

DRA 100 S E R I E S

Ultra High Purity Low Pressure Reducing Regulators



DRA100

SERIES

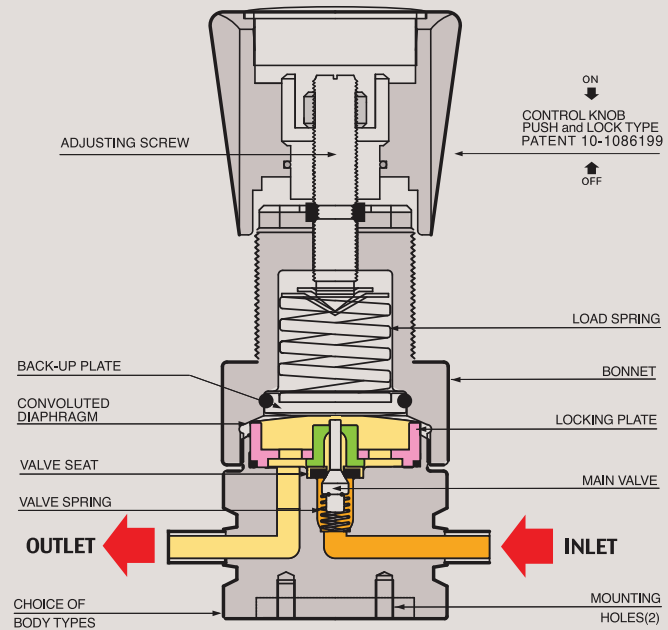
This catalogue is revised and/or updated as of Jan. 2020 and supersedes any old ones.
이 카탈로그는 2020년 1월에 개정 또는 업데이트 되었으며 이전의 카탈로그를 대체합니다.



DRA100 SERIES



FUNCTIONAL SCHEMATIC



DRA100(Non-tied-type)

UHP Low Pressure VCR type (1/4" 3/8" 1/2" 3/4")

DRA100 시리즈는 초 고순도 반도체 제조라인, 특수 가스 라인, Bulk Gas Line, 기타 설비 라인 등에 적합하도록 개발된 저압용 UHP VCR Type Pressure Reducing regulator입니다.

- 내부 표면을 B.A. 25Ra, E.P. 10Ra, 또는 5Ra microinch까지 처리하여 반도체 생산 hook-up 라인 등에 적합합니다.
- 입구 압력은 3,000psig(210bar) or 600psig(42bar)이고 출구압력은 5psig(0.3bar)에서 최대 250psig(17bar)까지 사용 가능하며, 용도에 따라 2-ports, 3-ports, 4-ports 사용 가능합니다.
- 용접, 조립, 실험, 세정 등 모든 공정은 100-class와 10-class 크린룸에서 작업합니다.
- Locking-plate seal system (당사 특허 No. 10-0753280) 적용으로 파티클 (particle) 방지 기능이 더욱 강화되었습니다.
- 사용 중 가스라인이나 외부의 미세 진동 등으로 인하여 초기 압력 셋팅 값이 미세하게 변동하는 현상을 완전히 해결한 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 100 Series is an UHP low pressure reducing regulator with B.A. 25Ra, E.P. 10Ra, or E.P. 5Ra surface finish and applicable for high purity semiconductor manufacturing, specialty gas, and bulk gas lines as well as other facilities. Inlet pressures are 3,000psig(210bar) or 600psig(42bar) and outlet pressure are 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

- 1/4", 3/8", 1/2", and 3/4" VCR type
- Non-tied diaphragm type
- 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 #10-0753280)
- 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, specialty gases, bulk gas line and other facilities

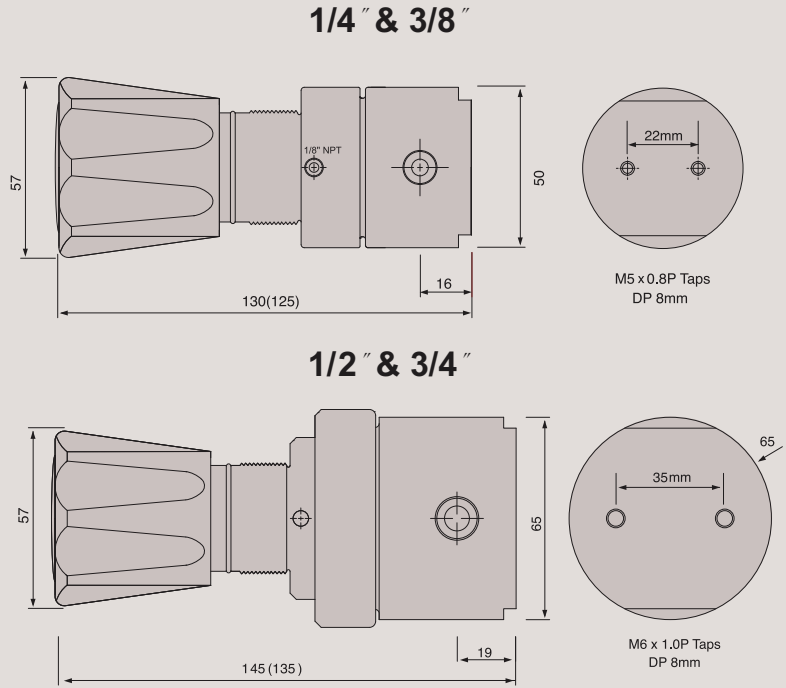
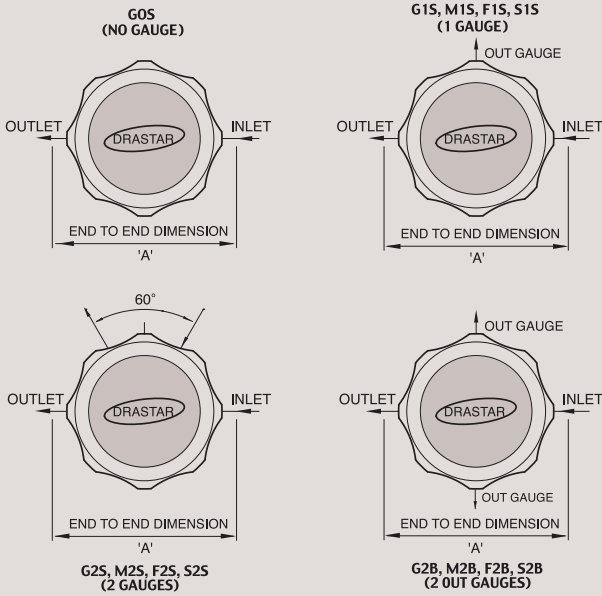
권장사항

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
 METRIC EQUIVALENTS ARE IN PARENTHESES

■ GAUGE PORT OPTIONS



ORDERING INFORMATION

DRA100 - 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.= 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)
- 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

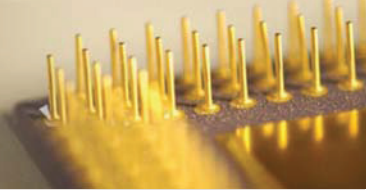
Gauge Ports	
G0S = None	0
G1S = 1/4" H.P.I.C	1
G2S = 1/4" H.P.I.C	2
G2B = 1/4" H.P.I.C	2
M1S = 1/4" Male Swivel	1
F1S = 1/4" Female Swivel	1
F2S = 1/4" Female Swivel	2
F2B = 1/4" Female Swivel	2
M2S = 1/4" Male Swivel	2
M2B = 1/4" Male Swivel	2

