

# DR70 S E R I E S

High Flow High Pressure Reducing Regulators



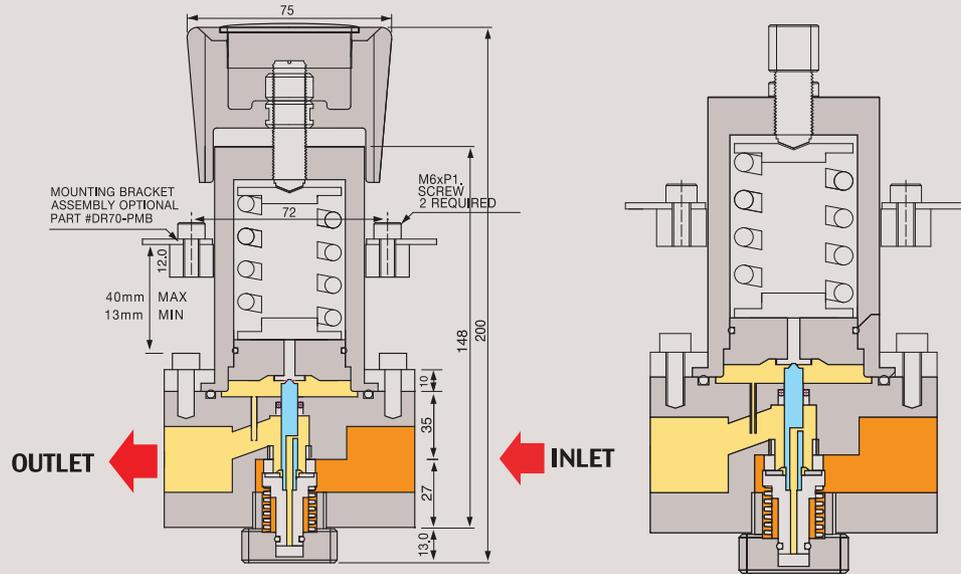
# DR70

## SERIES

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

### FUNCTIONAL SCHEMATIC

#### ■ BOLT CONTROL TYPE (DR701 SERIES)



### High Flow and High Pressure NPT or BSP type (1/2", 3/4", 1")

DR70시리즈는 물, 케미칼, Liquid 또는 가스 등 많은 유량을 필요로 하는 배관라인 등에 가장 적합한 제품입니다.

- DR70 모델은 자체적으로 압력이 상승하는 것을 완전히 보정해주기(잡아주기) 때문에 입구압력의 변화가 큰 경우에도 출구압력은 변화 없이 안정적으로 정밀하게 유지시켜 줄 수 있습니다.
- 본체의 재질은 모델에 따라 Stainless Steel 316L 또는 Brass로 이루어졌으며, 배관 사이즈는 NPT or BSP 1/2", 3/4", 1"까지 선택 가능하며 Cv=3.5 입니다.
- 입구 압력은 Brass 모델은 100bar(1450psig), Stainless Steel 제품은 420bar(6000psi)까지 사용 가능하고 출구압력은 모델에 따라 2bar(29psig)~350bar(5000psi)까지 사용 가능합니다.

**DR70 Series is a NPT or BSP type single-stage high flow pressure reducing regulator suitable for pipeline application where high flow of water, chemical, liquid and gases are being used. Drop-preventing function of DR70 series enables stable and precise regulation of outlet pressure even facing with wide pressure variation at P1.**

#### Features & Applications

- 1/2", 3/4", 1" NPT or BSP type available
- Drop-preventing function is built in
- Suitable for the industrial control
- Inlet pressures are 420bar(6000psi) or 100bar(1450psi) and outlet pressures are 10bar(145psig) ~ 350bar(5000psig)
- Panel mounting and wall mounting bracket available as option
- Design proof pressure: 150% of maximum rated

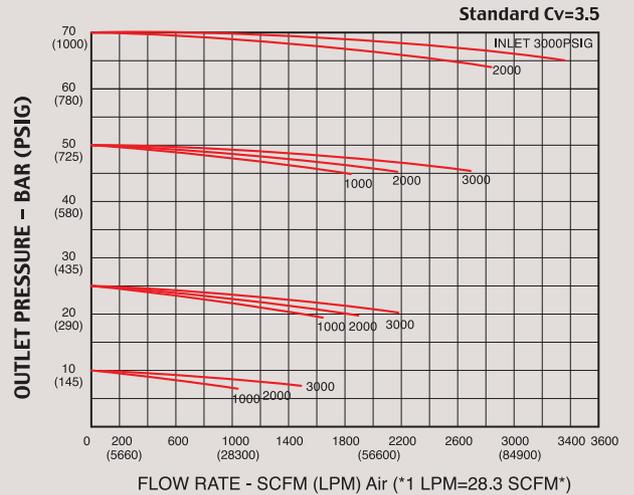
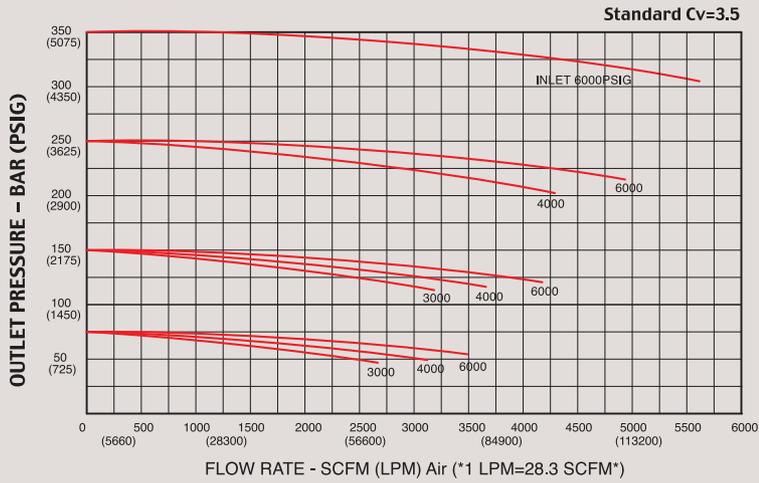
#### Specifications

In/Outlet Port Size	1/2", 3/4", 1" NPT or BSP / Gauge port: 1/4" NPT
Body	Stainless Steel 316L / Nickel Plated Brass
Bonnet	Nickel Plated Brass / Stainless Steel (Optional)
Diaphragm	Stainless Steel 316L
Main Valve	Stainless Steel 316L
Valve Spring	Stainless Steel 316L
Valve Seat	Teflon / Vespel
Maximum Inlet Pressure	S = 3,000psig / B= 1,500psig / SH = 6,000psig
Outlet Pressure Range	10bar(145psig), 25bar (362psig), 50bar(725psig), 70bar(1000psig) 150bar (2,100psig), 250bar (3,600psig), 350bar(5,000psig)
Design Proof Pressure	150% of maximum rated
Leakage	to 2x10 <sup>-6</sup> atmcc/secHeliumavailable
Operating Temperature	-40°C to +70°C(-40°F to +160°F) / Teflon
Flow Capacity	Cv = 3.5
Other Options	CGA, Pressure Gauges, etc.
Weight	Approx. 5.3kgs

**REFERENCE**

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 사양서와 성능데이터 등 카다록에 있는 내용은 당사 제품의 지속적인 업그레이드 및 개선의 과정에서 사전 예고 없이 변경될 수 있습니다.

