



Reduction valve

2/110, 115, 120

PN 16 - 40

Design:

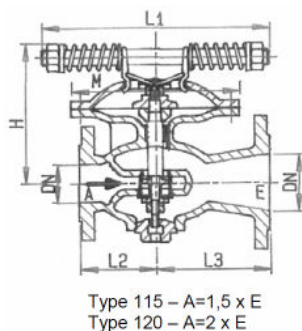
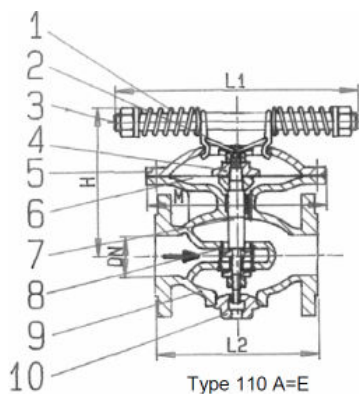
- double seat reduction valve with regulation spring and metal diaphragm
- mechanical adjustment of reduction pressure

Application:

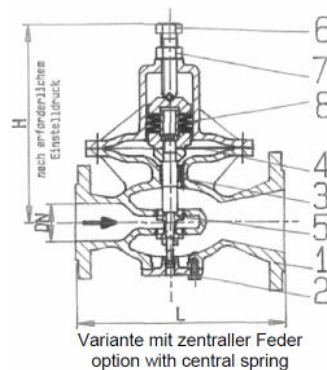
- gaseous and liquids media
- primary pressure up to 40 bar, secondary from 0,1 bar

Connections:

- Flanges acc. EN 1092 - 1, the other standards at request
- butt welding ends acc. EN 12627 or DIN 3239-1



Type 115 – A=1,5 x E
Type 120 – A=2 x E



Variante mit zentraler Feder
option with central spring

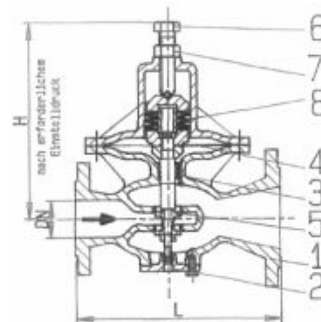
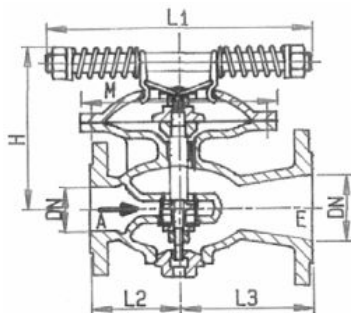
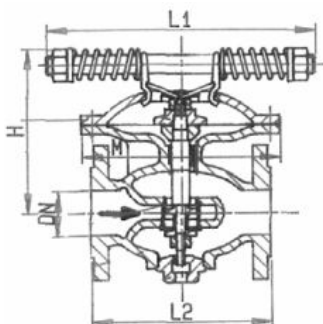
Materials			Materials - option with central spring		
Pos.	Part	Material	Pos	Part	Material
1	Spring	Spring steel	1	Body	GS - C25, 1.5415, 1.7357
2	Support	GTW - 40, GGG42; GS - C25	2	Manometer connections	Steel
3	Spring stem	St 37	3	Sucking	Steel
4	Diaphragm nut	Rg 5, 1.4021	4	Diaphragm	Stainl. Stell, phosphore brass
5	Cover	GS - C25, 1.5415, 1.7357	5	Double seat valve	1.4021 / 1.4301
6	Diaphragm	Stainl. Stell, phosphore brass	6	Spring tension screw	1.4021
7	Cone stem	1.4021 / 1.4301	7	Lock nut	1.4021 / 1.4301
8	Seat basket	1.4021 / 1.4301	8	Central spring	Spring steel
9	Body	GS - C25, 1.5415, 1.7357			
10	Closure cap	1.4021 / 1.4301			



