Rotarex Regulators

RX1000 | RX3000 | RX3100 | RX3200 | RX3600
RX3700 | RX3900 | RX4000 | RX4100 | RX4200
FOR HP & UHP APPLICATIONS

ROTAREX

FLOWTEKNIK
SCANDINAVIA APS

ROTAREX
VALVES - REGULATORS - SYSTEMS

Index

FLOWTEKNIK
SCANDINAVIA APS

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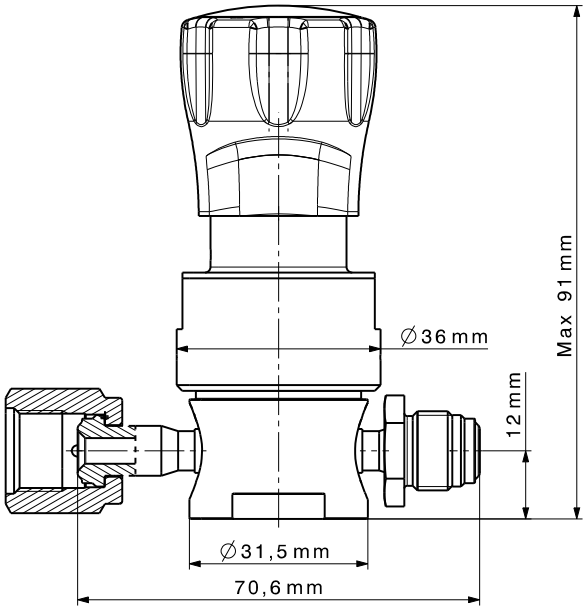
RX1000

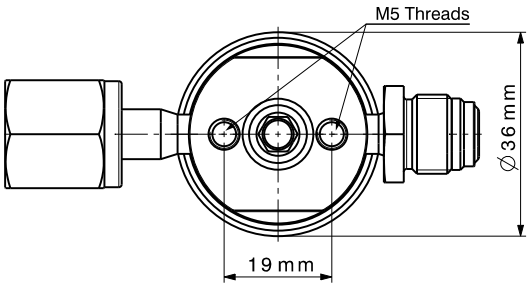
RX1000 COMPACT SINGLE-STAGE DIAPHRAGM PRESSURE REGULATOR FOR HP & UHP APPLICATIONS

- Unique threadless design in all versions for a higher purity level
- Life duration according to CGA E4
- As compact as UHP line valves
- Vacuum to 240 bar (3500 psi) inlet
- Assembling, testing & packaging in cleanroom: Class ISO 4
- Individual serial number for full traceability
- Electropolished surface per SEMI F19 UHP Grade
- UHP Material - Semi F20 option available

ROTAREX
VALVES - REGULATORS - SYSTEMS

RX1000 - THE FIRST OF ITS KIND THREADLESS PRESSURE REGULATOR FOR THE HIGHEST LEVEL OF PURITY





SPECIFICATIONS

Max. inlet pressure
240 bar (3,500 psig)

Outlet pressure
0.7/2/4/7/10 bar
(10/30/60/100/150 psig)

Temperature range
-20°C to +65°C (-4°F to +149°F)

Poppet type
Free diaphragm: RX 1000

Burst pressure
300% of operating pressure

Proof pressure
150% of operating pressure

Certified max. Helium outboard leak rate
≤ 1 x 10^{-9} mbar.l/s

Certified max. Helium across the seat leak rate (at max. pressure)
≤ 1 x 10^{-8} mbar.l/s

Certified max. Helium inboard leak rate (at max. pressure)
≤ 1 x 10^{-9} mbar.l/s

Flow capacity (Cv)	0.04	0.09	0.15
Supply pressure effect l*	0.5	0.8	1.7

*1 bar / 100 bar inlet pressure change

CONSTRUCTION MATERIAL

	Parts	Material
Wetted parts	Body	SS 316L, UHP Material - Semi F20
	Seat	PCTFE (PVDF, Polyimid optional)
	Diaphragm	SS 316L (Hastelloy optional)
	Poppet	SS 316L (Hastelloy optional)
	Spring	SS 316L (Hastelloy optional)
	Spring Holder	SS 316L
Non-wetted parts	Bonnet	SS 303
	Handwheel	PA 6.6
	Others	Stainless Steel and Brass

SURFACE FINISH

S	Ra 0.4 µm (15 µin)
V	Ra 0.25 µm EP (10 µin)
U	Ra 0.13 µm EP (5 µin)

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RX1000 - THE FIRST OF ITS KIND THREADLESS PRESSURE REGULATOR FOR THE HIGHEST LEVEL OF PURITY

PRODUCT CONFIGURATOR

	Regulator type	Outlet pressure	Seat material	Cv value	Body material	Surface finish	Porting configuration	Connections	Actuation type	Inlet pressure	Options
RX	10	07	K	004	S	V	2W1	4F4F	M	240	H
	Free diaphragm 10	0.7 bar (10 psig) 01	PCTFE K	0.04 004	Stainless Steel AISI 316L S	Ra 0.4 µm (15 µin) S	2 ports 2W1	¼" Female VCR 4F	Handwheel M	240 bar (3,500 psig) 240	Hastelloy Trim[1] H
		2 bar (30 psig) 02	Polyimid V	0.09 009	UHP Material - Semi F20 V	Ra 0.25 µm EP (10 µin) V		¼" Male VCR 4M			[1] Includes Hastelloy C22 Poppet, wetted spring & diaphragm
		4 bar (60 psig) 04	PVDF P	0.15 015		Ra 0.13 µm EP (5 µin) U					
		7 bar (100 psig) 07									
		10 bar (150 psig) 10									

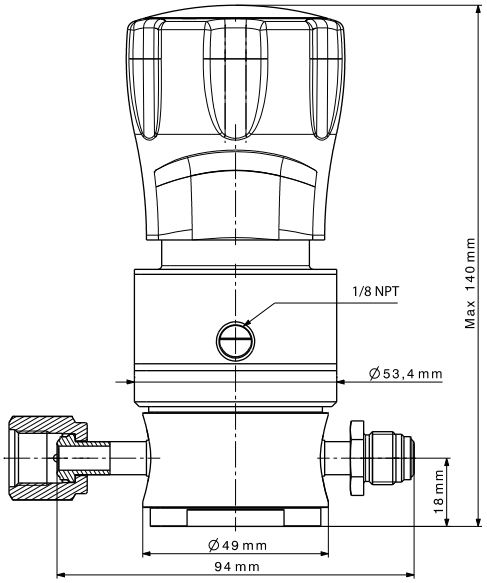
RX3000

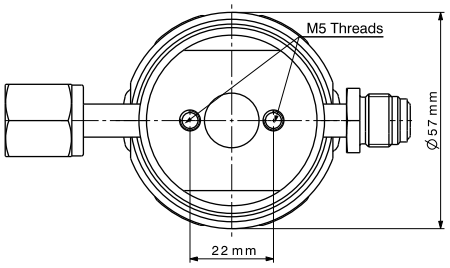
RX3000 - SINGLE-STAGE DIAPHRAGM PRESSURE REGULATOR FOR HP & UHP APPLICATIONS

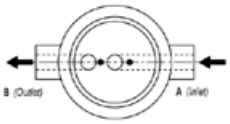
- Unique threadless design for a higher purity level
- Optimized supply pressure effect and excellent flow stability
- Life duration according to CGA E4
- Vacuum to 240 bar (3500 psi) inlet
- Assembling, testing & packaging in cleanroom: Class ISO 4
- Individual serial number for full traceability
- Electropolished surface per SEMI F19 UHP Grade
- UHP Material - Semi F20 option available

