

Description

Gas Pressure Closing Regulator SET252 and regulator with built-in filter SET252/F with inlet pressure up to 500mbar, 0.5-1bar and 1-2bar.



Reference Standard: EN 88-1, EN 88-2, INSO 6027-1

Marked and approved by Iranian National Standardization

Organization based on INSO 6027-1

Classification (P₁ Up to 500mbar):

Class A, Group 2

Classification (P₁= 0.5 - 2bar):

Accuracy class: AC20

Lock-up pressure class: SG30

Group 2

Ambient temperature:

-15 °C to 60 °C

Gas Type:

NG, LPG, Town gas, Air

Connections:

DN40 (R_p 1 $\frac{1}{2}$)

DN50 (R_p 2)

Thread according to ISO 7-1, EN 10226

Operating pressure range:

1: up to 500mbar

2: 0.5-1bar

3: 1-2bar

Weight: 3.4 Kg

Built-in filter:

Reference standard: INSO 22107 – EN 13611

Certified by Iranian National Standardization Organization based on INSO 22107

Filtration: 50 µm (on request other filtration qualities)

Filtration area: 15600 mm²

Filter dusting: according to EN 779

Classification of filtration standard: M5 (According to EN779-2012)

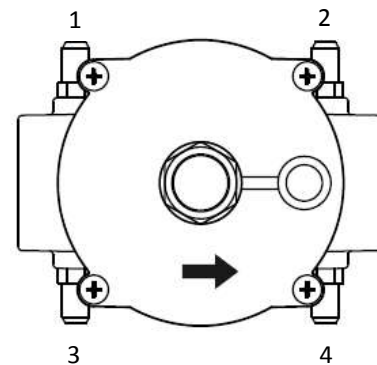


Spring selection table

Spring code	Color	P ₁ (mbar)			P ₂ (mbar)
		0.5	0.5 - 1	1 - 2	
SO16/29x115/140	Orange	8 - 13	-	-	
SB20/29x140/160	Blue	13 - 20			
SG16/29x140/130	Green	15 - 25			
SR22/29x140/135	Red	25 - 43			
SD25/29x150/140	Black	43 - 70			
SY25/29x150/180	Yellow	33 - 58			
SS30/29x140/180	Silver	55 - 110			
SW35/29x125/140	White	90 - 200			

Pressure Tapping Nipples (PTN)

Position 4 is the factory default option.