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

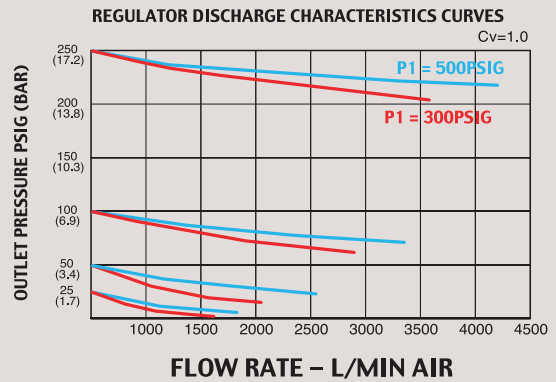
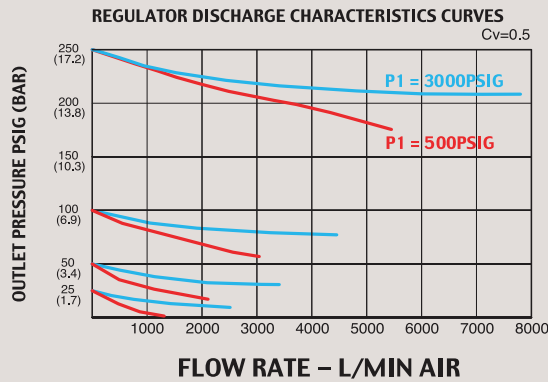
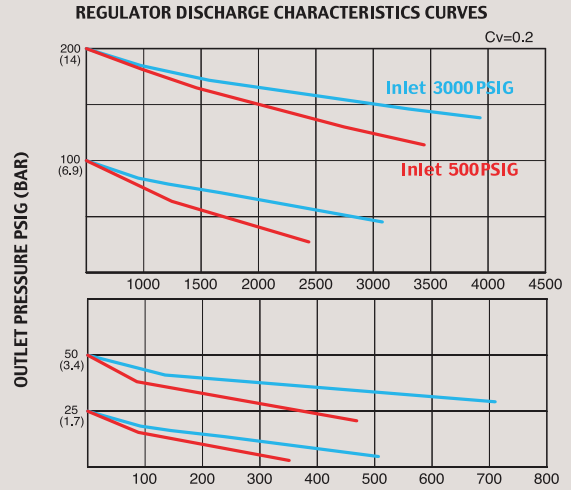
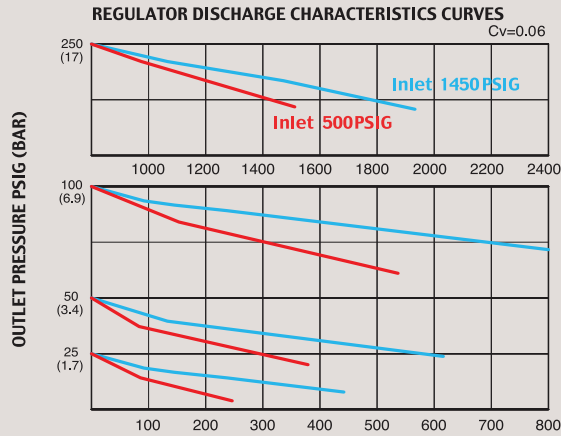
4HP = 1/4" H.P.I.C	
4MS & 4FS = 1/4" Male, Female Swivel	94mm
4ML & 4FL = 1/4" Male, Female Swivel	114mm
8MS & 8FS = 3/8" Male, Swivel	120mm
8ML & 8FL = 3/8" Male, Female Swivel	140mm
2MS & 2FS = 1/2" Male, Female Swivel	140mm
2ML & 2FL = 1/2" Male, Female Swivel	180mm
2FSS 1/2 = Male, Female Swivel	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

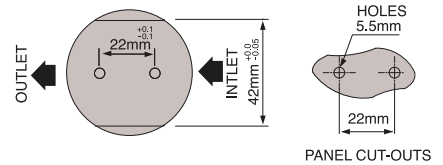
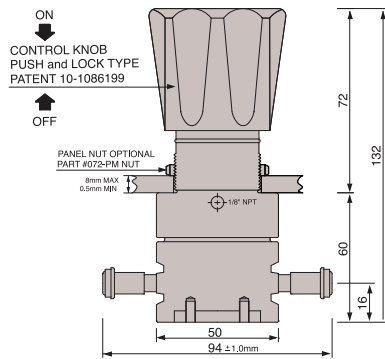
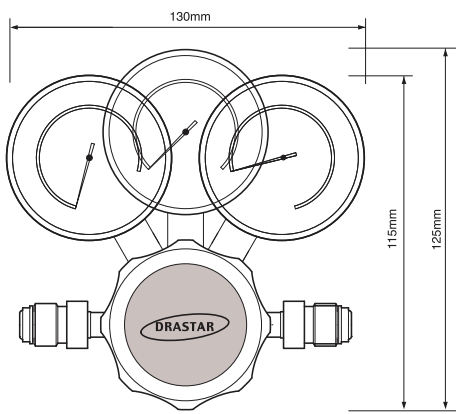
- S = Cv 0.06 Standard (Inlet 3000psi) (1/4")
- O = Cv 0.2 Optional (1/4")
- S = Cv 0.2 Standard (3/8")
- S = Cv 0.5 Standard (1/2")
- O = Cv 1.0 Optional (1/2")
- S = Cv 1.2 Standard (3/4")



FLOW CHART

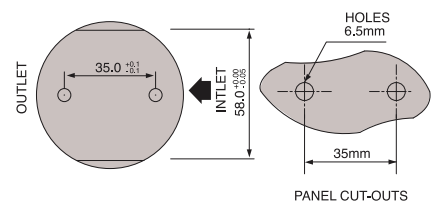
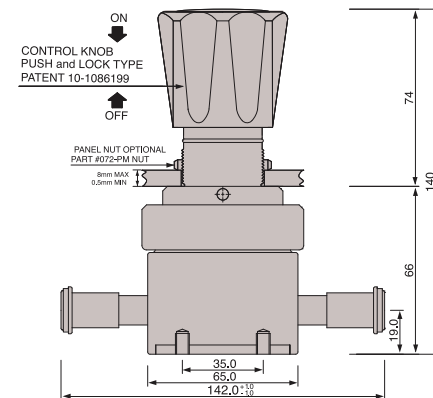
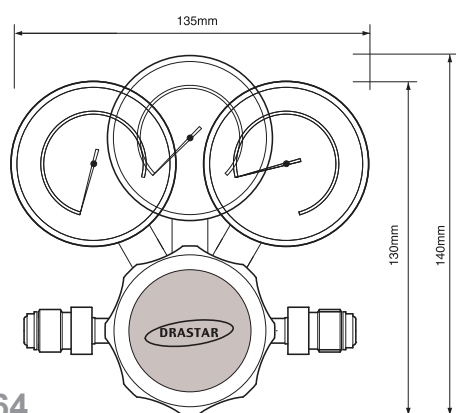


DRA100 Series 1/4" & 3/8"



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

DRA100 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



DRA200 SERIES

Ultra High Purity Tied Diaphragm Regulators



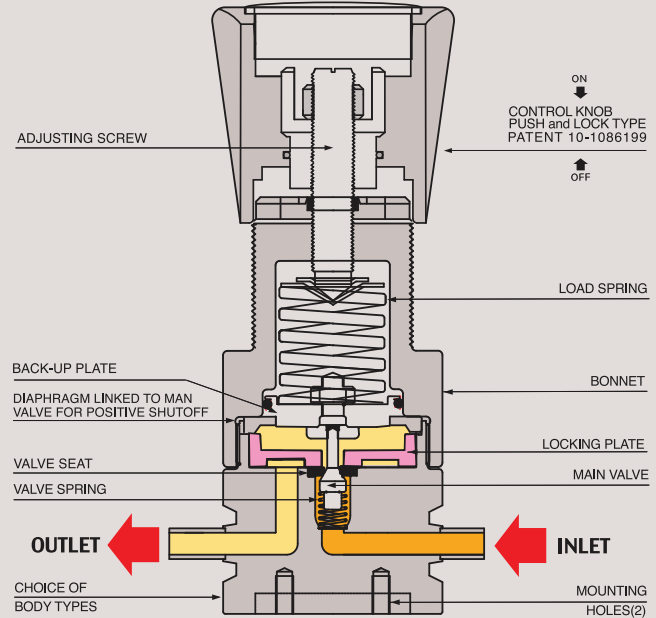
DRA200 SERIES

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이 카다록은 2020년 1월에 개정 또는 업데이트 되었으며 이전의 카다록을 대체합니다.

DRA200 SERIES



FUNCTIONAL SCHEMATIC



DRA200(Tied type)

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

DRA200시리즈는 초고순도 반도체 제조용 Gas Cabinet, 특수 가스 라인, Valve Manifold Boxes, 기타 연구실 등에 적합하도록 개발된 Tied type 저압용 Pressure Reducing Regulator입니다.