ROTAREX
VALVES - REGULATORS - SYSTEMS

RX3000 - SINGLE-STAGE DIAPHRAGM PRESSURE REGULATOR FOR HP & UHP APPLICATIONS







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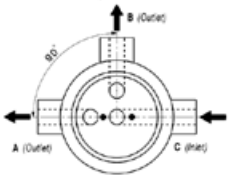
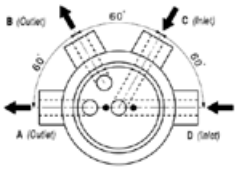


3W4



4W6

SPECIFICATIONS

Max. inlet pressure

21/240 bar (300/3500 psig)

Outlet pressure

0.7/ 2/4/7/10/21 bar
(10/30/60/100/150/300 psig)

Temperature range

-20°C to +65°C
(-4°F to +149°F)

Poppet type

Free diaphragm

Burst pressure

300% of operating pressure

Proof pressure

150% of operating pressure

Certified max. Helium outboard leak rate

≤ 1 x 10^{-9} mbar.l/s

Certified max. Helium across the seat leak rate (at max. pressure)

≤ 1 x 10^{-8} mbar.l/s

Certified max. Helium inboard leak rate (at max. pressure)

≤ 1 x 10^{-9} mbar.l/s

Flow capacity (Cv)	0.09	0.15
Supply pressure effect I*	0.25	0.5

*1 bar / 100 bar inlet pressure change

SCAN ME FOR FLOW CURVES & PRODUCT CONFIGURATOR

RX3000 - SINGLE-STAGE DIAPHRAGM PRESSURE REGULATOR FOR HP & UHP APPLICATIONS

CONSTRUCTION MATERIAL

	Parts	Material
Wetted parts	Body	SS 316L, UHP Material - Semi F20
	Seat	PCTFE (PVDF, Polyimid optional)
	Diaphragm	SS 316L (Hastelloy optional)
	Poppet	SS 316L (Hastelloy optional)
	Spring	SS 316L (Hastelloy optional)
	Spring Holder	SS 316L
Non-wetted parts	Bonnet	SS 303
	Handwheel	PA 6.6
	Others	Stainless Steel and Brass

SURFACE FINISH

S	Ra 0.4 µm (15 µin)
V	Ra 0.25 µm EP (10 µin)
U	Ra 0.13 µm EP (5 µin)

PRODUCT CONFIGURATOR

	Regulator type		Outlet pressure		Seat material		Cv value		Body material		Surface finish		Porting Configuration		Connections		Actuation type		Inlet pressure		Options	
RX	30		07		K		009		S		V		2W1		4F4F		M		240		HPG0	
	Free diaphragm	30	0.7 bar* (10 psig)	01	PCTFE	K	0.09	009	Stainless Steel AISI 316L	S	Ra 0.4 µm (15 µin)	S	2 ports	2W1	¼" Female VCR	4F	Handwheel	M	21 bar* (300 psig)	021	Hastelloy Trim[1]	H
			2 bar (30 psig)	02	Polyimid	V	0.15	015	UHP Material - Semi F20	V	Ra 0.25 µm EP (10 µin)	V	3 ports	3W4	¼" Male VCR	4M			240 bar (3,500 psig)	240	Gauge (bar/PSI)[2]	PG0
			4 bar (60 psig)	04	PVDF*	P					Ra 0.13 µm EP (5 µin)	U	4 ports	4W6							Gauge (MPa)[2]	PG1
			7 bar (100 psig)	07	PTFE*	T																
			10 bar (150 psig)	10																		
			21 bar (300 psig)	21																		

* 21 bar (300 psig) is only available and mandatory for PVDF, PTFE as well as 0.7 bar (10 psig) outlet pressure

[1] Includes Hastelloy C22 Poppet, wetted spring & diaphragm
[2] Standard gauge ports are Metal Face Seal ¼" Male

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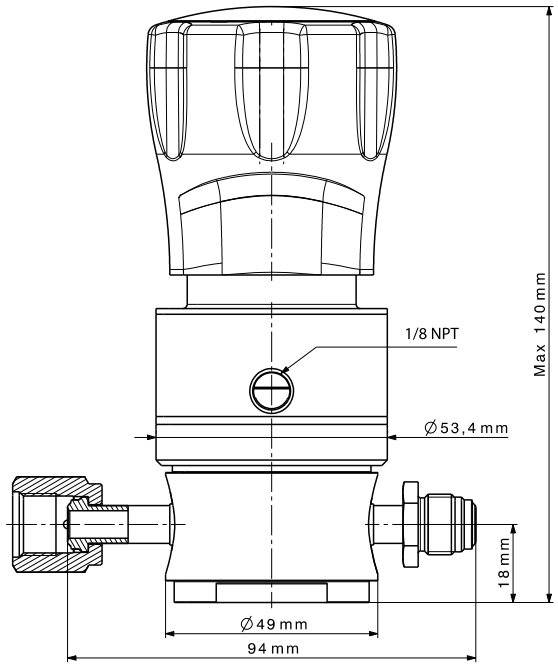
RX3100

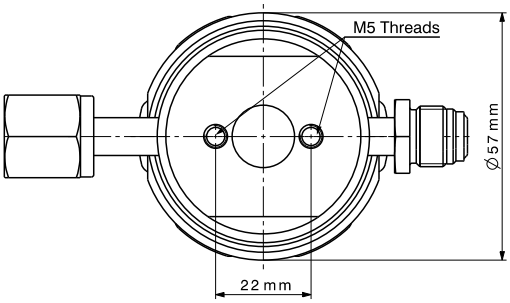
RX3100 - SUB-ATMOSPHERIC PRESSURE REGULATOR FOR HP & UHP APPLICATIONS

- Unique threadless design in all versions for a higher purity level
- Spring less design
- Optimized supply pressure effect and excellent flow stability
- Life duration according to CGA E4
- Vacuum to 21 bar (300 psig) inlet
- Assembling, testing & packaging in cleanroom: Class ISO 4
- Individual serial number for full traceability
- Electropolished surface per SEMI F19 UHP Grade
- UHP Material - Semi F20 option available

ROTAREX
VALVES - REGULATORS - SYSTEMS

RX3100 - ABSOLUTE PRESSURE REGULATOR FOR THE HIGHEST LEVEL OF PURITY





SPECIFICATIONS

Max. inlet pressure
21 bar (300 psig)

Outlet pressure
0.7/2 bar
(10/30 psig)

Temperature range
-20°C to +65°C (-4°F to +149°F)

Poppet type
Tied diaphragm

Burst pressure
300% of operating pressure

Proof pressure
150% of operating pressure

Certified max. Helium outboard leak rate
≤ 1 x 10^{-9} mbar.l/s

Certified max. Helium across the seat leak rate (at max. pressure)
≤ 1 x 10^{-8} mbar.l/s

Certified max. Helium inboard leak rate (at max. pressure)
≤ 1 x 10^{-9} mbar.l/s

Flow capacity (Cv)	0.09
Supply pressure effect l*	0.25

*1 bar / 100 bar inlet pressure change

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Flow capacity (Cv)	0.09
Supply pressure effect l*	0.25

*1 bar / 100 bar inlet pressure change

CONSTRUCTION MATERIAL

	Parts	Material
Wetted parts	Body	SS 316L, UHP Material - Semi F20
	Seat	PCTFE (PVDF, PTFE, Polyimid optional)
	Diaphragm	SS 316L (Hastelloy optional)
	Poppet	SS 316L (Hastelloy optional)
	Spring	SS 316L (Hastelloy optional)
	Spring Holder	SS 316L
Non-wetted parts	Bonnet	SS 303
	Handwheel	PA 6.6
	Others	Stainless Steel and Brass

