

SAFETY- QUICK SHUT-OFF VALVES FOR GAS

Safety devices with automatic shut-off function

Production series	Nominal diameter
ASVG	DN 15, 20, 25
KVAZ	DN 40, 50
FDS-VE	DN 65, 200, 250, 300
GSV	DN 80, 100, 125, 150
GSV-GASSKO	DN 100, 125, 150
GASSKO	DN 200
Venting ZE 40	G 3/4
Venting ASVG/O	DN 15, 20, 25
Venting KVAZ/O	DN 50

Accessories	Nominal diameter
Tightness control device	DN 15, 20, 25
Dirt trap	DN 15 to 300

Corresponding to the specifications of the Pressure Equipment Directive 97/23/EG, AD 2000 datasheets, DIN EN 161 Valve Group 2 Valve Class A (DVGW) and DIN (ASME) standards.

General

The function and working of the safety quick-closing valves is conceived such that dangerous operating conditions are avoided and the system is protected.

If the auxiliary power source fails, the safety quick shut-off valves are closed through spring force. Closing time is less than 1 second / within 5 seconds during control function.

Use area:	Combustible gases according to G260 1st, 2nd and 3rd Gas Family, other gases on request
Operating pressure:	0 to 5 bar according to EN 161 0 to 16 bar according to DIN 3394 Part 1
Operating temperature:	-20°C to +120°C
Ambient temperature:	-20°C to +80°C
Valve casing:	Flange connections and welding ends according to DIN and ANSI
Casing material:	
- DIN	GP240GH (1.0619); P250GH (1.0460); G-X6CrNiMo18 10 (1.4408); X6CrNiMoTi17-12-2 (1.4571); A105, A216 WCB
- ANSI	Special materials Material certificates according to EN 10204
Valve stem material	
- with bellows:	X5CrNi1810 (1.4301) / X6CrNiMoTi17-12-2 (1.4571) and special materials
- with rod-sealing system:	X5CrNi1810 (1.4301)
Control medium:	Compressed air min. 3 / max. 10 bar
Control voltage:	24 VDC; 230 VAC, other voltages on request from DN100 onwards with serially connected quick-venting valve
Protection type:	IP65 Standard
Limit switch:	Design according to customer wish (mechanical or contact-less) Dimensions of the limit position indicator depending on design
Special design:	Other nominal diameter and higher pressures on request

Note:

Corresponding to DIN EN161, a dirt trap which prevents the penetration of bigger foreign bodies must be installed before each shut-off device.

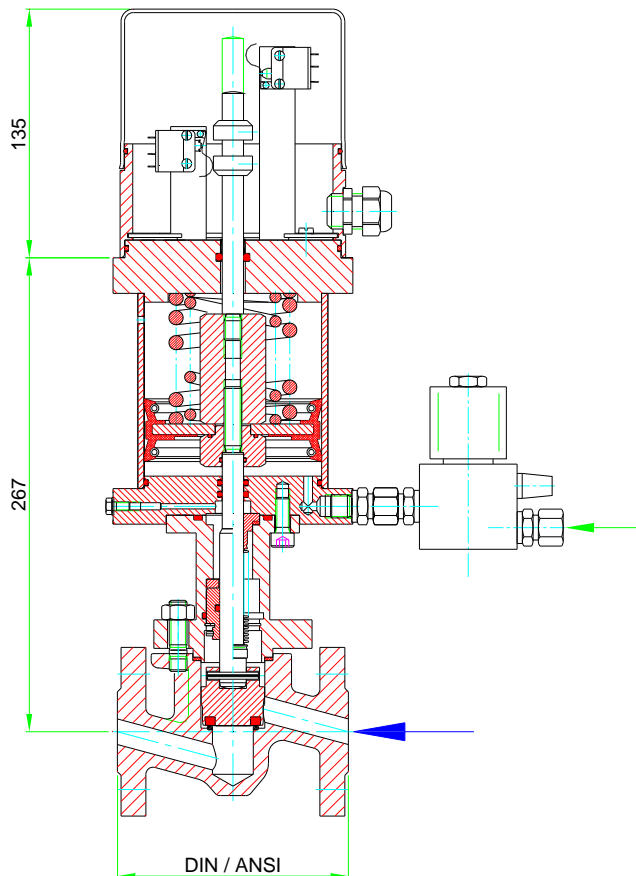
At the steam boiler firings, shut-off equipment must be provided in the form of two independent and self-closing quick shut-off valves as double-actuator, according to TRD.