- 다이아후렘과 메인밸브를 연결시킨 Tied-Diaphragm 타입으로 밸브시트에 이물질이 형성되더라도 압력이 누설되지 않도록 최고의 안전성을 고려하여 설계된 제품입니다.
- 이물질 발생을 방지하기 위해 DI water 세정과 표면은 B.A. 25Ra, E.P. 10Ra 또는 5Ra microinch등급까지 처리되었습니다.
- 특히 독성 가스, 발화성 가스, 고부식성 가스 등으로 인해 다이아후렘이 파열되는 것로부터 보호하는데 유용합니다.
- Locking-plate seal system (당사 특허 #10-1086199)적용으로 파티클 (particle) 방지 기능이 더욱 강화되었습니다.
- 입구 압력은 3,000psig(210bar) or 600psig(42bar)이고 출구압력은 5psig(0.3bar)에서 최대 250psig(17bar)까지 사용 가능하며, 용도에 따라 2-ports, 3-ports 또는 4-ports 선택 가능합니다.
- 용접, 조립, 실험, 세정 등 모든 공정은 100-class와 10-class 크린룸에서 작업이 이루어 집니다.
- 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 셋팅할 수 있습니다.

DRA 200 Series is an UHP low pressure reducing regulator with B.A. 25Ra, E.P. 10Ra, or E.P. 5Ra surface finishes and applicable for gas cabinet for semiconductor manufacturing, specialty gases, valve manifold boxes, and other research labs, etc. Inlet pressures are 3,000psig(210bar) or 600psig(42bar) and outlet pressures are 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

- 1/4", 3/8", 1/2", and 3/4" VCR type
- 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 No. 10-1086199) mounted
- Threadless type: enhanced particle prevention by adopting the locking-plate seal system (DRASTAR patent #10-0753280)
- 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.

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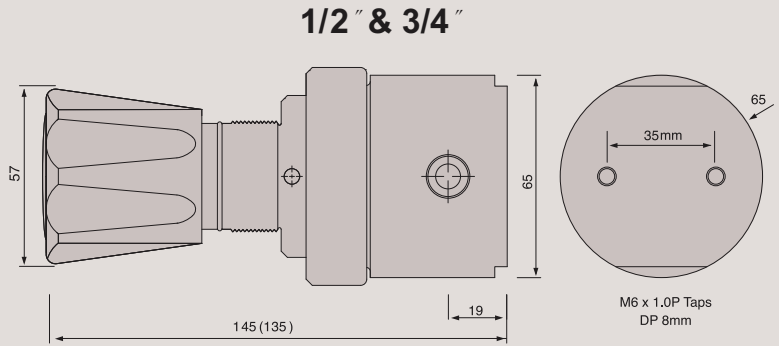
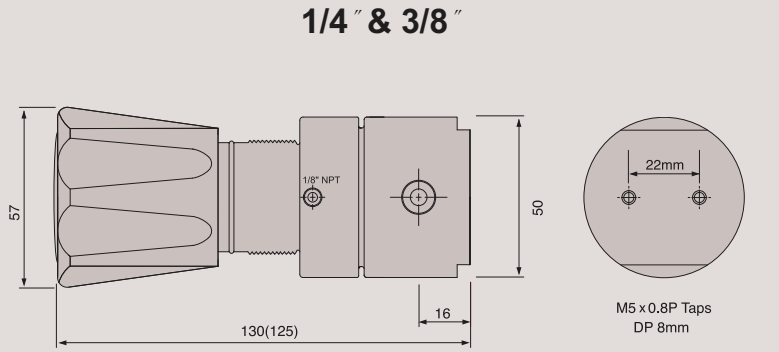
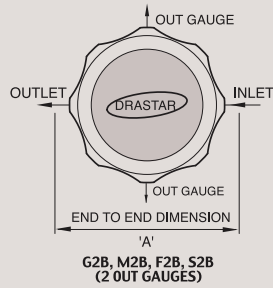
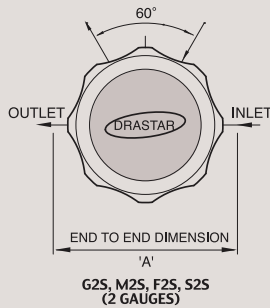
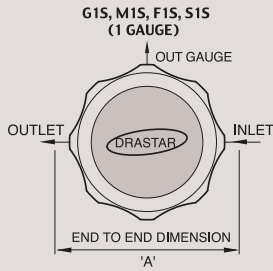
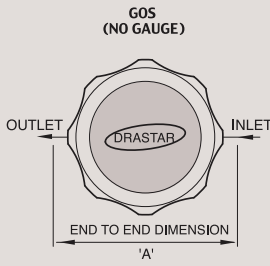
REFERENCE

Contents in the catalogue including specifications, performance data, etc. can be changed without prior notice in the course of continuous upgrading and improvement of the products.
 사양서와 성능데이터 등 카다록에 있는 내용은 당사 제품의 지속적인 업그레이드 및 개선의 과정에서 사전 예고 없이 변경될 수 있습니다.

INSTALLATION DIMENSIONS

METRIC EQUIVALENTS ARE IN PARENTHESES

■ GAUGE PORT OPTIONS

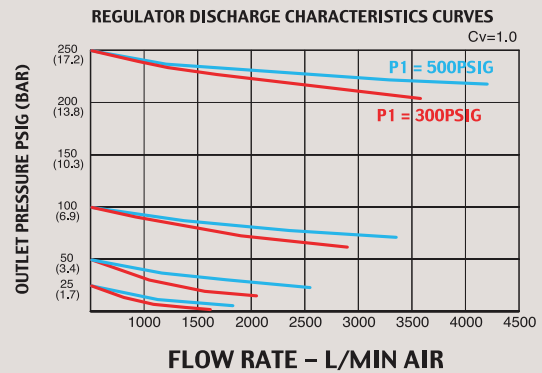
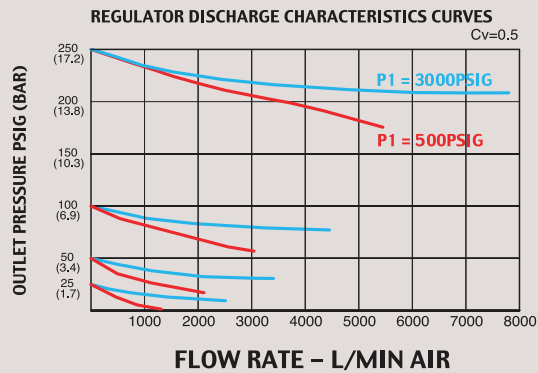
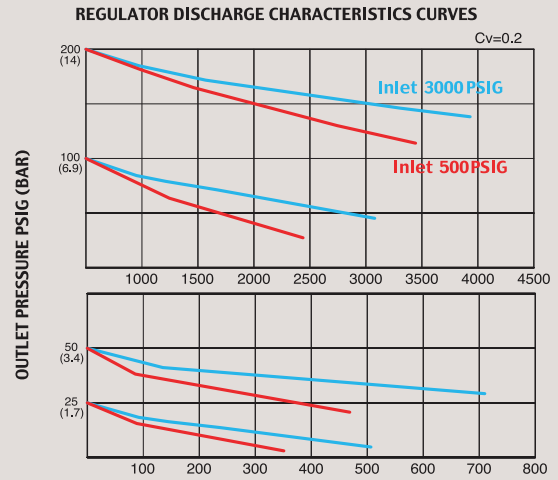
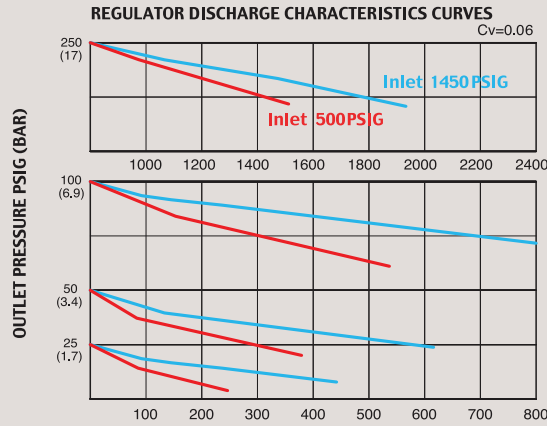


ORDERING INFORMATION

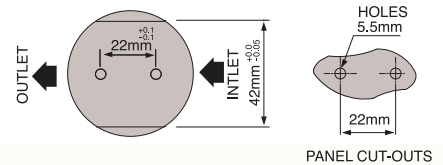
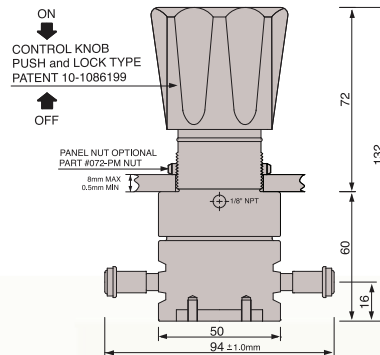
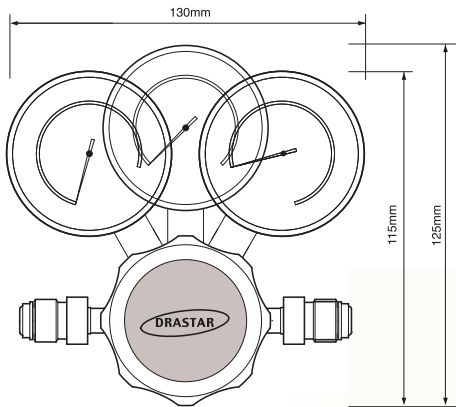
DRA200 - A 025 S - H P S - 4MS - G0S

