **Cylinder Pressure Gauge**. With the Laser Shutter closed, step on the foot pedal and look at the **Working Flow Gauge**. This should have a reading of 20 CFH (cubic foot per hour). *NOTE: The CFH reading is listed on the inside of the working Flow Gauge Dial.*

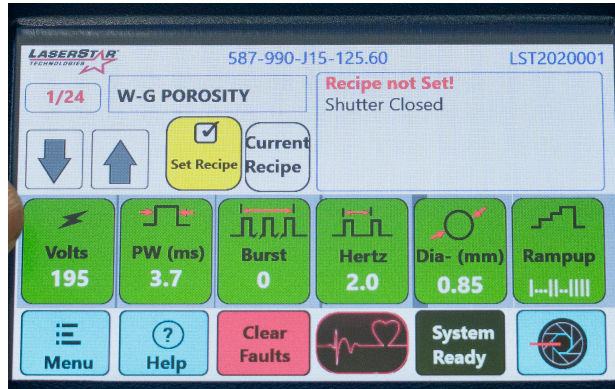


If the reading is not 20 CFH, with the foot pedal down, turn the **Adjusting Screw** (Clockwise to increase the flow) or (Counterclockwise to decrease the flow). An acceptable flow reading is between 20 CFH and 25 CFH.

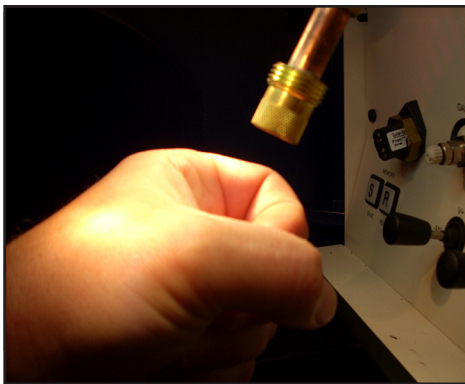


## GAS FLOW ADJUSTMENT:

With the laser turned on and the Laser Shutter closed, cup your hand and place hand at about 1" from the fixed brass Argon diffuser. Step on the foot pedal and feel the flow of Argon. The flow should feel like a constant gentle breeze filling your hand with Argon Gas.



*Welding Systems with Touchscreen*



If gas flow is not felt, open the gas regulator valve located inside the chamber Counter Clockwise to open ( $\frac{1}{4}$  turn at a time.) If there is excessive gas flow, turn the gas valve Clockwise to close ( $\frac{1}{4}$  turn at a time) until proper gas flow is achieved.





For further assistance with your set-up or additional questions, please contact one of our LaserStar Centers.

**FL LaserStar Center**

Service Department

Phone: 407-248-1142

Email: [service@laserstar.net](mailto:service@laserstar.net)

**RI LaserStar Center**

Service Department

Phone: 401-431-4554

Email: [service@laserstar.net](mailto:service@laserstar.net)

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Phone: 213-612-0622

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### RECOMMENDED MAINTENANCE:

**3 Month Intervals:** *Change Coolant, Exhaust & Intake Air Filters*

**Semi-Annually:** *Coolant Filter and Protective Disk*

*(Please refer to your operations manual for other maintenance recommendations)*

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### FLORIDA (HEADQUARTERS)

2461 Orlando Central Parkway  
Orlando, Florida 32809 USA  
407-248-1142 • Fax: 866-708-5274  
Email: [sales@laserstar.net](mailto:sales@laserstar.net)



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### RHODE ISLAND

One Industrial Court  
Riverside, Rhode Island 02915 USA  
401-438-1500 • Fax: 866-516-3043  
Email: [sales@laserstar.net](mailto:sales@laserstar.net)



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### CALIFORNIA

20 East Foothill Boulevard, Suite 128  
Arcadia, California 91006 USA  
213-612-0622 • Fax: 866-347-0934  
Email: [sales@laserstar.net](mailto:sales@laserstar.net)

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