These valve combinations are normally designed with an intermediate flange (production length 47mm) including a G1/2 test connection. Further connection options to intermediate flange on request.

ASVG Production series

The design of the safety quick shut-off valve as poppet valve in small production size can be delivered in different variations having different properties.

	DIN	ANSI
Nominal diameter:	DN15, 20, 25	DN½", ¾", 1"
Nominal pressure:	PN10-40	PN150 lbs, 300 lbs
Casing material:	P250GH (1.0460)	A105, A216 WCB
Permissible operating pressure:	max. 16 bar	
Stem sealing:	Stainless steel bellows or rod sealing system	
Variants:	<ul style="list-style-type: none"> - ASVG/N Standard design - ASVG/P With pneumatically opening retardation - ASVG/Z Opening in 2 phases - ASVG/R With control function 	



DN	Length, face-to-face (mm)			Weight (kg)
	DIN PN10-40	ANSI 150lbs	ANSI 300lbs	DIN PN10-40
15	130	108	152	12
20	150	117	178	13
25	160	127	203	14
<i>Weight figures for the ASVG/N variant without attachments</i>				

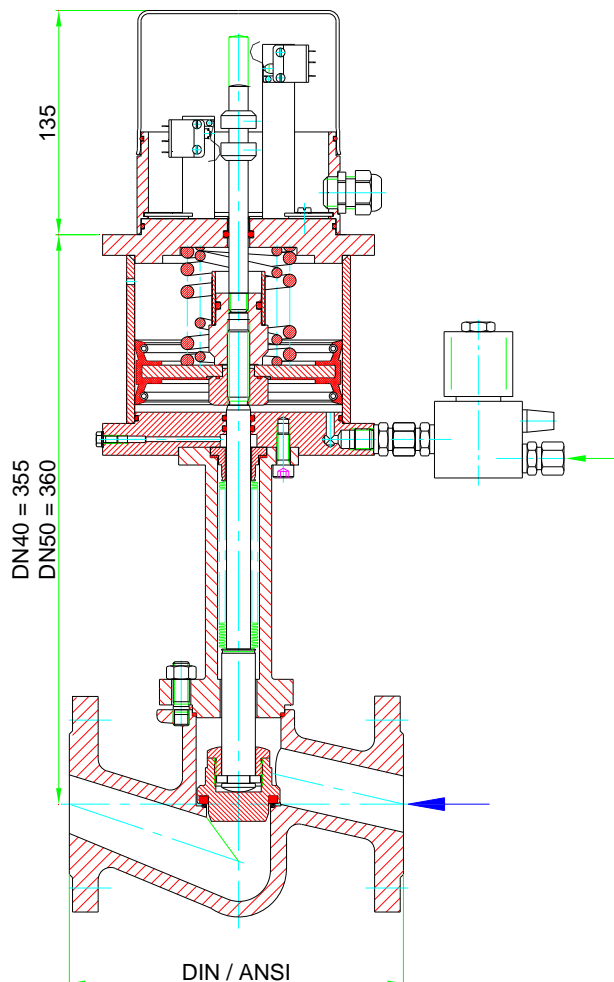
*Design example:
ASVG/N with 3/2-way solenoid valve
and micro limit switches
for "Open" and "Closed" position*

KVAZ Production series

The design of the safety quick shut-off valve as poppet valve of small production size can be delivered in different variations for different use areas.

