Raygas®

Series R47 & R47S

Pilot Control regulators



Celebrating 40 Years Expertise For Regulator

HI.12-R47 Series _Cat.EN=R02.2019

Description

SERIES R47 is direct acting (self actuated spring loaded) pressure regulators for geneal purpose pressure regulating applications. These regulators are best suited for Nature Gas; LPG Gas & non-corrosive gases in industrial, commercial applications.

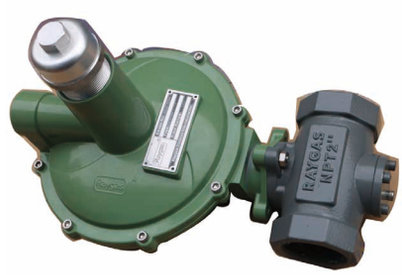
TYPE R47S, Available with integral over pressure Cut-off slam shut valves. it type ical application for city gas regulating station and Box.

R47 ; R47AP & R47APA can handle the outlet pressure form 2.0kpa to 100Kpa .

The flow capacity can meet the require from :100Nm3/h to 700 Nm3/h .

Features

◆Type R47 Regulator is provided with a single-stage pressure reducing and it is adjustable self actuated spring loaded regulator .



◆Type R47S Built in SSV valve : ressure regulator offers the possibility of installing s slam shut valve , this device immediately stops gas flow whenever a failure causes downstream pressure to rise reaching the setting point of slam shut valves.

◆Interchangeable Springs: Springs are specially designed so that those can be interchanged in the same spring casing for giving wider set pressure range without any modifications.



◆Tamper Resistant: An adjusting screw with protective cap is standard to discourage tampering with pressure setting.

◆Easy maintenance: Regulator internals can be inspected & maintenance without removing body from the line.



◆Tight Shut off Capability: Provides excellent tight shut off capability over long working life.

◆Pressure Sensing: Externally sensing control line required to measure outlet pressure in downstream pipe line.

Specification

Table 1: Body for R47 & Max. working pressure

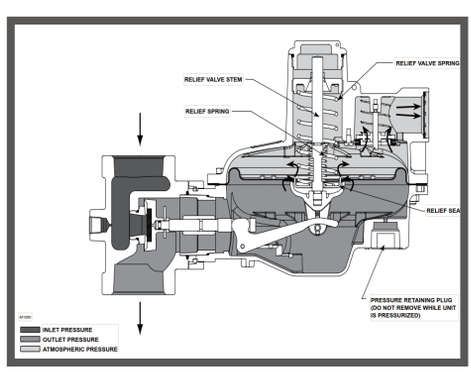
Body type	Aplication for R47	Max. working Pressure
41–1"NPT MOC QT400	R47–41/4E/4H/42 R47.AP–41/4E/4H/42 R47.APA–4E/4H/42	Max.6Bar for R47 & R47.AP
4E–1.1/4"NPT MOC QT400		
4H–1.1/2"NPT MOC QT400		Max.10Bar for R47.APA
42–2"NPT MOC QT400		

Temperature Capabilities

-20° to 150°F (-29° to 66°C)

Minimum Differential Pressure For Full Stroke

1.5 psid (0,10 bar d)



Pressure Control Accuracy (Fixed Factor)

±10% of absolute control pressure

Construction Materials

Actuator Casings:
Aluminum For Actuator-47 ;
Diaphragm: Nitrile (NBR)
Valve Body: QT400 Ductile iron,
Orifice and Valve Stem:
Aluminum & SS304
Disk Holder: Aluminum holder with
Nitrile (NBR) disk

Pilot Disk Construction: Nitrile (NBR)
O-Rings: Nitrile (NBR)
Fittings: Stainless steel
Tubing: Stainless steel

Table 2: Spring Range & outlet pressure

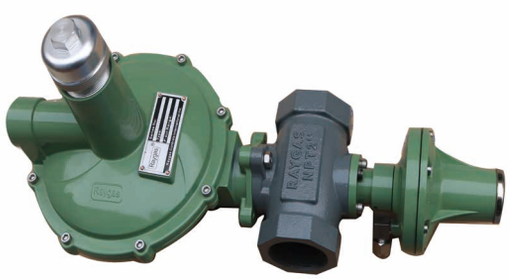
SPRING Number		Setting Range (KPa)	Inlet Pressure(bar)					
Models	Spring NO.		0.5	1	2	3	4	6
R47	C01.R47.L0	2.0-3.5	2.0-3.5	2.0-3.6	2.2-3.5	2.2-3.5	2.2-3.8	
	C01.R47.L1	4.0-4.5	2.4—4.2	2.5—4.2	3.0—5.0	3.5—5.0	4.0—5.0	- - -
	C01.R47.L2	4.0-6.5	3.2—6.3	3.2—6.3	4.0—7.0	4.2—7.0	4.5—7.0	- - -
	C01.R47.L3	5.0-10.0	4.5-8.0	5.0-9.0	5.0-9.0	5.0-9.0	5.0-10.0	- - -
R47.AP	C01.R47AP.S1	4.0_5.0	3.0—5.0	3.0—5.0	3.0—6.0	3.0—6.0	4.0—7.0	4.0—7.0
	C01.R47AP.S2	4.5_10.0	3.6—10.5	3.6—10.5	4.1—10.5	4.5—11	4.5—11	4.5—11
	C01.R47AP.S3	12.0-25.0	7.5--23.0	7.5--23.0	8.3—23.5	8.6—25.1	9—25.8	9—25.8