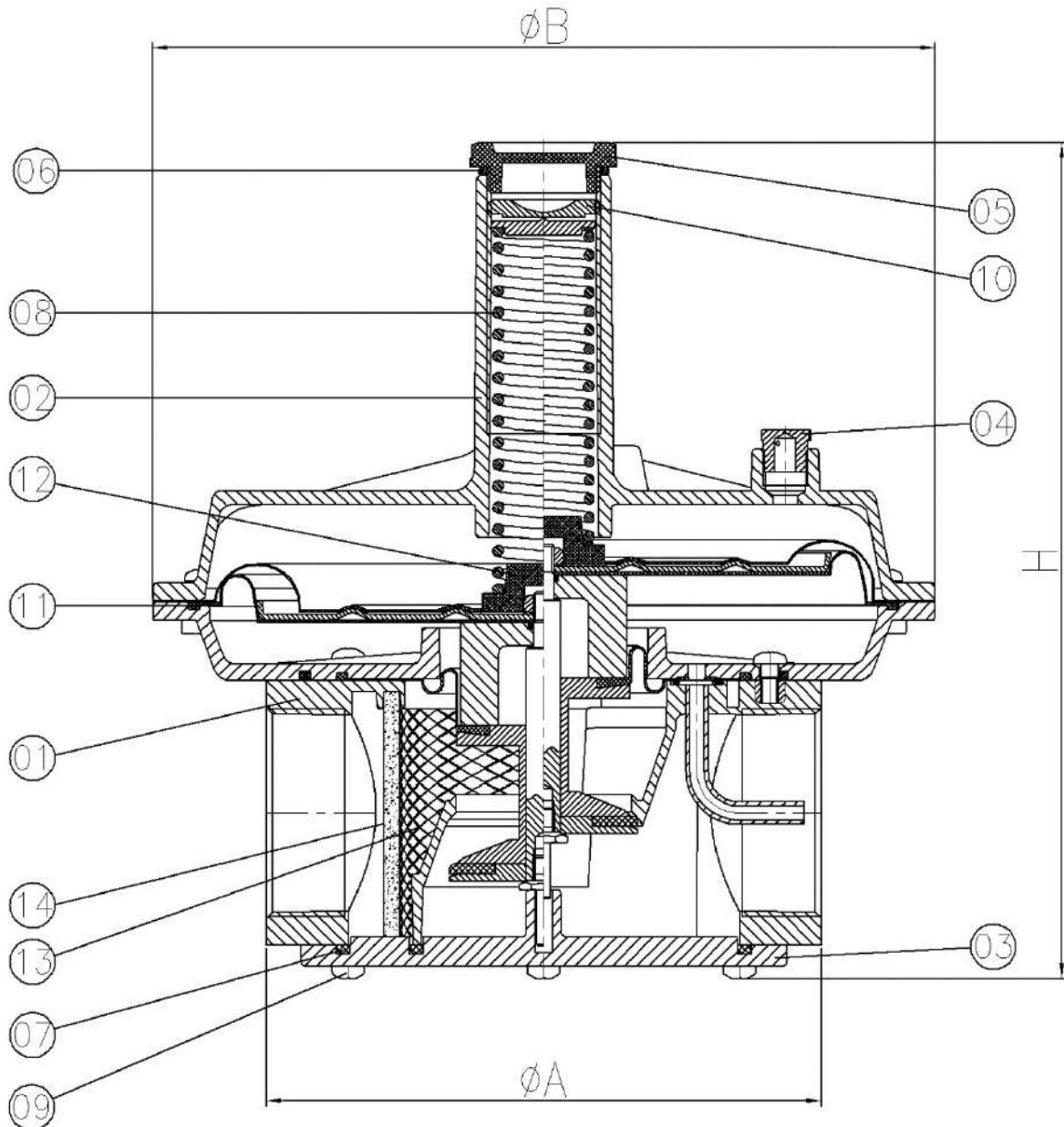


▲ Top View (schematic view)