<p>BASIS SERIES</p>	<p>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</p> <p>B.A.= Brigh Annealed., E.P.= Electropolished.</p>	<p>GAUGE PORTS OPTIONS</p> <table border="0"> <tr> <td>G0S = None 0</td> <td>F1S = 1/4" Female Swivel..... 1</td> </tr> <tr> <td>G1S = 1/4" H.P.I.C..... 1</td> <td>F2S = 1/4" Female Swivel..... 2</td> </tr> <tr> <td>G2S = 1/4" H.P.I.C..... 2</td> <td>F2B = 1/4" Female Swivel..... 2</td> </tr> <tr> <td>G2B = 1/4" H.P.I.C..... 2</td> <td>M2S = 1/4" Male Swivel..... 2</td> </tr> <tr> <td>M1S = 1/4" Male Swivel. 1</td> <td>M2B = 1/4" Male Swivel..... 2</td> </tr> </table>	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
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											
<p>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)</p>	<p>DIAPHRAGM MATERIAL S = STS 316L H = Hastelloy-C</p>	<p>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</p>										
<p>MAX. INLET PRESSURE H = 3000psi(210bar) L = 600psi(42bar)</p>	<p>SEAT MATERIAL P = PCTFE T = Teflon V = Vespel</p>	<p>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")</p>										

FLOW CHART

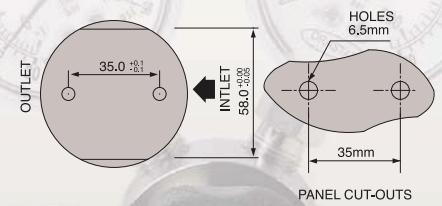
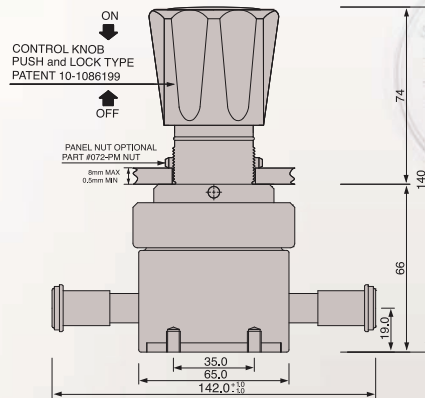
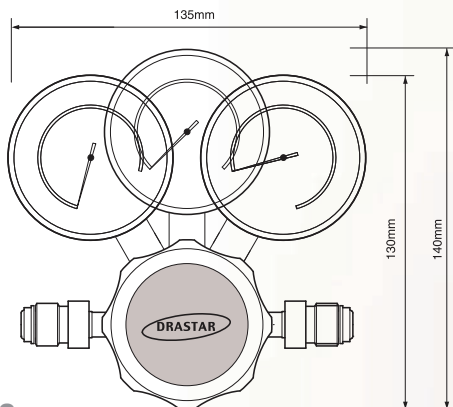


DRA200 Series 1/4" & 3/8"



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

DRA200 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



DRA300 SERIES

Ultra High Purity Tied Diaphragm
Springless Pressure Reducing Regulators



DRA300

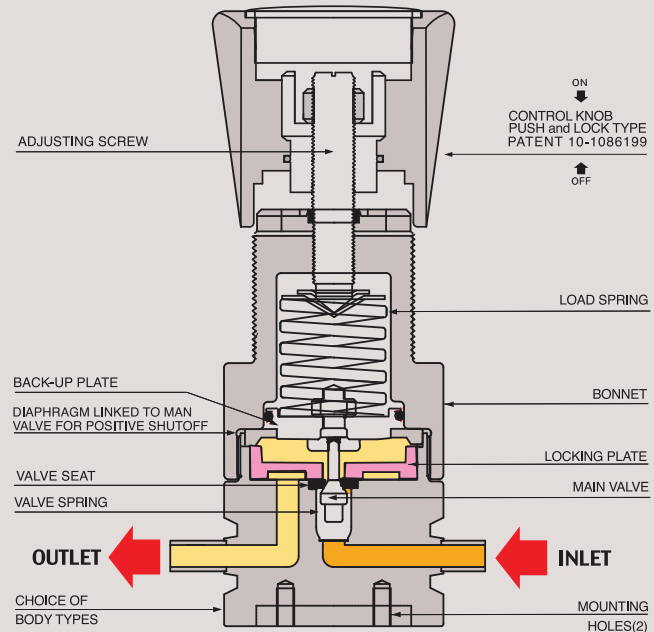
SERIES

This catalogue is revised and/or updated as of Jan. 2020 and supersedes any old ones.
이 카탈로그는 2020년 1월에 개정 또는 업데이트 되었으며 이전의 카탈로그를 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 것로부터 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 압력에서 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.

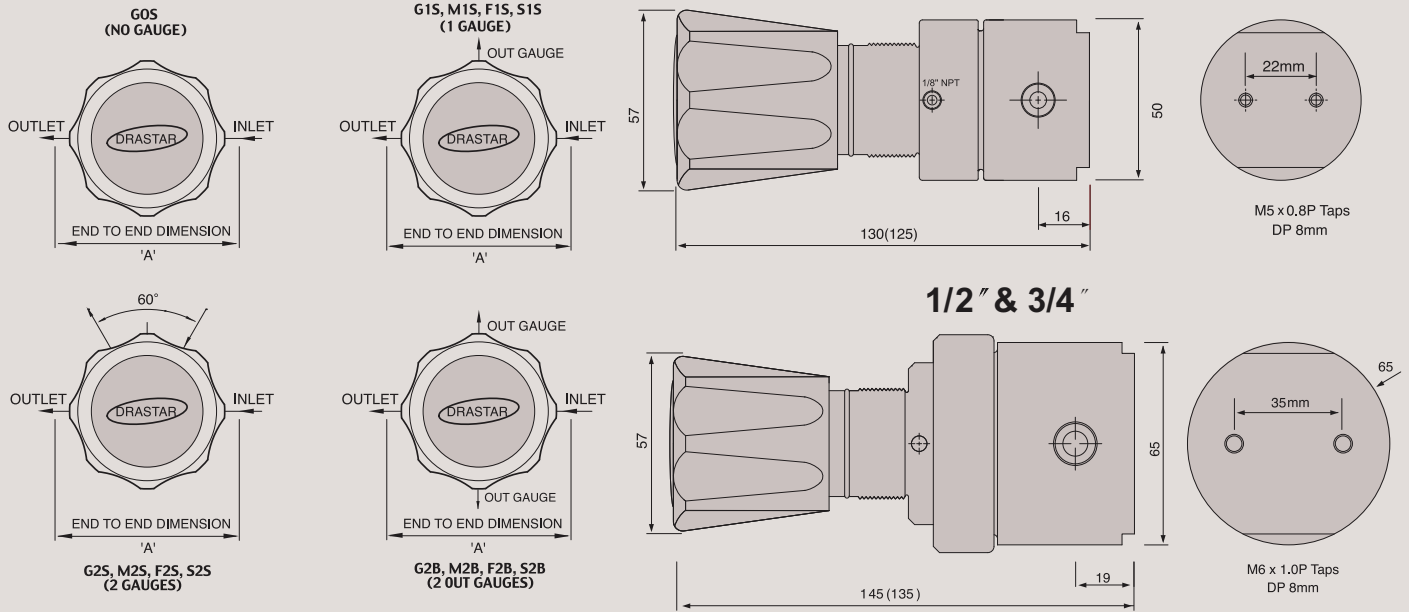
Each product is manufactured taking into consideration of the best safety and easy manipulation. However in order to use the regulator in most safe, effective, precise and smooth way and prolong its life time, you are recommended to use the actual pressure within the range of 25% ~ 75% of its rated pressure.

