

DRA300 S E R I E S

Positive Seal / ULTRA-HIGH PURITY

Springless Reducing Regulator

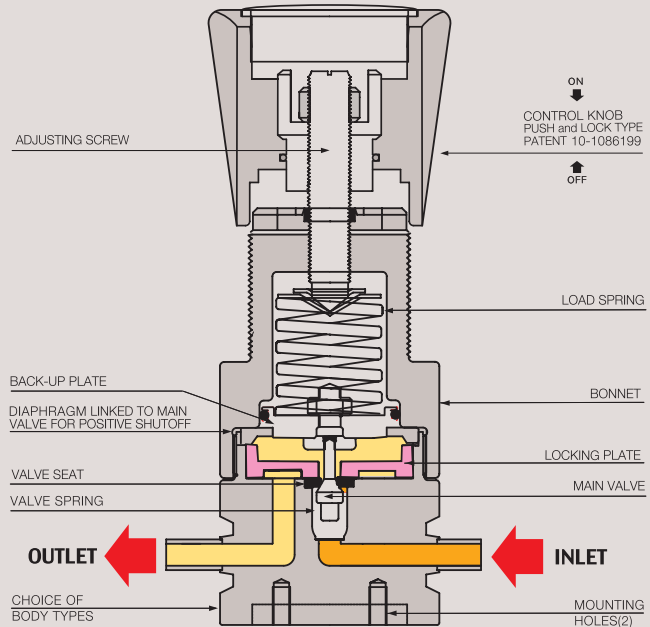




DRA300 SERIES



FUNCTIONAL SCHEMATIC



POSITIVE SEAL / ULTRA-HIGH PURITY

DRA300 SERIES (Springless Reducing Regulator)

DRA300(Springless type) 시리즈는 “초고순도 반도체 제조용 Gas Cabinet, 특수 가스 라인, Valve Manifold Boxes, 기타 연구실” 등에 사용하도록 고안된 Springless 타입의 Pressure Regulator입니다. Springless type은 기존방식의 스프링을 완전히 제거하고, 웨이브형상의 판 스프링(특허10-1191514)을 사용함으로써, 일반적인 스프링타입의 결점(장기간 사용시 누적피로로 발생하는 스프링 자체 Particle; 이물질이 발생함을 완벽하게 보완함으로써 원천적으로 제품 내부의 이물질이 발생하지 못하도록 함으로, User들에게 더욱 초 고순도/정정을 필요로 하는 곳에 더욱 적합한 제품입니다. 또한 DRA300 시리즈는 모델에 따라 316L VAR(Double melt VAR)를 사용함으로써 부식가스에 사용하기에 더욱 적합한 제품입니다.

다이아프램과 몸체간의 경계 면에 Material to Material Sealing 되어 있고, 10 Ra 또는 5 Ra 의 microinch 단위의 정밀 Electro Polish를 함으로써, 초정밀 표면처리 되어있습니다. 그리고 다이아프램과 메인 밸브를 연결시켜 (Tied 타입 적용) 이물질이 밸브 시트에 형성되더라도 압력 누설이 되지 않도록 최고의 안전성을 겸비한 방식으로 설계 고안된 제품입니다. 특히 독성 가스, 발화성 가스, 고부식성 가스등으로 다이아프램의 파열로부터 안전하게 보호하는 데 유용하며, DRA300 시리즈는 이물질 발생을 방지하기 위해 DI water 세정과 E.P 10 Ra, 5 Ra급으로 내부표면을 처리하였습니다. DRA300시리즈는 조립, 용접, 실험과 세정까지의 모든 공정은 100-class와 10-class 크린룸에서 모든 작업이 이루어집니다.

모든 DRASTAR Regulators는 외부적인 진동과 가스배관 라인의 미세 진동 등으로 인하여 초기 셋팅 값이 스스로 변하는 현상을 완전히 해결한 드라스타 만의 Push and Lock 타입의 조절 손잡이를 적용하여 사용하기에 더욱 편리합니다. 조절 손잡이를 누르면 셋팅값이 변하는 것을 방지하며, 손잡이를 앞으로 당기면 자유롭게 원하는 압력으로 다시 셋팅 할 수 있는 드라스타 만의 특허 10-1086199 출원한 Push and Lock 타입의 레귤레이터입니다.

DRA300 series is the Springless Reducing Regulator designed to use for gas cabinet for manufacturing the ultra high pure semi-conductor, special gas line, valve manifold boxes other laboratory, etc. It has no conventional spring and adopts “flat-wave ring spring” (patent 10-1191514) to shut off particle that may be generated from spring itself so that it can be more affordable for Ultra high purity application.