SPRING Number		Setting Range (KPa)	Inlet Pressure(bar)					
Models	Spring NO.		2	3	4	6	8	10
R47.APA	C01.R47APA.S2	15-35	20.0-35	20-35	20-35	20-35	20-35	20-35
	C01.R47APA.S3	30-60	30-60	30-60	30-60	30-60	30-60	30-60
	C01.R47APA.S4	50-100	50-90	50-90	50.0-100.0	50.0-100.0	50.0-100.0	50.0-100.0

R47S with slam shut off valve

Type R47 Built in SSV valve : ressure regulator offers the possibility of installing s slam shut valve , this device immediately stops gas flow whenever a failure causes downstream pressure to rise reaching the setting point of slam shut valves.

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* The Type SX of SSV is designed to monitor the out let pressure and to interrupt the gas flow ,if preset limits are excceded .

* this pressure is adjustable in the field, for the setting point you want.

* if the measured pressure reaches the set point of the SSV device, a release mechanism is triggered and the SSV close the valve on the inlet pressure side of the regulator .

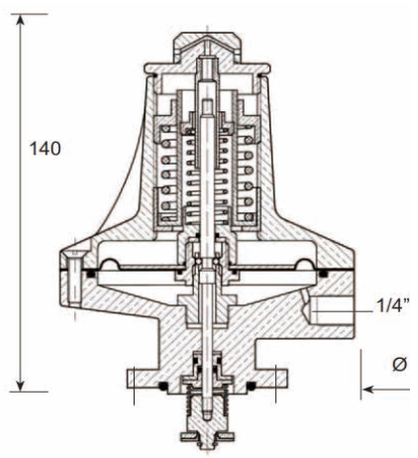
* this safety slam shut valve are available in over pressure cut off (OPSO) protection .

as well under pressure cut off (UPSO) protection .

* After the SSV is tripped, the condition that triggered the clossing of the valve must be manually reset .

* Regulator with type SX slam shut valve , shall be provided for the maximum inlet pressure up to 8.0bar .

* Regulator with type SX slam shut valve , shall be provided for the setting pressure see table 3:



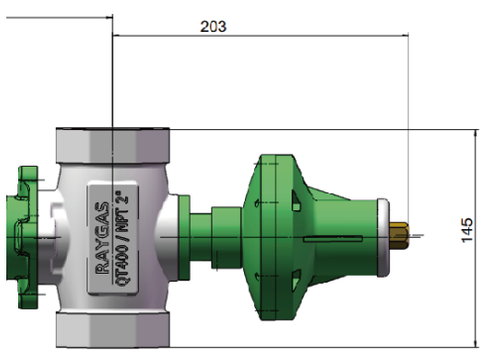


Table 3:SSV setting pressure Range

SSV-Model	SSV-Code	Spring Range (PS.min_max)
SSV-SXL RS5-SXL	QL1=C01.STS.3451	4-8 KPA
	QL2=C01.STS.3452	6-13KPA
	QL3=C01.STS.3453	13-30KPA
SSV-SXH RS5-SXH	QH1=C01.STS.3452	30-60KPA
	QH2=C01.STS.3453	0.6-1.5BAR
	QH3=C01.STS.3454	0.9-2.0BAR
	QH4=C01.STS.3455	2.0-4.0BAR

R47 Series Flow Capacity

Tables 4~5 give the R47 Series natural gas regulating capacities at selected inlet pressures and outlet pressure settings. Flows are in Nm^3/h (0°C and 1,01325 bar) of 0.6 specific gravity natural gas. To determine equivalent capacities for air, propane, butane, or nitrogen, multiply the capacity number in the tables by the following appropriate conversion factor: 0.775 for air, 0.628 for propane, 0.548 for butane, or 0.789 for nitrogen. For gases of other specific gravities, multiply the given capacity by 0.775 and divide by the square root of the appropriate specific gravity.

