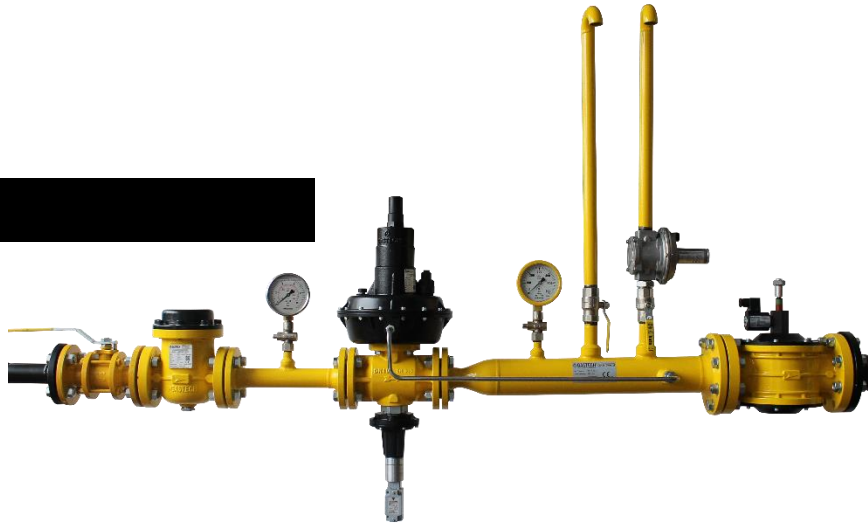


PRODUCT DESCRIPTION



Type "GS and Z" cellular gas filters are designed for retaining gas impurities, such as dust, rust and other solid particles, in gas-carrying lines at a defined location. They are mainly used in gas pressure regulating and measuring stations, power plant and upstream of equipment, the function of which would be impaired by contaminants. The filters are suitable for gases in accordance with DVGW Code of Practice G 260 / G 262 and neutral non-corrosive gases. (Other gases on request).

- Outdoor version as standard
- Easily replaceable filter cartridge with hydrophobic filter medium
- Optimized flow control ensures high filtration efficiency
- Optionally available with differential pressure measurement
(for electric remote transmission , differential pressure gauge with limit switch)

Suitable for stations in gas transmission, LPG, LNG and CNG facilities.



Suitable for gas pressure regulator all small, medium and high capacity boiler plant (Hot water boiler, steam boiler, hot oil heaters, etc...)



Suitable for process combustion system and all pre-burner gas trains



Cartridge Filter

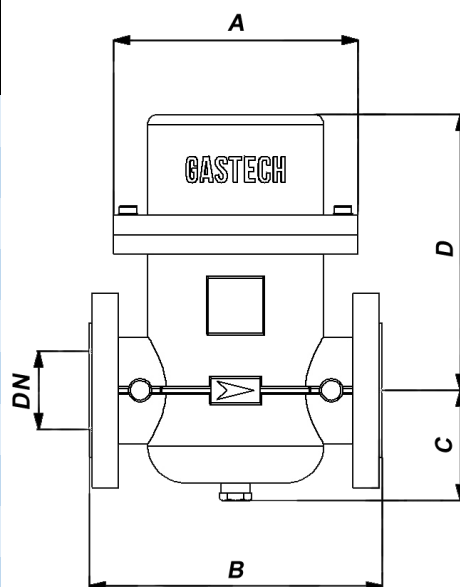
TECHNICAL DATA		
Type	GS	Z
Maximum permissible pressure (PS)	25 bar	50 bar
Nominal Size	from DN25 – DN300 (1" – 12")	from DN25 – DN300 (1" – 12")
Connections	Flanged to DIN PN16 or ANSI Class 150 RF	Flanged to DIN PN40 or ANSI Class 300 RF
Temperature Range	Operating and ambient temperature -20 °C to +70 °C (Optional -40 °C)	
Body - Cover Materials	DN25 – DN100 Spheroidal Graphite Iron DN125-DN300 ASTM A 106 Gr B	DN25 – DN100 Cast steel DN125-DN300 ASTM A 106 Gr B
Sealings	NBR	NBR
Approximate ΔP value for filter cartridge change	800 - 1000 mbar	800 - 1000 mbar
ΔP max limit for soiled filter cartridges	2000 mbar	2000 mbar
Filtration efficiency	Standard 99.9% of particle size > 2 μm	
Filter Area	see pages 4	
Pressure Volume	see pages 4	
Testing	DIN 3386, DVGW worksheet G 498 and DIN 30690-1	
CE-mark acc. to PED and PIN-Nr.	CE1783	612-PED-062/2014-01
Explosion protection	Mechanical components of regulator do not contain a potential ignition source, thus do not fall in limits of ATEX 95 (94/9/EG). (Used electronic accessories comply with ATEX-demands.)	