Its optional material as 316L VAR (Double melt VAR) and more suitable to corrosive Gas using application.

In order to prevent generation of impurities, it is washed in DI water and the internal surface is treated to the grade of E.P. 10 Ra and 5 Ra. All processes of assembly, welding, testing and washing of DRA300 series are carried out and thoroughly managed in the 100-class and 10-class clean room. DRASTAR regulators are designed and manufactured for easier operation by equipping with the DRASTAR's own developed push and lock type handle which completely prevents the self-change of pre-set value which can be caused by the vibration from outside or minute vibration at the gas pipeline. You can prevent the self-changing of pre-set value just by pushing the handle and reset the value freely by drawing the handle. DRASTAR has created and applied patent for this push and lock system for DRASTAR regulators (patent number 10-1086199).

Features

- Tied Diaphragm design for positive shut-off
- All semiconductor gas industry
- For toxic gas
- For pyrophoric gas
- For high corrosive gas
- For protecting the diaphragm from rupturing
- Locking-Plate Seal system (Patent No : 10-0753280)

권장 사항

각 제품들은 최고의 안전성과 쉬운 작동법을 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 동작과 제품의 수명 연장을 위해서는 위의 범위 내에서 사용하기를 적극 권장합니다.

Recommendations to Use

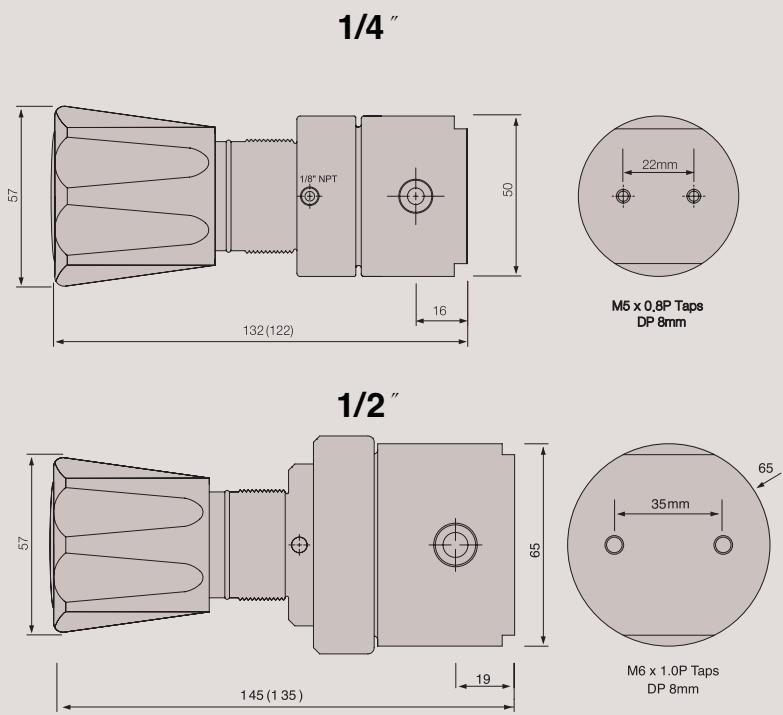
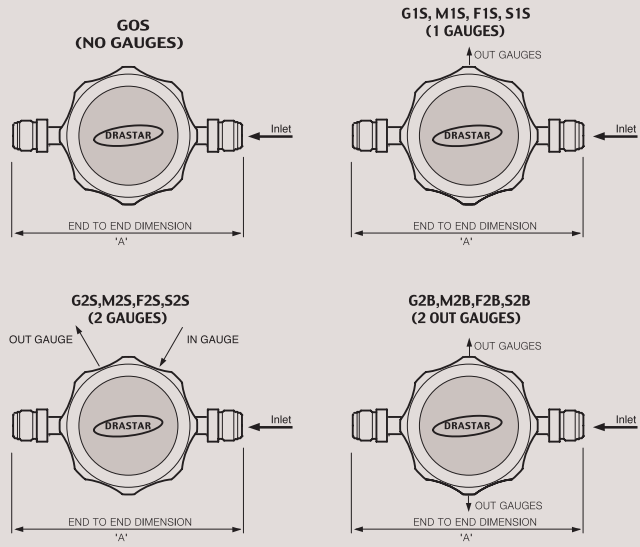
Each product is manufactured since being taken into consideration of the best safety and easy manipulation. However in order to use the regulator in most safe and effective way, you are recommended to use the actual pressure within the range of its 25% ~ 75%. For making precise, smooth movement and to prolong product life, strongly recommended to make a use within above mentioned range.

