DRA300 SERIES

Ultra High Purity Tied Diaphragm
Springless Pressure Reducing Regulators



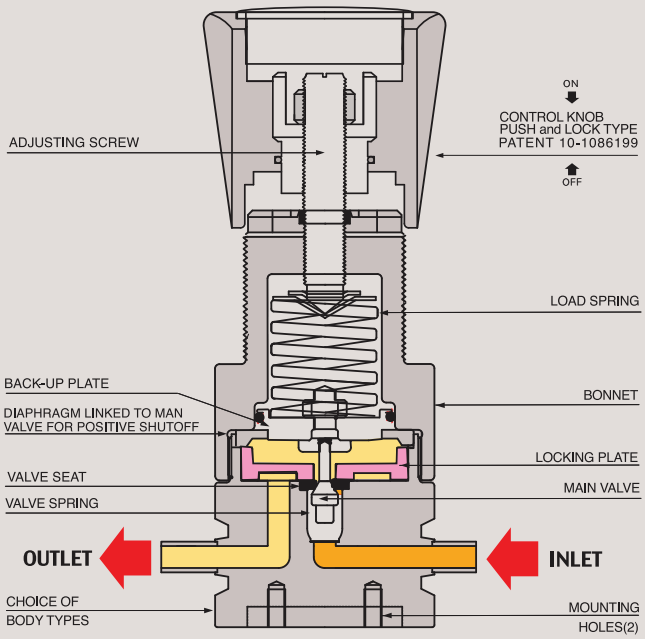
DRA300
SERIES

This catalogue is revised and/or updated as of Jan. 2020 and supersedes any old ones.
이 카다록은 2020년 1월에 개정 또는 업데이트 되었으며 이전의 카다록을 대체합니다.

DRA300 SERIES



FUNCTIONAL SCHEMATIC



DRA300(Tied type)

UHP Springless Tied Diaphragm Low Pressure VCR type (1/4″ 3/8″ 1/2″ 3/4″)

DRA300시리즈는 초고순도 반도체 제조용 Gas Cabinet, 특수 가스 라인, Valve Manifold Boxes, 기타 연구실 등에 적합하도록 개발된 Springless, VCR type Pressure Reducing Regulator입니다.

- Springless type: 기존방식의 스프링 대신 웨이브형상의 판 스프링(당사 특허 #10-1191514)을 사용하여 장기간 사용시 누적피로로 인한 스프링의 이물질(particle) 발생 원인을 원천적으로 차단하여 초 고순도 및 청정을 요구하는 고객 및 환경에 더욱 적합한 제품입니다.
- DRA300 시리즈는 모델에 따라 316L VAR(Double melt)를 사용하여 부식가스 사용 환경에 더욱 적합한 제품입니다.
- 다이아후렘과 Material to Material Sealing이 되어 있고, 이물질 발생을 방지하기 위해 DI water 세정과 표면을 B.A. 25Ra~15Ra, E.P. 10Ra 또는 5Ra microinch등급으로 초 정밀 처리하였습니다.
- 다이아후렘과 메인밸브를 연결시킨 Tied Type으로 밸브시트에 이물질이 형성되더라도 압력 누설이 되지 않도록 최고의 안전성을 고려하여 개발된 제품입니다.
- 특히 독성 가스, 발화성 가스, 고부식성 가스 등으로 인해 다이아후렘이 파열되는 것으로부터 보호하는데 유용합니다.
- 입구 압력은 3,000psig(210bar) or 600psig(42bar)이고 출구압력은 모델에 따라 5psig (0.3bar)에서 최대 250psig (17bar)까지 사용할 수 있습니다.
- 용접, 조립, 실험과 세정 등 모든 공정은 100-class와 10-class 크린룸에서 작업이 이루어집니다.
- 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 셋팅 값이 변하는 것을 완전히 방지할 수 있고, 손잡이를 앞으로 당기면 (unlock) 자유롭게 원하는 압력으로 다시 셋팅 할 수 있습니다.

DRA 300 Series is an Springless tied-diaphragm type UHP low pressure reducing regulator with surface finishes to B.A. 25Ra, E.P. 10Ra, or E.P. 5Ra microinch and applicable for gas cabinet for semiconductor manufacturing, specialty gases, valve manifold boxes, and research labs, etc. Inlet pressures are 3,000psig(210bar) or 600psig (42bar) and outlet pressures are from 5psig (0.3bar) up to 250psig (17bar).

With DRASTAR' s patented (patent #10-1086199) "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.