SURFACE FINISH

S	Ra 0.4 µm (15 µin)
V	Ra 0.25 µm EP (10 µin)
U	Ra 0.13 µm EP (5 µin)

SCAN ME FOR FLOW CURVES & PRODUCT CONFIGURATOR

PRODUCT CONFIGURATOR

	Regulator type		Outlet pressure		Seat material		Cv value		Body material		Surface finish		Porting Configuration		Connections		Actuation type		Inlet pressure		Options	
RX	31		01		K		009		S		V		2W1		4F4F		M		021		HPG0	
	Vacuum (Tied dia-phragm)	31	0.7 bar (10 psig)	01	PCTFE	K	0.09	009	Stainless Steel AISI 316L	S	Ra 0.4 µm (15 µin)	S	2 ports	2 W 1	¼" Female VCR	4F	Hand-wheel	M	21 bar (300 psig)	021	Hastelloy Trim[1]	H
			2 bar (30 psig)	02	Polyimid	V			UHP Material - Semi F20	V	Ra 0.25 µm EP (10 µin)	V	3 ports	3 W 4	¼" Male VCR	4M					Gauge (bar/ PSI)[2]	P G 0
					PVDF	P					Ra 0.13 µm EP (5 µin)	U	4 ports	4 W 6							Gauge (MPa)[2]	P G 1
					PTFE	T																

[1] Includes Hastelloy C22 Poppet, wetted spring & diaphragm
[2] Standard gauge ports are Metal Face Seal ¼" Male

RX3200

RX3200 - SINGLE-STAGE TIED-DIAPHRAGM PRESSURE REGULATOR FOR HP & UHP APPLICATIONS

- Unique threadless design in all versions for a higher purity level
- Spring less design
- Sub-atmospheric option available (see RX3100 brochure)
- Optimized supply pressure effect and excellent flow stability
- Life duration according to CGA E4
- Vacuum to 240 bar (3500 psi) inlet
- Assembling, testing & packaging in cleanroom: Class ISO 4
- Individual serial number for full traceability
- Electropolished surface per SEMI F19 UHP Grade
- UHP Material - Semi F20 option available

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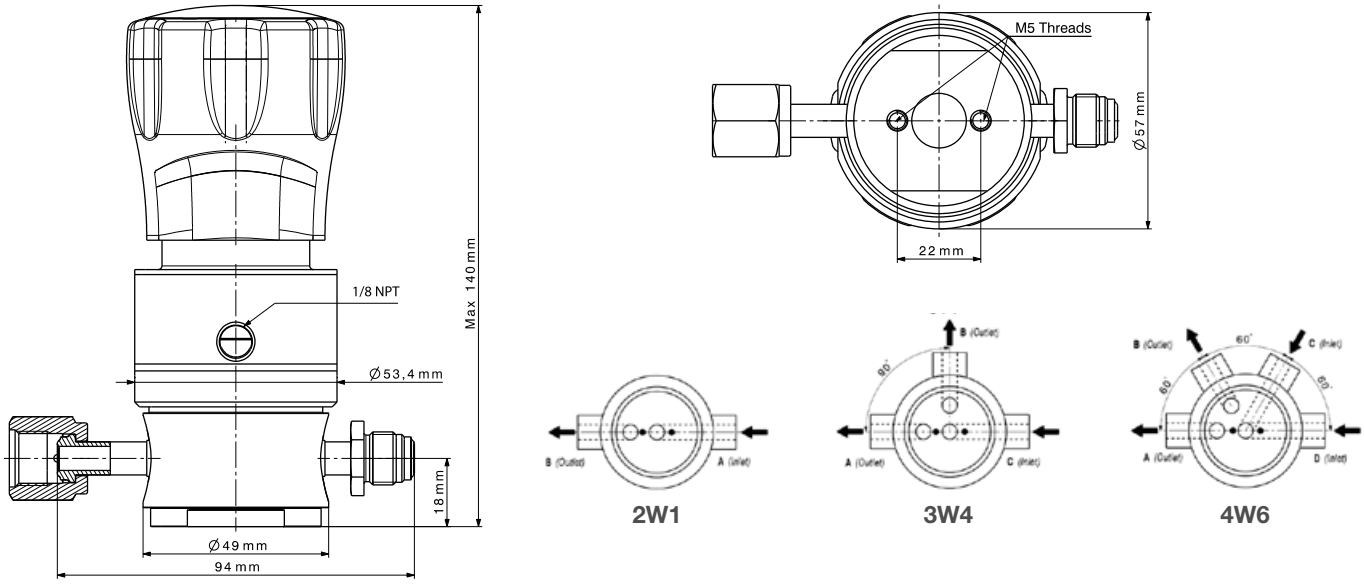
VALVES - REGULATORS - SYSTEMS

RX3200 - THE FIRST OF ITS KIND THREADLESS AND SPRINGLESS PRESSURE REGULATOR FOR THE HIGHEST LEVEL OF PURITY



Drawing of RX3000, RX3200

SPECIFICATIONS

Max. inlet pressure

21/240 bar (300/3,500 psig)

Outlet pressure

0.7/2/4/7 bar
(10/30/60/100 psig)

Temperature range

-20°C to +65°C
(-4°F to +149°F)

Poppet type

Tied diaphragm

Burst pressure

300% of operating pressure

Proof pressure

150% of operating pressure

Certified max. Helium outboard leak rate

≤ 1 x 10^{-9} mbar.l/s

Certified max. Helium across the seat leak rate (at max. pressure)

≤ 1 x 10^{-8} mbar.l/s

Certified max. Helium inboard leak rate (at max. pressure)

≤ 1 x 10^{-9} mbar.l/s

Flow capacity (Cv)	0.09	0.15
Supply pressure effect l*	0.25	0.5

*1 bar / 100 bar inlet pressure change

SCAN ME FOR FLOW CURVES & PRODUCT CONFIGURATOR

RX3200 - THE FIRST OF ITS KIND THREADLESS AND SPRINGLESS PRESSURE REGULATOR FOR THE HIGHEST LEVEL OF PURITY

CONSTRUCTION MATERIAL

	Parts	Material
Wetted parts	Body	SS 316L, UHP Material - Semi F20
	Seat	PCTFE (PVDF, Polyimid optional)
	Diaphragm	SS 316L (Hastelloy optional)
	Poppet	SS 316L (Hastelloy optional)
Non-wetted parts	Bonnet	SS 303
	Handwheel	PA 6.6
	Others	Stainless Steel and Brass

SURFACE FINISH

S	Ra 0.4 µm (15 µin)
V	Ra 0.25 µm EP (10 µin)
U	Ra 0.13 µm EP (5 µin)

PRODUCT CONFIGURATOR

	Regulator type		Outlet pressure		Seat material		Cv value		Body material		Surface finish		Porting Configuration		Connections		Actuation type		Inlet pressure		Options	
RX	32		07		K		009		S		V		2W1		4F4F		M		240		HPG0	
	Tied dia-phragm	32	0.7 bar* (10 psig)	01	PCTFE	K	0.09	009	Stainless Steel AISI 316L	S	Ra 0.4 µm (15 µin)	S	2 ports	2W1	¼" Female VCR	4F	Hand-wheel	M	21 bar* (300 psig)	021	Hastelloy Trim[1]	H
			2 bar (30 psig)	02	Polyimid	V	0.15	015	UHP Material - Semi F20	V	Ra 0.25 µm EP (10 µin)	V	3 ports	3W4	¼" Male VCR	4M			240 bar (3,500 psig)	240	Gauge (bar/ PSI)[2]	PG0
			4 bar (60 psig)	04	PVDF*	P					Ra 0.13 µm EP (5 µin)	U	4 ports	4W6							Gauge (MPa)[2]	PG1
			7 bar (100 psig)	07	PTFE*	T																