REFERENCE

This catalogue is printed as of January 2013, 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

GAUGE PORT OPTIONS



ORDERING INFORMATION

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

BASIS SERIES

BODY MATERIAL

A = 316L Bright Annealed	B.A
B = 316L Electropolish	10Ra
C = 316L Internal Electropolish	10Ra
D = 316L Electropolish VAR(P.E.P)	10Ra
E = 316L Electropolish VAR(P.E.P)	5Ra

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 = 3500psi(238bar)
L = 600psi(41bar)

SEAT MATERIAL

P = PCTFE
T = Teflon
V = Vespel

GAUGE PORTS OPTIONS

G0S = None	..... 0	F1S = 1/4" Femle Sw.	..... 1
G1S = 1/4" H.P.I.C	..... 1	F2S = 1/4" Femle Sw.	..... 2
G2S = 1/4" H.P.I.C	..... 2	F2B = 1/4" Femle Sw.	..... 2
G2B = 1/4" H.P.I.C	..... 2	S1S = 1/4" Fixed Male	..... 1
M1S = 1/4" Male Sw.	..... 1	S2S = 1/4" Fixed Male	..... 2
M2S = 1/4" Male Sw.	..... 2	S2B = 1/4" Fixed Male	..... 2
M2B = 1/4" Male Sw.	..... 2		

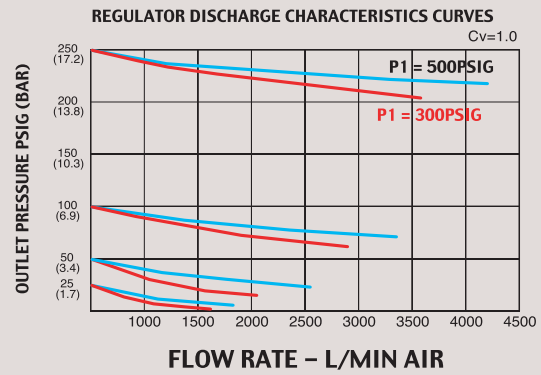
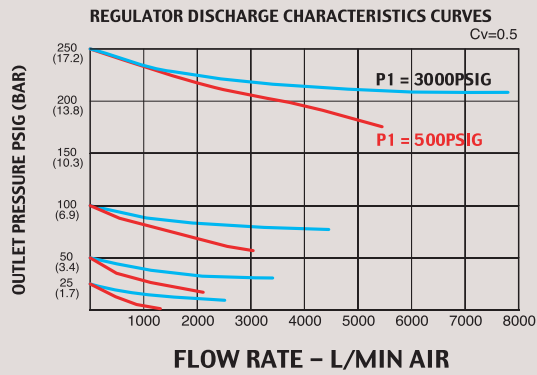
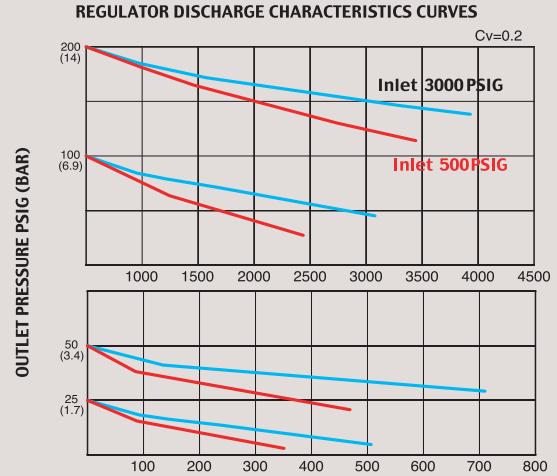
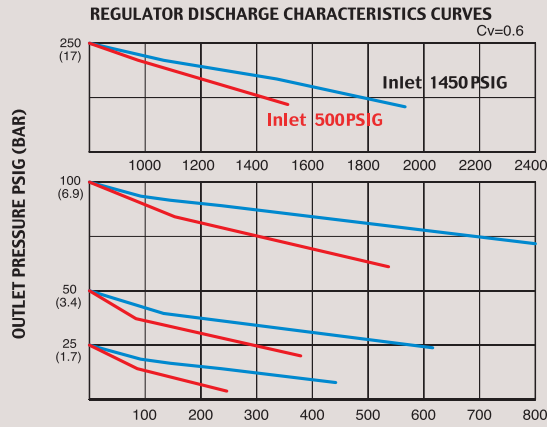
INLET / OUTLET PORTS SIZE

