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Meter, Valve & Control
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Aperval 101

Pressure Regulators

Pressure regulators

Aperval 101

Aperval 101 is a pilot controlled regulator for low and medium pressure applications. Aperval 101 is a “fail-open” regulator.

It opens in case of:

- lack of pilot loop supply
- damage of main pilot diaphragm (pressure detector element)

This regulator is suitable for use within previously filtered, non-corrosive gases.

Its truly “top entry” design allows any maintenance operation without removing the body from the line.

Top entry construction

for easy Maintenance



**DESIGNED
WITH YOUR
NEEDS IN MIND**

- COMPACT DESIGN
- EASY MAINTENANCE
- TOP ENTRY
- LOW NOISE

- WIDE RANGEABILITY
- INTERNAL SENSING LINE
(ONLY FOR PILOTS SERIES HP)
- INTERNAL CONNECTION FOR
PILOT BLEED (ON REQUEST)

Pressure regulators

Aperval 101

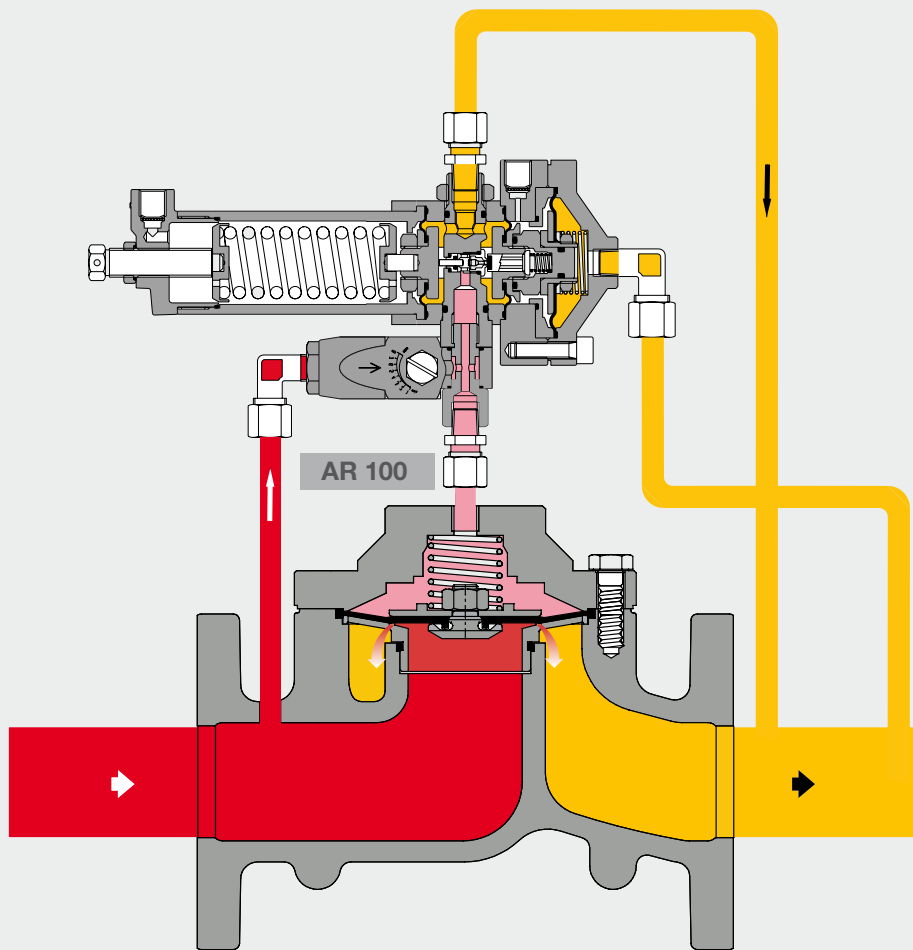


Fig. 1

MAIN FEATURES

Aperval 101

- > Design pressure: up to 17 bar (246,5 Psig) for spheroidal cast iron version
up to 18,9 bar (274 Psig) for cast steel version
- > Operating temperature: -10 °C to +60 °C (14 °F to + 140 °F)
- > Ambient temperature: -20 °C to +60 °C (-4 °F to + 140 °F)
- > Range of inlet pressure bpu: 0,5 to 18,9 bar (7,25 to 274 Psig)
- > Range of outlet pressure Wd: 20 to 9500 mbar (0,29 to 137,75 Psig)
- > Minimum working differential pressure: 480 mbar (6,96 Psig)
- > Accuracy class AC: up to 5 (according to operating conditions)
- > Lock-up pressure class SG: from 10 to 30 depending on the outlet pressure
- > Available size DN: 2"- 3"- 4"
- > Flanging: class 125FF- 125RF- 150RF according to ASME B 16.1, and PN16 according to ISO 7005-2

