ПОДОГРЕВАТЕЛИ ГАЗА

Технические характеристики

на HON 901

Pneumatic Gas Pre-heater HON 901

Application, characteristics, technical

data Application

- or gas pre-heating, for example, to prevent ice formation and hydrate formation
- an be used for low capacities
- Gas for cyclone tube (Ranque-Hilsch effect) and control gas pre-heating are separate circuits
  Therefore, 2 different gases can be used
- ully self-sufficient as pre-heating does not require any external energy
- Suitable for gases in acco dance with DVGW Worksheet G 260 and neutral, non-aggressive gases; other gases on request

Characteristics

- Simple constructio
- Easy in egration in existing gas pressure control systems 1)
- Minimal tubing equirements
- Cyclone tube without any moving in ernal parts
- Enti e circuitry is integrated in the safety system in accordance with DVGW Worksheet G 491
- or the function, a supercritical pressure ratio at cyclone tube inflow is necessary
- Ex ernal energy is not required
- No ene gy costs are incurred

[1]) Note:

When retrofitting with indirectly acting gas pressure regulator of the series HON 322, HON 332, HON 372 DN 50, Honeywell-Kassel must be consulted with first.

ATTENTION! The safe function of gas heating of control gas via the pneumatic gas pre-heater HON 901 with switch valve is only ensured in conjunction with indirect acting gas pressure regulators from the Honeywell product range. For operation, the instructions in the “General Operating Manual” from Honeywell must be complied with. Device-specific operating instructions, maintenance instructions, spare parts drawings, and spare parts lists are provided in the brochure “Operating and Maintenance Instructions / Spare Parts List 901.20”.

Specifications	
PS	100 bar
Max. permissible operating pressure p_{umax}	100 bar
Heat output	For optimal heating capacity, a supercritical pressure ratio $p_d / p_u \leq 0.5$ is necessary (see diagram on page 3), as well as a minimum flow rate
K_G value of the components based on natural gas with ρ_n = 0.83 kg/m³	HON 901 Q_n = 200 m³/h (based on natural gas) ≈ 22.5 m³/(h · bar) Switch valve ≈ 4 m³/(h · bar) (Pressure drop for the control gas of the pilot is negligible)
Max. temperature for operation	To approx. 80 °C
Surface temperature	To 100 °C ATTENTION! Danger of combustion
Max. standard flow rate	Q_n = 30 m³/h (based on natural gas)
Control gas temperature at the outlet	> 15 °C
Gas connection	Pipe fittings in accordance with DIN EN ISO 8434-1 (DIN 2353) Pipe outer diameter 10 and 12 mm
Weight	Approx. 3 kg
SEP classification in accordance with PED	Honeywell SEP nach PED Art. 3, Abs. 3
ATEX	All mechanical components of this device are without potential ignition sources and / or hot faces. They are not subject to ATEX 95 (94/9/EC). All electronic accessories, on the other hand, meet ATEX requirements.

The cyclone tube pre-heater has two circuits, the primary circuit for heat generation through the cyclone tube effect, and the secondary circuit for the pilot gas flow that must be heated.
The upstream tripping valve automatically interrupts the gas flow of the primary circuit to the cyclone tube gas pre-heater when the gas consumption is zero; the gas pressure regulator station runs in the lock-up pressure *pf*. This takes place with the loading pressure and output pressure and/or input pressure impinged on the differential pressure measuring diaphragm in the tripping valve. At consumption zero the differential pressure is also zero; the switch valve closes automatically via the spring force. In this process the closing pressure continues to correspond to the value specified by the gas pressure regulator.