**FLOW CHART**

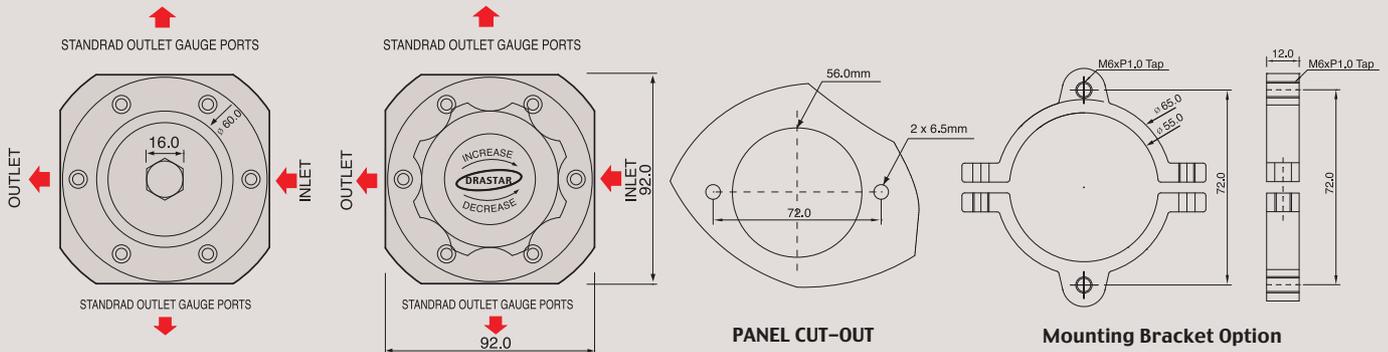


**INSTALLATION DIMENSIONS**

■ BOLT CONTROL TYPE

■ KNOB CONTROL TYPE

■ MOUNTING BRACKET



※ DRASTAR' s all pressure regulators are assembled, cleaned, inspected, and packed in clean-room equipped with clean bench, helium detector, particle counter, ultrasonic cleaner, ultrapure water system, vacuum packaging machine, etc. through oxygen cleaning procedure in compliance with process and regulations indicated in CGA 4.1. and or ASTM G-93 and are free of any grease or oils.

※ **Caution:** Filtering (gas 7 $\mu$ m~15 $\mu$ m, water 15 $\mu$ m~80 $\mu$ m) is a MUST to use in the general gas application other than high purity gases. Otherwise, it may cause a failure to the regulators. It is strongly recommended to install filter for extension of life span and saving the maintenance expense.

※ **주의 :** 크린라인이 아닌 일반 라인에 사용 할 경우 반드시 필터링(가스 7 $\mu$ m~15 $\mu$ m, water 15 $\mu$ m~80 $\mu$ m)을 하여야 하며, 그렇지 않을 경우 바로 고장의 원인이 됩니다. 모든 제품은 필터링하여 사용하면 A/S 비용 절감과 제품의 수명연장에 많은 도움이 됩니다.

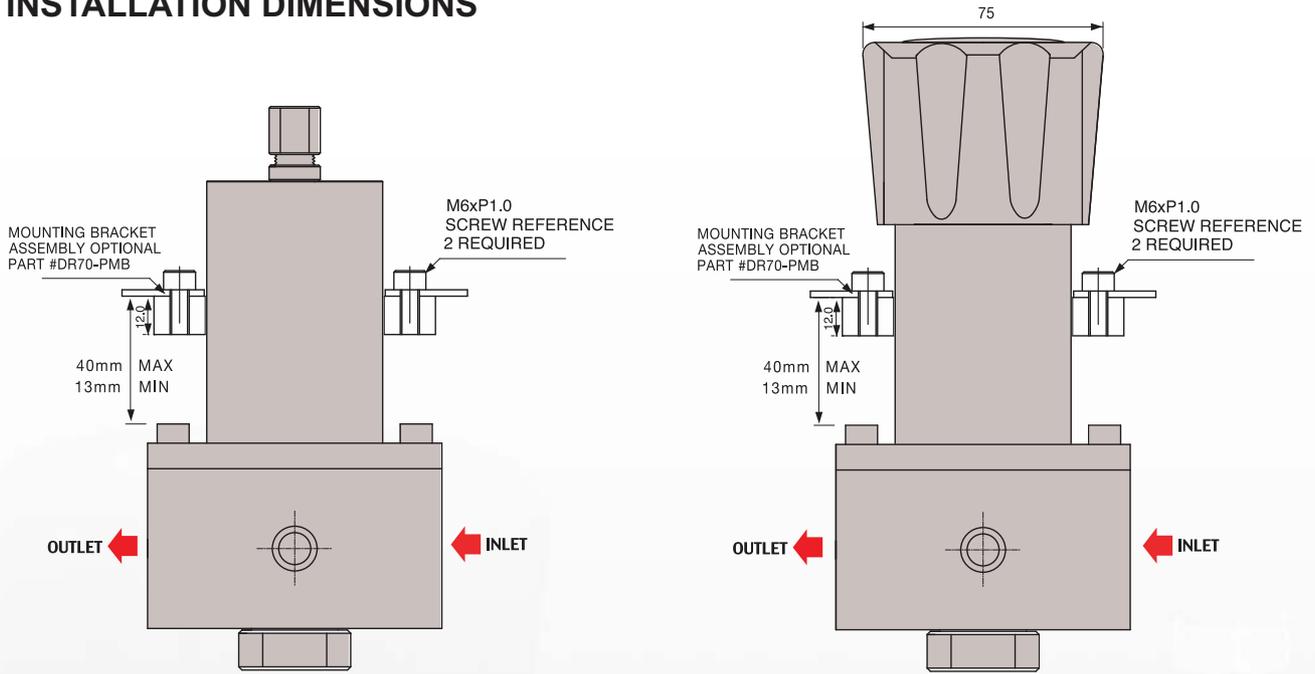
**ORDERING INFORMATION**

**DR70 2 - S P - 010 - NP 3 - V - H1**

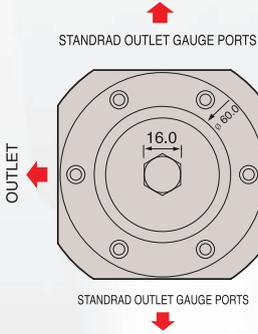
BASIS SERIES NUMBER	CONTROL TYPE	BODY MATERIAL INLET PRESSURE	VALVE SEAT	CONTROLLED PRESSURE RANGE	INLET OUTLET PORTS TYPE	INLET OUTLET PORTS SIZE	SELF VENTING	HIGH TEMPERATURE
DR70	1=BOLT TYPE 2=KNOB TYPE	S = STS 316L 3000psi B = Brass 1500psi SH = STS 316L 6000psi ONLY STS 316L	P = Teflon V = Vespel SH model Vespel Standard	010 = 10bar 025 = 25bar 050 = 50bar 070 = 70bar 150 = 150bar * 250 = 250bar * 350 = 350bar *	NP = NPT BS = BSP	1 = 1/2" 2 = 3/4" 3 = 1"	V = Self-Venting Optional	H1 = +120° C H2 = +250° C H3 = +320° C Optional

\* 150/250/350bar available only for SH model and self-venting is not possible.  
 \* 150/250/350bar 모델은 SH 모델만 가능하며, Self-venting 불가능 합니다.