Cartridge Filter

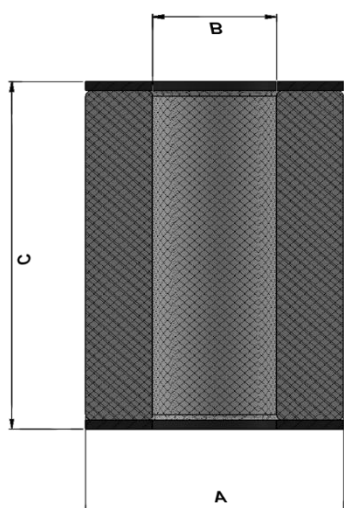
DIMENSIONS AND WEIGHT

SIZE	A (mm)	B (mm)	C (mm)	D (mm)	INTERNAL VOLUME (lt)	WEIGHT (kg)
DN25	160	210	80	163	2.2	18
DN32	160	210	80	163	2.2	19
DN40	160	210	80	163	2.2	19
DN50	160	210	80	163	2.2	21
DN65	250	300	113	283	8.3	57
DN80	250	300	113	283	8.3	57
DN100	250	300	113	283	8.3	59
DN125	407	700	200	450	38	128
DN150	483	800	250	500	63	170
DN200	500	900	280	640	130	286
DN250	620	1100	370	730	200	455
DN300	730	1100	530	920	350	690



CARTRIDGE SPECIFICATIONS

SIZE	CARTRIDGE TYPE	A (mm)	B (mm)	C (mm)	FILTRATION (μ)	FILTRATION AREA (m ²)
DN 25	G 0.5	80	35	120	2-5-10	0,06
DN 32	G 0.5	80	35	120	2-5-10	0,06
DN 40	G 0.5	80	35	120	2-5-10	0,06
DN 50	G 0.5	80	35	120	2-5-10	0,06
DN 65	G 1.5	120	69	210	2-5-10	0,23
DN 80	G 1.5	120	69	210	2-5-10	0,23
DN 100	G 1.5	120	69	210	2-5-10	0,23
DN 125	G 2.5	200	110	283	2-5-10	0,72
DN 150	G 3	252	138	320	2-5-10	0,95
DN 200	G 4	299	186	415	2-5-10	1,45
DN 250	G 5	390	246	470	2-5-10	2,30
DN 300	G 6	475	320	625	2-5-10	4,20



Cartridge Filter

CAPACITY TABLE

 These values are valid for natural gas of $\rho_n = 0.61 \text{ kg/m}^3$ and $t = 15^\circ\text{C}$. $\Delta p 100\text{mbar}$

SIZE	INLET PRESSURE (bar)												
	0.5	1	2	3	4	5	6	10	12	19	25	40	50
DN 25	70	93	139	185	230	276	322	506	598	920	1196	1886	2345
DN 32	114	152	227	302	378	453	528	830	980	1508	1960	3089	3843
DN 40	178	237	355	472	590	708	825	1296	1532	2356	3062	4827	6004
DN 50	278	370	554	738	922	1106	1290	2025	2393	3681	4784	7543	9382
DN 65	470	626	936	1247	1558	1869	2180	3423	4044	6220	8085	12747	15855
DN 80	712	948	1419	1889	2360	2831	3302	5185	6127	9422	12247	19309	24017
DN 100	1113	1481	2216	2952	3688	4423	5159	8101	9573	14722	19136	30170	37527
DN 125	1739	2314	3463	4613	5762	6911	8061	12659	14957	23003	29900	47141	58635
DN 150	2504	3332	4987	6642	8297	9952	11608	18228	21539	33125	43056	67883	84435
DN 200	4452	5923	8866	11808	14751	17693	20636	32406	38291	58888	76543	120681	150106
DN 250	6956	9255	13853	18450	23048	27646	32243	50634	59829	92013	119599	188564	234541
DN 300	10017	13327	19948	26569	33189	39810	46431	72913	86154	132499	172223	271532	337739