* 21 bar (300 psig) is only available and mandatory for PVDF, PTFE as well as 0.7 bar (10 psig) outlet pressure

[1] Includes Hastelloy C22 Poppet, wetted spring & diaphragm
[2] Standard gauge ports are Metal Face Seal ¼" Male

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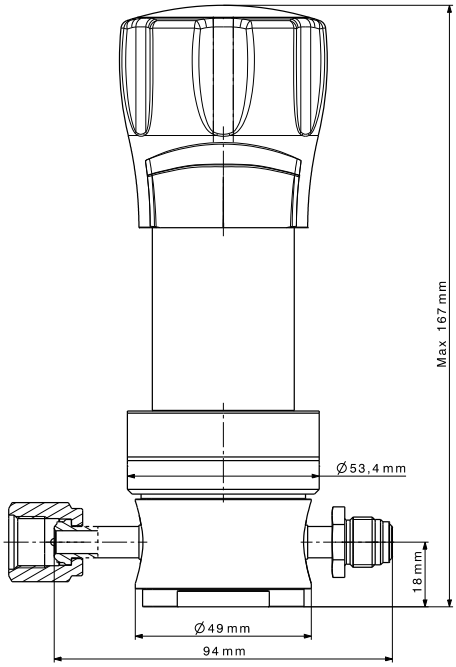
RX3600

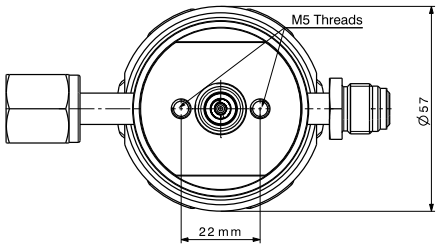
RX3600 - DIAPHRAGM LOADED HIGH PRESSURE REGULATOR FOR HP & UHP APPLICATIONS

- Unique threadless design in all versions for a higher purity level
- Optimized supply pressure effect and excellent flow stability
- Life duration according to CGA E4
- Vacuum to 310 bar (4,500 psig) inlet
- Assembling, testing & packaging in cleanroom: Class ISO 4
- Individual serial number for full traceability
- Electropolished surface per SEMI F19 UHP Grade
- UHP Material - Semi F20 option available

ROTAREX
VALVES - REGULATORS - SYSTEMS

RX3600 - HIGH PRESSURE DIAPHRAGM REGULATOR FOR THE HIGHEST LEVEL OF PURITY





SPECIFICATIONS

Max. inlet pressure
240/310 bar (3,500/4,500 psig)

Outlet pressure
34/100 bar
(500/1,450 psig)

Temperature range
-20°C to +65°C (-4°F to +149°F)

Poppet type
Free diaphragm

Burst pressure
300% of operating pressure

Proof pressure
150% of operating pressure

Certified max. Helium outboard leak rate
≤ 1 x 10^{-9} mbar.l/s

Certified max. Helium across the seat leak rate (at max. pressure)
≤ 1 x 10^{-8} mbar.l/s

Certified max. Helium inboard leak rate (at max. pressure)
≤ 1 x 10^{-9} mbar.l/s

Flow capacity (Cv)	0.15
Supply pressure effect I*	5

*1 bar / 100 bar inlet pressure change

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CONSTRUCTION MATERIAL

	Parts	Material
Wetted parts	Body	SS 316L, UHP Material - Semi F20
	Seat	PCTFE, (Polyimid optional)
	Diaphragm	SS 316L (Hastelloy optional)
	Poppet	SS 316L (Hastelloy optional)
	Spring	SS 316L (Hastelloy optional)
Non-wetted parts	Spring Holder	SS 316L
	Bonnet	SS 303
	Handwheel	PA 6.6
	Others	Stainless Steel and Brass

SURFACE FINISH

S	Ra 0.4 µm (15 µin)
V	Ra 0.25 µm EP (10 µin)
U	Ra 0.13 µm EP (5 µin)

SCAN ME FOR FLOW CURVES & PRODUCT CONFIGURATOR

PRODUCT CONFIGURATOR

	Regulator type		Outlet pressure		Seat material		Cv value		Body material		Surface finish		Porting Configuration		Connections		Actuation type		Inlet pressure		Options	
RX	36		K		K		015		S		V		2W1		4F4F		M		240		HPG0	
	High outlet pressure with diaphragm (Free diaphragm)	36	34 bar (500 psig)	K	PCTFE*	K	0.15	015	Stainless Steel AISI 316L	S	Ra 0.4 µm (15 µin)	S	2 ports	2W1	¼" Female VCR	4F	Handwheel	M	240 bar (3,500 psig)*	240	Hastelloy Trim[1]	H
			100 (1,450 psig)	L	Polyimid	V			UHP Material - Semi F20	V	Ra 0.25 µm EP (10 µin)	V	3 ports	3W4	¼" Male VCR	4M			310 bar (4,500 psig)	310	Gauge (bar/PSI)[2]	PG0
											Ra 0.13 µm EP (5 µin)	U	4 ports	4W6							Gauge (MPa)[2]	PG1

* PCTFE seat only available for a maximum inlet pressure of 240 bar (3,500 psig)

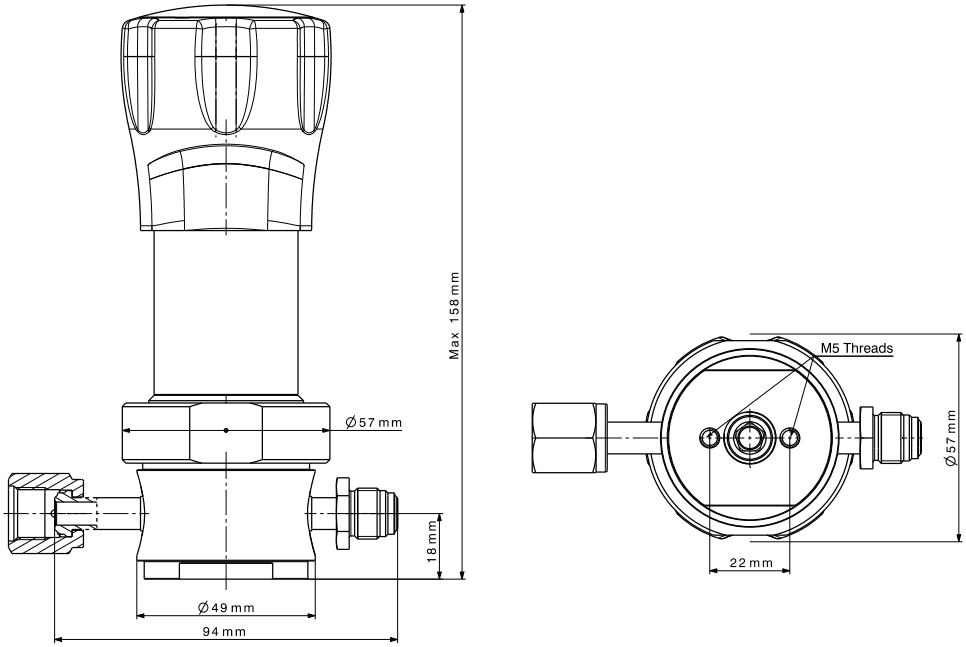
[1] Includes Hastelloy C22 Poppet, wetted spring & diaphragm
[2] Standard gauge ports are Metal Face Seal ¼" Male