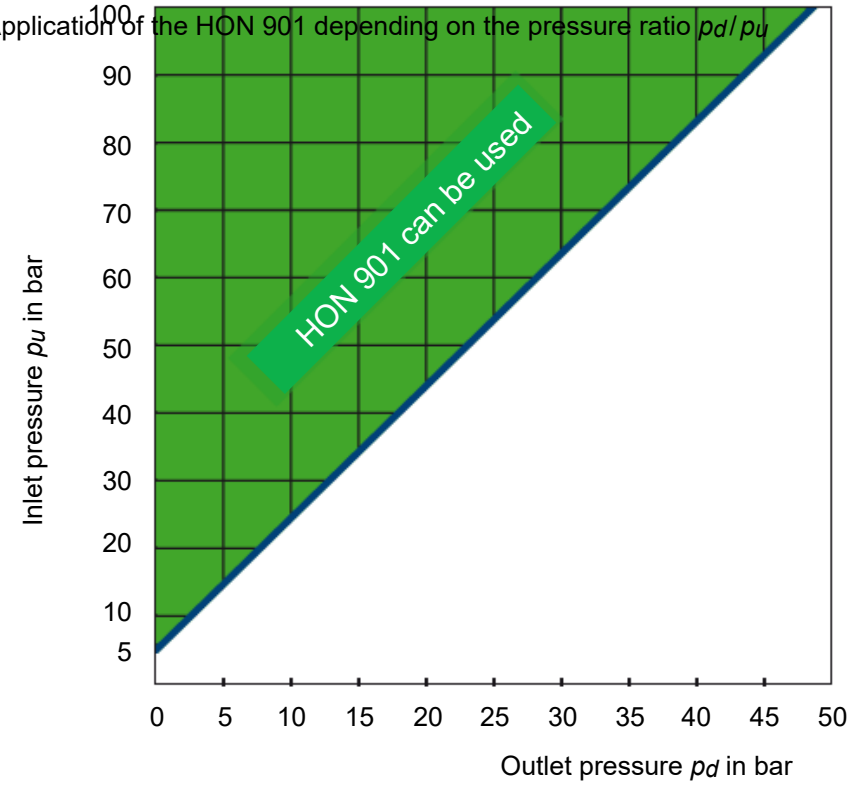
Note:
If downstream from the gas pressure regulator station, gas consumption is ensured, the switch valve can be dispensed with.

A ball valve is installed upstream for test purposes, or for general switch-off of the pre-heating of the HON 901.

When the station is placed in service, after a short time the pre-heater heats up due to the cyclone effect and thus the control gas to the pilot. Downstream from the pre-heater the warm gas flow and cold gas flow are brought together again and routed into the outlet pipework downstream from the gas pressure regulator. In this process no external energy whatsoever is required.

Attention!
Prior to starting up the gas pressure regulator you must ensure that the ball valve upstream of the switch valve is closed. Only open the ball valve after start up and after placing the pre-heater in operation.

Application of the HON 901 depending on the pressure ratio p_d / p_u



The gas pre-heater HON 901 can be used in the range: $p_u \geq 2 \cdot p_d +$

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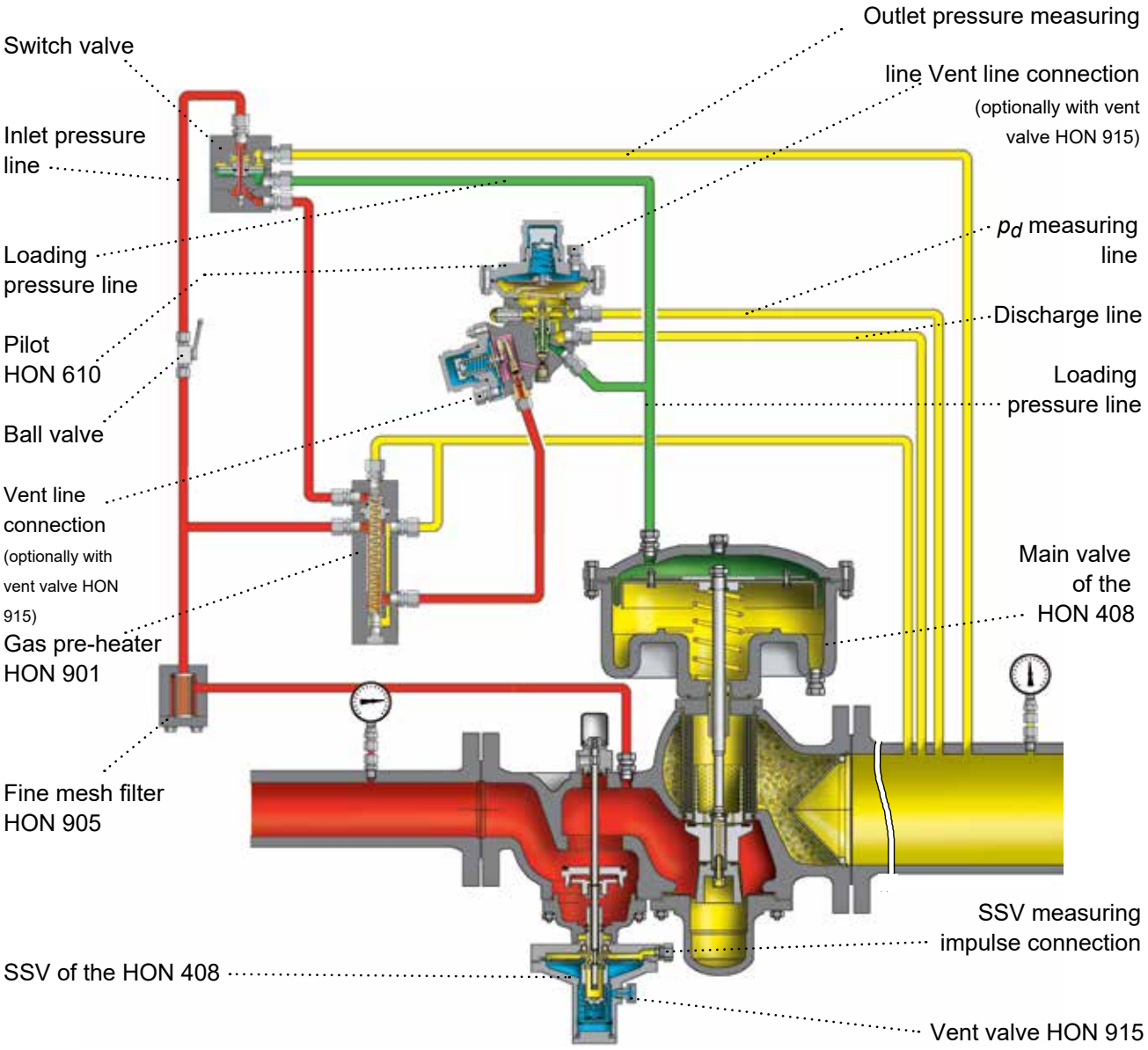
p_u = Inlet pressure in bar (overpressure)
p_d = Outlet pressure in bar (overpressure)