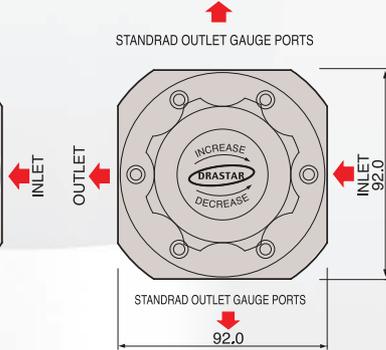
## INSTALLATION DIMENSIONS



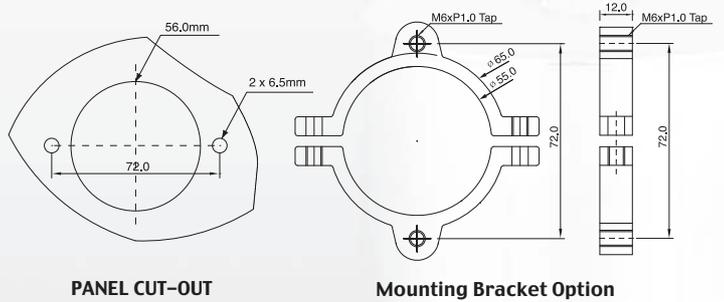
### ■ BOLT CONTROL TYPE



### ■ KNOB CONTROL TYPE



### ■ MOUNTING BRACKET





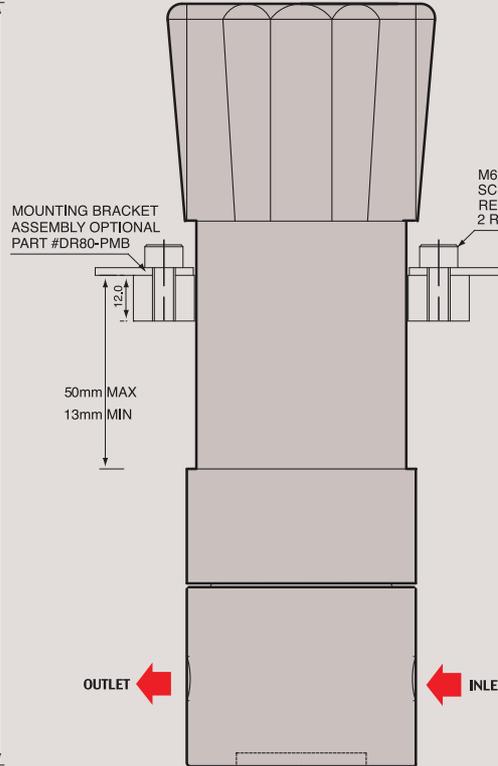
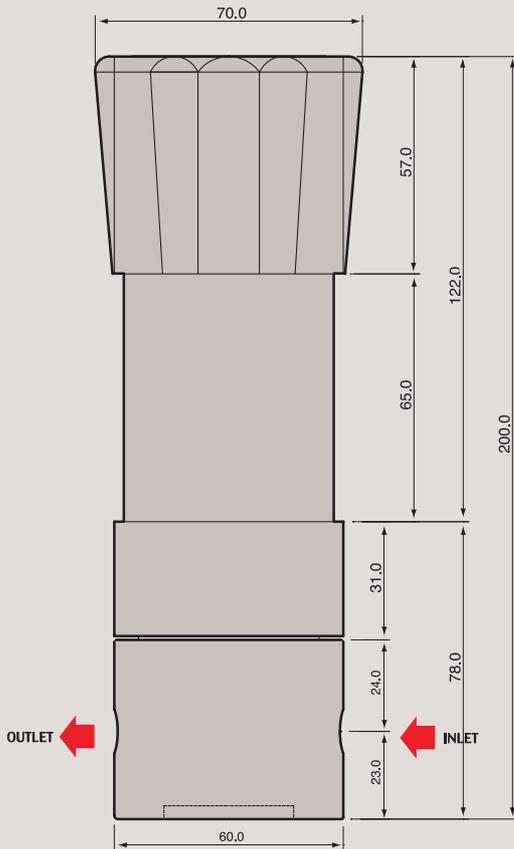
# DR80 S E R I E S



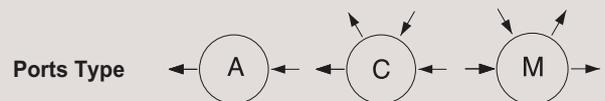
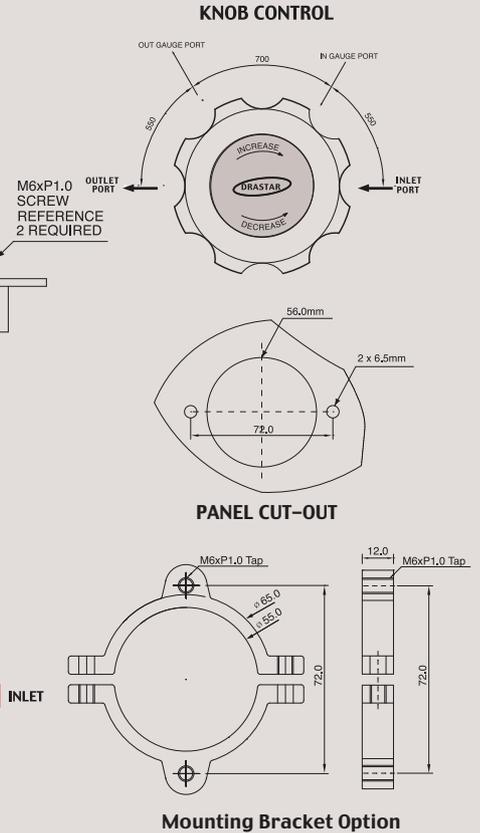
High Pressure Reducing Regulators



### FUNCTIONAL SCHEMATIC



### INSTALLATION DIMENSIONS



### High Pressure NPT 1/4", 1/2"

DR80 시리즈는 드라스타가 독자 개발한 Piston Diaphragm 방식을 적용하여 초 고압의 가스 및 액체에서도 더욱 안전하게 사용할 수 있도록 개발된 제품입니다.

