

A/100 and A/110-Series Spring-Loaded Regulators

1. Description

The A/100-Series (2" gas threaded connections) and the A/110-Series (DN 50 PN 16 flanged connections) are spring-loaded regulators featuring single seats and non-balanced valves, and are normally supplied with built-in filters. The series, which comes in both the standard and high pressure (AP) versions, includes the following models:

A/101 and A/111 - without safety devices

A/102 and A/112 - with outlet overpressure relief valve

A/108 and A/118 - with outlet underpressure and/or overpressure independent, pneumatically controlled slam-shut valve (OS/66 actuator)

A/109 and A/119 - same as the A/108 and A/118 models but fitted with an outlet overpressure relief valve.

See Bulletin 0092 for actuator use and maintenance.

2. Installation

- Install the regulator in a covered area and, in any case, protect it against weather agents.
- Make sure that data shown on regulator plate is compatible with actual operating requirements.
- Check that regulator is mounted so that gas flows in the direction indicated by the arrow.

3. Commissioning

- Slightly open the outlet shut-off valve.
- In case of models fitted with slam-shut valve, relatch the valve by first loosening cap (C) and then screwing it onto the stem, after which pull cap outwards until a click is heard, indicating that balls are duly engaged.
See Bulletin 0092 for further details.
- Very slowly open the inlet shut-off valve.
- Wait for outlet pressure to stabilize.
- Finally, slowly open outlet valve fully.

4. Causes of Irregular Operation

4.1. In case of no gas flowing downstream of regulator, check that:

- Gas is being regularly fed into the regulator.
- The actuator is properly latched (only in models fitted with slam-shut valve).

4.2. In case of gas pressure decreasing on the outlet side of the regulator, check that:

- Sufficient gas is being fed into the regulator.
- Regulator capacity is compatible with desired flow rate.
- The inlet filter is not clogged.
- The spring is not broken.

4.3. In case of gas pressure increasing on the outlet side of the regulator or safety devices (relief valve or slam-shut valve) being activated, check that:

- Seal pad (19) or seat (20) are not worn.
- The seal pad is properly clean as dirt build-up may prevent regular functioning of the valve.
- The diaphragm (13) is not damaged or broken.

5. Periodic Checks

It is recommended that the regulator be periodically checked in order to ensure its proper functioning.

5.1. Checking regulator

Slowly close the outlet shut-off valve and check pressure in the length of pipe between the regulator and the valve. If the system is functioning properly, an increase in outlet pressure will be noticed due to lock-up pressure, after which pressure will stabilize. If, on the contrary, outlet pressure continues increasing, the system is not functioning properly due to improper valve disc seal. In this case, close the valve located upstream of regulator and carry out maintenance procedures as set out in section 6.3. below.

5.2. Checking relief valve (when fitted)

Close the valve located downstream of regulator. Next, connect a manual pump or other similar device to a previously fitted impulse

connection between the regulator and the valve and raise the pressure until relief valve is activated, i.e. until gas is released from vent.

5.3. Checking actuator (when fitted)

See Bulletin 0092 for instructions.

6. Maintenance Procedure

6.1. Warning

Maintenance should be carried out only by qualified, skilled personnel. If required, please contact Tartarini Technical Department or authorized dealers.

Before carrying out maintenance procedures, make sure that no gas under pressure is trapped in the regulator body. In order to release all gas from the regulator, first close inlet and outlet valves and then release gas from the line by opening the appropriate vent tap.

When carrying out general maintenance, replace all rubber parts. For this purpose, use only the spare parts included in Tartarini's spare parts kit.

Maintenance operations do not require removal of valve body from the line.

6.2. Cleaning the filter

Remove plug (25) or (50), slide out filter (22) and clean it with petrol. Reassemble the parts by carrying out the above steps in reverse order, taking care not to "pinch" the O-ring (26).

6.3. General Maintenance

- Remove screws (48) and clamp (30) in order to take off diaphragm case. Check O-rings (31 and 28).
- Remove plug (25) or (50) and filter (22) and slide out valve seat (20). If seat is worn or scored, replace it. Check O-rings (21 and 26).
- Check pad (19).
- Remove cap (1), ring nut (2) and spring (3), taking care to mark the exact position of the ring nut for remounting. In high-pressure models, loosen ring nut (55) and remove cap (52), taking care to mark its position.
- Remove screws (40) and take off cover (4).
- Remove the diaphragm assembly from the diaphragm case.
- Strip diaphragm assembly down into its various components. In the models fitted with relief valve, unscrew nut (5) and remove spring (8), taking care to mark the height of the preloaded spring in order to reassemble it in its original position, thus ensuring proper setting of the relief valve. For all other models, simply remove nut (5).
- Check diaphragm (13), seal (35), relief valve (59) and O-ring (58). Replace any worn or damaged parts.