Pneumatic Gas Pre-heater HON 901

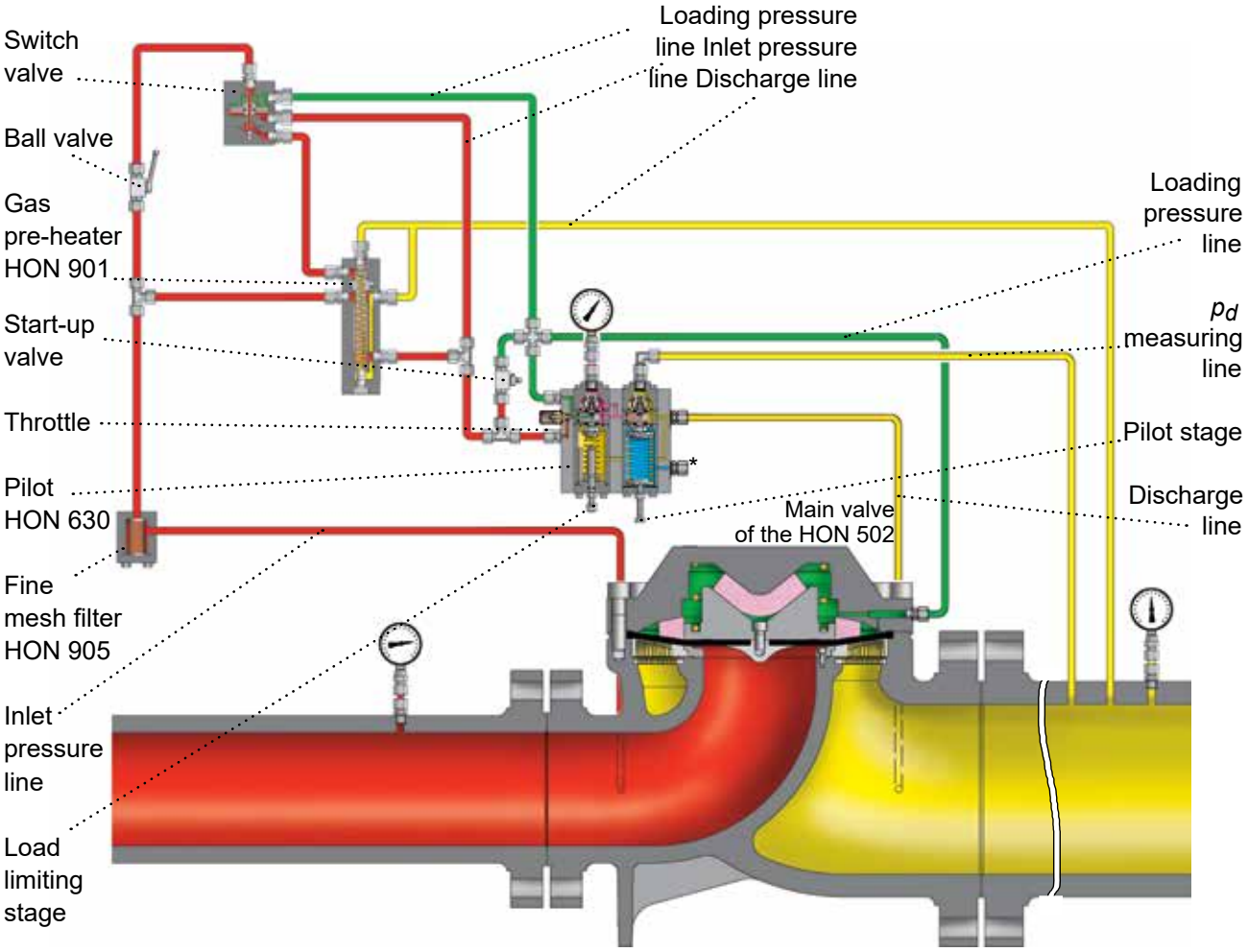
Design and operation

HON 408 with HON 901 and pilot HON 610
Gas pressure regulator in conventional design, comply with the connection arrangement of the switch valve!



- Inlet pressure
- Outlet pressure
- Loading pressure
- Load limiting
- pressure Atmosphere

HON 502 with HON 901 and pilot HON 630
Gas pressure regulator with throttling diaphragm, pay attention to the connection arrangement of the switch valve!