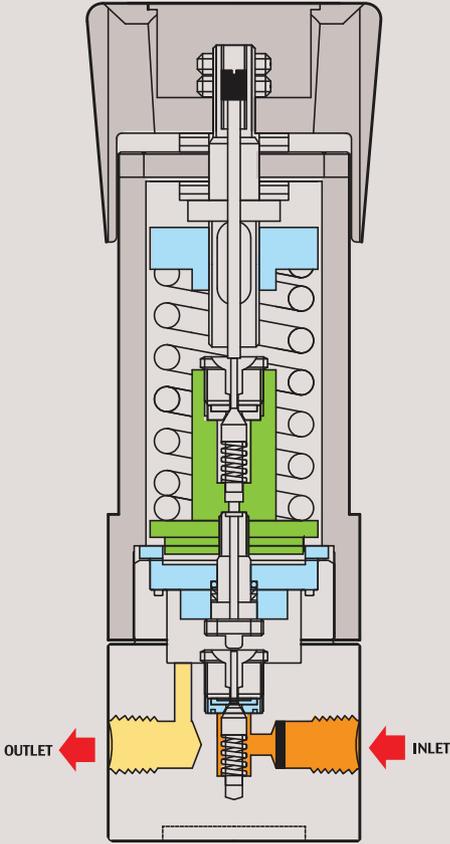
- 본체와 내부의 모든 부품은 Stainless Steel 316L로 제작하여 부식성 가스 또는 액체 등에서 안심하고 사용할 수 있습니다.
- 입구압력은 420bar (6000psi)에서 최대 700bar(10000psi) 사용 가능하고 출구 압력은 10bar(145psi) ~ 최대 700bar(10000psi)까지 사용 가능하도록 설계된 초 고압용 레귤레이터입니다.
- 배관 사이즈는 1/4", 1/2" NPT type이 가능합니다.

DR80 Series is a NPT type ultra-high pressure reducing regulator. With the "piston diaphragm", which Drastar specially developed, DR80 Series is suitable to regulate ultra-high pressure gases and liquids up to max. 700 bar (10000 psig) more safely. As body and all internal parts are made of stainless steel 316L material, it is suitable for corrosive gases and liquids as well.

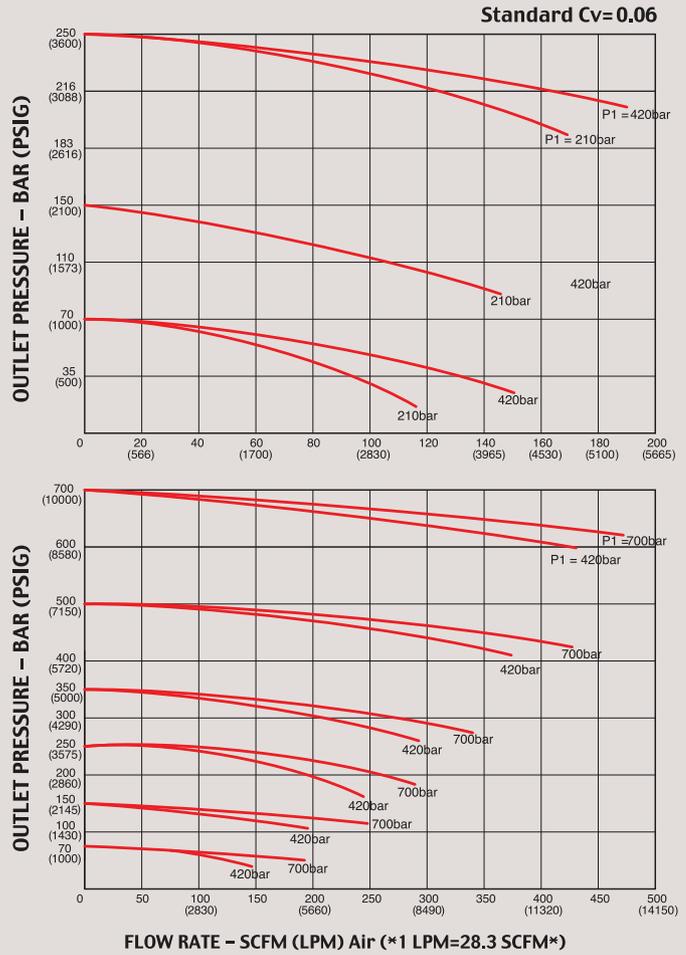
### Features & Applications

- 1/4" & 1/2" NPT type
- Suitable for the high pressure labs, industrial control
- Inlet pressures are 700bar(10000psig) or 420bar(6000psig) and outlet pressures are 70bar(1000psig) ~ 700bar(10000psig)
- Panel mounting bracket available as option
- Design proof pressure: 150% of maximum rated

**FUNCTIONAL SCHEMATIC**



**FLOW CHART**



※ DRASTAR' s all pressure regulators are assembled, cleaned, inspected, and packed in clean-room equipped with clean bench, helium detector, particle counter, ultrasonic cleaner, ultrapure water system, vacuum packaging machine, etc. through oxygen cleaning procedure in compliance with process and regulations indicated in CGA 4.1. and or ASTM G-93 and are free of any grease or oils.

※ **Caution:** Filtering (gas 7 $\mu$ m ~ 15 $\mu$ m, water 15 $\mu$ m ~ 80 $\mu$ m) is a MUST to use in the general gas application other than high purity gases. Otherwise, it may cause a failure to the regulators. It is strongly recommended to install filter for extension of life span and saving the maintenance expense.

※ **주의 :** 크린라인이 아닌 일반 라인에 사용 할 경우 반드시 필터링(gas 7 $\mu$ m~15 $\mu$ m, water 15 $\mu$ m~80 $\mu$ m)을 하여야 하며, 그렇지 않을 경우 바로 고장의 원인이 됩니다. 모든 제품은 필터링하여 사용하면 A/S 비용 절감과 제품의 수명연장에 많은 도움이 됩니다.

**ORDERING INFORMATION**

**DR80 - B S - 070 A - 1 S - V - H1**

BASIS SERIES	INLET PRESSURE	BODY MATERIAL	CONTROLLED PRESS. RANGES	PORT TYPE NPTF	IN & OUT PORTS SIZE	FLOW CAPACITY	SELF VENTING	HIGH TEMPE RATURE
DR80	A-420bar(6,000psig) B-700bar(10,000psig)	S-ST3 316L	070 - 70bar (1,000psig) 150 - 150bar (2,100psig) 250 - 250bar (3,600psig) 350 - 350bar (5,000psig) 500 - 500bar (7,200psig) 700 - 700bar(10,000psig)	A = 2Ports C = 4Ports M = 4Ports	1 = 1/4" 2 = 1/2"	S = 0.06 O = 0.2  Optional	V = Self-Venting  Optional	H1 = +120° C H2 = +250° C H3 = +320° C  Optional

# DR80

SERIES



## Specifications

In/Outlet Port Size	1/4" FNPT / 1/2" FNPT / Gauge port: 1/4" NPT
Body	Stainless Steel 316L
Bonnet	Aluminum #2024
Diaphragm	Stainless Steel 316L
Main Valve	Stainless Steel 316L
Valve Spring	Stainless Steel 316L
Valve Seat	VespeI (standard)
Maximum Inlet Pressure	A = 420bar (6,000psig) / B = 700bar (10,000psig)
Outlet Pressure Range	70bar(1000psig), 150bar (2,100psig), 250bar (3,600psig), 350bar(5,000psig), 500bar(7,200psig), 700bar(10,000psig)
Design Proof Pressure	150% of maximum rated
Leakage	to 2x10 <sup>-6</sup> atmcc/secHeliumavailable
Operating Temperature	-40°C to +70°C(-40°F to +160°F) (Standard) H1 option: up to +120°C (Optional) H2 option: up to +250°C (Optional)
Flow Capacity	Cv = 0.06 (Standard), Cv = 0.2 (Optional)
Other Options	CGA, Pressure Gauges, etc.
Weight	Approx. 2.4kgs