RX3700

PISTON LOADED HIGH PRESSURE REGULATOR FOR HP & UHP APPLICATIONS

- Unique threadless design in all versions for a higher purity level
- Self-relieving option (venting)
- Optimized supply pressure effect and excellent flow stability
- Life duration according to CGA E4
- Vacuum to 310 bar (4500 psig) inlet
- Assembling, testing & packaging in cleanroom: Class ISO 4
- Individual serial number for full traceability
- Electropolished surface per SEMI F19 UHP Grade
- UHP Material - Semi F20 option available

ROTAREX
VALVES - REGULATORS - SYSTEMS



SPECIFICATIONS

Max. inlet pressure
310 bar (4,500 psig)

Outlet pressure
34/172 bar
(500/2,500 psig)

Temperature range
-20°C to +65°C (-4°F to +149°F)

Poppet type
Tied diaphragm

Burst pressure
300% of operating pressure

Proof pressure
150% of operating pressure

Certified max. Helium outboard leak rate
≤ 1 x 10^{-6} mbar.l/s

Certified max. Helium across the seat leak rate (at max. pressure)
≤ 1 x 10^{-6} mbar.l/s

Certified max. Helium inboard leak rate (at max. pressure)
≤ 1 x 10^{-6} mbar.l/s

Flow capacity (Cv)	0.09	0.15
Supply pressure effect l*	5	11

*1 bar / 100 bar inlet pressure change

RX3700 - HIGH PRESSURE PISTON REGULATOR SELF-RELIEVING AND NON-RELEVING

CONSTRUCTION MATERIAL

	Parts	Material
Wetted parts	Body	SS 316L, UHP Material - Semi F20
	Seat	PCTFE (Polyimid optional)
	Diaphragm	SS 316L (Hastelloy optional)
	Poppet	SS 316L (Hastelloy optional)
	Spring	SS 316L (Hastelloy optional)
	Spring Holder	SS 316L
Non-wetted parts	Bonnet	SS 303
	Handwheel	PA 6.6
	Others	Stainless Steel and Brass

SURFACE FINISH

S	Ra 0.4 µm (15 µin)
V	Ra 0.25 µm EP (10 µin)
U	Ra 0.13 µm EP (5 µin)

SCAN ME FOR FLOW CURVES & PRODUCT CONFIGURATOR

PRODUCT CONFIGURATOR

	Regulator type		Outlet pressure		Seat material		Cv value		Body material		Surface finish		Porting Configuration		Connections		Actuation type		Inlet pressure		Options	
RX	37		K		K		009		S		V		2W1		4F4F		M		310		HPG0	
	High outlet pressure with piston (Tied dia-phragm)	37	34 bar (500 psig)	K	PCTFE	K	0.09	009	Stainless Steel AISI 316L	S	Ra 0.4 µm (15 µin)	S	2 ports	2 W 1	¼" Female VCR	4F	Hand-wheel	M	310 bar (4,500 psig)	310	Hastelloy Trim[1]	H
			172 bar (2,500 psig)	M	Polyimid	V	0.15*	015	UHP Material - Semi F20	V	Ra 0.25 µm EP (10 µin)	V	3 ports	3 W 4	¼" Male VCR	4M	Hand-wheel venting	S			Gauge (bar/ PSI)[2]	P G 0
											Ra 0.13 µm EP (5 µin)	U	4 ports	4 W 6							Gauge (MPa)[2]	P G 1

* Polyimid mandatory for Cv of 0.15
[1] Includes Hastelloy C22 Poppet, wetted spring & diaphragm
[2] Standard gauge ports are Metal Face Seal ¼" Male

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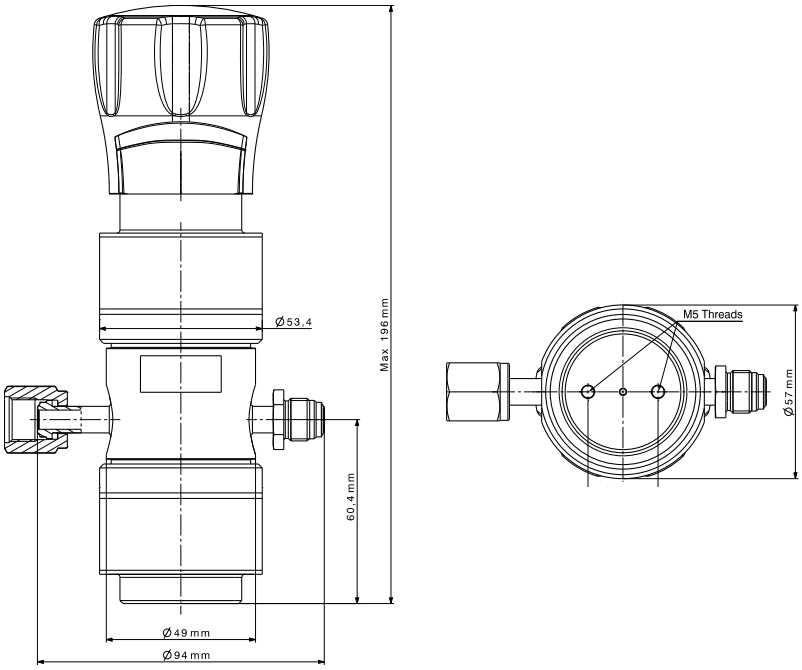
RX3900

RX3900 - DUAL STAGE PRESSURE REGULATOR FOR HP & UHP APPLICATIONS

- Supply pressure effect is close to zero
- Life duration according to CGA E4
- Vacuum to 310 bar (4,500 psig) inlet
- Assembling, testing & packaging in cleanroom: Class ISO 4
- Individual serial number for full traceability
- Electropolished surface per SEMI F19 UHP Grade
- UHP Material - Semi F20 option available

ROTAREX
VALVES - REGULATORS - SYSTEMS

RX3900 - TWO-STAGE PRESSURE REDUCTION WITH THE LOWEST SUPPLY PRESSURE EFFECT



SPECIFICATIONS

Max. inlet pressure
240/310 bar (2,500/4,500 psig)

Outlet pressure
0.7/2/4/7/10 bar
(10/30/60/100/150 psig)

Temperature range
-20°C to +65°C (-4°F to +149°F)

Poppet type
Tied diaphragm

Burst pressure
300% of operating pressure

Proof pressure
150% of operating pressure

Certified max. Helium outboard leak rate
≤ 1 x 10^{-9} mbar.l/s

Certified max. Helium across the seat leak rate (at max. pressure)
≤ 1 x 10^{-8} mbar.l/s

Certified max. Helium inboard leak rate (at max. pressure)
≤ 1 x 10^{-9} mbar.l/s

Flow capacity (Cv)	0.09
Supply pressure effect I*	0.001

*1 bar / 100 bar inlet pressure change

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RX3900 - TWO-STAGE PRESSURE REDUCTION WITH THE LOWEST SUPPLY PRESSURE EFFECT

CONSTRUCTION MATERIAL

	Parts	Material
Wetted parts	Body	SS 316L, UHP Material - Semi F20
	Seat	PCTFE, Polyimid (mandatory for 310 bar / 4,500 psig inlet pressure)
	Diaphragm	SS 316L (Hastelloy optional)
	Poppet	SS 316L (Hastelloy optional)
	Spring	SS 316L (Hastelloy optional)
	Spring Holder	SS 316L
Non-wetted parts	Bonnet	SS 303
	Handwheel	PA 6.6
	Others	Stainless Steel and Brass