Flow with Other Gases

In the tables above, the flow is in Nm³/h natural gas with a density 0.61 and temperature 15°C. To convert to other gas flow, using the following formula:

$$Q \text{ (Scm/h Natural gas)} \times F_c = Q \text{ (Scm/h Xgas)}$$

Example:

$$Q \text{ (Scm/h Natural gas)} \times 0.78 = Q \text{ (Scm/h Air)}$$

$$1 \text{ Scm/h Natural gas} = 0.78 \text{ Scm/h Air}$$

Correction Factor Fc at 15°C

Propane	0.64
Butane	0.55
Oxygen	0.76
Air	0.78
Nitrogen	0.81
Biogas	0.85
Town gas	1.23
Hydrogen	3.04

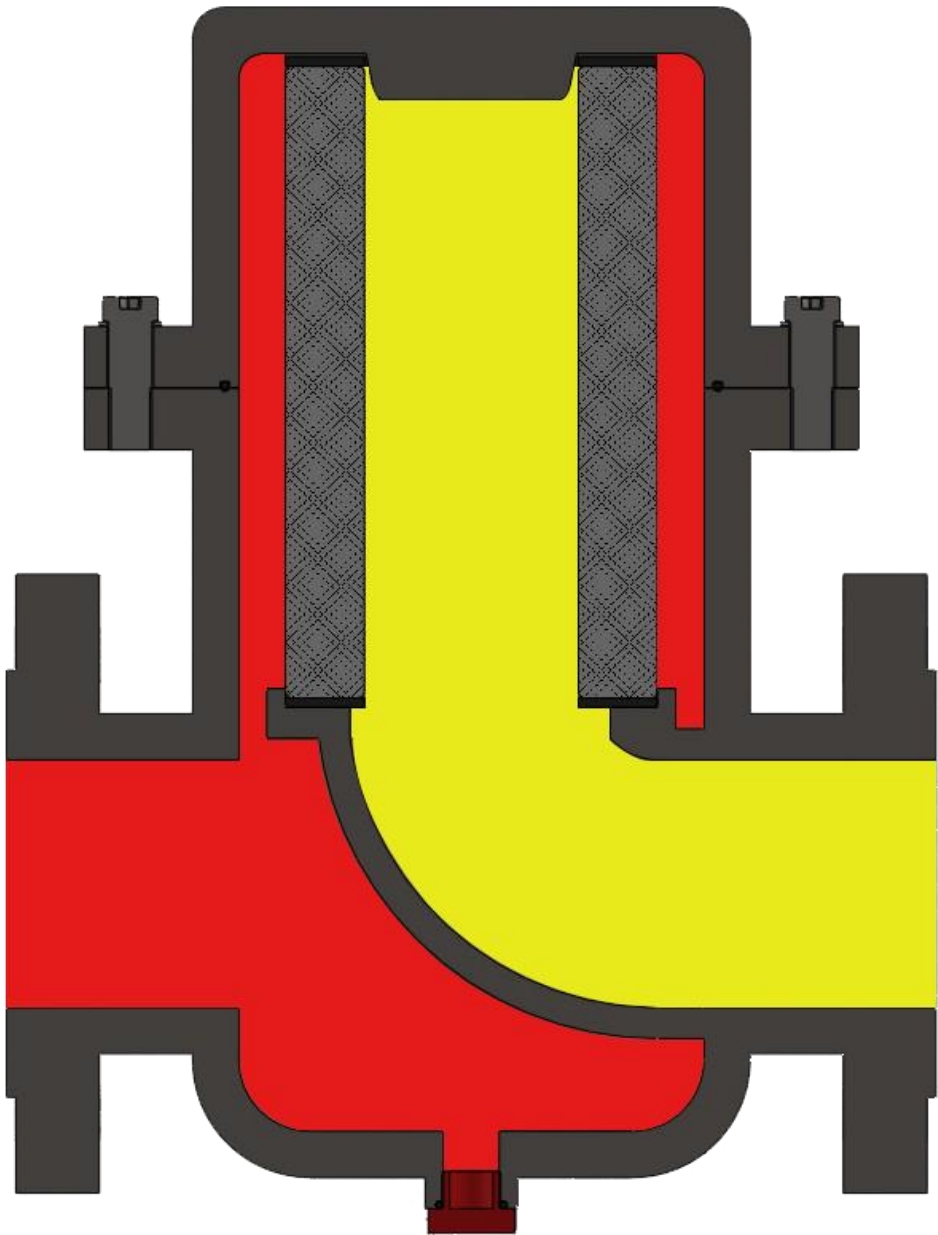
Cartridge Filter

ORDERING DATA

GS / 25 / 25 / 150 / RL / DV / DP	
TYPE	type
GS Z	
SIZE	size
DN 25	25
DN 32	32
DN 40	40
DN 50	50
DN 65	65
DN 80	80
DN 100	100
DN 125	125
DN 150	150
DN 200	200
DN 250	250
DN 300	300
MAXIMUM WORKING PRESSURE	maximum working pressure
25 bar	25
50 bar	50
FLANGED DESING	flanged desing
PN 16	16
PN 40	40
ANSI 150	150
ANSI 300	300
FLOW DIRECTION	flow direction
Inlet Right – Outlet Left	RL
Inlet Left – Outlet Right	LR
DRAIN VALVE	drain valve
Without Ball Valve Connection	-
With Ball Valve Connection	DV
DIFFERENTIAL PRESSURE GAUGE	differential pressure gauge
Without Differential Pressure Gauge	-
With Differential Pressure Gauge Connection	DP
With Differential Pressure Gauge Connection + Reed Contact	DPC



POSTER



Dirty Gas



Cleaned Gas

Cartridge Filter

1. General information

All persons involved with the assembly, operation and / or maintenance of the gas cell filter must read and understand all of the following documents:

- Technical product information «GS-Z» – this GASTECH document contains the equipment’s technical data and dimensions as well as instructions concerning set-up and mode of operation.
- General operating manual for gas pressure regulators and safety devices – this GASTECH document contains information on assembly and operation as well as general information on troubleshooting.
- Operating and maintenance instructions / spare parts (ct14-2016-r2)– this GASTECH document contains more detailed information on assembly and operation of the gas cell filter.

There are national laws and regulations for all sorts of jobs on gas pressure governors, from planning to maintenance.