	DIN	ANSI
Nominal diameter:	DN40, 50	DN1½", 2"
Nominal pressure:	PN10-40	PN150 lbs, 300 lbs
Casing material:	P250GH (1.0460)	A216 WCB
Permissible operating pressure:	max. 16 bar	
Stem sealing:	Stainless steel bellows	
Variants:	- KVAZ Standard design - KVAZ/S With hydraulic brake for opening retardation	

Further Nominal diameter / variants without type check or with individual acceptance



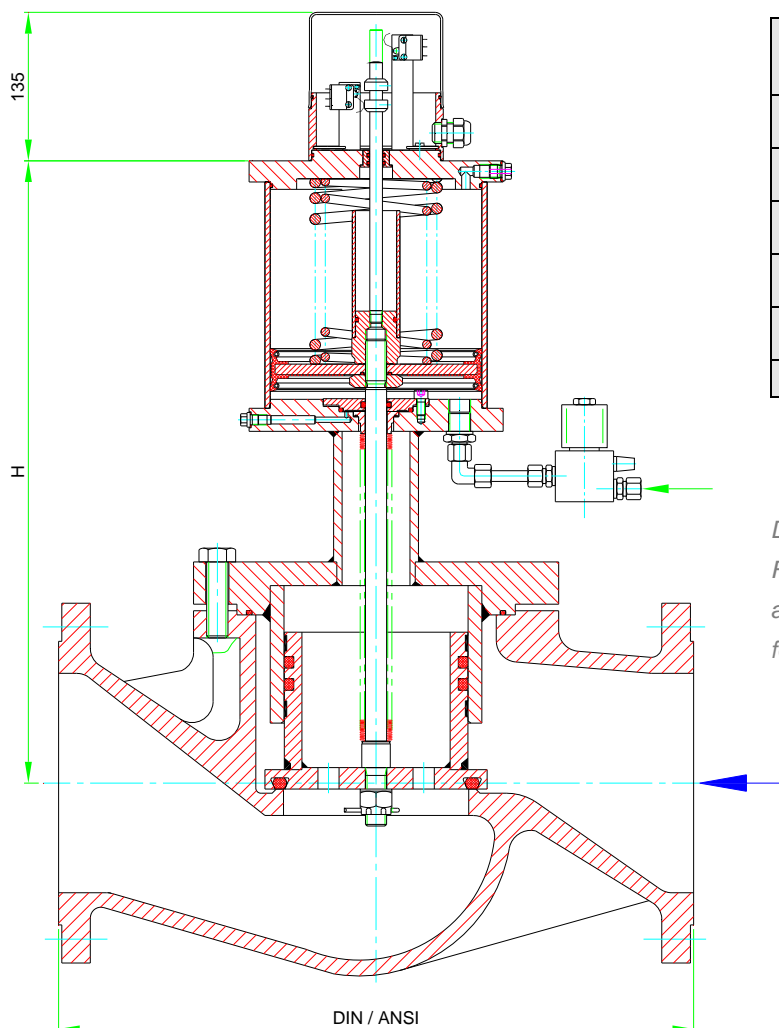
DN	Length, face-to-face (mm)			Weight (kg)
	DIN PN10-40	ANSI 150lbs	ANSI 300lbs	DIN PN10-40
40	200	165	229	27
50	230	203	267	31
<i>Weight figures for KVAZ variant without attachments</i>				

*Design example:
KVAZ with 3/2-way solenoid valve
and micro limit switches
for "Open" and "Closed" position*

FDS Production series

Safety quick shut-off valve as relieved valve execution in compact model.

	DIN	ANSI
Nominal diameter:	DN65, 200, 250, 300	DN2½", 8", 10"
Nominal pressure:	PN10-40	PN150 lbs, 300 lbs
Casing material:	GP240GH (1.0619)	A216 WCB
Permissible operating pressure:	max. 16 bar	
Stem sealing:	Stainless steel bellows	
Variants:	- FDS/VE Standard design - FDS/VE-RV Design as control quick shut-off valve with regulation cone (DN65 and DN200)	



DN	Height (mm)	Length, face-to-face (mm)			Weight (kg)
	H	DIN	ANSI 150lbs	ANSI 300lbs	DIN PN16
65	330	290	216	292	29
200	610	600	495	559	210
250	650	730	622	622	295
300	675	850	-	-	450

Weight figures for the FDS/VE variant without attachments

*Design example:
FDS/VE with 3/2-way solenoid valve
and micro limit switches
for "Open" and "Closed" position*

GSV Production series

Safety quick shut-off valve as relieved valve execution in compact model.