SURFACE FINISH

S	Ra 0.4 µm (15 µin)
V	Ra 0.25 µm EP (10 µin)
U	Ra 0.13 µm EP (5 µin)

SCAN ME FOR FLOW CURVES & PRODUCT CONFIGURATOR

PRODUCT CONFIGURATOR

	Regulator type		Outlet pressure		Seat material		Cv value		Body material		Surface finish		Porting Configuration		Connections		Actuation type		Inlet pressure		Options	
RX	39		07		K		009		S		V		2W1		4F4F		M		240		HPG0	
	Double stage (Tied diaphragm)	39	0.7 bar (10 psig)	01	PCTFE	K	0.09	009	Stainless Steel AISI 316L	S	Ra 0.4 µm (15 µin)	S	2 ports	2W1	¼" Female VCR	4F	Hand-wheel	M	240 bar (3,500 psig)	240	Hastelloy Trim[1]	H
			2 bar (30 psig)	02	Polyimid	V			UHP Material - Semi F20	V	Ra 0.25 µm EP (10 µin)	V	3 ports	3W4	¼" Male VCR	4M			310 bar (4,500 psig)*	310	Gauge (bar/PSI)[2]	PG0
			4 bar (60 psig)	04							Ra 0.13 µm EP (5 µin)	U	4 ports	4W6					* Polyimid mandatory for 310 bar (4,500 psig) inlet pressure		Gauge (MPa)[2]	PG1
			7 bar (100 psig)	07																		
			10 bar (150 psig)	10																		

[1] Includes Hastelloy C22 Poppet, wetted spring & diaphragm
[2] Standard gauge ports are Metal Face Seal ¼" Male

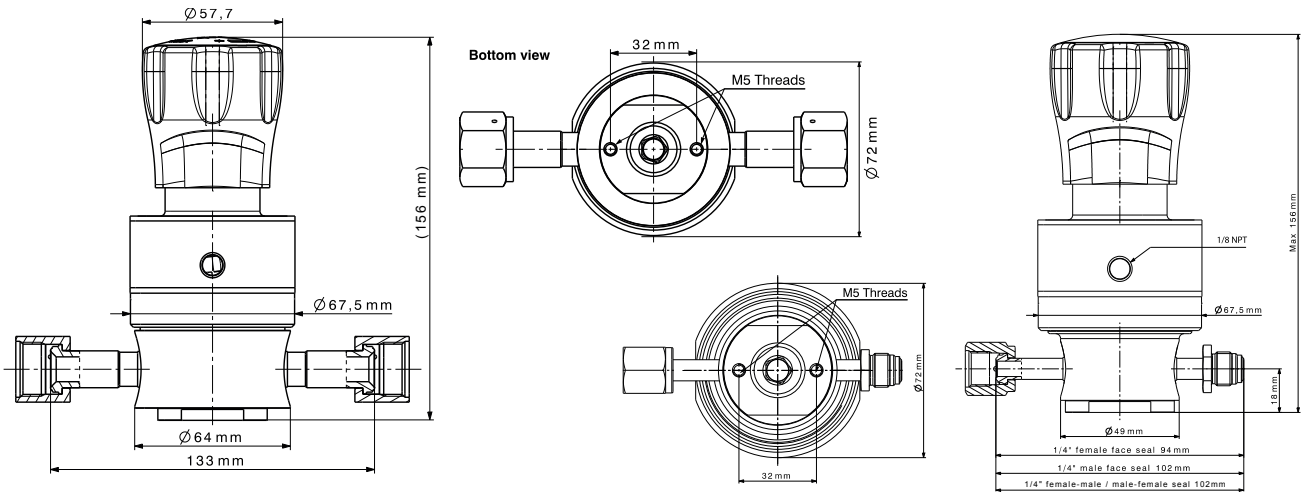
RX4000

RX4000 - SINGLE STAGE DIAPHRAGM PRESSURE REGULATOR FOR HP & UHP APPLICATIONS

- Unique threadless design in all versions for a higher purity level
- Optimized supply pressure effect and excellent flow stability
- Life duration according to CGA E4
- Vacuum to 240 bar (3500 psi) inlet
- Assembling, testing & packaging in cleanroom: Class ISO 4
- Individual serial number for full traceability
- Electropolished surface per SEMI F19 UHP Grade
- UHP Material - Semi F20 option available

ROTAREX
VALVES - REGULATORS - SYSTEMS

RX4000 - THE FIRST OF ITS KIND THREADLESS PRESSURE REGULATOR FOR THE HIGHEST LEVEL OF PURITY



SPECIFICATIONS

Poppet type
RX4000: Free diaphragm
RX4200: Tied diaphragm

Temperature range
-20°C to +65°C
(-4°F to +149°F)

Burst pressure
300% of operating pressure

Proof pressure
150% of operating pressure

Certified max. Helium outboard leak rate
≤ 1 x 10^{-9} mbar.l/s

Certified max. Helium across the seat leak rate (at max. pressure)
≤ 1 x 10^{-8} mbar.l/s

Certified max. Helium inboard leak rate (at max. pressure)
≤ 1 x 10^{-9} mbar.l/s

It's not possible to reach all outlet pressure with all inlet pressures, see compatibility table below:

COMPATIBLE OUTLET/INLET PRESSURE

		2 bar	4 bar	7 bar	10 bar
CV	0.15	240	240	240	240
	0.25	240	240	240	240
	0.5	207	207	207	207
		21	21	21	21
	0.9	207	207	207	207
		117	117		
		21	21	21	21
	1.1	117	117	117	117
		21	21	21	21

CONSTRUCTION MATERIAL

	Parts	Material
Wetted parts	Body	SS 316L, UHP Material - Semi F20
	Seat	PCTFE (PVDF, Polyimid optional)
	Diaphragm	SS 316L (Hastelloy optional)
	Poppet	SS 316L (Hastelloy optional)
	Spring	SS 316L (Hastelloy optional)
	Spring Holder	SS 316L
Non-wetted parts	Bonnet	SS 303
	Handwheel	PA 6.6
	Others	Stainless Steel and Brass

SURFACE FINISH

S	Ra 0.4 µm (15 µin)
V	Ra 0.25 µm EP (10 µin)
U	Ra 0.13 µm EP (5 µin)

SCAN ME FOR FLOW CURVES & PRODUCT CONFIGURATOR

RX4000 - THE FIRST OF ITS KIND THREADLESS PRESSURE REGULATOR FOR THE HIGHEST LEVEL OF PURITY

PRODUCT CONFIGURATOR

	Regulator type		Outlet pressure		Seat material		Cv value		Body material		Surface finish		Porting Configuration		Connections		Actuation type		Inlet pressure		Options	
RX	40		07		K		015		S		V		2W1		4F4F		M		240		HPG0	
	Free diaphragm	40	2 bar (30 psig)	02	PCTFE	K	0.15	015	Stainless Steel AISI 316L	S	Ra 0.4 µm (15 µin)	S	2 ports	2W1	¼" Female VCR	4F	Handwheel	M	21 bar (300 psig)*	021	Hastelloy Trim[1]	H
			4 bar (60 psig)	04	Polyimid	V	0.25	025	UHP Material - Semi F20	V	Ra 0.25 µm EP (10 µin)	V	3 ports	3W4	¼" Male VCR	4M			117 bar (1,700 psig)	117	Gauge (bar/PSI)[2]	PG0
			7 bar (100 psig)	07	PVDF*	P	0.5	050			Ra 0.13 µm EP (5 µin)	U	4 ports	4W6	½" Female VCR	8F			207 bar (3,000 psig)	207	Gauge (MPa)[2]	PG1
			10 bar (150 psig)	10	PTFE*	T	0.9	090							½" Male VCR	8M			240 bar (3,500 psig)	240		
							1.1	110														