MATERIALS

Aperval 101

Body	Spheroidal cast iron GS 400- 18 ISO 1083 Cast steel ASTM A216 WBC
Head covers	Rolled or forged carbon steel
Diaphragm	Vulcanized rubber
Valve seat	Tecnopolymer
Seals	Nitril rubber
Compression fittings	According to DIN 2353 in zinc-plated carbon steel

The characteristics listed above are referred to standard products. Special characteristics and materials for specific applications may be supplied upon request.

Cg, KG and K1 coefficient
Aperval 101

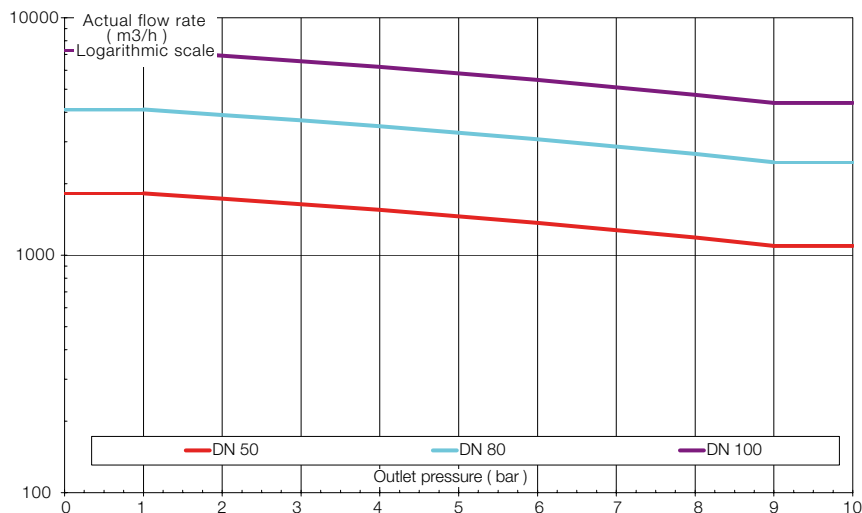
Nominal diameter (mm)	50	80	100
Size (inches)	2"	3"	4"
Cg flow coefficient	2091	4796	7176
KG flow coefficient	2199	5045	7546
K1 body shape factor	108	108	108

For sizing formula refer to www.fiorentini.com/sizing

Caution:

The graph gives a quick reference of maximum recommended regulator capacity depending on selected size.

Values are expressed in actual m³/h of Natural gas (s.g. 0,6): to have the data directly in Nm³/h it is necessary to multiply the value by the outlet pressure value in bar – absolute.

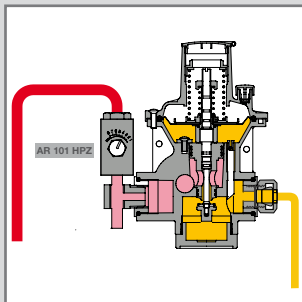


PILOTS

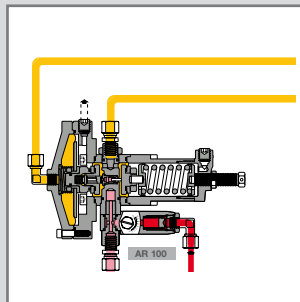
Aperval 101

Aperval 101 regulators are equipped with series 300 and HP pilot listed below:

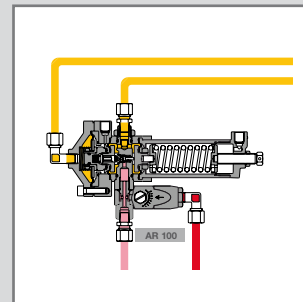
- HP 100AP + AR101HPZ control range Wh: 200 to 800 mbar (2,9 ÷ 11,6 Psig) on request
- HP 100APTR + AR101HPZ control range Wh: 800 ÷ 4500 mbar (11,6 ÷ 65,25 Psig) on request
- 301/A + AR100 control range Wh 20 to 100 mbar (0,29 ÷ 1,45 Psig)
- 301/A TR + AR100 control range Wh 100 to 2000 mbar (1,45 ÷ 29 Psig)
- 302/A + AR100 control range Wh 800 ÷ 9500 mbar (11,6 ÷ 137,75 Psig)