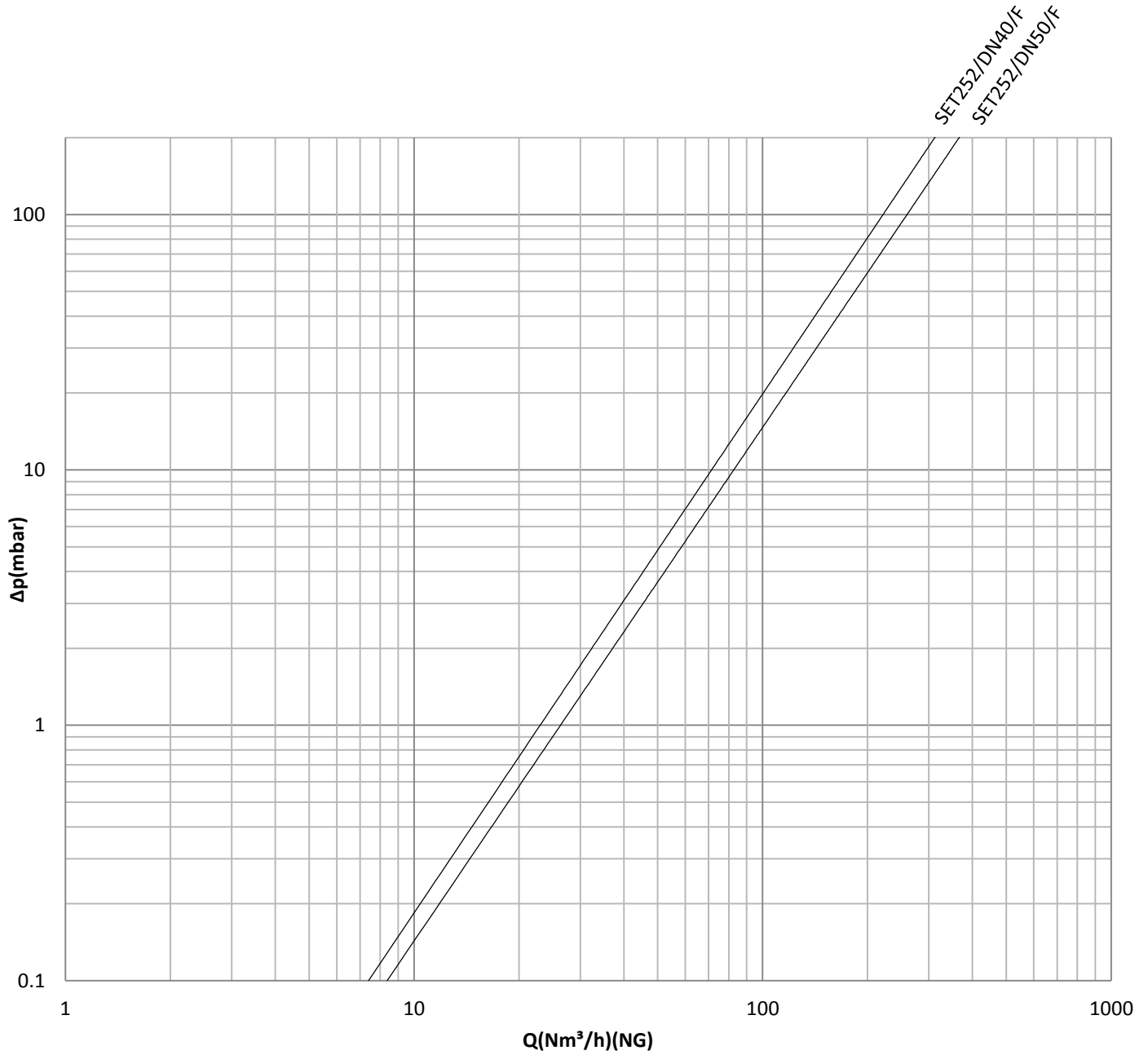
Example of ordering code

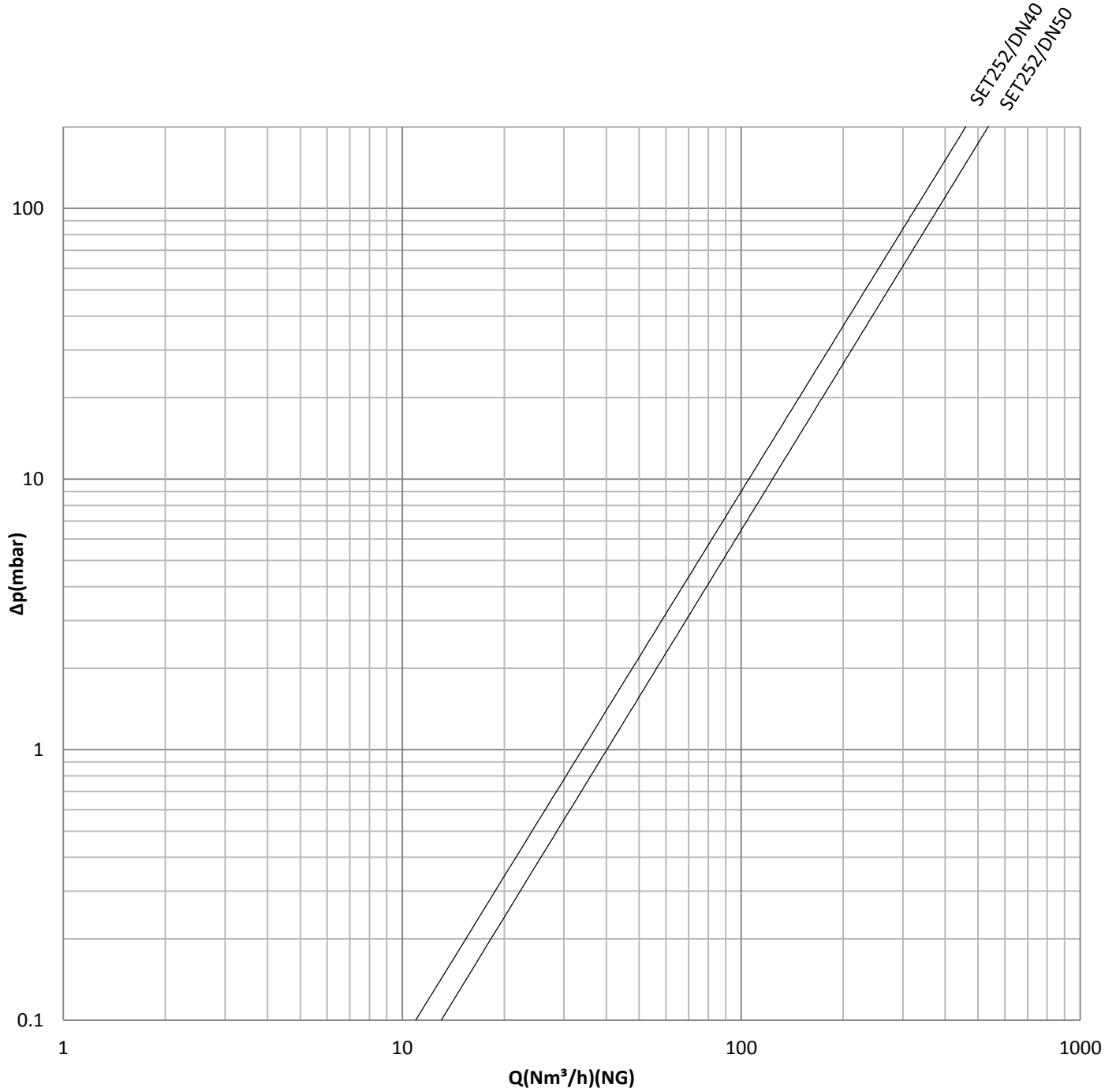
Type	SET252
With filter	/F
DN-Nominal size (R _p 1 1/2)	/DN40
Maximum inlet pressure (500 mbar)	/05
Outlet pressure (33-58 mbar)	/3358
PTN spot	/T4
Ordering code	SET252/F/DN40/05/3358/T4