Inspection and maintenance intervals depend mostly on operating conditions and the nature and properties of the gas. There are no general rules or recommendations for intervals. For Europe , we recommend to consider maintenance intervals as stated in DVGW work sheet G 495 in a first instance. However, in the mid-term, intervals must be adapted to the requirements of each specific equipment.

During maintenance, components must be cleaned and then checked thoroughly. This is necessary even if there have not been any unusual observations during operation and / or functional testing. Checks must cover, in particular, filter insert and the sealing rings.

Any and all defective parts must be replaced with new ones. The same applies to O rings removed during disassembly. Do not use any spare / wear parts and / or oils & lubricants not specified in the GASTECH operating and maintenance instructions for spare parts. In the event spare / wear parts and / or lubricants & oils other than those specifically recommended are used, GASTECH shall not be held liable for any defects and / or consecutive damages attributable to such use of illegal parts, lubricants, oils etc. Item numbers mentioned in the specific operating and maintenance instructions correspond with the numbers in the spare parts lists and drawings.

Some parts in the lists and drawings are marked with a letter “W”. We recommend to always have a reserve of those parts in stock for maintenance purposes.

Those spare parts are put together in another separate list at the end of the spare parts list.

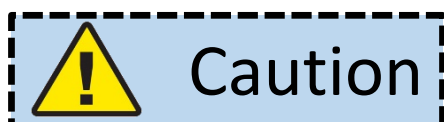
OPERATING AND MAINTENANCE INSTRUCTIONS / SPARE PARTS

1.1 Safety information

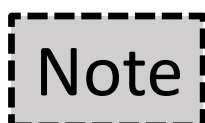
In this manual, safety information is highlighted by means of the following signal words and eye catchers:



Danger to life and limb



Danger of damage to property and / or the environment



Important additional information

2. Specific maintenance instructions

During maintenance, components must be cleaned and checked visually. Be thorough.
Carry out a functional check: measure a pressure drop in the resistive gas flow.
Limit value for dirty filter insert is 0.5 bar