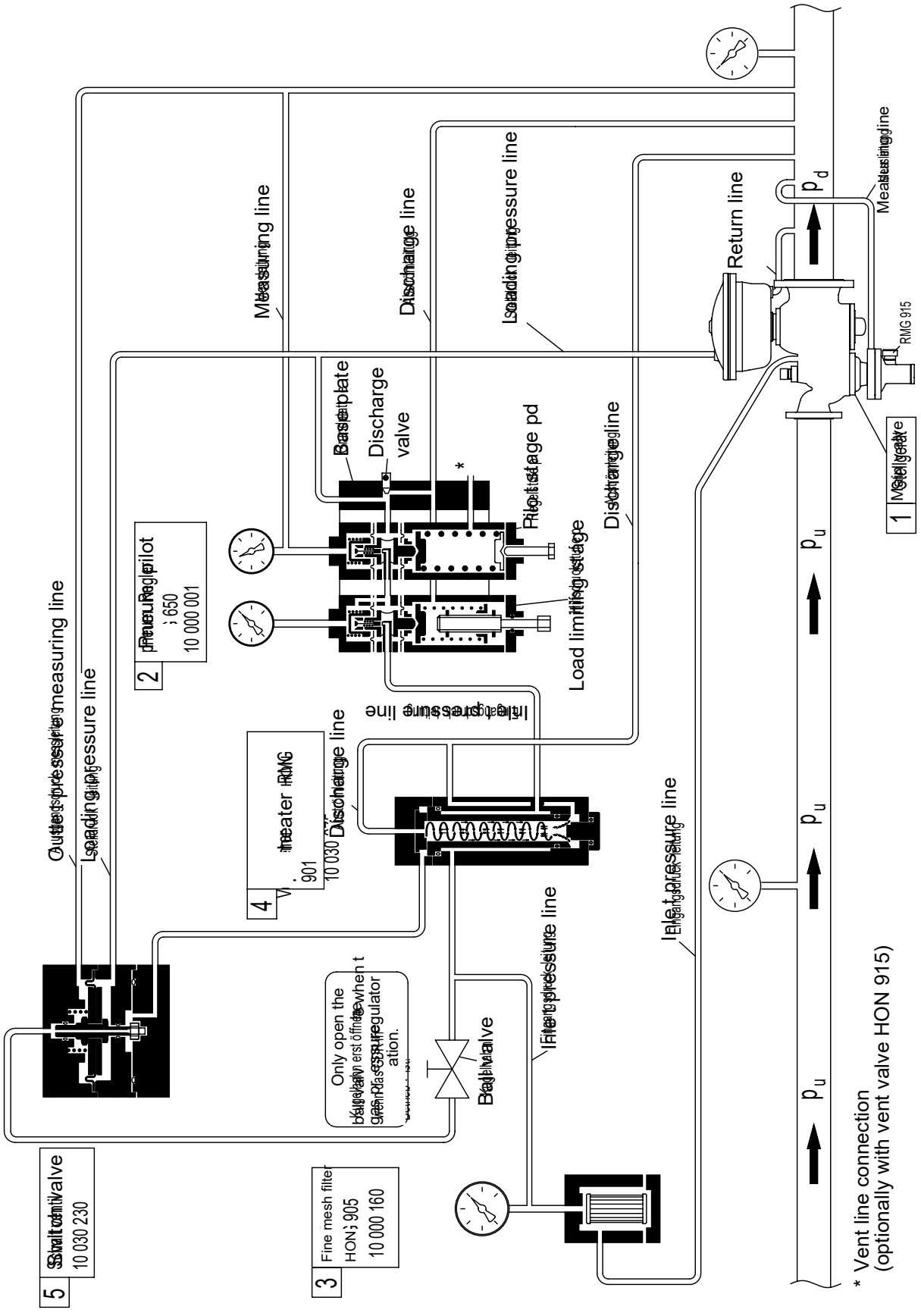


* Vent line connection
(optionally with vent valve HON 915)

