

DRA500 S E R I E S

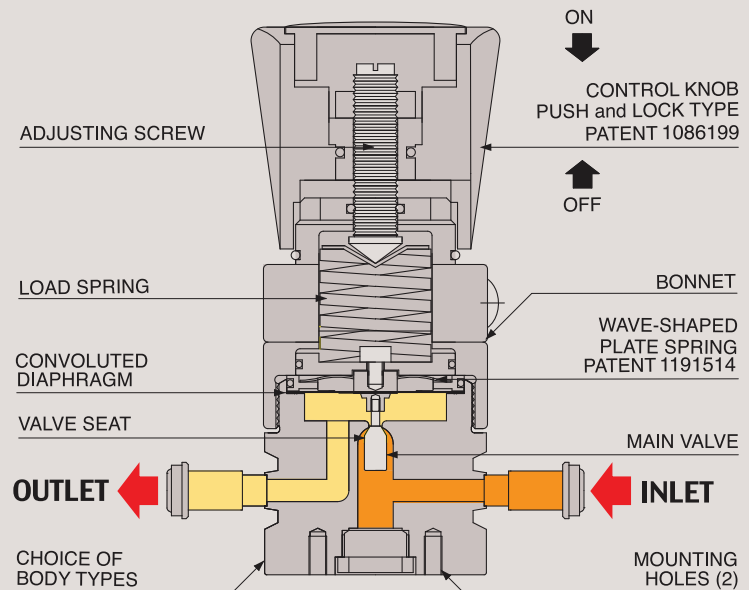
Ultra High Purity Tied Diaphragm
Springless Pressure Reducing Regulators



DRA500 SERIES



FUNCTIONAL SCHEMATIC



DRA500(VAR Springless type)

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

DRA500 시리즈는 반도체 제조용 Gas Cabinet, 특수 가스 라인, Valve Manifold Boxes, 기타 연구실 등에 적합하도록 개발된 초 고 순도, Springless, VCR type 가스압력 레귤레이터 입니다.

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.

특징 및 적용처

- 고유량 제품으로, 1/4" $C_v = 0.5$, 1/2" $C_v = 0.5$ 입니다.
- Body는 STS 316L or 316L VAR(더블멜트)를 사용하고 전해연마 (E.P.) 처리를 해서 부식가스 사용 환경에 더욱 적합한 제품입니다.
- Springless 타입 : 기존의 스프링 대신에 사용된 '웨이브 스프링 (드라스타 특허 #10-1191514)'은 장기 사용에서 오는 피로로 스프링 자체에 발생할 수 있는 이물질 발생을 억제하으므로 초 고순도 및 세정이 요구되는 적용분야에 적합합니다.
- Tied-diaphragm type으로 DRA500 시리즈는 밸브 시트에 어떤 이물질 발생에도 리크를 방지하고 독성, 발화성, 고부식성 가스 등으로 인한 다이아후렐 파열을 방지하으므로 최상의 안전성을 제공합니다.
- 다이아후렐과 바디를 Metal to Metal 실링을 하여 리크 방지력을 높였습니다
- 표면처리: E.P. 10Ra 또는 5Ra microinch (0.25 or 0.13 micrometer) 등급으로 초 정밀 처리하였습니다.
- 입구 압력은 3600psig(250bar), 2200psig(151bar) or 600psig(42bar)이고 출구압력은 모델에 따라 5psig (0.3bar)에서 최대 150psig (10.3bar)까지 사용할 수 있습니다.
- 용접, 조립, 실험과 세정 등 모든 공정은 100-class와 10-class 크린룸에서 작업이 이루어집니다.

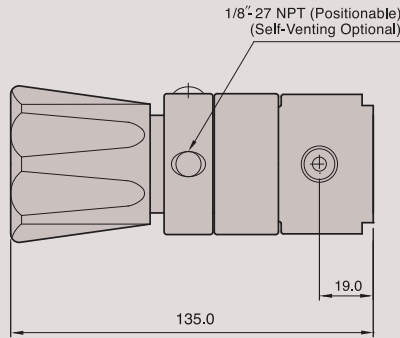
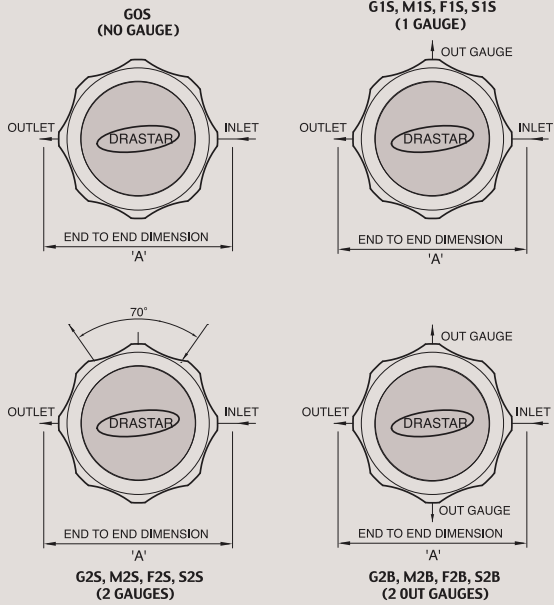
※ With DRASTAR's patented (patent #1086199) "push and lock type handle", you can operate it easily and stably; "locking" by pushing down the handle will prevent any slight change of pre-set pressure value, which could possibly be caused by any vibration from gas pipeline or ambient applications and the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