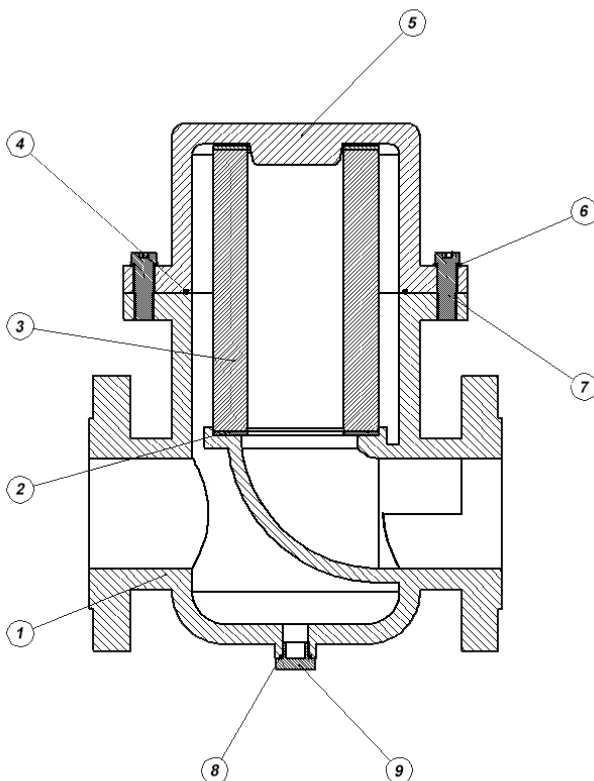
- * Clean the filter mesh. Or replace the filter insert altogether.
- * Grease the O rings according to the lubricant table.
- * Apply grease sparingly. Replace damaged sealing rings.
- * Tightening torques for fixing the hood: Be sure to observe indications given in the table "Tightening torques".

DESIGN and FUNCTION


Gas flows through the inlet flange into the filter body. The filter area which is up to or more than 100 times larger than the cross-section of the inlet flange reduces the velocity of the gas flow accordingly. The dust particles carried along with the gas are retained by the filter element. The cleaned gas is discharged through the outlet flange.

A filter mainly consists of a body (1), a lid (5) and a filter cartridge (3). The filter cartridge can be easily accessed for maintenance or replacement by removing the lid. The filter cartridge comprises a filter basket and a filter element. A filter cartridge with an appropriate pore size according to the application and the particle size to be filtered should be used. The filter cartridge is sealed by two sealing rings which are mostly integrated within the filter cartridge.

The cover (5) on the underside of the filter allows a comfortable distance incurred residues.



LABELING




COMMERCIAL: - OFFICES:
34815 ISTANBUL Turkey
-Phone +90 216.465.14.75
-Fax +90 216.465.14.77
*E-mail: info@gastech.com.tr

CARDRIDGE GAS FILTER

Code : GS100-25-16-LR

S. No : 21430 - 14.01.2016
Pmax : 25 bar Connect : DN100 PN25
Ptest : 41,5 bar
Material : GGG50
Fluid : Natural Gas
Filter Type : G 1,5
Temp. : 20 ... +70 °C
Internal Volume : 8.3 lt
Filtration Efficiency : %99.9 - 5µm