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Dimensions

DN E	Type 2/110					Type 2/115										
	L2	L1	M	H	DN A	L2	L ₂	L ₃	M	H	DN A	L1	L2	L3	M	H
15	115	300	152	142	25	58	102	300	152	142	32	58	107	300	152	142
20	120	300	152	142	32	60	105	300	152	142	40	60	115	300	152	142
25	135	300	152	148	40	70	115	300	152	148	50	70	120	300	152	148
32	150	360	178	176	50	75	120	360	178	176	65	75	130	360	178	176
40	165	360	204	190	65	90	130	360	204	190	80	90	140	360	204	190
50	200	500	255	221	80	100	160	500	255	221	100	100	170	500	255	221
65	230	500	255	235	100	115	165	500	255	235	125	115	180	500	255	235
80	260	500	255	260	125	130	175	500	255	260	150	130	200	500	255	260
100	300	690	310	315	150	175	250	690	310	335	200	150	250	690	310	315
125	350	690	310	335	200	250	250	690	310	335	250	175	300	690	310	335
150	400	730	360	400	250	250	300	730	360	400	300	200	350	730	360	400
175	450	730	360	405	300	300	350	730	360	405	350	225	400	730	360	405
200	500	730	360	430	350	300	400	730	360	430	-	-	-	-	-	-
250	600	730	360	425	-	-	-	-	-	-	-	-	-	-	-	-
300	700	730	440	515	-	-	-	-	-	-	-	-	-	-	-	-

Special designs:

- with rubber cone for water, gas and air
- with vertical centric spring
- with butt welding ends



Reduction valve

for liquid and gaseous media

2/110 - 2/150

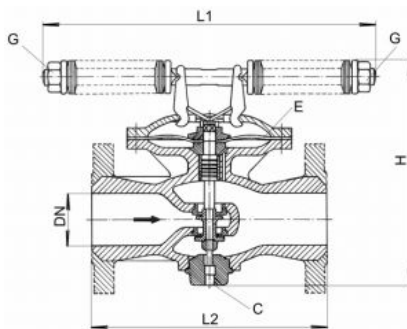
PN 16 - 320

Technical Description

The purpose of the reduction valve is to lower the primary pressure p_1 (high pressure) to the secondary pressure p_2 (low pressure) and to hold the pressure within defined limits automatically constant. This is attained by the membrane in the control chamber in combination with the conical stem and the double - seat - cone which adjusts actual secondary pressure to the required set point. The respective flow is regulated by forced cone lift.

Due to the central spring - loading of the membrane (adjustable) an equilibrium is given between the pressure under the membrane and the spring which is pressing from the top. If the reduction valve is adjusted once at secondary pressure valve set point it is guaranteed by the construction of the double - cone - seat even at varying primary pressure or flow quantity. This simple construction guarantees a maintenance - free and trouble - free operation even at extreme service conditions. To avoid membrane damages in due to overload it is recommended to install after the reduction - valve an appropriate safety valve. Each valve is equipped with a threaded union for a manometer to enable pressure control on the low pressure side.

Valve size should be chosen in a way that at normal flow quantity cone lift comes up to 70%. In this way the control characteristic of the valve is ensured. Pressure drop inside the valve is an indispensable fact. If the pressure difference closed valve is higher than the available control forces there is no possibility of regulation. Reduction valves of same inlet and outlet dimensions are used if the reduced pressure is not higher than 33% of the inlet - pressure. For higher pressure difference, it is recommended to use valves with enlarged outlet dimension to attain the nearly same flow velocities at inlet and outlet.



Operating instructions

Before putting into operation, the tension to the membrane E has to be reduced by turning out the nuts GG. A stop valve has to be installed in front of the reduction valve and the safety valve of appropriate size behind. The blow off - pressure of the safety valve has to be adjusted a little higher than the reduced pressure of the reduction valve to avoid damage of the membrane at pressure increase.

To avoid strokes in pipe the stop valve has to be open slowly. A strainer in front of the reduction valve is recommended that particles in the pipe will not destroy the seats inside the body. At the manometer union C a water pipe with stop valve and a manometer must be installed to control the reduced pressure.

Turning out the nuts GG will cause pressure decrease.

Turning in the nuts GG will cause pressure increase.

Required spare parts:

Membrane, sealings, seat - rings, cone, nuts and split pin.