Note: See Bulletin 0092 for actuator maintenance (if fitted).

6.3. Reassembling

Reassemble parts by carrying out the steps outlined in 6.3. above in reverse order. Upon reassembling, make sure that each part moves freely. Moreover, take care that:

- All the seals are lubricated with MOLYKOTE 55 M. Use utmost care to ensure against any damage during reassembling.
- Diaphragm (13) is properly reassembled by lubricating it with some grease and by carefully fitting it into the case (37).
- All screws are duly tightened in order to ensure proper sealing.
- There are no leaks, by using soapy water.

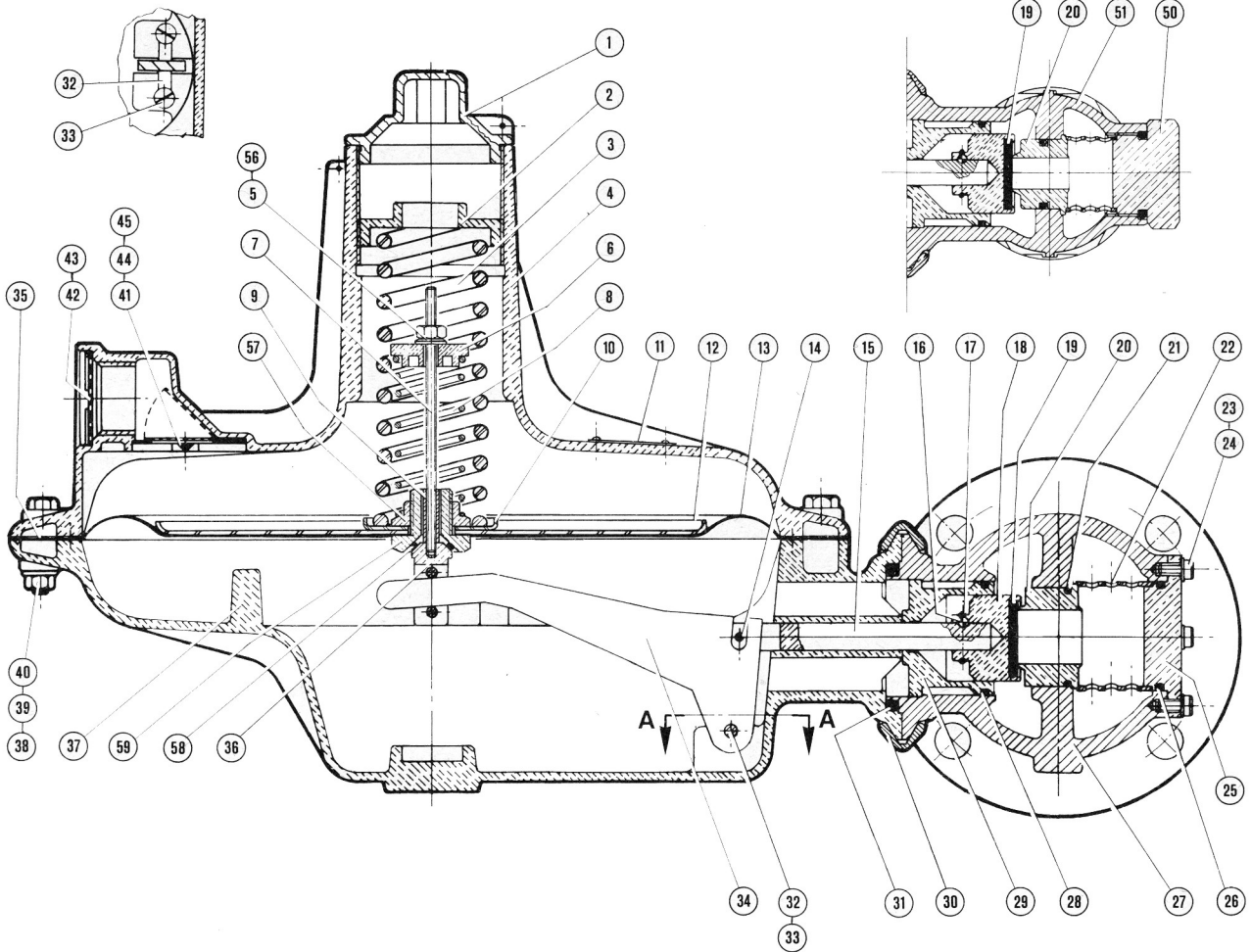
7. Setting

Install a pressure gauge downstream of regulator in order to measure outlet pressure. In case of pressure adjustment being required, rotate ring nut (2) (or cap (52) in high-pressure models) clockwise to increase pressure or anticlockwise to diminish it.