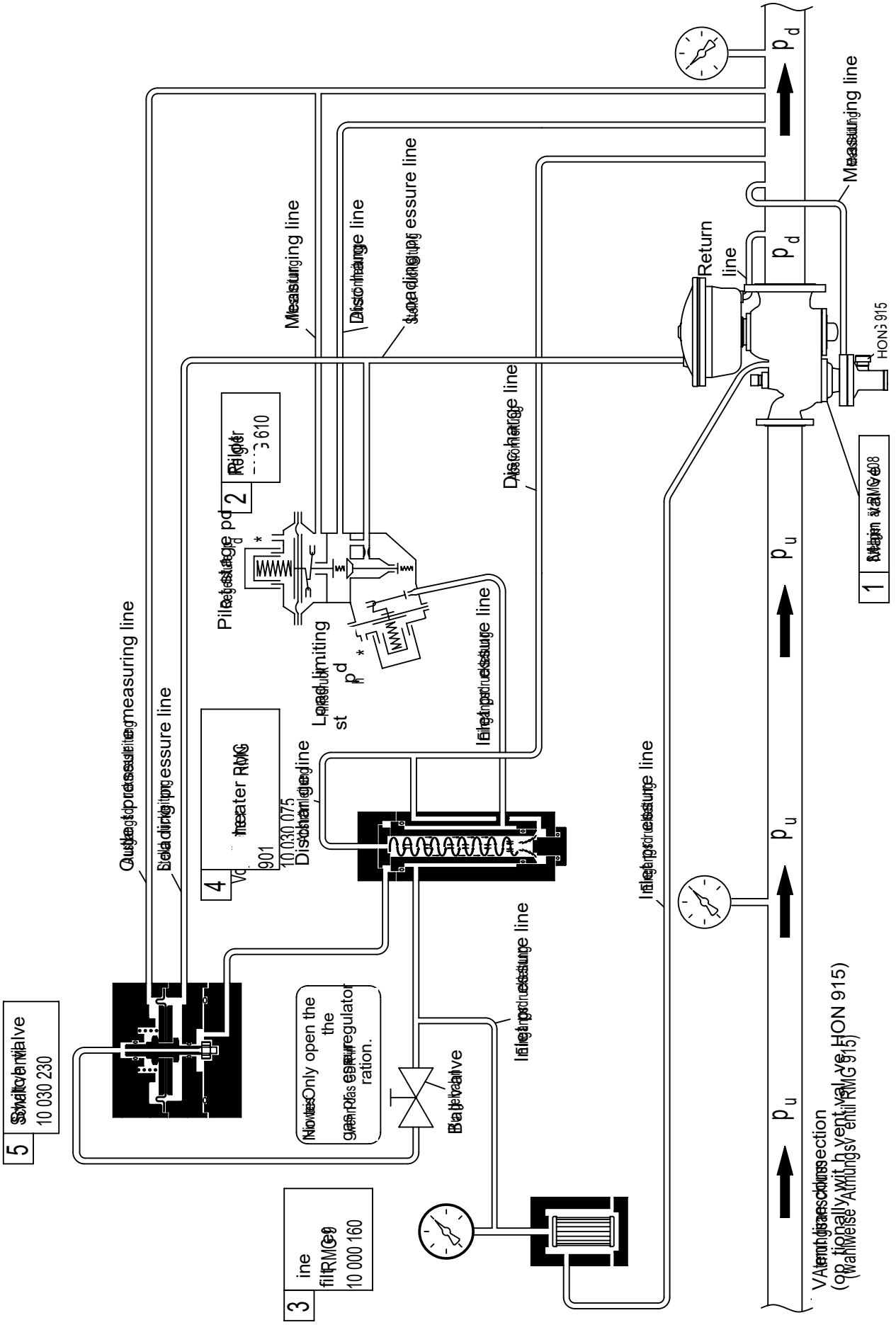
- Inlet pressure
- Outlet pressure
- Loading pressure
- Load limiting
- pressure Atmosphere

