

# DRA500 S E R I E S

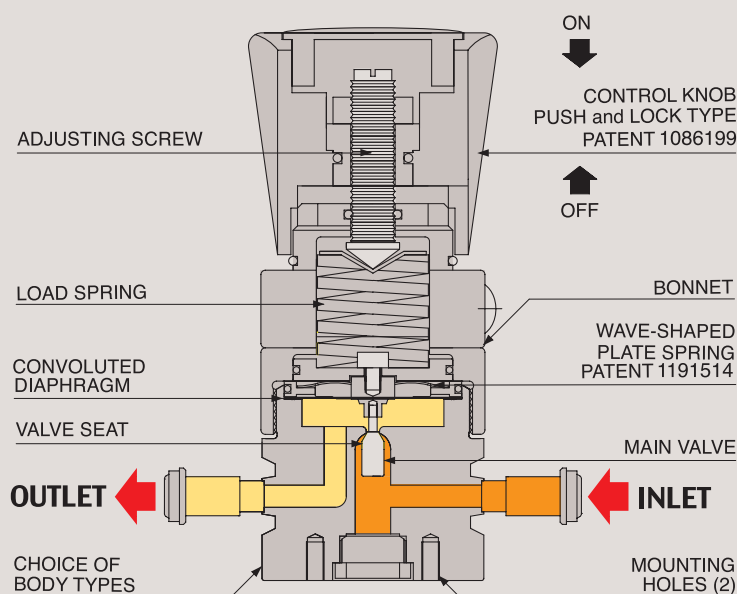
UHP SPRINGLESS TIED DIAPHRAGM LOW PRESSURE



### DRA500 SERIES



### FUNCTIONAL SCHEMATIC



### DRA500(VAR Springless type)

### UHP Springless Tied Diaphragm Low Pressure(1/4" or 1/2")

#### Features and Applications

**DRA500** Series is an ultra high purity, springless, tied-diaphragm, and VCR type pressure reducing regulator designed for gas cabinet for semiconductor manufacturing, special gas line, valve manifold boxes, and other institutes.

- DRA500 series offers high flow:  $C_v = 0.5$  at 1/4" and  $C_v=0.5$  at 1/2".
- Inboard Leak Rate to  $<1 \times 10^{-9}$  atm cc/sec Helium available.
- Made of 316L or VAR (double melt) stainless steel body with Electro-polishing, it is well applicable to corrosive gases.
- Diaphragm: STS 316L or Hastelloy.
- Spring-less type: "wave spring" (DRASTAR patent #10-1191514) used instead of conventional spring prevent particle which may be generated by spring itself from long-time use fatigue, and so it is very suitable for applications where ultra high purity and cleaning is needed.
- Metal to metal diaphragm to body sealing for high leak integrity.
- Surface Treatment: E.P. up to 10Ra or 5Ra microinch(0.25 or 0.13 micrometer) to prevent particle generation.
- As tied-diaphragm type, DRA500 series offers supreme safety by preventing leaks notwithstanding any particle generation on the valve seat and protecting the rupture of diaphragm from toxic, pyrophoric, or corrosive gases.
- Inlet pressures are 3600psig(250bar), 2200psig(151bar) or 600psig(42bar) with outlet pressures from 5psig (0.3bar) up to 150psig (10.3bar).
- Design proof pressure: 150% of maximum rated
- All works of welding, assembly, test, and cleaning are done in 100-class& 10-class clean room.
- Decaying Inlet Characteristic: 1.2 psig /100 psig.

※ With DRASTAR's patented (patent #1086199) "push and lock type handle", you can operate it easily and stably; "locking" by pushing down the handle will prevent any slight change of pre-set pressure value, which could possibly be caused by any vibration from gas pipeline or ambient applications and the other way "unlocking" by pulling it back enables you to adjust the pressure value freely again.