Weight (Kg)	Dimensions AxBxH
3.4	160x225x240



09	Screw	STD		
08	Spring	STD	14	Strainer Polyester
07	O-Ring	NBR	13	Filter cage HDPE
06	O-Ring	NBR	12	Safety diaphragm NBR
05	Closing cap	PA	11	Working diaphragm NBR
04	Dust Cap	Brass	10	Adjustment screw Brass
03	Bottom cover	AL		
02	Top cover	AL		
01	Body	AL		
No.	Part name	Material	No.	Part name





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Instructions

In this manual, you will learn how to properly install, run, and use this product.

The manual is required wherever this product is used.

Please feel free to contact the technical support team if you need more information about installation, repair, or any other item not covered in the manual.



ATTENTION:

- Prior to installation, make sure that the system follows the local standards.
- Each product should only be selected, installed and maintained by experts according to instructions.
- Regulators should only be used for their intended purpose.
- The customer is not allowed to use any other gases than the specified.
- The control conditions must match the range that specified on the product label and the specifications in this guide. To maintain the pressure range, it is the customer's responsibility to set the other controls properly.
- In the event of a repair or a replacement, only parts approved by the manufacturer should be used. Using miscellaneous parts not only voids the warranty and support, but the controls are also prone to malfunction.
- When the control is installed outside, it requires a roof to protect it from rain and oxidation. The company is not responsible for any damage caused by improper use.

Considerations of Pre-installation

- It is necessary to close the gas upstream of the device prior to installation.
- It is important that the arrow on the device points toward the application.
- Ensure that the gas line pressure is lower than the maximum allowable pressure which is on the control label, and that it is within P₁ range.
- All components and pipes should be clean and free of foreign objects.
- Do not use the top cap neck as a lever to help screw it, but only use special tools.
- For non-standard connections with parallel threads, the pipe must have a thread length proportional to the thread length of the control so as not to damage the internal components.
- As a general rule, it is better to follow the recommendations that prevent unwanted events. For example: regular annual inspections.
- For flanged connections, flanges must be lined up and parallel with each other, and the space must be suitable for the thickness of the gasket to prevent excessive mechanical stress on the body.

Installation

Fasten and seal the control on a pipe or any other device that is fixed and has a suitable support.

Flanged connection

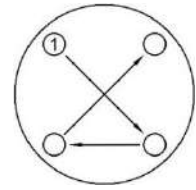
In order to convert a threaded control into a flanged one, a Rotating flange SET952 should also be ordered in proportion to the nominal size. This product includes an integrated flange (101), M8x25 screws(x4) (106), and one O-ring (103). This set does not include M16 bolts for installation and must be ordered separately (SET953) if required. SET953 has a package of M16x60 screws(x4) (107), M16 nuts(x4) (104), and 8 washers (108).