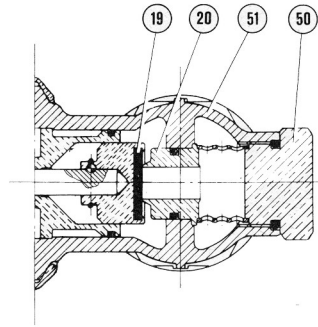
Check relief valve setting by carrying out the steps outlined in section 5.2 above. In case of pressure adjustments being required, use nut (6).

If required set point is at considerable variance with respect to factory-preset value, replacement of spring (3) with a more appropriate one may be necessary. Whenever spring is replaced, also check setting of the actuator (if fitted).

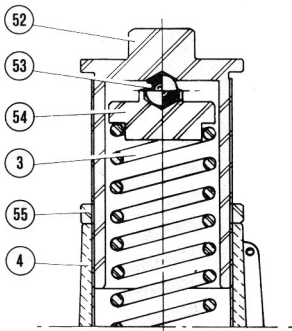
SEZIONE A-A
SECTION A-A



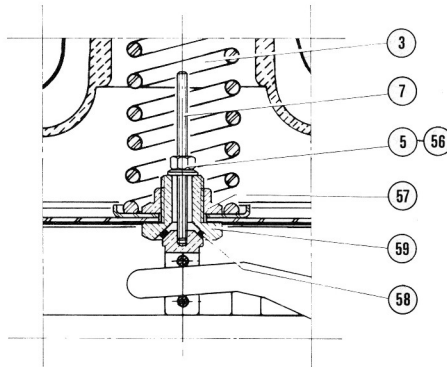
DETTAGLIO CORPO SERIE A/100
DETAIL OF A/100 SERIES BODY



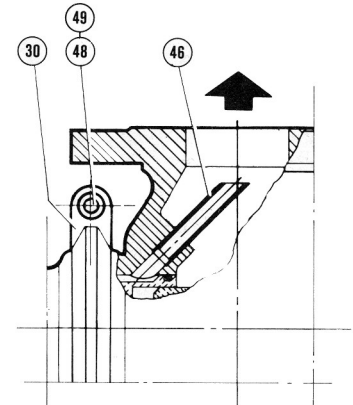
DETTAGLIO VALIDO PER
VERSIONE ALTA PRESSIONE
DETAIL OF
HIGH PRESSURE VERSION



DETTAGLIO VALIDO PER
A/101 A/108 A/111 A/118
DETAIL OF
A/101 A/108 A/111 A/118



DETTAGLIO PRESA DI IMPULSO
DETAIL OF IMPULSE PIPE



Manutenzione gruppo di riarmo

- a) Fare scattare l'organo di sgancio e rimuovere la presa di controllo (A).
- b) Allentare i grani (G) e sfilare l'organo di sgancio OS/66.
- c) Svitare le viti (24), sfilare il tappo (68) dal corpo e controllare lo stelo (63); se presenta segni di usura, svitare il porta-pastiglia (62), scomporre i particolari e sostituire lo stelo.
- d) Pulire e controllare tutti i particolari, sostituire quelli usurati.
- e) Lubrificare le parti in movimento e rimontare i particolari procedendo in senso inverso alle operazioni sopra descritte. A operazione ultimata controllare il corretto riarmo dell'organo di sgancio (vedi paragrafo 3 punto b).

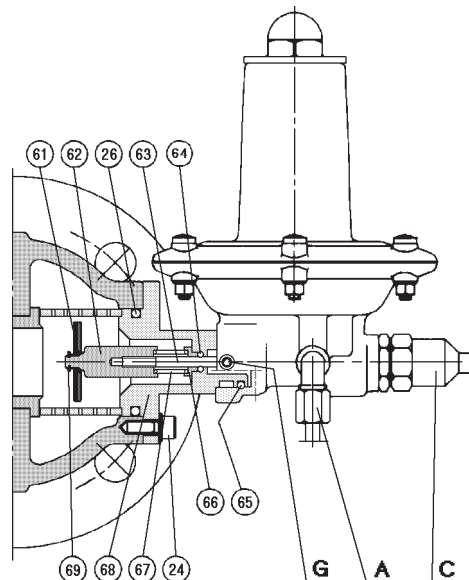
N.B.: per la manutenzione dell'organo di sgancio vedi bollettino 0092.