CE 1783
According to the PED 97/23

Made by Gastech LTD./ Istanbul TURKEY

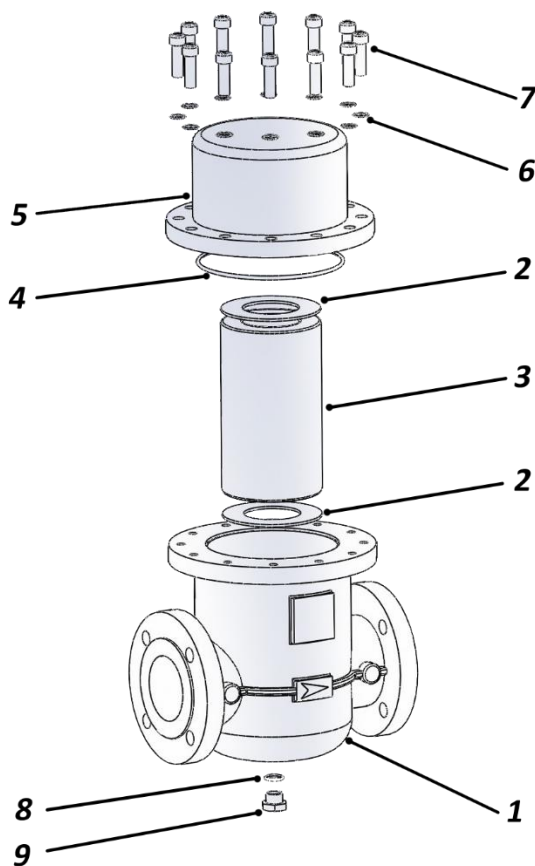
Cartridge Filter

OPERATING AND MAINTENANCE INSTRUCTIONS / SPARE PARTS

SPARE PART LIST

for DN25 – DN100

ITEM	Part Name	Number	S	Material	DN25-DN50	DN65-DN100
1	Main Body	1		GS	2.10.0001	2.10.0002
1	Main Body	1		GGG	2.10.0010	2.10.0020
2	Particles Sealing Ring	2	S	NBR	2.10.0002	2.10.0003
3	Cartridge	1	S	> 2 μm	2.10.0004	2.10.0004
3	Cartridge	1	S	> 5 μm	2.10.0005	2.10.0005
3	Cartridge	1	S	> 10 μm	2.10.0006	2.10.0006
4	Cover Sealing O-ring	1	S	NBR	2.10.0007	2.10.0007
5	Main Cover	1		GS	2.10.0011	2.10.0012
5	Main Cover	1		GGG	2.10.0013	2.10.0014
7	Cover Screw	8	S	St	2.10.0008	2.10.0008
7	Cover Screw	12	S	St	2.10.0009	2.10.0009
8	O-ring	1	S	NBR	2.10.0016	2.10.0016
9	Sealing Cap	1		St	2.10.0010	2.10.0010



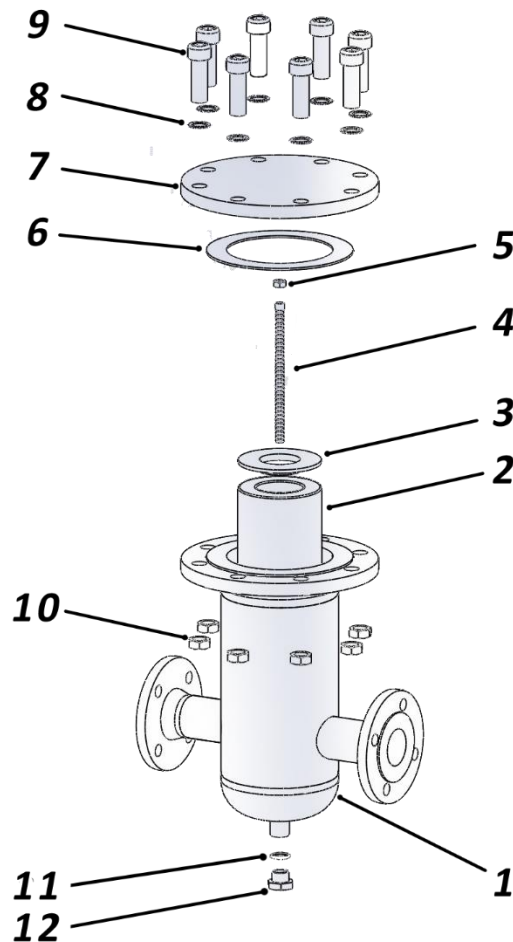
Cartridge Filter

OPERATING AND MAINTENANCE INSTRUCTIONS / SPARE PARTS

SPARE PART LIST


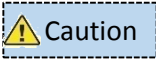

for DN125 – DN300

ITEM	Part Name	Number	S	Material	DN125	DN150	DN200	DN250	DN300
1	Main Body	1		St	2.10.0016	2.10.0017	2.10.0018	2.10.0019	2.10.0020
2	Cartridge	1	S	> 2 µm	2.10.0021	2.10.0021	2.10.0021	2.10.0021	2.10.0021
2	Cartridge	1	S	> 5 µm	2.10.0022	2.10.0022	2.10.0022	2.10.0022	2.10.0022
2	Cartridge	1	S	> 10 µm	2.10.0023	2.10.0023	2.10.0023	2.10.0023	2.10.0023
3	Particles Seal. Ring	1	S	NBR	2.10.0024	2.10.0025	2.10.0026	2.10.0027	2.10.0028
4	Screwed Shaft	1		St	2.10.0029	2.10.0029	2.10.0029	2.10.0029	2.10.0029
5	Nut Shaft	1	S	St	2.10.0030	2.10.0031	2.10.0032	2.10.0033	2.10.0034
6	Sealing Cap	1	S	NBR	2.10.0035	2.10.0036	2.10.0037	2.10.0038	2.10.0039
7	Main Cover	1	S	St	2.10.0040	2.10.0041	2.10.0042	2.10.0043	2.10.0044
8-9-10	Cover Screw Kit	12	S	St	2.10.0045	2.10.0046	2.10.0047	2.10.0048	2.10.0049
11	Oring	1	S	NBR	2.10.0050	2.10.0050	2.10.0050	2.10.0050	2.10.0050
12	Sealing Cap	1		St	2.10.0051	2.10.0051	2.10.0051	2.10.0051	2.10.0051