REFERENCE

Contents in the catalogue including specifications, performance data, etc. can be changed without prior notice in the course of continuous upgrading and improvement of the products.
시양서와 성능데이터 등 카다록에 있는 내용은 당사 제품의 지속적인 업그레이드 및 개선의 과정에서 사전 예고 없이 변경될 수 있습니다.

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.= 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)
- 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	
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

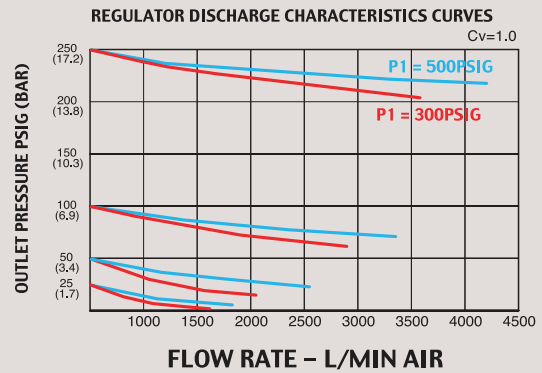
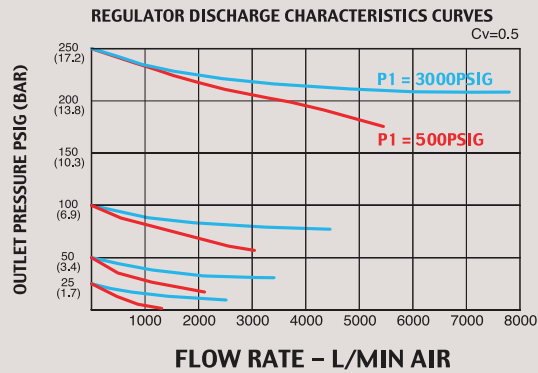
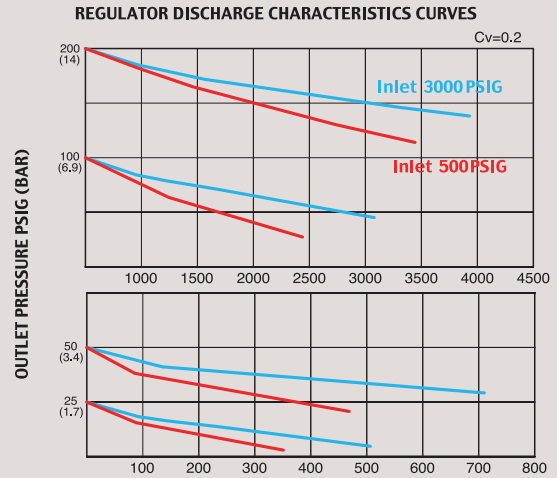
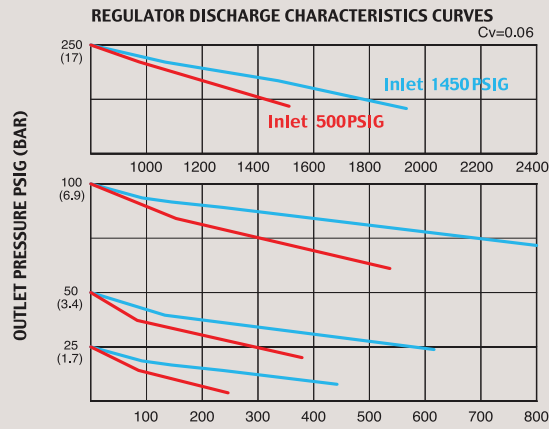
INLET / OUTLET PORTS SIZE & Type "A" ±1.0mm

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, Female 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

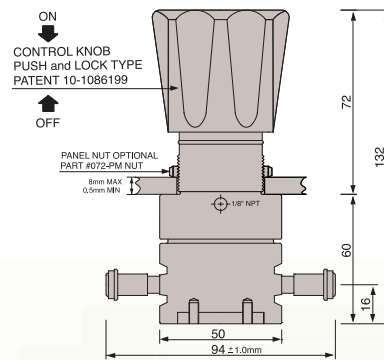
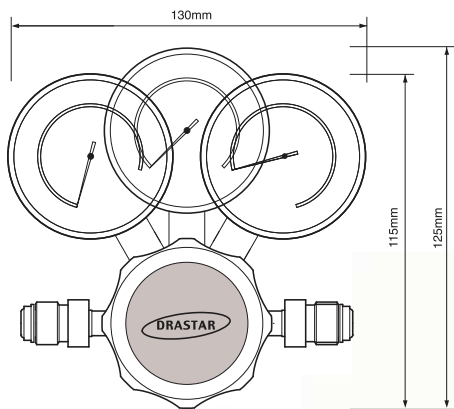
FLOW CAPACITY

- 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")

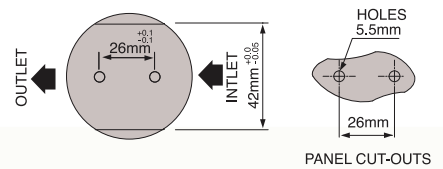
FLOW CHART



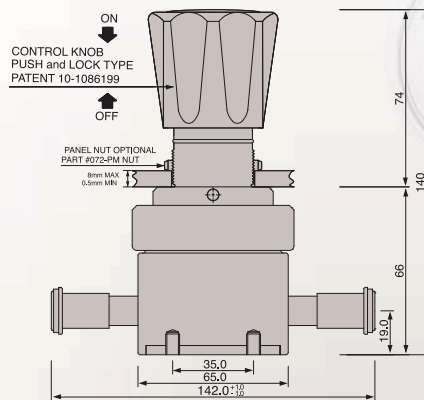
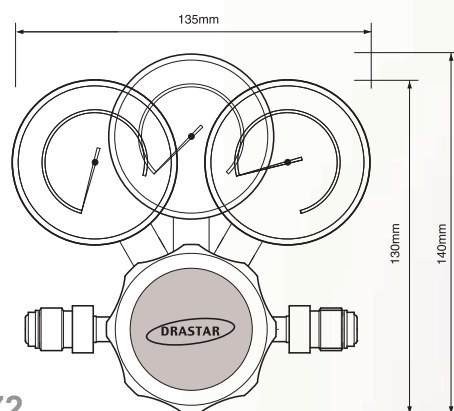
DRA300 Series 1/4" & 3/8"



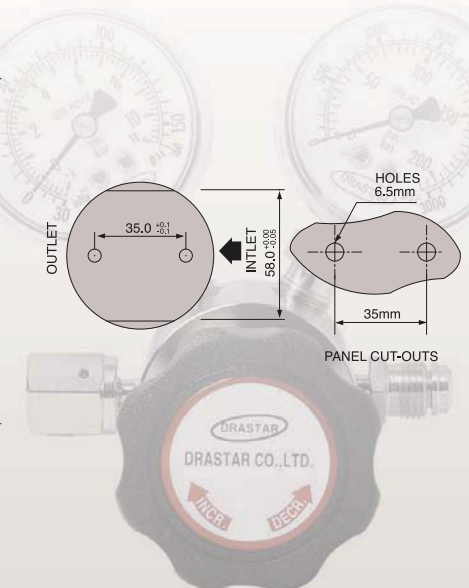
For 1/4" 4MS and 4FS Model 94mm
For 1/4" 4ML and 4FL Model 000mm
For 3/8" 8MS and 8FS Model 120mm
For 3/8" 8ML and 8FL Model 000mm



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





DRA500 S E R I E S

Ultra High Purity Tied Diaphragm
Springless Pressure Reducing Regulators



DRA500

SERIES

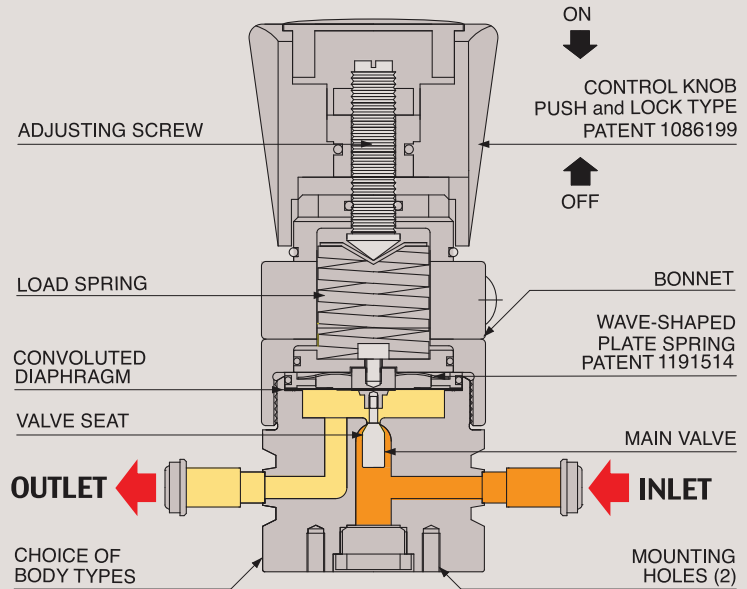
This catalogue is revised and/or updated as of Jan. 2020 and supersedes any old ones.
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DRA500 SERIES



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 고순도, 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: Cv = 0.5 at 1/4" and Cv=0.5 at 1/2".
- Inboard Leak Rate to 1×10^{-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" Cv=0.5, 1/2" Cv=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 스프링자체에 발생할 수 있는 이물질 발생을 억제하므로서 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 다이아후렛 파열을 방지하므로서 최상의 안전성을 제공합니다.
- 다이아후렛과 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.