Type "A" ±1.0mm	
4HP = 1/4" H.P.I.C	
4MS & 4FS = 1/4" Male, Female Sw.	..... 94mm
4FL & 4ML = 1/4" Male, Female Sw.	..... 00mm
8MS & 8FS = 3/8" Male, Female Sw.	..... 120mm
8FL & 8ML = 3/8" Male, Female Sw.	..... 000mm
2MS & 2FS = 1/2" Male, Female Sw.	..... 140mm
2FL & 2ML = 1/2" Male, Female Sw.	..... 000mm
3MS & 3FS = 3/4" Male, Female Sw.	..... 160mm
3FL & 3ML = 3/4" Male, Female Sw.	..... 000mm
4IMF = In 1/4" Male Out 1/4" Female	..... 94mm
4IFM = In 1/4" Female Out 1/4" Male	..... 94mm
2IMF = In 1/2" Male Out 1/2" Female	..... 140mm
2IFM = In 1/2" Female Out 1/2" Male	..... 140mm
2IMFL = In 1/2" Male Out 1/2" Female	..... 000mm
2IFML = In 1/2" Female Out 1/2" Male	..... 000mm
4TS = 1/4" Tube Stubs	..... 94mm
8TS = 3/8" Tube Stubs	..... 94mm
2TS = 1/2" Tube Stubs	..... 120mm
3TS = 3/4" Tube Stubs	..... 120mm

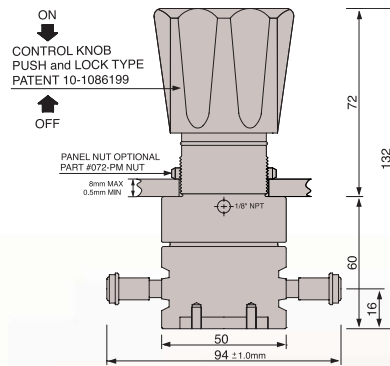
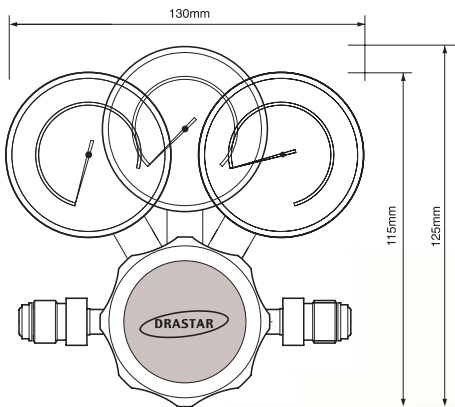
FLOW CAPACITY

S = Cv 0.06 Standard (Inlet 3000psi) (1/4")
O = Cv 0.2 Optional (Inlet 5000psi) (1/4")
S = Cv 0.2 Optional (3/8")
S = Cv 0.5 Optional (1/2")
O = Cv 1.0 Optional (1/2")
S = Cv 1.2 Standard (3/4")

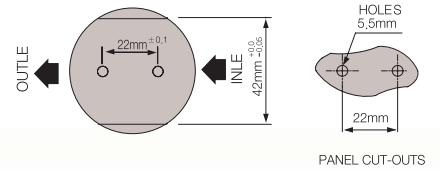
FLOW CHART



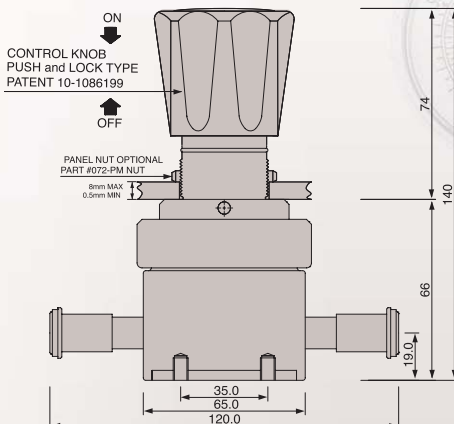
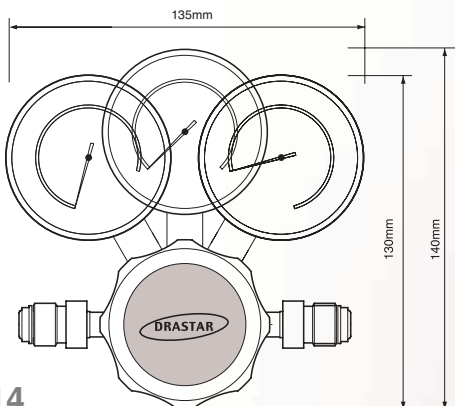
DRA300 Series 1/4"



DRA300 Series 1/4" & 3/8"



DRA300 Series 1/2"



DRA300 Series 1/2" & 4/3"