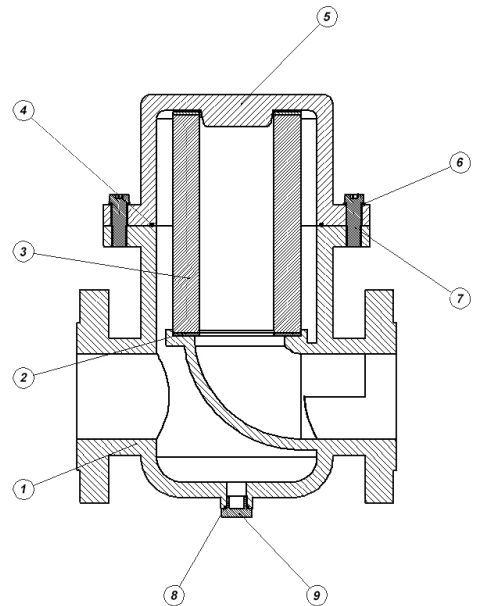


Cartridge Filter

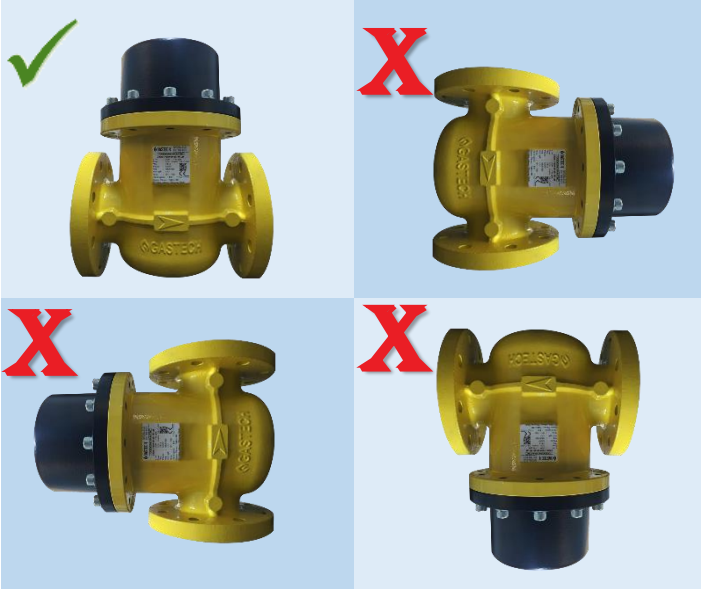
3. Changed Filter Cartridge

- a. Must drain the gas line. 
- b. (6) Unscrew bolts with suitable allen key.
- c. Cartridge(3), Cover Sealing O-ring(4), Particules Sealing Ring(2) Unplug respectively. 
- d. (6) Turn the screws clockwise, until the required torque
- e. Open the gas slowly. Close all valves and waiting 20 minutes. For leakage test. 