사용 중 가스라인이나 외부의 미세 진동 등으로 인하여 초기 압력 셋팅 값이 미세하게 변동하는 현상을 완전히 해결한 당사 Push and Lock 조절 손잡이 (당사 특허 #10-1086199)를 적용하여 사용하기에 더욱 편리합니다. 조절 손잡이를 누르면 (lock)압력 셋팅값이 변하는 것을 완전히 방지할 수 있고, 손잡이를 앞으로 당기면 (unlock) 자유롭게 원하는 압력으로 다시 셋팅 할 수 있습니다.

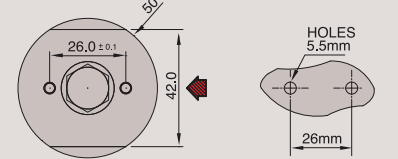
INSTALLATION DIMENSIONS

METRIC EQUIVALENTS ARE IN PARENTHESES

GAUGE PORT OPTIONS

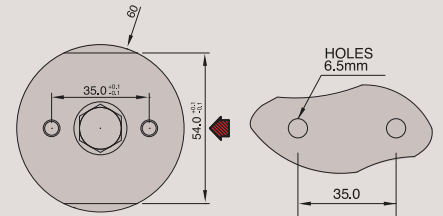
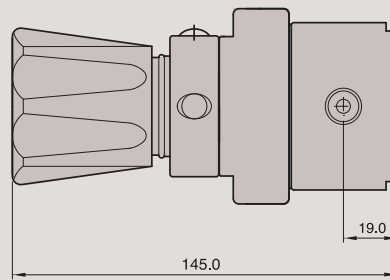


1/4"



PANEL CUT-OUTS

1/2"



PANEL CUT-OUTS

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. = Brigh 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	M2S = 1/4" Male Swivel	2
M1S = 1/4" Male Swivel	1	M2B = 1/4" Male Swivel	2

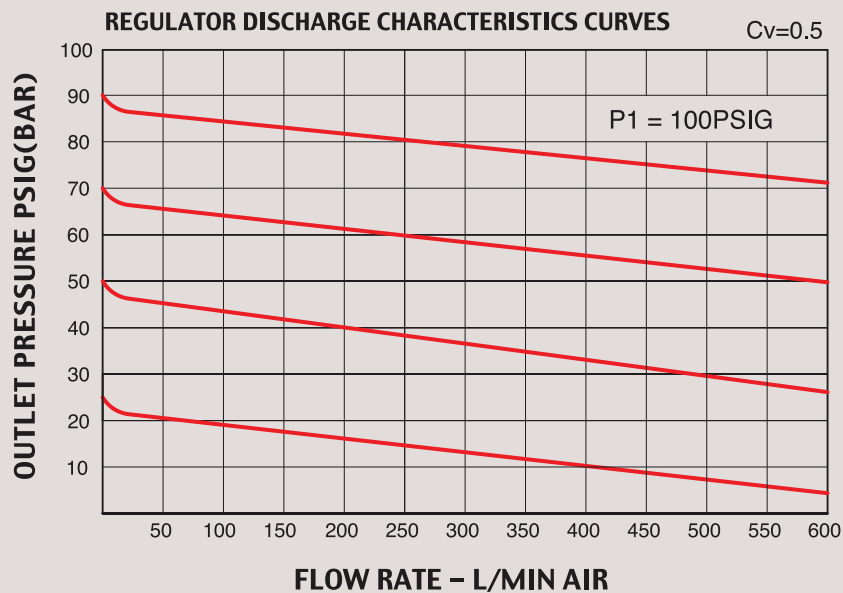
INLET / OUTLET PORTS SIZE & Type "A" ±1.0mm