Pneumatic Gas Pre-heater HON 901

Circuit diagram for gas pressure regulators in conventional design with pilot BR HON 650 (352.361-1)

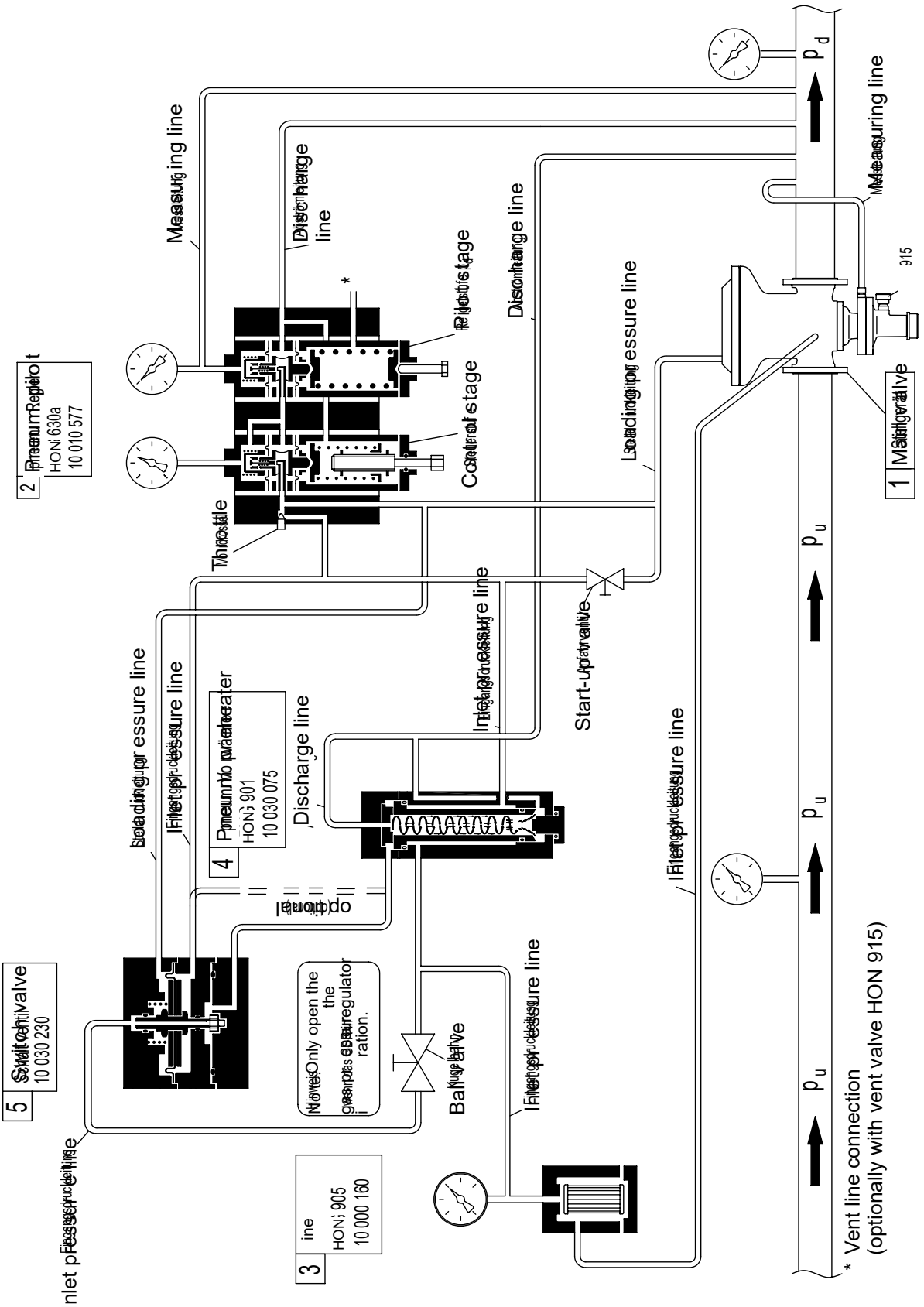


Circuit diagram for gas pressure regulators in conventional design with pilot BR HON 610 (352.361-3)