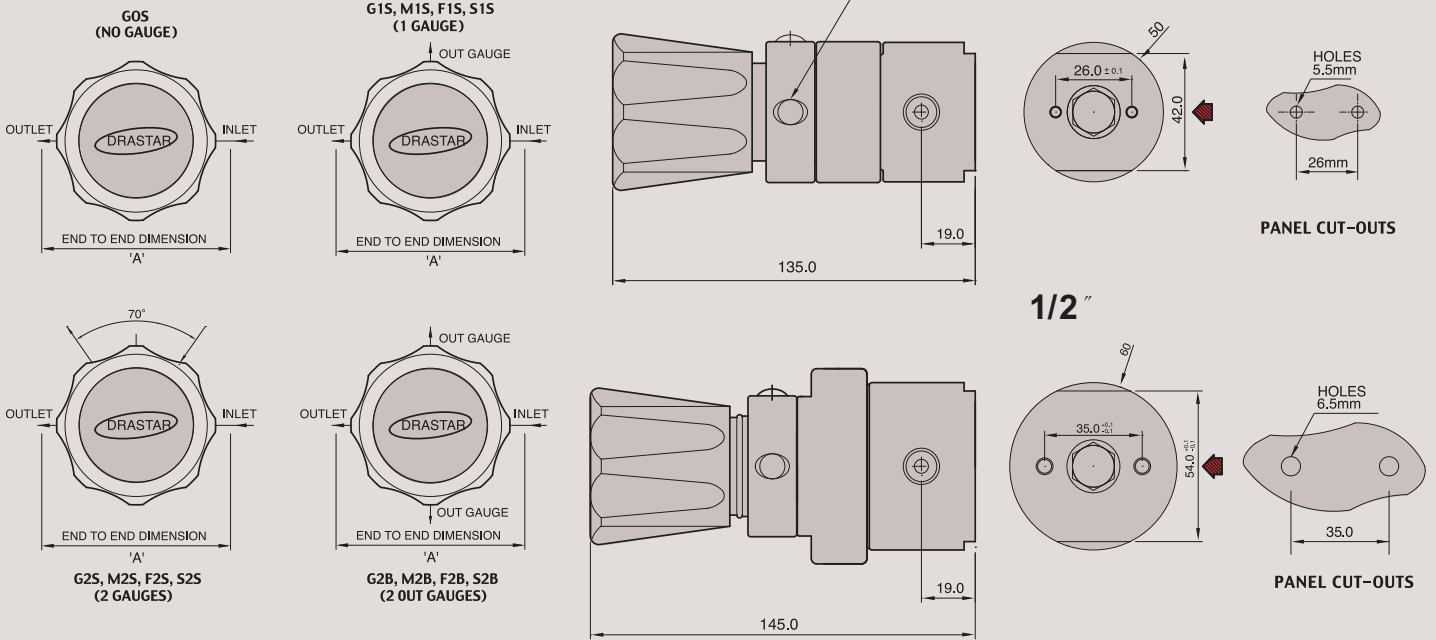
※ With DRASTAR's patented (patent #1086199) "push and lock type handle", you can operate it easily and stably; "locking" by pushing down the handle will prevent any slight change of pre-set pressure value, which could possibly be caused by any vibration from gas pipeline or ambient applications and the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



ORDERING INFORMATION

DRA500 D 025 H HVS 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

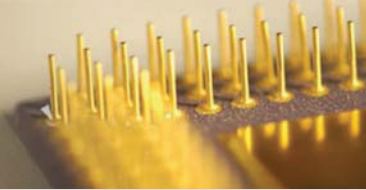
Gauge Ports	
G0S = None	0
G1S = 1/4" H.P.I.C	1
G2S = 1/4" H.P.I.C	2
G2B = 1/4" H.P.I.C	2
M1S = 1/4" Male Swivel	1
M2S = 1/4" Male Swivel	2
F1S = 1/4" Female Swivel	1
F2S = 1/4" Female Swivel	2
F2B = 1/4" Female Swivel	2
M2S = 1/4" Male Swivel	2
M2B = 1/4" Male Swivel	2

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

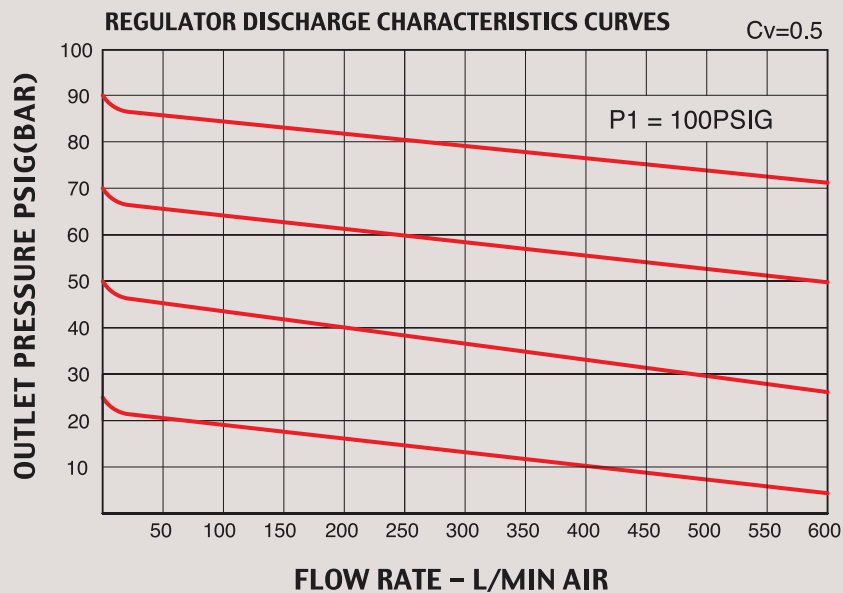
4HP = 1/4" H.P.I.C	
4MS = 1/4" Male Swivel	94mm
4FS = 1/4" Female Swivel	94mm
4MSL = 1/4" Male Long Swivel	00mm
4FSL = 1/4" Female Long Swivel	00mm
4IMF = 1/4" In Male / Out Female	94mm
4IFM = 1/4" In Female / Out Male	94mm
4TS = 1/4" Tube Stubs	94mm
2MS = 1/2" Male Swivel	142mm
2FS = 1/2" Female Swivel	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

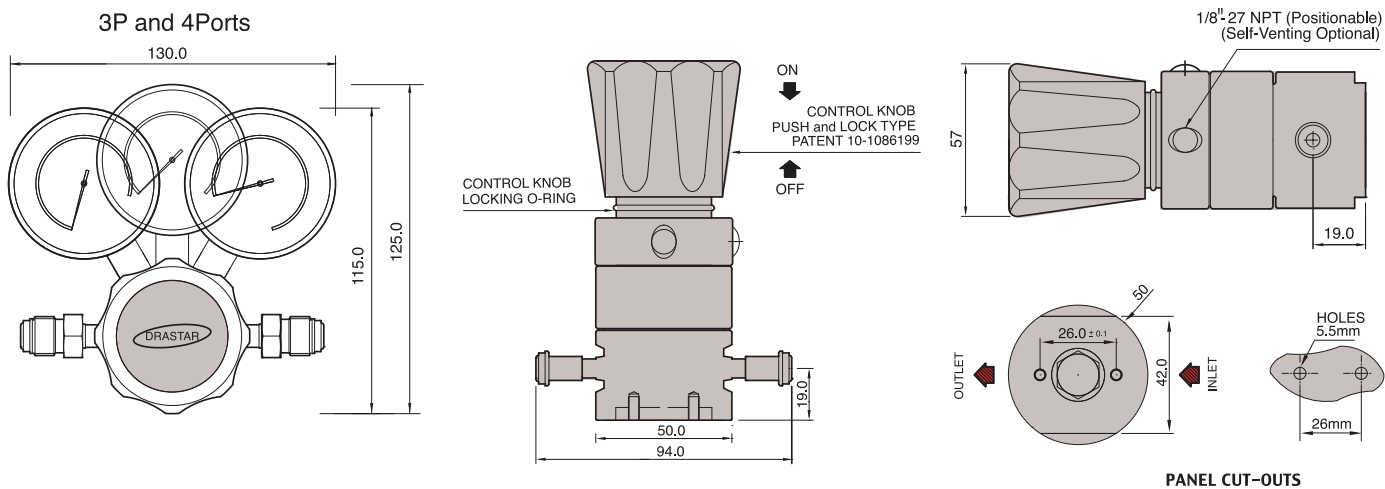
S = Cv = 0.5 1/4"
S = Cv = 0.5 Standard 1/2"
O = Cv = 1.0 Optional