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	94mm
4FSL = 1/4" Female Long Swivel	00mm
4IMF = 1/4" In Male / Out Female	94mm
4IFM = 1/4" In Female / Out Male	94mm
4TS = 1/4" Tube Stubs	94mm
2MS = 1/2" Male Swivel	142mm
2FS = 1/2" Female Swivel	142mm
2MSL = 1/2" Male Long Swivel	152mm
2FSL = 1/2" Female Long Swivel	152mm
2IMF = 1/2" In Male / Out Female	142mm
2IFM = 1/2" In Female / Out Male	142mm
2TS = 1/2" Tube Stubs	100mm

FLOW CAPACITY

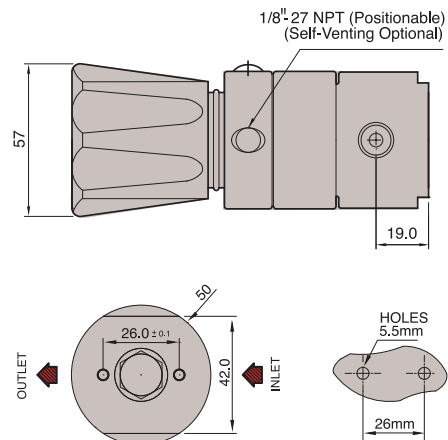
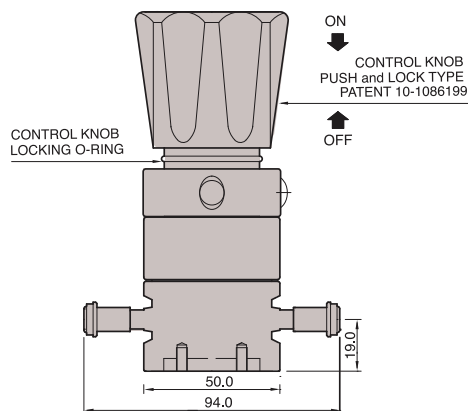
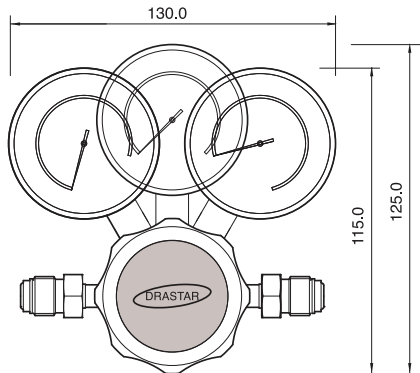
S = Cv = 0.5 1/4"
 S = Cv = 0.5 Standard 1/2"
 O = Cv = 1.0 Optional

FLOW CHART



DRA500 Series 1/4"

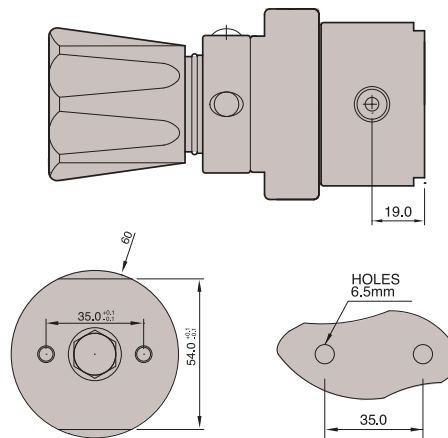
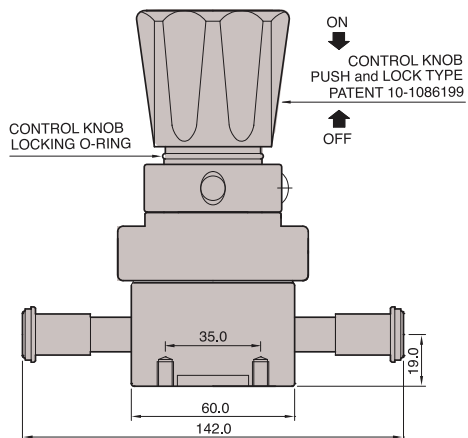
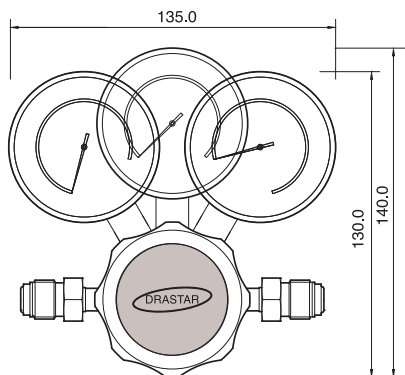
3P and 4Ports



PANEL CUT-OUTS

DRA500 Series 1/2"

3P and 4Ports



PANEL CUT-OUTS