* PTFE and PVDF seat are only available with 21 bar inlet pressure

[1] Includes Hastelloy C22 Poppet, wetted spring & diaphragm
[2] Standard gauge ports are Metal Face Seal ¼" Male

Flow capacity (Cv)	0.15	0.25	0.5	0.9	1.1
Supply pressure effect l*	0.25	0.5	1.4	3	4

*1 bar / 100 bar inlet pressure change

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RX4100

RX4100 - SUB-ATMOSPHERIC PRESSURE REGULATOR FOR HP & UHP APPLICATIONS

- Unique threadless design in all versions for a higher purity level
- Spring less design
- Optimized supply pressure effect and excellent flow stability
- Life duration according to CGA E4
- Vacuum to 21 bar (300 psig) inlet
- Assembling, testing & packaging in cleanroom: Class ISO 4
- Individual serial number for full traceability
- Electropolished surface per SEMI F19 UHP Grade
- UHP Material - Semi F20 option available

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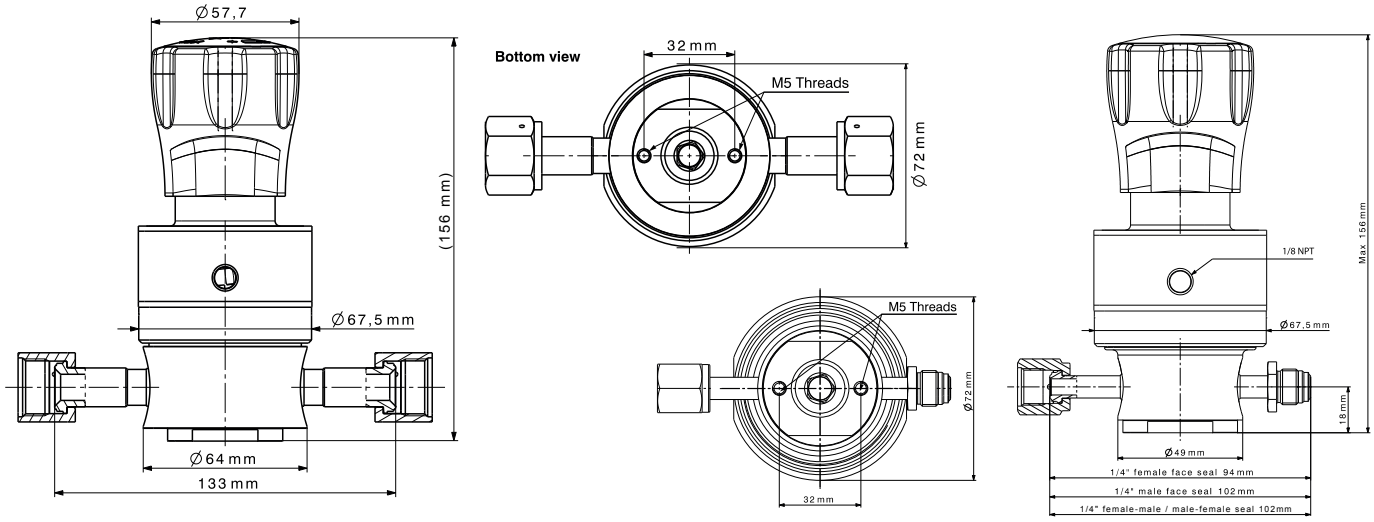
VALVES - REGULATORS - SYSTEMS

RX4100 - ABSOLUTE PRESSURE REGULATOR FOR THE HIGHEST LEVEL OF PURITY



SPECIFICATIONS

Max. inlet pressure

21 bar (300 psig)

Outlet pressure

0.7/2 bar
(10/30 psig)

Temperature range

-20°C to +65°C (-4°F to +149°F)

Poppet type

Tied diaphragm

Burst pressure

300% of operating pressure

Proof pressure

150% of operating pressure

Certified max. Helium outboard leak rate

≤ 1 x 10^{-9} mbar.l/s

Certified max. Helium across the seat leak rate (at max. pressure)

≤ 1 x 10^{-8} mbar.l/s

Certified max. Helium inboard leak rate (at max. pressure)

≤ 1 x 10^{-9} mbar.l/s

Flow capacity (Cv)	0.5
Supply pressure effect l*	1.4

*1 bar / 100 bar inlet pressure change

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CONSTRUCTION MATERIAL

	Parts	Material
Wetted parts	Body	SS 316L, UHP Material - Semi F20
	Seat	PCTFE (PVDF, PTFE, Polyimid optional)
	Diaphragm	SS 316L (Hastelloy optional)
	Poppet	SS 316L (Hastelloy optional)
	Spring	SS 316L (Hastelloy optional)
	Spring Holder	SS 316L
Non-wetted parts	Bonnet	SS 303
	Handwheel	PA 6.6
	Others	Stainless Steel and Brass

SURFACE FINISH

S	Ra 0.4 µm (15 µin)
V	Ra 0.25 µm EP (10 µin)
U	Ra 0.13 µm EP (5 µin)

SCAN ME FOR FLOW CURVES & PRODUCT CONFIGURATOR

PRODUCT CONFIGURATOR

	Regulator type		Outlet pressure		Seat material		Cv value		Body material		Surface finish		Porting Configuration		Connections		Actuation type		Inlet pressure		Options	
RX	41		02		K		050		S		V		2W1		4F4F		M		021		HPG0	
	Vacuum (Tied diaphragm)	41	0.7 bar (10 psig)	01	PCTFE	K	0.5	050	Stainless Steel AISI 316L	S	Ra 0.4 µm (15 µin)	S	2 ports	2W1	¼" Female VCR	4F	Hand-wheel	M	21 bar (300 psig)	021	Hastelloy Trim[1]	H
			2 bar (30 psig)	02	Polyimid	V			UHP Material - Semi F20	V	Ra 0.25 µm EP (10 µin)	V	3 ports	3W4	¼" Male VCR	4M					Gauge (bar/PSI)[2]	PG0
					PVDF	P					Ra 0.13 µm EP (5 µin)	U	4 ports	4W6	½" Female VCR	8F					Gauge (MPa)[2]	PG1
					PTFE	T									½" Male VCR	8M						