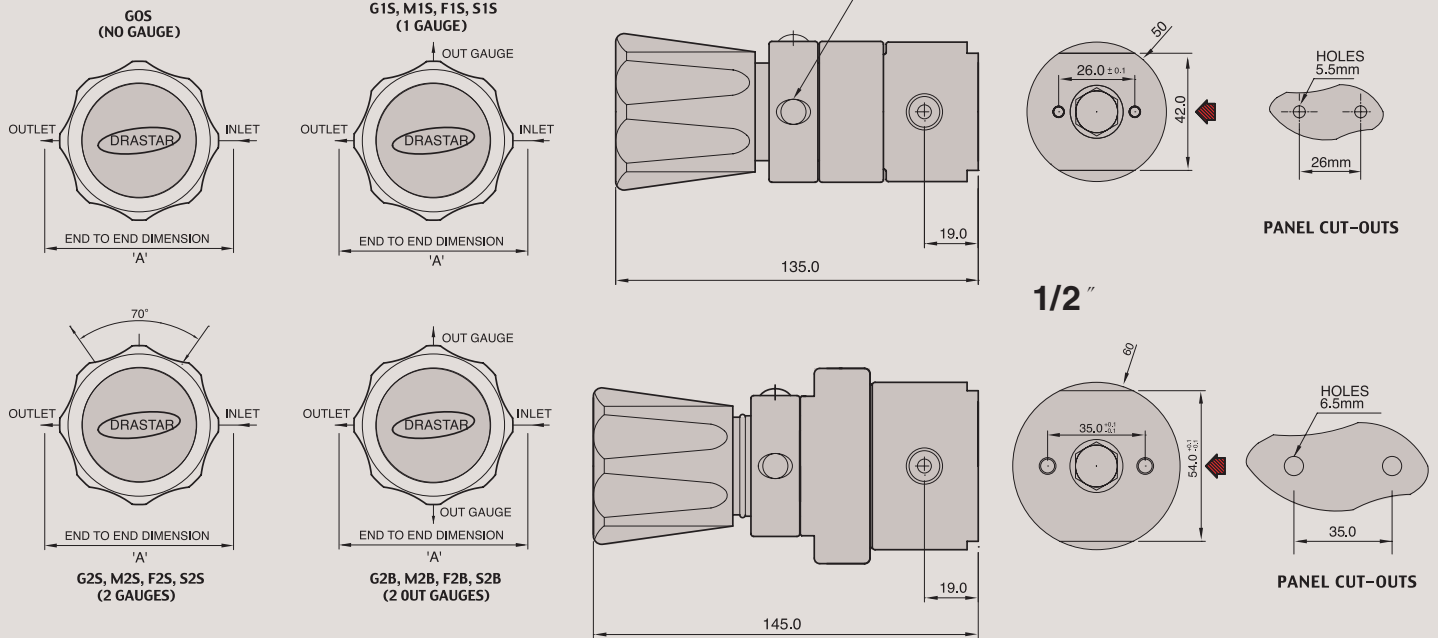
**REFERENCE**

This catalogue is printed as of January 2018, and the dimensions and/or specifications in this catalogue can be changed without prior notice in the course of constant upgrading and improvement of our products.

# INSTALLATION DIMENSIONS

METRIC EQUIVALENTS ARE IN PARENTHESES

## GAUGE PORT OPTIONS



## ORDERING INFORMATION

**DRA500 D 025 H H V S 4MS G0S**

### BASIS SERIES

### BODY MATERIAL & SURFACE FINISH

C = STS 316L E.P.(P.E.P) ..... 5 Ra  
D = STS 316L VAR E.P ..... 10 Ra  
E = STS 316L VAR E.P.(P.E.P) ..... 5 Ra

B.A.= Brighth Annealed., E.P.= Electropolished.

### OUTLET PRESSURE RANGE

025 = 1-25psi (.1-1.7bar)  
050 = 1-50psi (.1-3.5bar)  
100 = 1-100psi (.1-7bar)  
130 = 1-130psi (.1-8.9bar)  
150 = 1-150psi (.1-10.3bar)

### DIAPHRAGM MATERIAL

S = Stainless Steel 316L  
H = Hastelloy-C

### MAX. INLET PRESSURE

H = 3500psi (238bar)  
S = 2200psi (151bar)  
L = 600psi (41bar)

### SEAT MATERIAL

V = Vespel (3500psi)  
P = PCTFE (1000psi or 2200psi)  
T = TEFLON (600psi)

### GAUGE PORTS OPTIONS

|                         |   | Gauge Ports                 |
|-------------------------|---|-----------------------------|
| G0S = None              | 0 | F1S = 1/4" Female Swivel. 1 |
| G1S = 1/4" H.P.I.C      | 1 | F2S = 1/4" Female Swivel. 2 |
| G2S = 1/4" H.P.I.C      | 2 | F2B = 1/4" Female Swivel. 2 |
| G2B = 1/4" H.P.I.C      | 2 |                             |
| M1S = 1/4" Male Swivel. | 1 |                             |
| M2S = 1/4" Male Swivel. | 2 |                             |
| M2B = 1/4" Male Swivel. | 2 |                             |