The steps and tips that should be considered when closing the flanged control are:

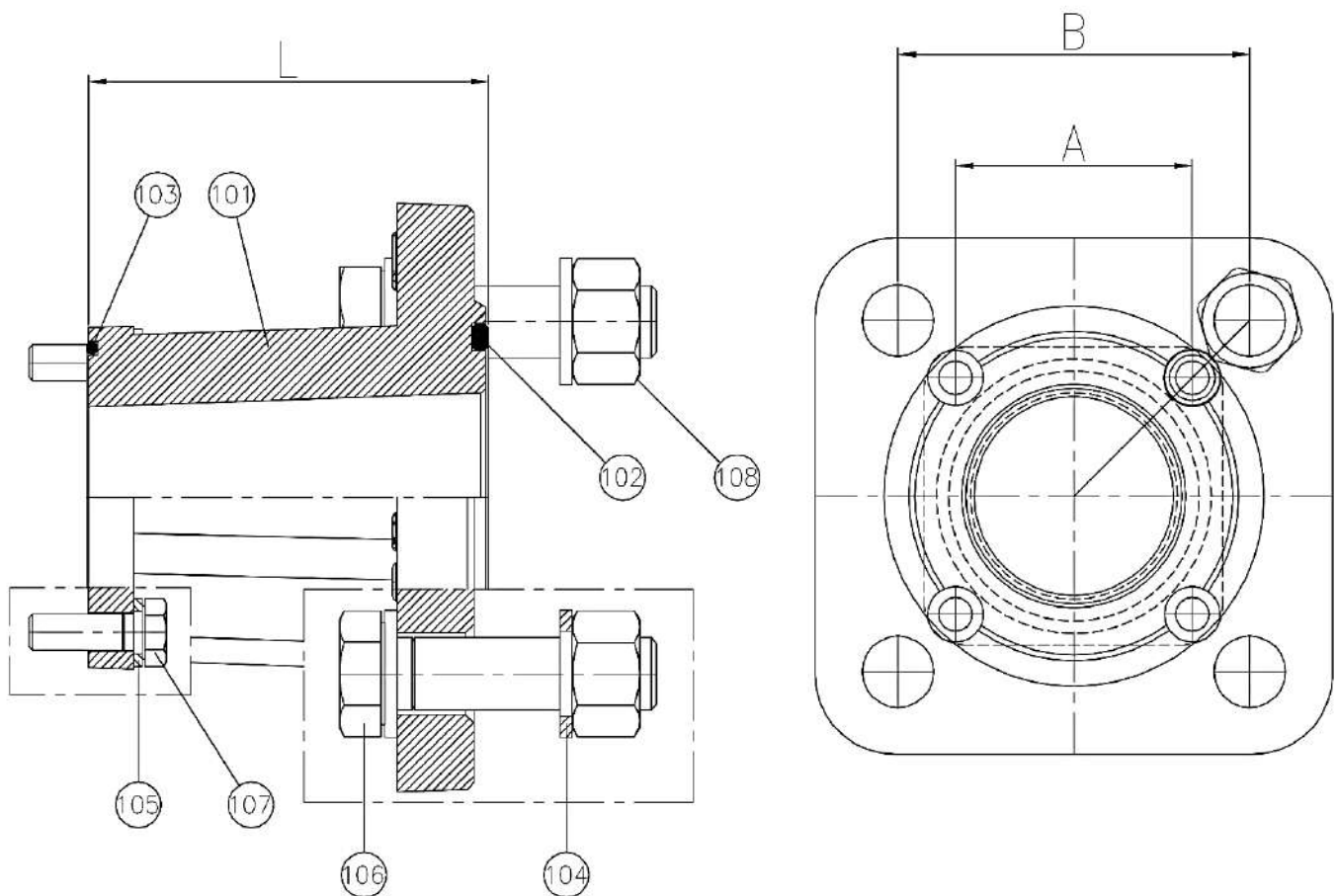
- 1) Fasten and seal the control on a pipe or any other device that is fixed and has a suitable support. The gaskets must be free from defects and must be centered between the flanges.

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- 2) If there is still extra space between the flanges after installation, avoid over tightening the screws. This problem should be investigated and resolved in principle.
- 3) Use suitable washers with the nuts.
- 4) Tighten the nuts or bolts gradually, in a "cross" pattern. Tighten them, first by 30%, then by 60% and finally 100% of the maximum torque. As specified by EN 10711, 51 N.m of torque is required to tighten M16 bolts. Also, Tighten M8 screws up to 25 N.m.