# DR90 SERIES



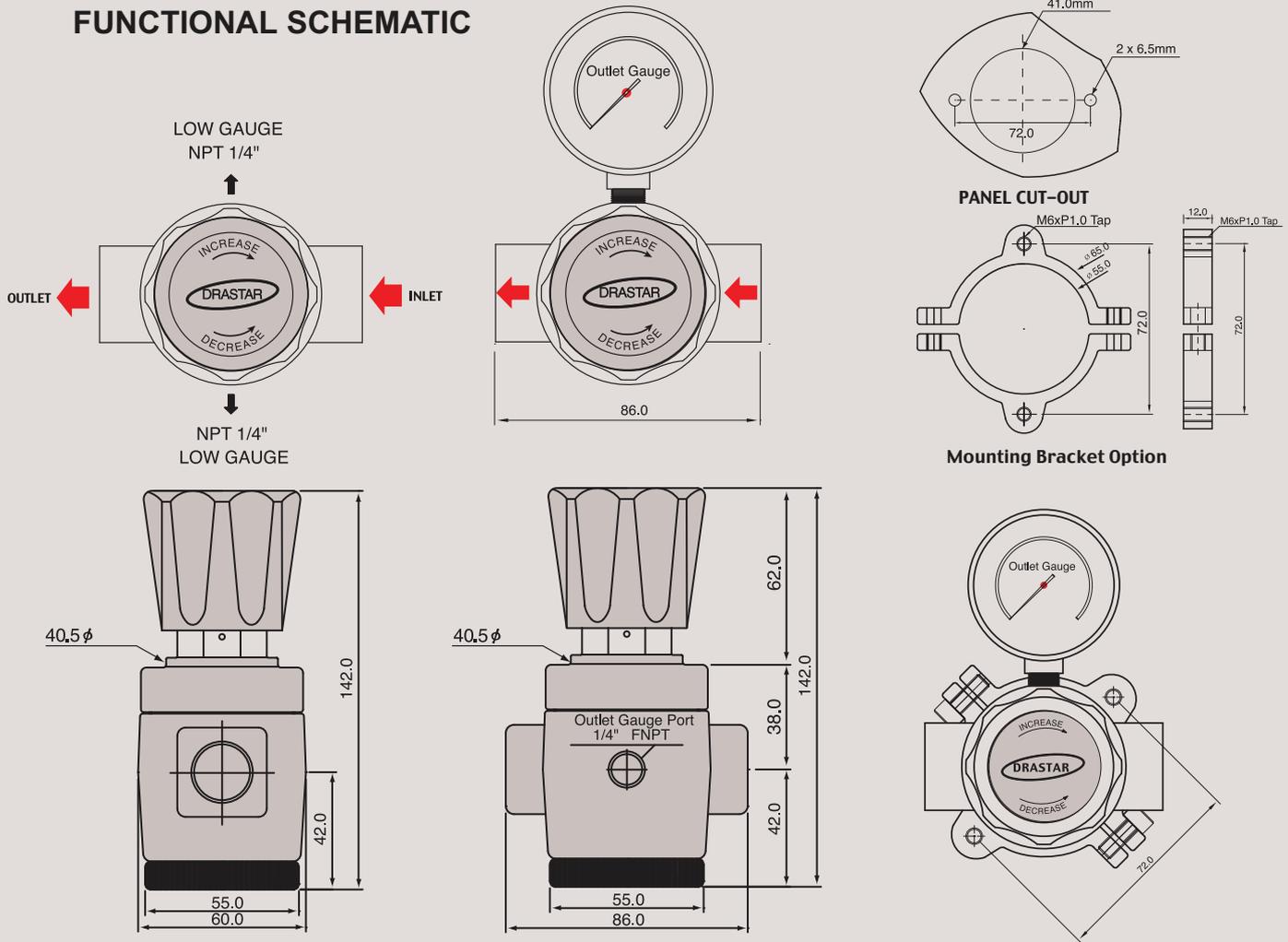
D.I Water and Gas High Flow Low Pressure Regulators



# DR90 SERIES

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## FUNCTIONAL SCHEMATIC



## D.I Water and Gas High Flow NPT 3/8", 1/2", 3/4", 1"

DR90 시리즈는 D/I Water, 산업용 가스, 에어 또는 물 라인 등에 사용하기에 이상적인 Cv=4.0제품입니다.

- DR905 시리즈는 D/I Water (순수 또는 초 순수) 전용 제품입니다.
- DR90 시리즈의 본체는 모델에 따라 Stainless Steel 316L, 또는 Brass로 제작되며, 내부 부품은 Stainless Steel, Valve Seat는 NBR, Viton (DR905)을 사용하여 가스 및 물 등에 내구성이 뛰어나며 다이아후럼은 NBR 또는 Teflon(DR905)을 사용하였습니다.
- 3-Ports NPT 3/8", 1/2", 3/4", 1" 중에서 선택 가능합니다.
- 입구압력은 최대 42bar (600psig)이고 출구압력은 모델에 따라 0.3bar(5psig)에서 최대 15bar (210psig)까지 사용 가능합니다.

※ 주의 : 크린라인이 아닌 일반 라인에 사용 할 경우 반드시 필터링(gas 7 $\mu$ m~15 $\mu$ m, water 15 $\mu$ m~80 $\mu$ m)을 하여야 하며, 그렇지 않을 경우 바로 고장의 원인이 됩니다. 모든 제품은 필터링하여 사용하면 A/S 비용 절감과 제품의 수명연장에 많은 도움이 됩니다.