Montaggio organo di sgancio OS/66

Versioni A/108, A/118, A/109 e A/119 Standard e AP

Installation of the OS/66 actuator

A/108, A/118, A/109 and A/119 (both standard and AP versions)



Relatching Device Maintenance Procedure

- A. Trigger actuator and remove impulse line (A).
- B. Loosen dowels (G) and remove OS/66 actuator.
- C. Remove screws (24), take off cap (68) and check stem (63). If worn, replace the stem by unscrewing pad-holder (62) and dismantling the various components.
- D. Carefully clean and check all components, replacing those worn out.
- E. Lubricate moving parts and reassemble components by carrying out the afore-described steps in reverse order. After reassembling, check proper relatching of actuator (see 3.b above).

Note: For actuator maintenance procedure, see Bulletin 0092.

DATI DA FORNIRE PER LA RICHIESTA DI PARTI DI RICAMBIO

TIPO MATR. N.
 ATTACCHI
 N° PARTICOLARE
 DENOMINAZIONE
 ELENCO PARTICOLARI (riferito al Bollettino I-I-0095-02/07/92)

DATA TO BE SUPPLIED WHEN SPARE PARTS ARE REQUIRED

TYPE SERIAL No
 CONNECTIONS
 PART No
 NAME
 PARTS LIST (referred to Bulletin GB-I-0095-02/07/92)

N°	DENOMINAZIONE	NAME	N°	DENOMINAZIONE	NAME	N°	DENOMINAZIONE	NAME
1	Cappello	Cap	*28	O-Ring	O-Ring	55	Ghiera	Ring nut
2	Ghiera	Ring nut	29	Boccola	Bushing	56	Rondella	Washer
3	Molla	Spring	30	Fascetta	Clamp	57	Ghiera V.S.	Relief valve ring
4	Coperchio	Cover	*31	O-Ring	O-Ring	*58	O-Ring	O-Ring
5	Dado	Nut	32	Perno	Pin	59	Valvola di sfioro	Relief valve
6	Reggi-molla	Spring carrier	33	Vite	Screw	60	—	—
7	Stelo	Stem	34	Leva	Lever	*61	Gruppo pastiglia	Pad unit
8	Molla	Spring	*35	Guarnizione	Gasket	62	Porta-pastiglia	Pad holder
9	Boccola	Bushing	36	Stelo V.S.	Relief valve stem	63	Albero	Shaft
10	Piattello	Plate	37	Corpo	Body	*64	O-Ring	O-Ring
11	Targhetta	Data plate	38	Dado	Nut	*65	O-Ring	O-Ring
12	Piattello	Plate	39	Rondella	Washer	66	Reggi-molla	Spring carrier
*13	Membrana	Diaphragm	40	Vite	Screw	67	Molla	Spring
14	Spina elastica	Spring pin	41	Griffa	Clip	68	Tappo	Plug
15	Stelo a forcella	Forked stem	42	Seeger	Snap ring	69	Seeger	Snap ring
16	Sfera	Ball	43	Rete	Net			
17	Anello di fermo	Lock ring	44	Cornice	Frame			
18	Porta-pastiglia	Pad holder	45	Sportellino	Lid			
*19	Pastiglia	Pad	46	Tubo	Pipe			
20	Sede	Seat	47	—	—			
*21	O-Ring	O-Ring	48	Vite	Screw			
22	Filtro distanziale	Filter-spacer	49	Dado	Nut			
23	Rondella	Washer	50	Tappo filettato	Threaded plug			
24	Vite	Screw	51	Corpo filettato	Threaded body			
25	Tappo flangiato	Flanged plug	52	Cappello	Cap			
*26	O-Ring	O-Ring	53	Sfera	Ball			
27	Corpo flangiato	Flanged body	54	Reggimolla	Spring holder			

LE PARTI IN GOMMA INDICATE CON ASTERISCO (*) VENGONO FORNITE NEL "KIT RICAMBI" CONSIGLIATO COME NORMALE SCORTA MAGAZZINO.

RUBBER PARTS MARKED WITH (*) ARE INCLUDED IN THE "SPARE PARTS KIT", RECOMMENDED AS STOCK.