Size	Weight (Kg)	Dimensions AxBxL
DN40	1.1	59.5x78x87.5
DN50	0.9	59.5x88.5x65



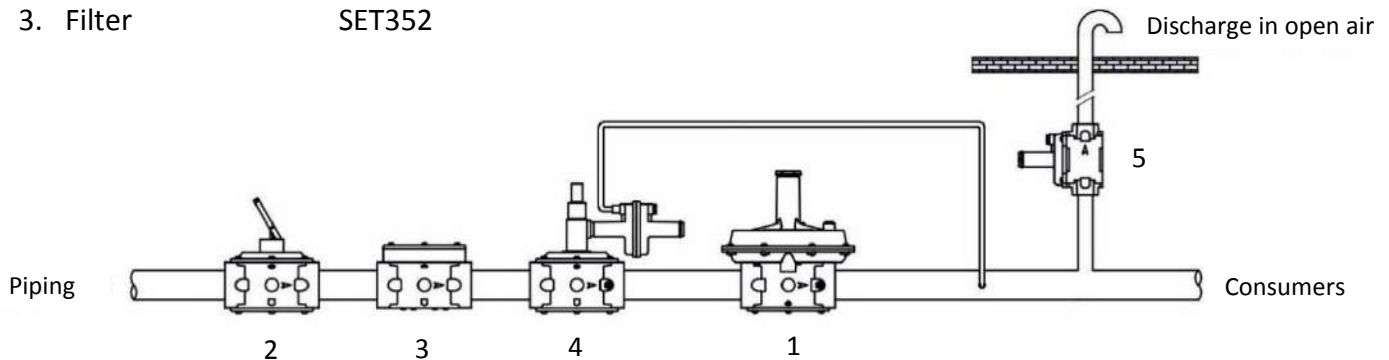
108	Washer	STD	ø28*ø17*2.7
107	Screw	STD	M16*60
106	Screw	STD	M8*25
105	Washer	STD	ø15*ø8.4*1.8
104	Nut	STD	M16
103	O-Ring	NBR	ø62*ø2.5
102	Sealing Washer	NBR	ø77*ø37.5
101	Body	AL	-
No.	Part name	Material	Dimensions


ATTENTION:

- The best position for installing the regulator is with the top cover (the location of the adjusting spring) facing upwards. In other installation cases, the correct operation of the control must be ensured.
- During installation, avoid getting debris or metal residue inside the device.
- Ensure that the O-ring (103) does not get displaced while tightening the screws.
- Once the installation is complete, ensure that there are no leaks.
- In the process of installation, troubleshooting or after repairs, it is necessary to check the effect of inlet gas pressure fluctuations by measuring the outlet gas pressure through the PTN in the regulator outlet.
- In testing piping leaks, be careful not to damage the regulator due to increased pressure.

Example

- | | | | |
|---------------------|--------|---------------------------------|--------|
| 1. Regulator | SET252 | 4. Max. Pressure Shut off Valve | SET275 |
| 2. Lever Hand Valve | SET271 | 5. Relief Valve | SET150 |
| 3. Filter | SET352 | | |


Installation in places where there is the risk of explosion

It does not pose a source of specific hazards when installed and serviced in full compliance with all the conditions described in this document. Specifically, the regulator will emit gas from the Dust cap (04) ONLY if both the working diaphragm (11) and safety diaphragm (12) malfunction. In particularly critical installation conditions (places without ventilation, no protection with gas detector, or poor periodic inspections) and especially if there are potential sources of ignition or hazardous equipment near the regulator, such as spark-prone devices like welding or electric arc, a preliminary assessment of the compatibility between the regulator and such equipment must be carried out. As a general rule, it is always best to follow advice that prevents unwanted consequences: For example, verify annual operation or intervene against external explosive discharges. The threaded hole of the top cover can be connected to the outside (using G1/4 connection) by removing the dust cap (04).

Maintenance


IMPORTANT: Installing and maintaining must be done by qualified personnel.



NOTE: It is necessary to close the gas upstream of the device prior to installation. Also, make sure that there is no pressurized gas inside.

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Selecting the appropriate regulator

Prior to selecting a regulator, the following should be specified:

- The inlet pressure (P₁) to the regulator or the pressure in the distribution network.
- Regulator output pressure (P₂) required to supply maximum consumer capacity.
- Maximum consumers capacity (Q)

The maximum inlet pressure must be within the allowable inlet pressure range of the regulator. Also, by selecting the appropriate spring from the spring table, desired outlet pressure can be obtained. On the other hand, by using the Capacity diagram and maximum capacity of the consumers, the pressure drop (ΔP) would be calculated. This value must be less than the difference between the inlet pressure (P₁) and the outlet pressure (P₂). Therefore, the following inequality must hold:

$$P_1 - P_2 > \Delta P$$



NOTE: Under fluctuating, the minimum inlet pressure is the criterion in the inequality. If two unequal parties are only slightly different or equal, it would lead to a decrease in quality and failure to stabilize the output pressure. If the difference on the unequal side is too great, a smaller regulator can be used, or the gas line pressure can be reduced.