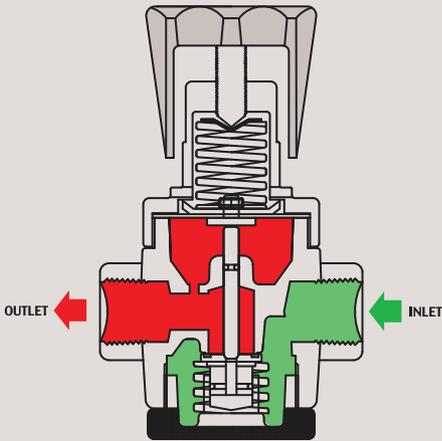
**DR90 Series with Cv4.0 is a NPT type pressure reducing regulator ideally designed to use for D/I water, general industrial gases, air or water line. 3/8", 1/2", 3/4", or 1" NPT type ports of connection are available.**

### Features & Applications

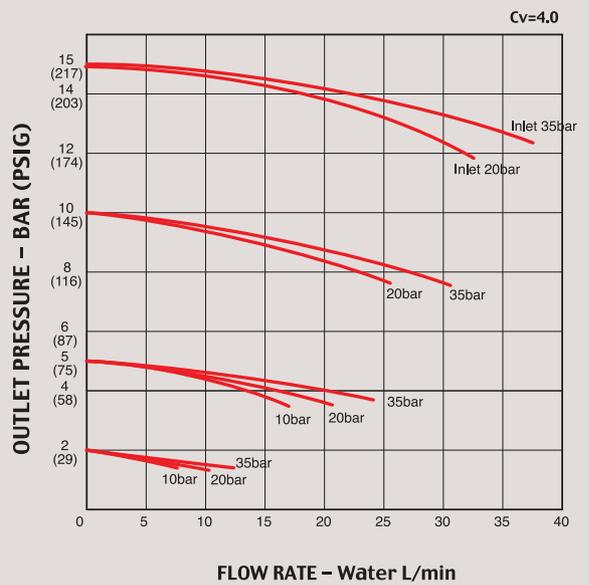
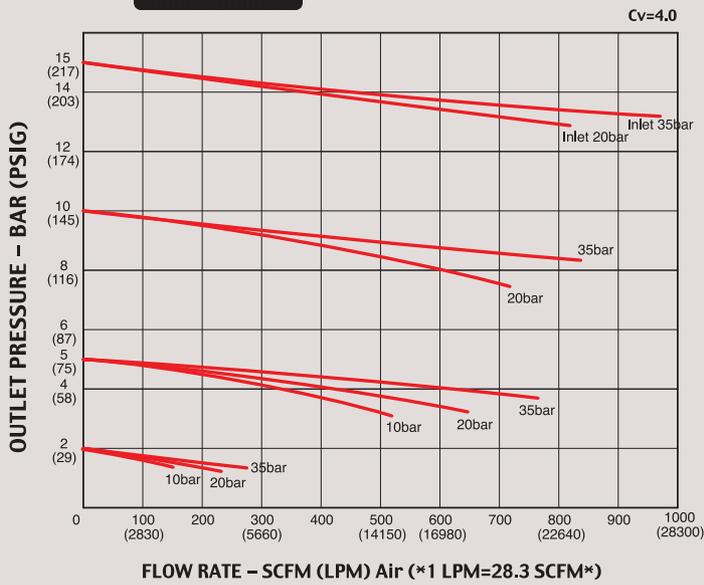
- 3/8", 1/2", 3/4", or 1" NPT type port of connection available
- Inlet pressure is 42bar(600psig) and outlet pressures are 5bar(72psig), 10bar(145psig), 15bar(210 psig)
- Panel mounting bracket available as option
- Design proof pressure: 150% of maximum rated
- Suitable for D/I water, industrial gases, air or water line (Cv = 4.0)

**REFERENCE**

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**FLOW CHART**



※ DRASTAR's all pressure regulators are assembled, cleaned, inspected, and packed in clean-room equipped with clean bench, helium detector, particle counter, ultrasonic cleaner, ultrapure water system, vacuum packaging machine, etc. through oxygen cleaning procedure in compliance with process and regulations indicated in CGA 4.1. and or ASTM G-93 and are free of any grease or oils.

※ **Caution:** Filtering (gas 7 $\mu$ m~15 $\mu$ m, water 15 $\mu$ m~80 $\mu$ m) is a MUST to use in the general gas application other than high purity gases. Otherwise, it may cause a failure to the regulators. It is strongly recommended to install filter for extension of life span and saving the maintenance expense.

**ORDERING INFORMATION**

**DR90 - S 005 - NP2**

BASIS SERIES NUMBER	BODY MATERIAL	CONTROLLED PRESS. RANGES	IN & OUT PORTS SIZE
DR901 = Bolt Control DR902 = Knob Control	S = STS 316L	005 = 5bar(72psi)	NP8 = NPT 3/8" PT8 = PT 3/8"
DR905 = Knob Control Only Di Water	STS-304	010 = 10bar(145psi)	NP2 = NPT 1/2" PT2 = PT 1/2"
Inlet Pressure Max. 42bar(600psi)		015 = 15bar(217psi)	NP3 = NPT 3/4" PT3 = PT 3/4" NP1 = NPT 1" PT1 = PT 1"

# DR90

SERIES



## Specifications

In/Outlet Port Size	3/8", 1/2", 3/4", 1" FNPT / Gauge port: 1/4" NPT
Body	Stainless Steel 316L
Bonnet	Zinc (Zn) Casting Nickel Plated
Diaphragm	Particular of Synthetic Rubber (NBR)
Main Valve	Stainless Steel 316L
Valve Spring	Stainless Steel 316L
Valve Seat	Viton / NBR
Maximum Inlet Pressure	42bar (600psig)
Outlet Pressure Range	5bar(72psig), 10bar (145psig), 15bar (217psig),
Design Proof Pressure	150% of maximum rated
Leakage	to 2x10 <sup>-6</sup> atmcc/secHeliumavailable
Operating Temperature	-40°C to +70°C(-40°F to +160°F)
Flow Capacity	Cv = 4.0
Other Options	Pressure Gauges, etc.
Weight	Approx. 1.6Kgs