Features and Applications

- Springless type VCR regulator: By adopting the "flat- wave-shaped ring spring" (DRASTAR patent #10-1191514) instead of conventional spring, particle generation by spring itself due to fatigue from long-time use can be kept down
- To use more suitably for corrosive gas applications, 316L VAR (double melt VAR) available as optional
- Tied-diaphragm design for positive shut-off and protecting the rupture of diaphragm
- Surfaces finishes to B.A. 25Ra, E.P. 10 Ra or E.P. 5 Ra microinch
- Push and lock type handle (DRASTAR patent #10-1086199) mounted
- Threadless type: enhanced particle prevention by adopting the locking-plate seal system (DRASTAR patent #10-1086199)
- All works of welding, assembly, test and cleaning are performed in class 100 and class 10 clean-rooms
- Design proof pressure: 150% of maximum rated
- Applicable for Semiconductor manufacturing gas line, toxic gases, pyrophoric gases, and high corrosive gases.

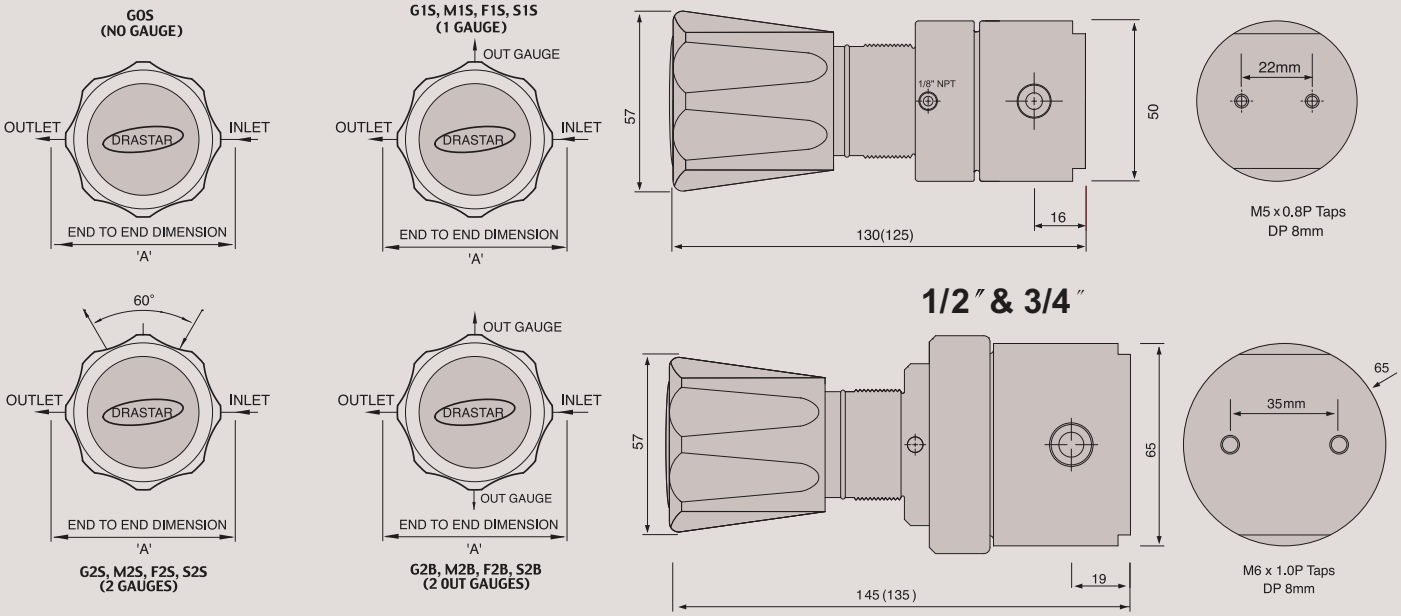
권장사항

각 제품들은 최고의 안전성과 쉬운 조작성을 고려하여 제작되었습니다. 그러나 가장 안전하고 효율적인 Regulator 사용을 위해서는 실제 사용 압력을 각각 모델의 사용 압력에 25% ~ 75% 이내에서 사용하면 가장 이상적인 압력을 사용할 수 있습니다. 정밀하고 원활한 작동과 제품의 수명 연장을 위해서는 각 모델의 사용 범위 내에서 사용하기를 적극 권장합니다.

Each product is manufactured taking into consideration of the best safety and easy manipulation. However in order to use the regulator in most safe, effective, precise and smooth way and prolong its life time, you are recommended to use the actual pressure within the range of 25% ~ 75% of its rated pressure.