Inspection of diaphragm

- 1- Unscrew the cap (05) and remove the adjustment screw (10) to release the pressure on the calibration spring (This must be done before the rest of the steps). Then remove the screws on the top cover (02).
- 2- Check the Safety diaphragm (12).
- 3- By opening the center nut, the top disk of diaphragm is released and the Working diaphragm (11) can be removed and checked.
- 4- Following the inspection, the diaphragm should be replaced if necessary, then the mounting steps should be performed carefully in reverse order of opening.
- 5- Once the installation is complete, ensure that there are no leaks.

Checking the Strainer


- 1- Loosen the fastening screws (09) and carefully remove the bottom cover (03).
- 2- Check the obturator's integrity and, if necessary, replace the rubber seal.
- 3- Extract the filter cage (13) and take out the strainer (14) from it, and then check its conditions, Blow it and clean it, if necessary, replace it.
- 4- Reassemble the bottom cover (03) and secure it in its original position. As you place the filter cage on the body (01) ensure it fits perfectly in the groove. Make sure the sealing O-Ring (07) of the bottom cover (03) is inside the relevant groove before putting it back on.

Adjusting the outlet pressure



NOTE: Ensure that the spring supplied with the regulator is appropriate for the desired adjustment pressure before starting the system.

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- 1- Unscrew the cap (06), then unscrew the adjustment screw (10) and set it to the minimum calibration allowed (loosen the screw to the top).
- 2- To increase the pressure calibration downstream of the regulator, tighten the adjustment screw (10) to the desired value. Ensure there is a minimum flow downstream of the regulator.
- 3- To measure the pressure, PTN can be used, if any. Another option is to use a calibrated pressure gauge downstream of the regulator (5 DN or more).

Warranty

The warranty period on all SETAAK gas controls is 24 months, beginning on the day of the production.

For damage caused by:

- Misuse of the device;
 - Failure to observe the requirements described in guide booklet;
 - Failure to observe the regulations pertaining to installation;
 - Tampering, modification and use of non-original spare parts;
- are not covered by the rights of the warranty or compensation for damage.

The warranty also excludes maintenance work, the assembly of other manufacturers' parts, making changes to the device and natural wear.

Insurance

SETAAK gas controls are covered by 60 months of civil liability insurance from the date of manufacture.

Location of warranty and insurance services



Warranty, support and insurance are limited to the Islamic Republic of Iran. Obviously, in export cases, the agreement with the customer is the criterion.

Further Information

You can get required information about SETAAK gas controls through <https://www.setaak.com/en/igc-fa>.

Label Information

- 1) Manufacturer's Name/Logo: **SETAAK**
- 2) Product Order Code: *SET252/F/DN50/05/3358/T4*
- 3) Inlet Pressure Range: $P_1 : \dots - 500 \text{ mbar}$
- 4) Outlet Pressure Range: $P_2 : 33 - 58 \text{ mbar}$
- 5) Maximum operating pressure range: $P_{\text{max}} : 500 \text{ mbar}$
- 6) Temperature range: $-15 \text{ C to } 60 \text{ C}$
- 7) Serial No.: *6265370097*
- 8) Iranian Standard mark
- 9) In accordance with the standard: *INSO6027-1, EN88-1 C1.A Gr2*
- 10) Standard ID: *6320688895*
- 11) Standard product inquiry SMS number: *10001517*
- 12) QR code for receiving useful information

SETAAK	
SET252/F/DN50/05/3358/T4	
$P_1 : \dots - 500 \text{ mbar}$	
$P_2 : 33 - 58 \text{ mbar}$	
$P_{\text{max}} : 500 \text{ mbar}$	6320688895
$T : -15 \dots 60 \text{ }^\circ\text{C}$	(Up to 500mbar)
6265370097	SMS: 10001517
Acc.to : INSO6027-1, EN88-1 C1.A Gr2	
	

If you have any questions, contact the sales unit.

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