# DR110 SERIES

Gas and Water High Flow Low Pressure Regulators

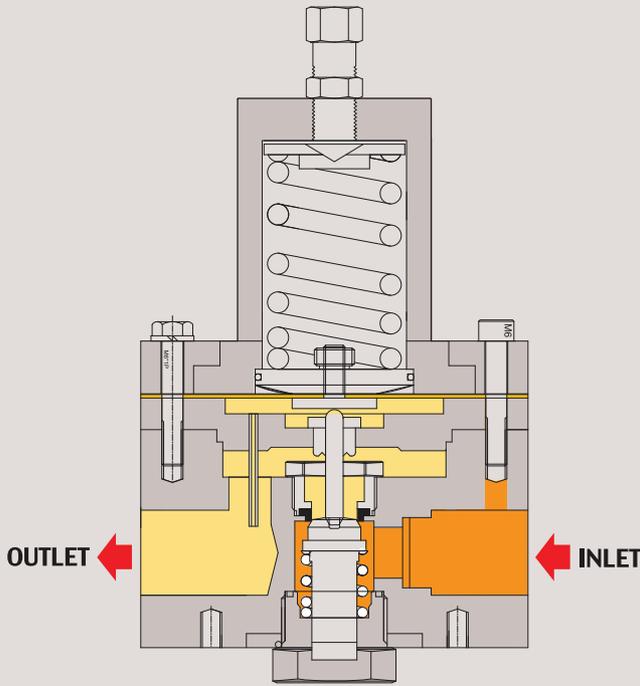


# DR110 SERIES

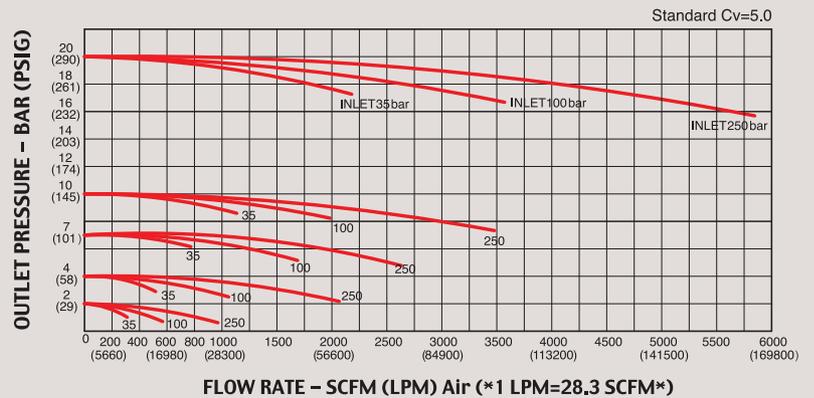
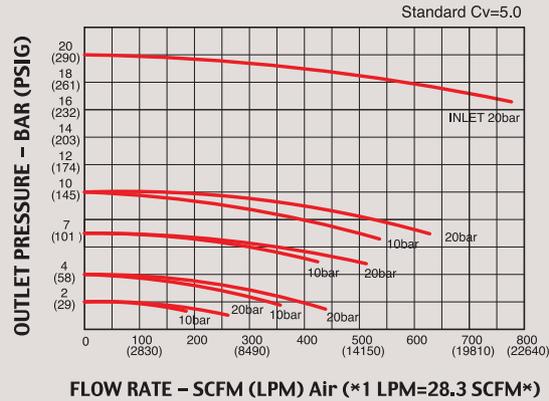
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## FUNCTIONAL SCHEMATIC



## FLOW CHART



## Gas and Water High Flow NPT 1/2", 3/4", 1"

DR110 시리즈는 고 유량의 일반적인 산업용 가스배관, 에어 배관라인, 일반 물 라인 또는 초 순수 라인 등에 이상적으로 사용하도록 설계된 Cv=5.0제품입니다.

- 본체는 모델에 따라 Stainless Steel 316L 또는 Brass로 구성되어 있고 내부 부품은 Stainless Steel 316L로 이루어져 있으며, Valve Seat는 PCTFE or PFA를 사용하여 gas와 물 등을 사용하여도 내구성과 안전성이 뛰어나며, 다이어프램은 Teflon을 사용하였습니다.
- 입구 압력은 최대 250bar(3600psi)~42bar(600psig), 출구압력은 모델에 따라 0.3bar (5psi)에서 최대 20bar(290 psig)까지 사용하기에 적합한 제품입니다.
- 4-Ports NPT 1/2", 3/4", 1" 타입으로 선택 가능합니다.

DR110 Series having Cv5.0 is a pressure reducing regulator ideally designed to use for high flow application in the field of general industrial gas pipeline, air pipeline, wafer or DI water lines. 1/2", 3/4", and 1" NPT and BSP connections are available.

### Features & Applications

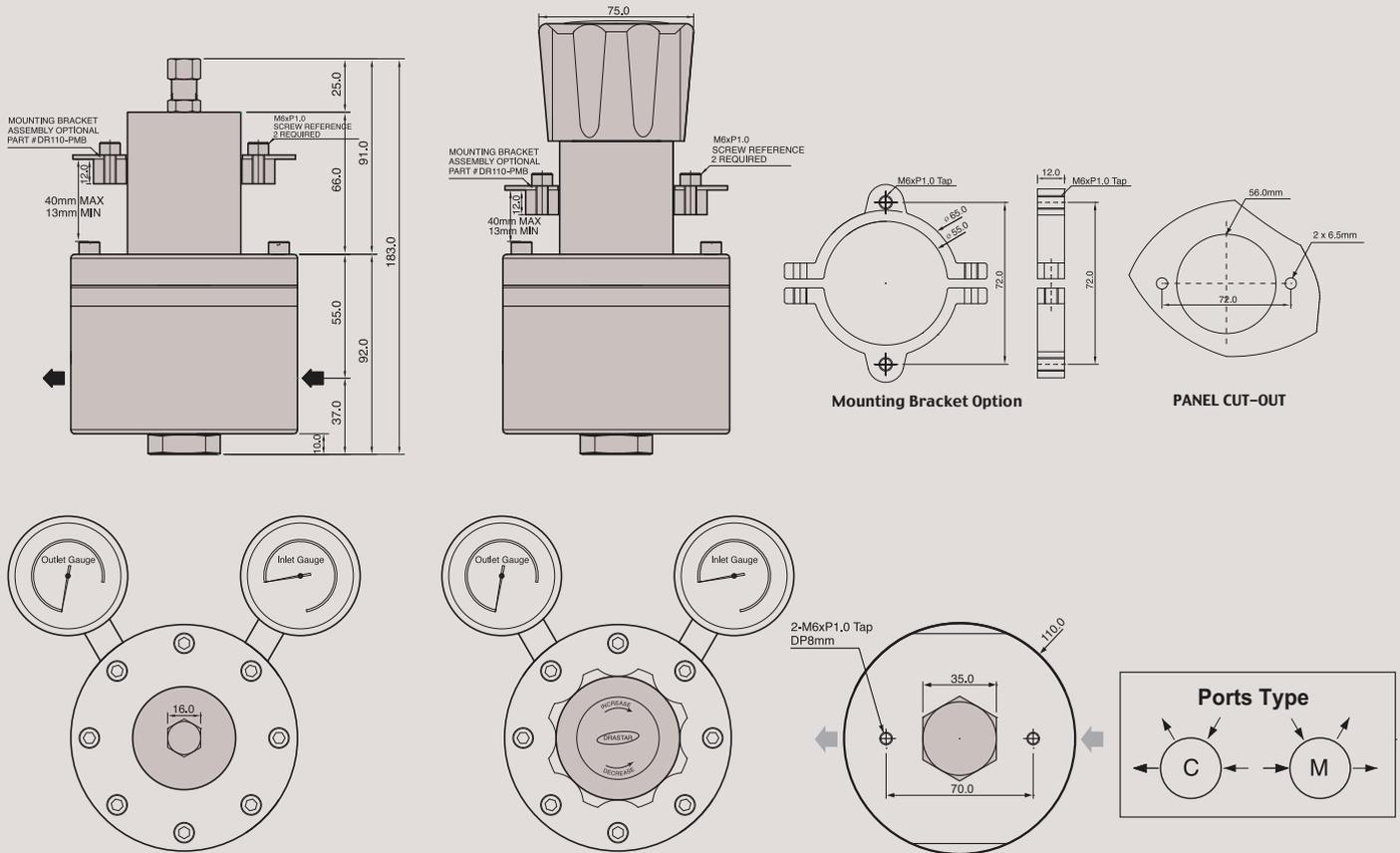
- 1/2", 3/4", and 1" NPT port of connection available
- Drop-preventing function is built in
- Inlet pressures are 250bar(3600psi) or 42bar(600psi) and outlet pressures are 2bar(30psig) ~ 20bar(290psig)
- Panel mounting and wall mounting bracket available as option
- Design proof pressure: 150% of maximum rated
- Suitable for D/I water, industrial gases, air or water line industrial control

**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**



※ DRASTAR' s all pressure regulators are assembled, cleaned, inspected, and packed in clean-room equipped with clean bench, helium detector, particle counter, ultrasonic cleaner, ultrapure water system, vacuum packaging machine, etc. through oxygen cleaning procedure in compliance with process and regulations indicated in CGA 4.1. and or ASTM G-93 and are free of any grease or oils.