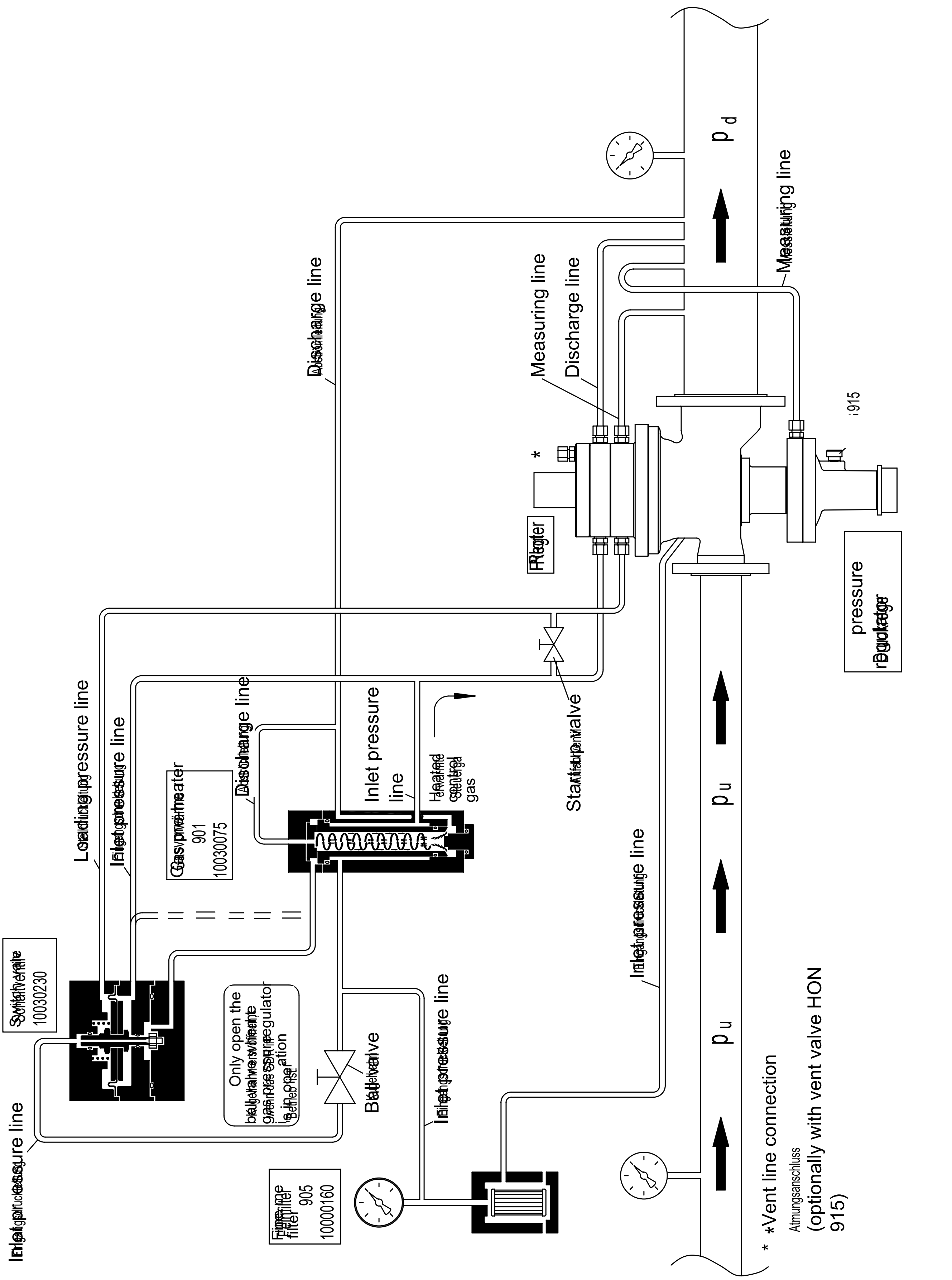


Pneumatic Gas Pre-heater HON 901

Circuit diagram for gas pressure regulators in conventional design with pilot BR HON 630 (352.361-2)