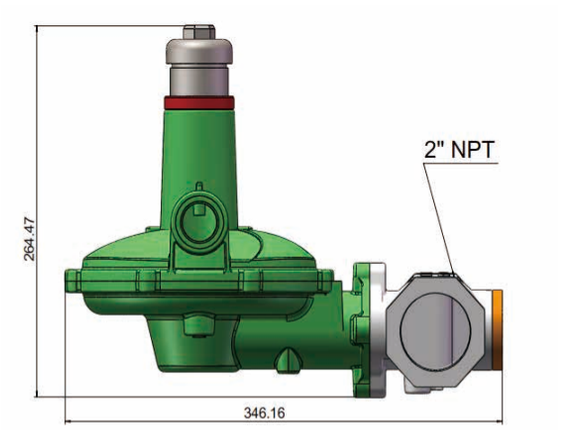
Table 4: Flow capacity for R47 & R47.AP (42)

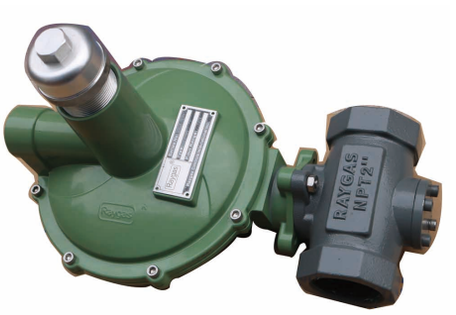
出口压力 mbar		进口压力 (Bar)						
		0.3	0.5	1.0	1.5	2.0	3.0	4.0
R47	20	80	140	230	270	300	350	400
	30	80	140	230	270	300	350	400
	40	80	140	230	270	300	350	400
	50	80	150	250	270	320	380	420
R47.AP	70		150	250	270	320	380	420
	100		120	250	270	320	380	420
	150		100	250	270	320	380	420
	200		80	250	270	320	380	420
	300			220	250	320	380	420

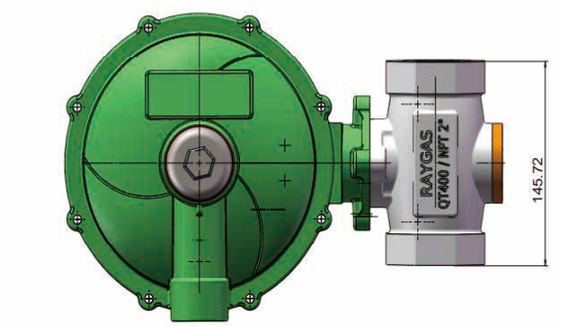
Table 5: Flow capacity for R47.APA(42)

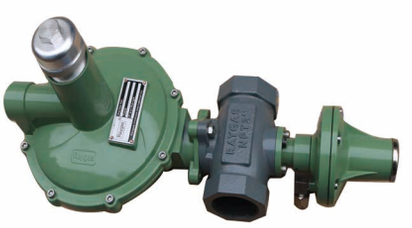
出口压力 KPA		进口压力 (Bar)						
		5.0	6.0	7.0	8.0	9.0	10.0	P1.max<11
R47.APA	50	500	550	600	650	700	700	"----"
	100	500	550	600	650	700	700	"----"

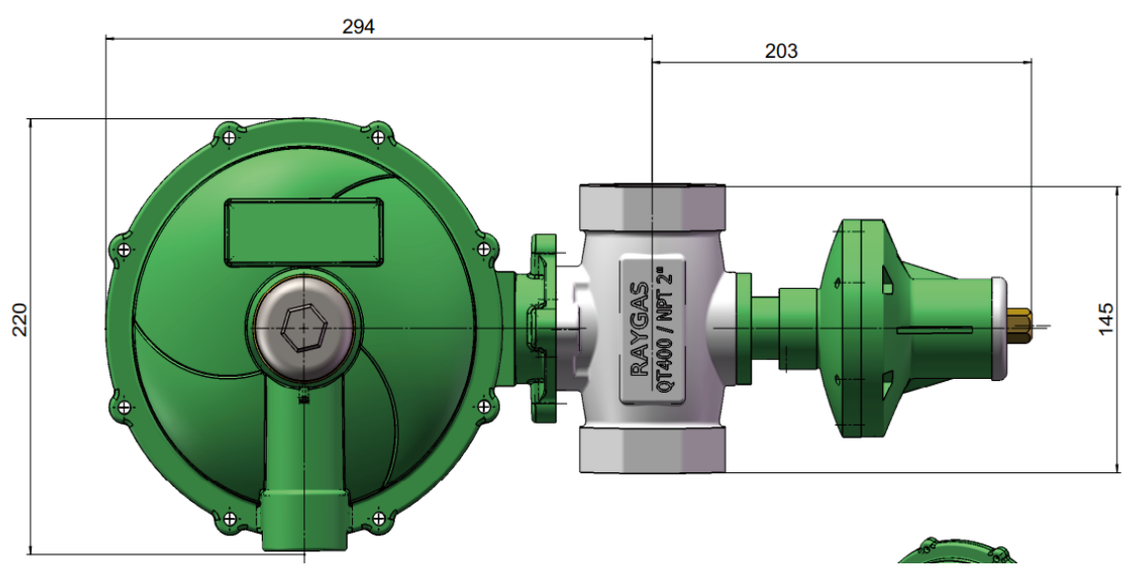
R47 Series Dimentions













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