※ **Caution:** Filtering (gas 7 $\mu$ m~15 $\mu$ m, water 15 $\mu$ m~80 $\mu$ m) is a MUST to use in the general gas application other than high purity gases. Otherwise, it may cause a failure to the regulators. It is strongly recommended to install filter for extension of life span and saving the maintenance expense.

※ **주의 :** 크린라인이 아닌 일반 라인에 사용 할 경우 반드시 필터링(gas 7 $\mu$ m~15 $\mu$ m, water 15 $\mu$ m~80 $\mu$ m)을 하여야 하며, 그렇지 않을 경우 바로 고장의 원인이 됩니다. 모든 제품은 필터링하여 사용하면 A/S 비용 절감과 제품의 수명연장에 많은 도움이 됩니다.

**ORDERING INFORMATION**

**DR110 - S L - 002 C - N 2 F2 H1**

BASIS SERIES	BODY MATERIAL	INLET PTESSURE	CONTROLLED PRESS. RANGES	IN & OUT PORTS	IN & OUT PORTS TYPE	IN & OUT PORTS SIZE	IN & OUT PORTS TYPE	HIGH TEMPE-RATURE
DR110 = BOLT CONTROL	S = STS 316L(250bar)	L = 42bar (600psi)	002 = 2bar(29psi) 004 = 4bar(58psi)	C = 4Ports M = 4Ports	N = NPT B=BSP	1 = 1/2" 2 = 3/4" 3 = 1"	F2 = 20K Flange F3 = 30K Flange STS 316L or 304	H1 = +120° C H2 = +250° C H3 = +320° C
DR115 = KNOB CONTROL	B = BRASS (100bar)	S = 150bar (2200psi) H = 250bar (3500psi)	007 = 7bar(100psi) 010 = 10bar(145psi) 020 = 20bar(290psi)				T1 = 1/2" Tube T2 = 3/4" Tube T3 = 1" Tube	Optional
Cv= 5.0 Standard							Optional	Optional

※ **Note:** 1/2" Tube(O.D 21.7mm), 3/4" Tube(O.D 27.2mm), 1"Tube(O.D 34mm)

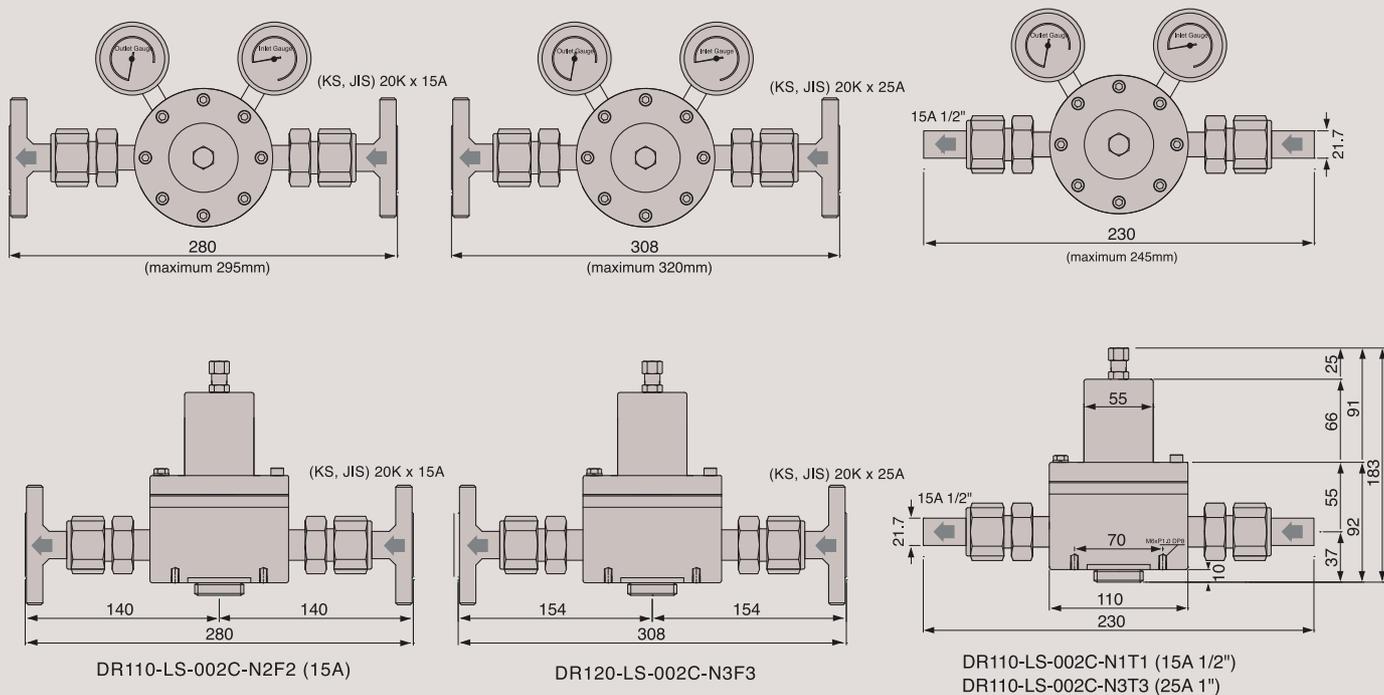
# DR110

## SERIES

### INSTALLATION DIMENSIONS

METRIC EQUIVALENTS ARE IN PARENTHESES

#### GAUGE PORT OPTIONS



### Specifications

In/Outlet Port Size	1/2", 3/4", 1" FNPT / Gauge port: 1/4" NPT F1 = 1/2" 10k Flange / T1 = 1/2" Tube F2 = 3/4" 20k Flange / T2 = 3/4" Tube F3 = 1" 30k Flange / T3 = 1" Tube
Body	Stainless Steel 316L / Nickel Plated Brass
Bonnet	Aluminum #2024
Diaphragm	Teflon
Main Valve	Stainless Steel 316L
Valve Spring	Stainless Steel 316L
Valve Seat	Teflon
Maximum Inlet Pressure	L=42bar(600psig), S= 150bar(2200psig), H=250bar(3,600psig)
Outlet Pressure Range	2bar(29psig), 4bar (58psig), 7bar (100psig),10bar (145psig), 20bar (290psig)
Design Proof Pressure	150% of maximum rated
Leakage	to $2 \times 10^{-5}$ atmcc/sec Helium available
Operating Temperature	-40°C to +70°C (-40°F to +160°F) H1 option: up to +120°C (Optional) H2 option: up to +250°C (Optional)
Flow Capacity	Cv = 5.0
Other Options	Pressure Gauges, etc.
Weight	Approx. 6.5kgs