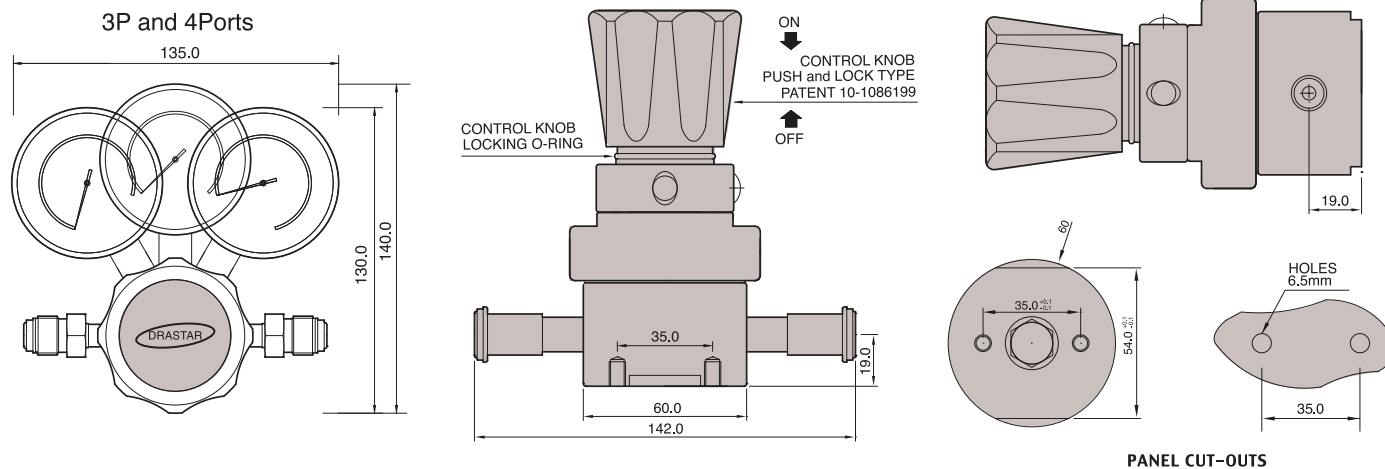
FLOW CHART



DRA500 Series 1/4"



DRA500 Series 1/2"



DRA 700 S E R I E S

Ultra High Purity Lok Welded
Pressure Reducing Regulators



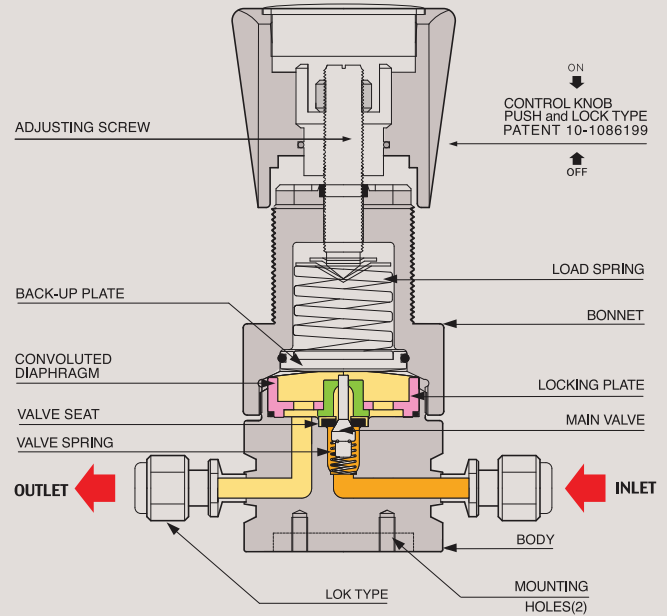
DRA700

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.

DRA700 SERIES

FUNCTIONAL SCHEMATIC



DRA700 (Lok Type Regulator)

Lock type Low Pressure Regulator (1/4" 3/8" 1/2" 3/4")

DRA700 시리즈는 내부 표면을 B.A. 25Ra급으로 처리하여 최적의 세정과 성능을 갖추고 Hook-up Line, Bulk Gas Line 및 고순도 가스등에 적합한 경제적인 Pressure Reducing Regulator입니다.

- 반도체 생산 라인 등에 적합한 제품으로 내부 표면은 B.A. 25Ra 등급으로 처리하였습니다.
- Locking-plate seal system (당사 특허 #10-0753280) 적용으로 파티클 (particle) 방지 기능이 더욱 강화되었습니다.
- 입구 압력은 3,000psig (210bar) or 600psig (42bar)이고 출구압력은 모델에 따라 5psig (0.3bar)에서 최대 250psig (17bar)까지 사용 가능하고, 용도에 따라 2-ports, 3-ports 또는 4-ports를 선택 가능합니다.
- 조립, 용접, 실험과 세정까지의 모든 공정은 100-class와 10-class 크린룸에서 작업이 이루어 집니다.
- 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 700 Series is a lock-type UHP low pressure reducing regulator with B.A. 25Ra surface finish and applicable for semiconductor hook-up line and bulk gas line, etc. Inlet pressures are 3,000psig (210bar) or 600psig (42bar) and outlet pressure are from 5psig (0.3 bar) 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

- Lock type economical regulator
- Surfaces finishes to B.A. 25Ra 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 #10-0753280)
- 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 hook-up line of Semiconductor process

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.

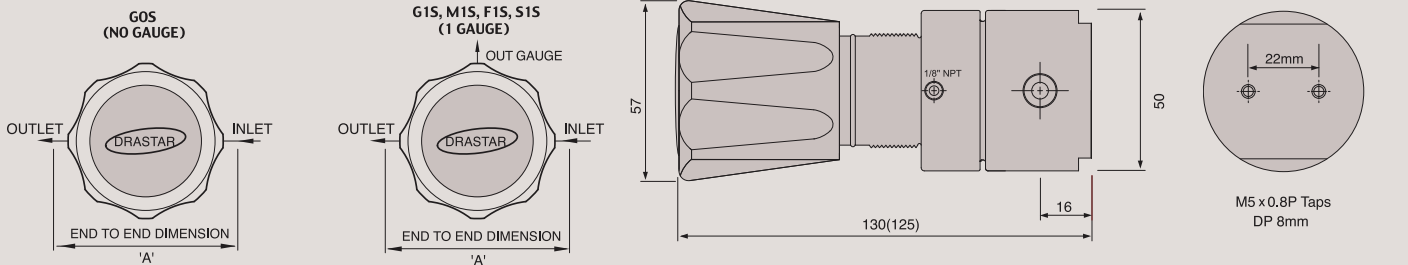
Each product is manufactured taking into consideration of the best safety and easy manipulation. However in order to use the regulator in most safe, effective, precise and smooth way and prolong its life time, you are recommended to use the actual pressure within the range of 25% ~ 75% of its rated pressure.