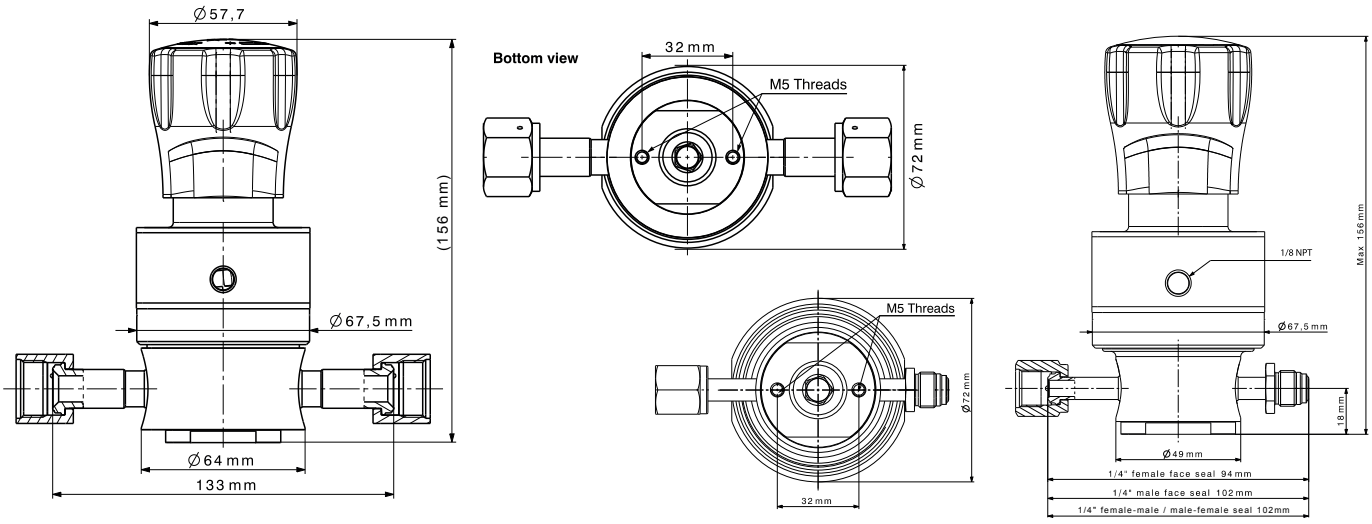
[1] Includes Hastelloy C22 Poppet, wetted spring & diaphragm
[2] Standard gauge ports are Metal Face Seal ¼" Male

RX4200

RX4200 - SINGLE STAGE TIED DIAPHRAGM PRESSURE REGULATOR FOR HP & UHP APPLICATIONS

- Unique threadless design in all versions for a higher purity level
- Spring less design
- Sub-atmospheric option available (see RX4100 brochure)
- Optimized supply pressure effect and excellent flow stability
- Life duration according to CGA E4
- Vacuum to 240 bar (3500 psi) inlet
- Assembling, testing & packaging in cleanroom: Class ISO 4
- Individual serial number for full traceability
- Electropolished surface per SEMI F19 UHP Grade
- UHP Material - Semi F20 option available

RX4200 - THE FIRST OF ITS KIND THREADLESS AND SPRINGLESS PRESSURE REGULATOR FOR THE HIGHEST LEVEL OF PURITY



SPECIFICATIONS

Poppet type
Tied diaphragm

Burst pressure
300% of operating pressure

Certified max. Helium outboard leak rate
≤ 1 x 10^{-9} mbar.l/s

Temperature range
-20°C to +65°C
(-4°F to +149°F)

Proof pressure
150% of operating pressure

Certified max. Helium across the seat leak rate (at max. pressure)
≤ 1 x 10^{-8} mbar.l/s

Certified max. Helium inboard leak rate (at max. pressure)
≤ 1 x 10^{-9} mbar.l/s

It's not possible to reach all outlet pressure with all inlet pressures, see compatibility table below:

COMPATIBLE OUTLET/INLET PRESSURE

		2 bar	4 bar	7 bar	10 bar
CV	0.15	240	240	240	240
	0.25	240	240	240	240
	0.5	207	207	207	207
		21	21	21	21
	0.9	207	207	207	207
		117	117		
		21	21	21	21
	1.1	117	117	117	117
		21	21	21	21

CONSTRUCTION MATERIAL

	Parts	Material
Wetted parts	Body	SS 316L, UHP Material - Semi F20
	Seat	PCTFE (PVDF, Polyimid optional)
	Diaphragm	SS 316L (Hastelloy optional)
	Poppet	SS 316L (Hastelloy optional)
Non-wetted parts	Bonnet	SS 303
	Handwheel	PA 6.6
	Others	Stainless Steel and Brass

RX4200 - THE FIRST OF ITS KIND THREADLESS AND SPRINGLESS PRESSURE REGULATOR FOR THE HIGHEST LEVEL OF PURITY

SURFACE FINISH

S	Ra 0.4 µm (15 µin)
V	Ra 0.25 µm EP (10 µin)
U	Ra 0.13 µm EP (5 µin)

SCAN ME FOR FLOW CURVES & PRODUCT CONFIGURATOR

PRODUCT CONFIGURATOR

	Regulator type		Outlet pressure		Seat material		Cv value		Body material		Surface finish		Porting Configuration		Connections		Actuation type		Inlet pressure		Options	
RX	42		07		K		015		S		V		2W1		4F4F		M		240		HPG0	
	Tied dia-phragm	42	2 bar (30 psig)	02	PCTFE	K	0.15	015	Stainless Steel AISI 316L	S	Ra 0.4 µm (15 µin)	S	2 ports	2W1	¼" Female VCR	4F	Hand-wheel	M	21 bar* (305 psig)	021	Hastelloy Trim[1]	H
			4 bar (60 psig)	04	Polyimid	V	0.25	025	UHP Material - Semi F20	V	Ra 0.25 µm EP (10 µin)	V	3 ports	3W4	¼" Male VCR	4M			117 bar (1,700 psig)	117	Gauge (bar/ PSI)[2]	PG0
			7 bar (100 psig)	07	PVDF*	P	0.5	050			Ra 0.13 µm EP (5 µin)	U	4 ports	4W6	½" Female VCR	8F			207 bar (3,000 psig)	207	Gauge (MPa)[2]	PG1
			10 bar (150 psig)	10	PTFE*	T	0.9	090							½" Male VCR	8M			240 bar (3,500 psig)	240		
							1.1	110														

* PTFE and PVDF seat are only available with 21 bar inlet pressure

[1] Includes Hastelloy C22 Poppet, wetted spring & diaphragm
[2] Standard gauge ports are Metal Face Seal ¼" Male

Flow capacity (Cv)	0.15	0.25	0.5	0.9	1.1
Supply pressure effect l*	0.25	0.5	1.4	3	4

*1 bar / 100 bar inlet pressure change

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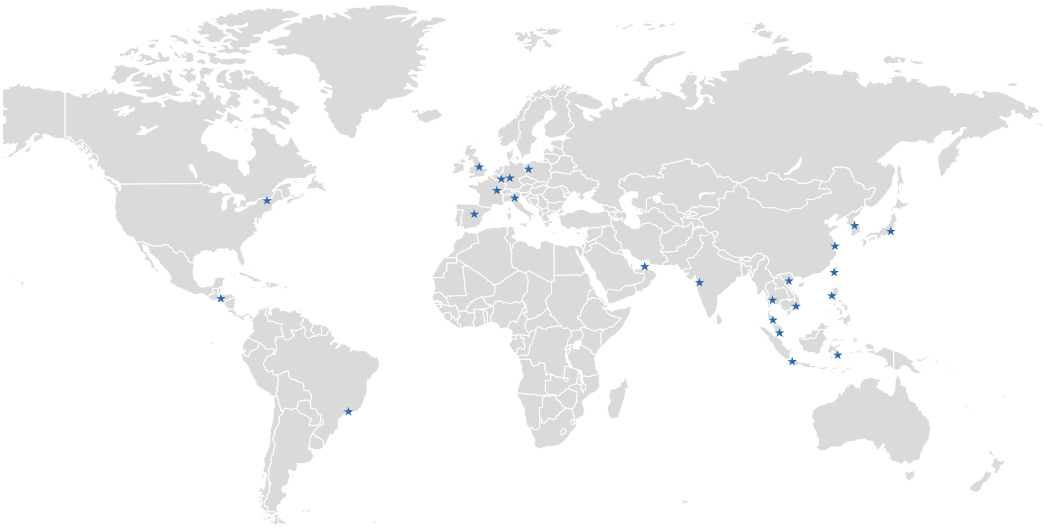

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