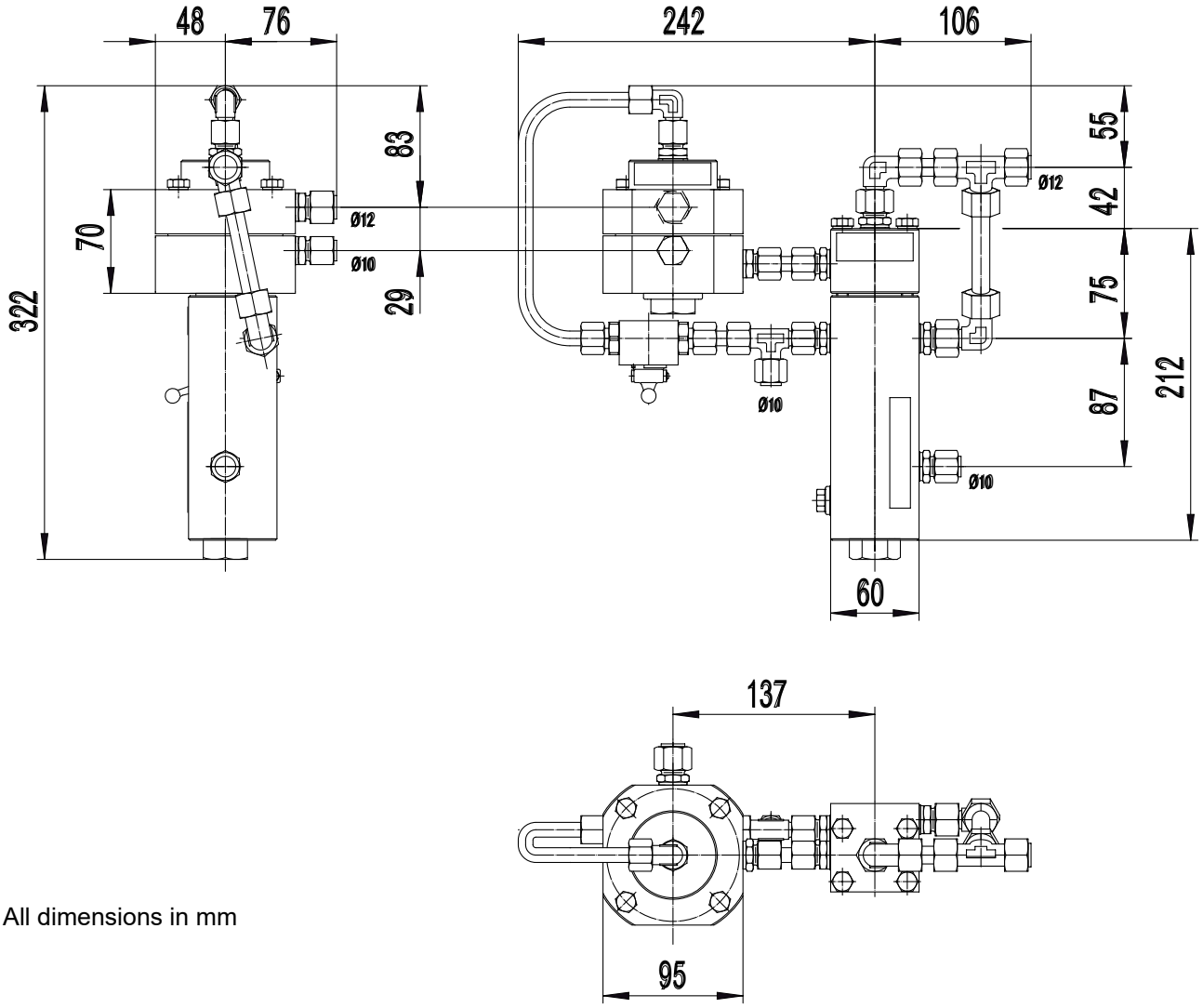


Circuit diagram for gas pressure regulators in conventional design with pilot BR HON 620 (352.361-4)



Pneumatic Gas Pre-heater HON 901

Dimensions and connections



All dimensions in mm

Attention!
Connection assignments of the tripping valve depending on the type of gas pressure regulator. See the circuit diagrams on the previous pages in this regard.

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