INSTALLATION DIMENSIONS

■ GAUGE PORT OPTIONS



ORDERING INFORMATION

DRA300 - A 025 S - H P S - 4MS - G0S

BASIS SERIES

BODY MATERIAL & SURFACE FINISH
A = 316L, B.A ····· 25Ra
B = 316L, E.P. ····· 10Ra
C = 316L, E.P. (P.E.P) ····· 5Ra
D = 316L, E.P. VAR ····· 10Ra
E = 316L, E.P. VAR(P.E.P) ····· 5Ra

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

OUTLET PRESSURE RANGE
025 = 1-25psi (.1-1.7bar)
050 = 1-50psi (.1-3.5bar)
100 = 1-100psi (.1-7bar)
250 = 1-250psi (.2-17bar)

DIAPHRAGM MATERIAL
S = STS 316L
H = Hastelloy-C

MAX. INLET PRESSURE
H = 3000psi(210bar)
L = 600psi(42bar)

SEAT MATERIAL
P = PCTFE
T = Teflon
V = Vespel

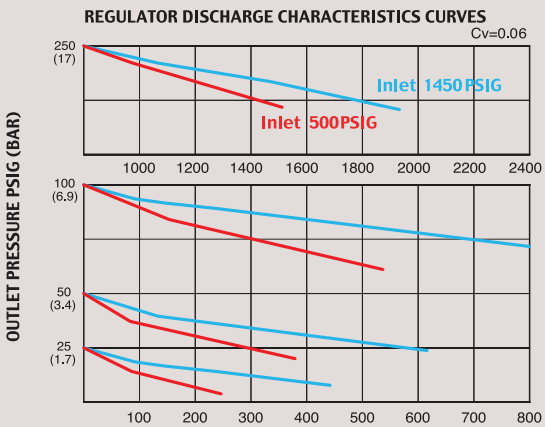
GAUGE PORTS OPTIONS

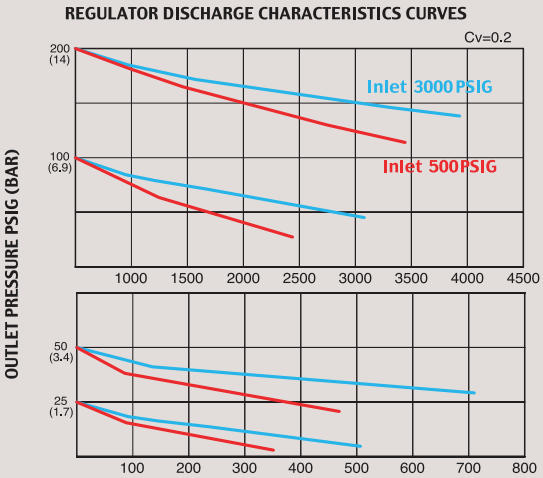
	Gauge Ports		Gauge Ports
G0S = None	0	F1S = 1/4″ Female Swivel.	1
G1S = 1/4″ H.P.I.C	1	F2S = 1/4″ Female Swivel.	2
G2S = 1/4″ H.P.I.C	2	F2B = 1/4″ Female Swivel.	2
G2B = 1/4″ H.P.I.C	2	M2S = 1/4″ Male Swivel.	2
M1S = 1/4″ Male Swivel.	1	M2B = 1/4″ Male Swivel.	2

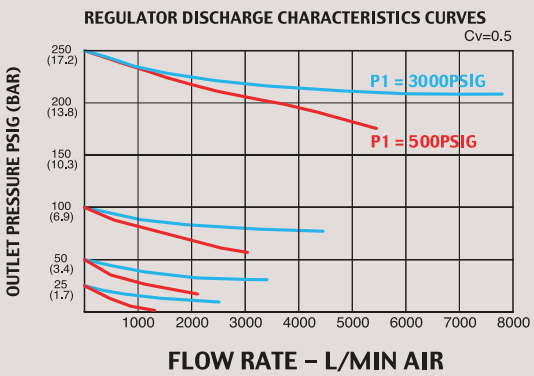
INLET / OUTLET PORTS SIZE & Type "A" ±1.0mm
4HP = 1/4″ H.P.I.C
4MS & 4FS = 1/4″ Male, Female Swivel ····· 94mm
4ML & 4FL = 1/4″ Male, Female Swivel ····· 114mm
8MS & 8FS = 3/8″ Male, Swivel ····· 120mm
8ML & 8FL = 3/8″ Male, Female Swivel ····· 140mm
2MS & 2FS = 1/2″ Male, Female Swivel ····· 140mm
2ML & 2FL = 1/2″ Male, Female Swivel ····· 180mm
2FSS 1/2 = Male, Female Swivel ····· 122mm
3MS & 3FS = 3/4″ Male, Female Swivel ····· 160mm
3ML & 3FL = 3/4″ Male, Female Swivel ····· 000mm
IMF = In Port Male / Out Port Female ····· 000mm
IFM = In Port Female / Out Port Male ····· 000mm
4TS = 1/4″ Tube Stubs ····· 94mm
2TS = 1/2″ Tube Stubs ····· 120mm
3TS = 3/4″ Tube Stubs ····· 160mm