Note Must use Silicone grease for Cover Sealing O-ring

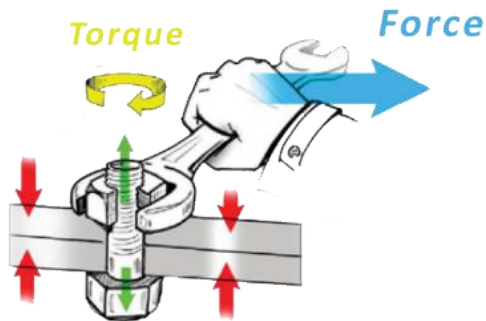


MOUNTING POSITION



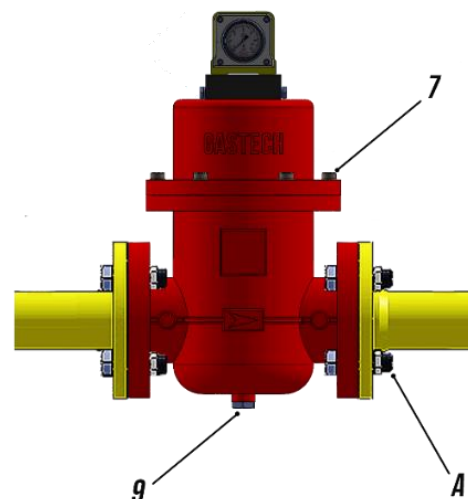
Cartridge Filter

OPERATING AND MAINTENANCE INSTRUCTIONS / SPARE PARTS



TIGHTENING TORQUES MA in Nm

SIZE	COVER BOLTS Part no: 7	PIPELINE FLANGED BOLTS AND NUT Part No: A	FOR VENT VALVE ACCESSORY Part No: 9
DN25	20Nm (M10)	30 Nm (M12)	15 Nm (G ¾")
DN32	20Nm (M10)	60 Nm (M16)	15 Nm (G ¾")
DN40	20Nm (M10)	60 Nm (M16)	15 Nm (G ¾")
DN50	20Nm (M10)	60 Nm (M16)	15 Nm (G ¾")
DN65	30 Nm (M12)	60 Nm (M16)	15 Nm (G ¾")
DN80	30 Nm (M12)	60 Nm (M16)	15 Nm (G ¾")
DN100	30 Nm (M12)	60 Nm (M16)	15 Nm (G ¾")
DN125	220Nm (M22)	60 Nm (M16)	30 Nm (G 1")
DN150	220Nm (M22)	170Nm (M20)	30 Nm (G 1")
DN200	220Nm (M22)	170Nm (M20)	30 Nm (G 1")
DN250	220Nm (M22)	220Nm (M22)	30 Nm (G 1")
DN300	220Nm (M22)	220Nm (M22)	30 Nm (G 1")



Cartridge Filter



TÜRK STANDARTLARI ENSTİTÜSÜ
TURKISH STANDARDS INSTITUTION

TAM KALİTE GÜVENCE MODÜLÜ BELGESİ

GASTECH MÜH. MÜŞ. SAN. TİC. LTD. ŞTİ.

Firması

Mahmut Şevket Paşa Köyü Mahmut Şevket Paşa Cad. No:6/A1 Beykoz/İSTANBUL

Adresinde ürettiği

"GASTECH" Markalı

GF Serisi : PN6 Giriş Basıncılı, DN15 (Dahil) – DN300 (dahil) arası çaplarda

GS Serisi : PN16 – PN25 Giriş Basıncılı, DN15 (Dahil) – DN300 (dahil) arası çaplarda

Z Serisi: PN50 Giriş Basıncılı, DN25 (Dahil) – DN100 (dahil) arası çaplarda

GAZ FİLTRELERİ

Kapsamı için

97/23/AT – Basıncılı Ekipmanlar Yönetmeliği **Tam Kalite Güvence Modülü - Modül H (EK-III)**

'in gereklerine göre ve TS EN ISO 9001:2008' in ilgili maddeleri dikkate alınarak tetkik edilmiş ve belgelendirilmiştir

Onaylanmış Kuruluş Numarası:	1783
Belge Veriliş Tarihi:	03.02.2015
Geçerlilik Tarihi:	03.02.2018
İnceleme Rapor Numarası:	612-PED-062/2015-02
Belge Değişiklik Tarihi / Nedeni:	01.07.2015 / Adres Değişikliği

Kalite Sisteminin Teknik Düzenleme/ Uyumlaştırılmış Standard gereklerini karşıladığını gösteren, işbu belge ile Kuruluş; tetkiki yapılan kalite sistemi kapsamında CE Uygunluk İşaretini, aşağıda gösterildiği şekilde ilaştırma ve Onaylanmış Kuruluş numarasını kullanmaya yetkilidir. Onaylanmış Kuruluş planlı/plansız gözetimler yapma hakkına sahiptir.

CE

Belge No: 1783 - PED - 078




Volkan GÜLEÇ
Direktifler Müdürü V.
ANKARA,(Rev.01),01.07.2015

Cartridge Filter