Pilot HP 100



Pilot 301/A



Pilot 302/A

Pilot adjustments

Aperval 101

Pilot type .../A	Manual setting
Pilot type .../D	Electric remote setting control
Pilot type .../CS	Pneumatic remote setting control

Restrictor

The pilot loop is completed with a device called restrictor, external to the pilot.
The restrictor listed below are available:

- **AR 100 and AR 101HPZ:** variable restrictor to adjust regulator response time complete with integral filter at the inlet. Standard supply with all pilots of 300 and HP Series

F.I.O.

Aperval 101

On request Aperval 101 can be equipped with F.I.O.- Five In One - Smart unit for remote outlet pressure set point adjustment and remote monitoring of pressure reducing stations main parameters.

F.I.O. is the ideal solution for any need of outlet pressure profiling. The integrated communication system based on GSM / GPRS technology makes F.I.O. the ideal and easy alternative to SCADA systems for remote operations of pressure reducing stations.

OPTIONALS

Aperval 101

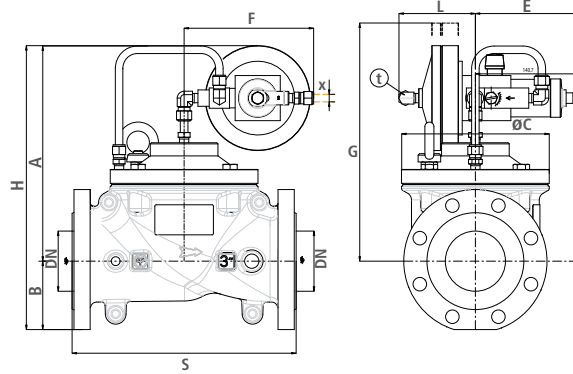
For Regulator

- reduced cage
- flow-limiting devices
- steel fittings, single or dual sealing

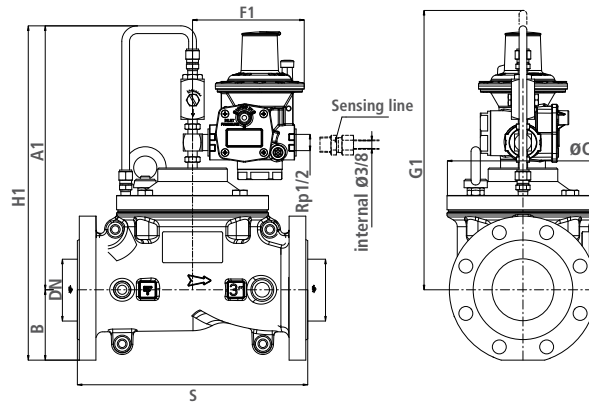
For Pilot

- supplementary filter CF 14
- dehydrating filter CF 14/D

Pilots 300 series



Pilots HP series



Overall dimensions in mm

Size (mm)	50	80	100
Inches	2"	3"	4"
S	254	298	352
A	260	675	755
A1	305	380	410
ANSI150	75	495	495
PN16	81	530	600
ØC	162	410	410
E	165	585	655
F	170	785	895
F1	148	1055	1165
G	285	350	380
G1	330	410	410
H	341	325	390
H1	386	436	500
L	105	505	575

Face to face dimensions S according to IEC 534-3 and EN 334

Weights in Kgf

Size (mm)	50	80	100
Inches	2"	3"	4"
ANSI 125RF-150RF With Pilot HP	21	29	61
125FF-150FF With Pilot	22	30	62
PN 16 With Pilot HP	22	32	65
PN 16 With Pilot 301	23	33	66



Reducing stations



Metering



Ball valves



**Pietro
Fiorentini**

Pietro Fiorentini S.p.A.
via E.Fermi 8/10
I-36057 Arcugnano (VI) Italy

Tel. +39 0444 968.511
Fax. +39 0444 960.468

The data are not binding. We reserve the right to make eventual changes without prior notice.

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www.fiorentini.com