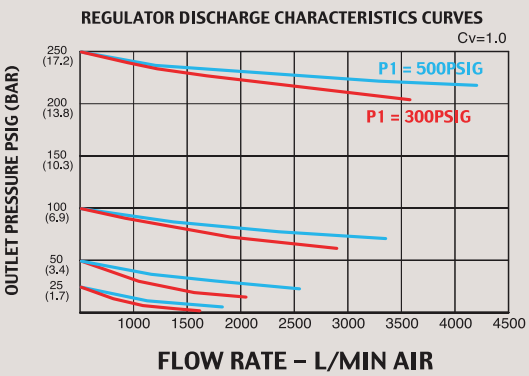
FLOW CAPACITY
S = Cv 0.06 Standard (Inlet 3000psi) (1/4″)
O = Cv 0.2 Optional (1/4″)
S = Cv 0.2 Standard (3/8″)
S = Cv 0.5 Standard (1/2″)
O = Cv 1.0 Optional (1/2″)
S = Cv 1.2 Standard (3/4″)

FLOW CHART

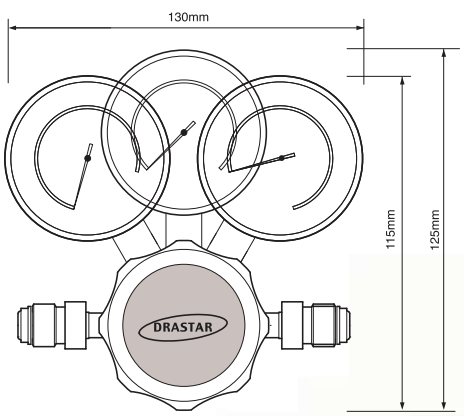


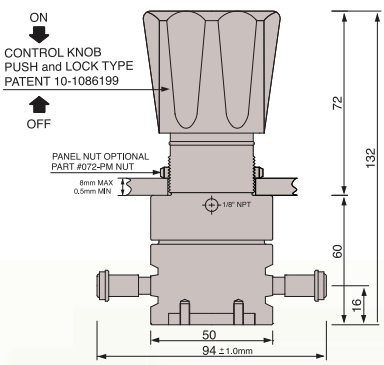




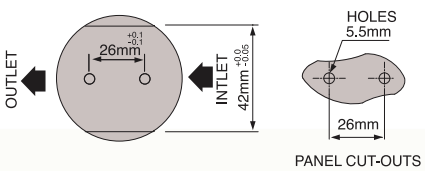


DRA300 Series 1/4″ & 3/8″

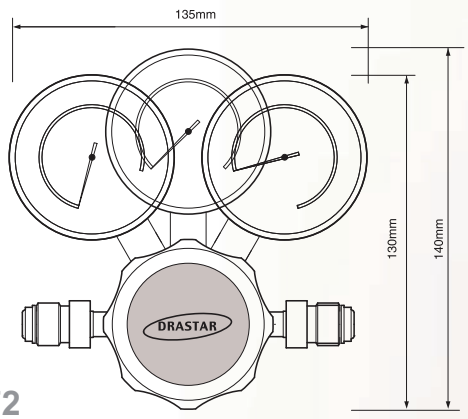


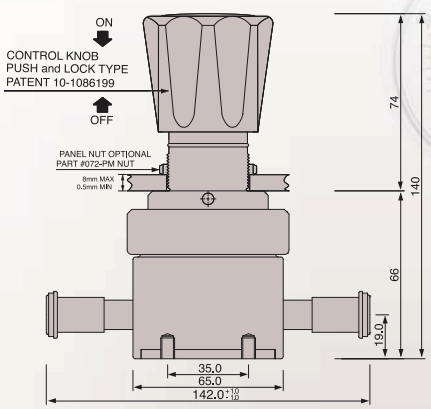


For 1/4" 4MS and 4FS Model 94mm
For 1/4" 4ML and 4FL Model 000mm
For 3/8" 8MS and 8FS Model 120mm
For 3/8" 8ML and 8FL Model 000mm



DRA300 Series 1/2″ & 3/4″





For 1/2" Model 2MS and 2FS 142mm
For 1/2" Model 2ML and 2FL 180mm
For 3/4" Model 3MS and 3FS 160mm
For 3/4" Model 3ML and 3FL 000mm