INSTALLATION DIMENSIONS

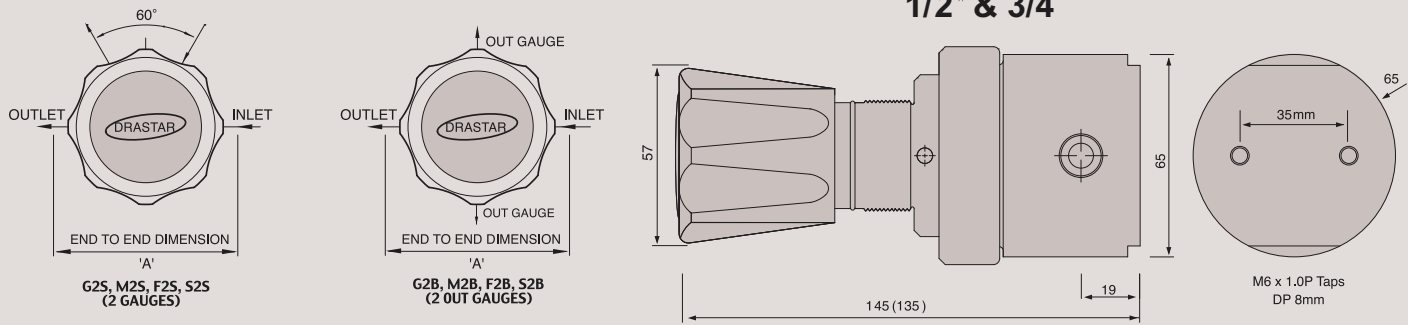
METRIC EQUIVALENTS ARE IN PARENTHESES

■ GAUGE PORT OPTIONS

1/4" & 3/8"



1/2" & 3/4"

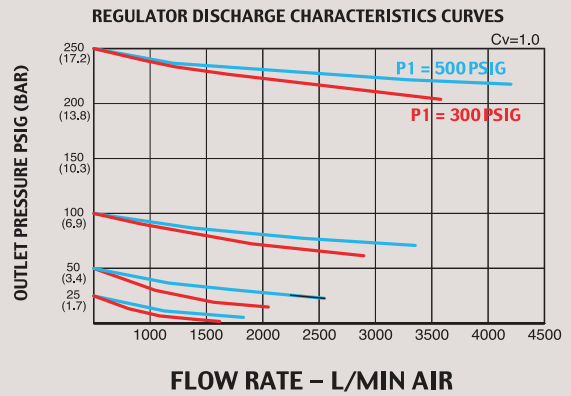
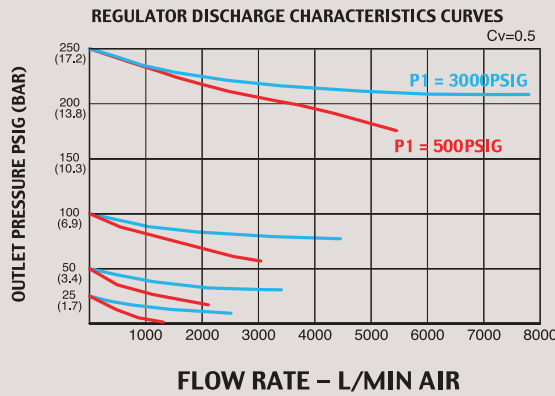
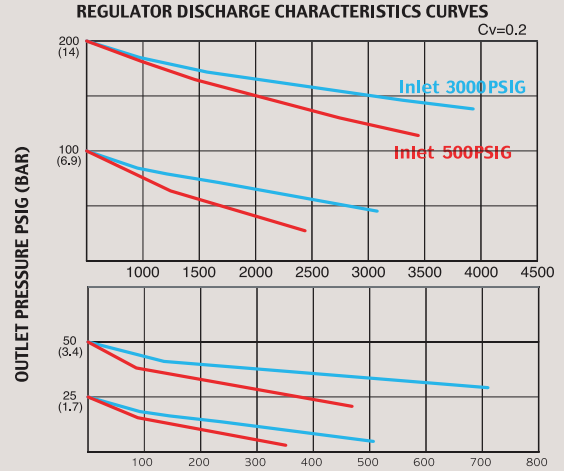
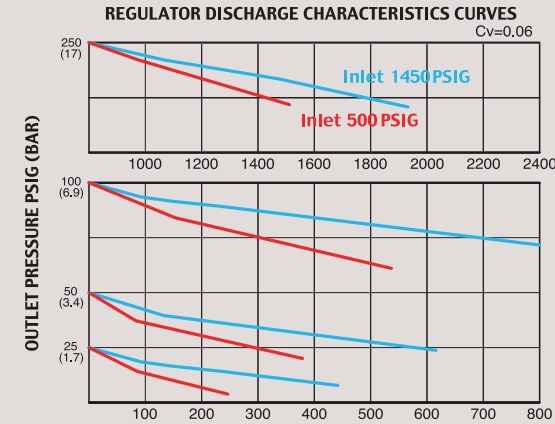


ORDERING INFORMATION

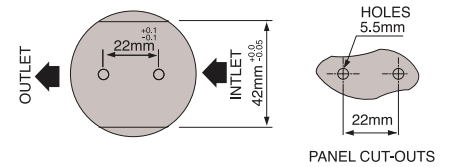
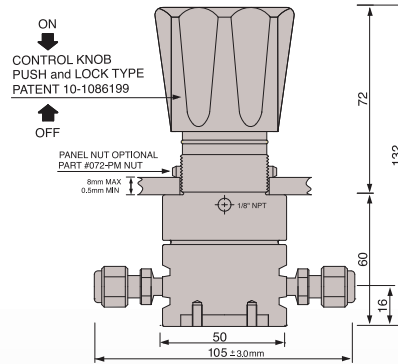
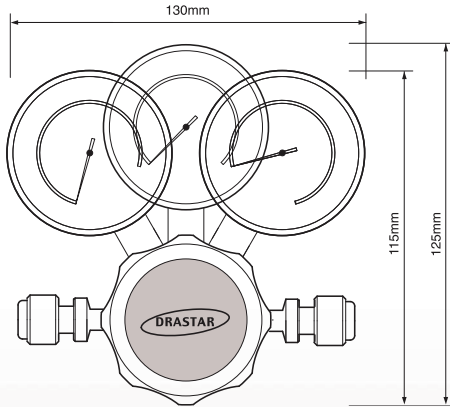
DRA700 - A 025 - H P S - 4L - G0S

<p>BASIS SERIES</p>	<p>BODY MATERIAL A = 316L, B.A. 25Ra B = 316L, E.P. 10Ra B.A.= Brigh Annealed., E.P.= Electropolished.</p>	<p>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)</p>	<p>MAX. INLET PRESSURE H = 3000psi(210bar) L = 600psi(42bar)</p>	<p>SEAT MATERIAL P = PCTFE T = Teflon</p>	<p>GAUGE PORTS OPTIONS</p> <table border="0"> <tr> <td>G0S = None 0</td> <td>F1S = 1/4" Female Swivel..... 1</td> </tr> <tr> <td>G1S = 1/4" H.P.I.C..... 1</td> <td>F2S = 1/4" Female Swivel..... 2</td> </tr> <tr> <td>G2S = 1/4" H.P.I.C..... 2</td> <td>F2B = 1/4" Female Swivel..... 2</td> </tr> <tr> <td>G2B = 1/4" H.P.I.C..... 2</td> <td>M2S = 1/4" Male Swivel..... 2</td> </tr> <tr> <td>M1S = 1/4" Male Swivel. 1</td> <td>M2B = 1/4" Male Swivel..... 2</td> </tr> </table>	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	<p>INLET / OUTLET PORTS SIZE Type "A" ±3.0mm</p> <table border="0"> <tr> <td>4L = 1/4" Lock</td> <td>105mm</td> </tr> <tr> <td>6M= 6mmLock</td> <td>105mm</td> </tr> <tr> <td>8L = 3/8" Lock</td> <td>115mm</td> </tr> <tr> <td>2L = 1/2" Lock</td> <td>150mm</td> </tr> <tr> <td>3L = 3/4" Lock</td> <td>150mm</td> </tr> </table>	4L = 1/4" Lock	105mm	6M= 6mmLock	105mm	8L = 3/8" Lock	115mm	2L = 1/2" Lock	150mm	3L = 3/4" Lock	150mm	<p>FLOW CAPACITY</p> <table border="0"> <tr> <td>S = Cv 0.06 Standard (Inlet 3000psi) (1/4")</td> </tr> <tr> <td>O = Cv 0.2 Optional (1/4")</td> </tr> <tr> <td>S = Cv 0.2 Standard (3/8")</td> </tr> <tr> <td>S = Cv 0.5 Standard (1/2")</td> </tr> <tr> <td>O = Cv 1.0 Optional (1/2")</td> </tr> <tr> <td>S = Cv 1.2 Standard (3/4")</td> </tr> </table>	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")
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FLOW CHART



DRA700 Series 1/4" & 3/8"



DRA700 Series 1/2" & 3/4"