### INLET / OUTLET PORTS SIZE & Type "A" ±1.5mm

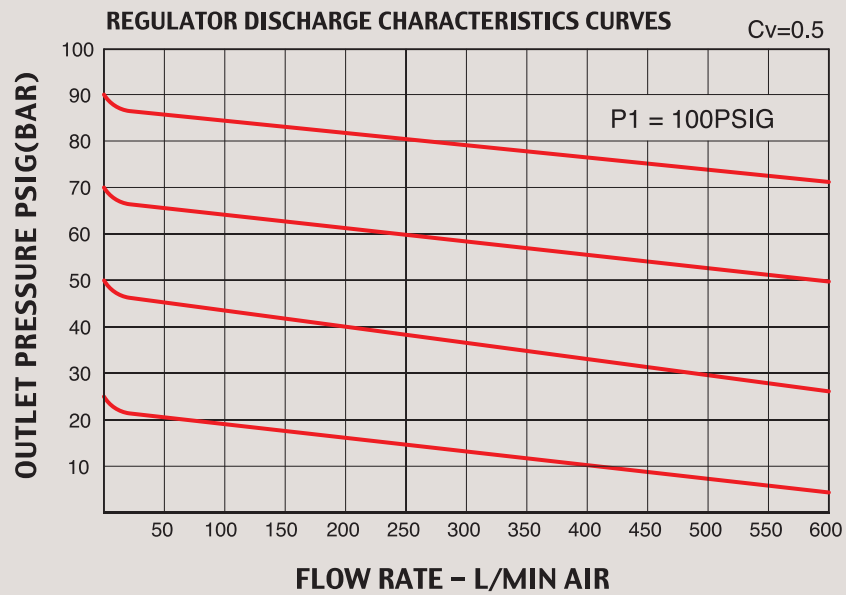
|                                  |        |
|----------------------------------|--------|
| 4HP = 1/4" H.P.I.C               |        |
| 4MS = 1/4" Male Swivel           | 94mm   |
| 4FS = 1/4" Female Swivel         | 94mm   |
| 4MSL = 1/4" Male Long Swivel     | 00.00  |
| 4FSL = 1/4" Female Long Swivel   | 00.00  |
| 4IMF = 1/4" In Male / Out Female | 94.00  |
| 4IFM = 1/4" In Female / Out Male | 94.00  |
| 4TS = 1/4" Tube Stubs            | 94.00  |
| 2MS = 1/2" Male Swivel           | 142.00 |
| 2FS = 1/2" Female Swivel         | 142.00 |
| 2MSL = 1/2" Male Long Swivel     | 152.00 |
| 2FSL = 1/2" Female Long Swivel   | 152.00 |
| 2IMF = 1/2" In Male / Out Female | 142.00 |
| 2IFM = 1/2" In Female / Out Male | 142.00 |
| 2TS = 1/2" Tube Stubs            | 100.00 |

### FLOW CAPACITY

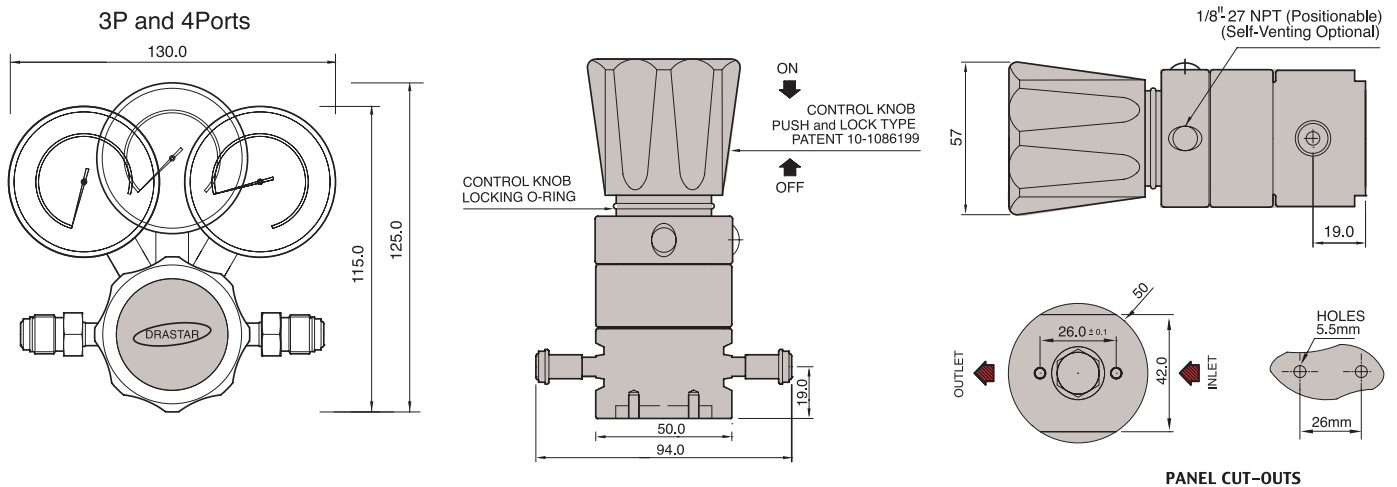
S = Cv = 0.5 1/4"  
S = Cv = 0.5 Standard 1/2"  
O = Cv = 1.0 Optional



### FLOW CHART



#### DRA500 Series 1/4"



#### DRA500 Series 1/2"