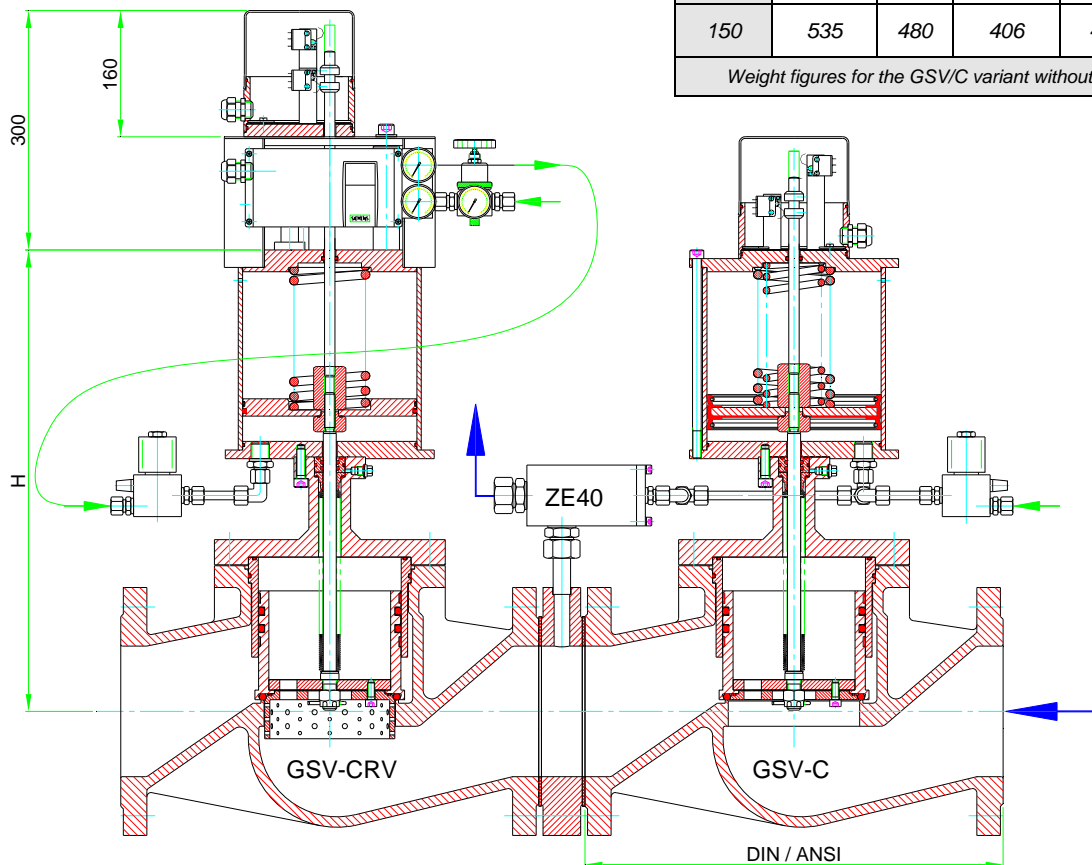
	DIN	ANSI
Nominal diameter:	DN80, 100, 125, 150	DN3", 4", 6"
Nominal pressure:	PN10-40	PN150 lbs, 300 lbs
Casing material:	GP240GH (1.0619)	A216 WCB
Permissible operating pressure:	max. 16 bar	
Stem sealing:	Stainless steel bellows	
Variants:	<ul style="list-style-type: none"> - GSV-C Standard design - GSV-CRV Design as control quick shut-off valve with regulation cone 	

Design example:

*Valve combination GSV-C/CRV with venting valve type: ZE40 (forced-actuated) with 3/2-way solenoid valves and micro limit switches for "Open" and "Closed" position.
Valve variant GSV-CRV with electro-pneumatic position controller*

DN	Height (mm)	Length, face-to-face (mm)			Weight (kg)
		DIN	ANSI 150lbs	ANSI 300lbs	
80	433	310	241	292	37
100	443	350	292	559	48
125	494	400	-	-	81
150	535	480	406	444	105

Weight figures for the GSV/C variant without attachments



GSV-GASSKO / GASSKO Production series

The compact unit of the GSV-GASSKO production series is a further development of traditional gas valves. The size advantage of this production series saves up to 50% space.

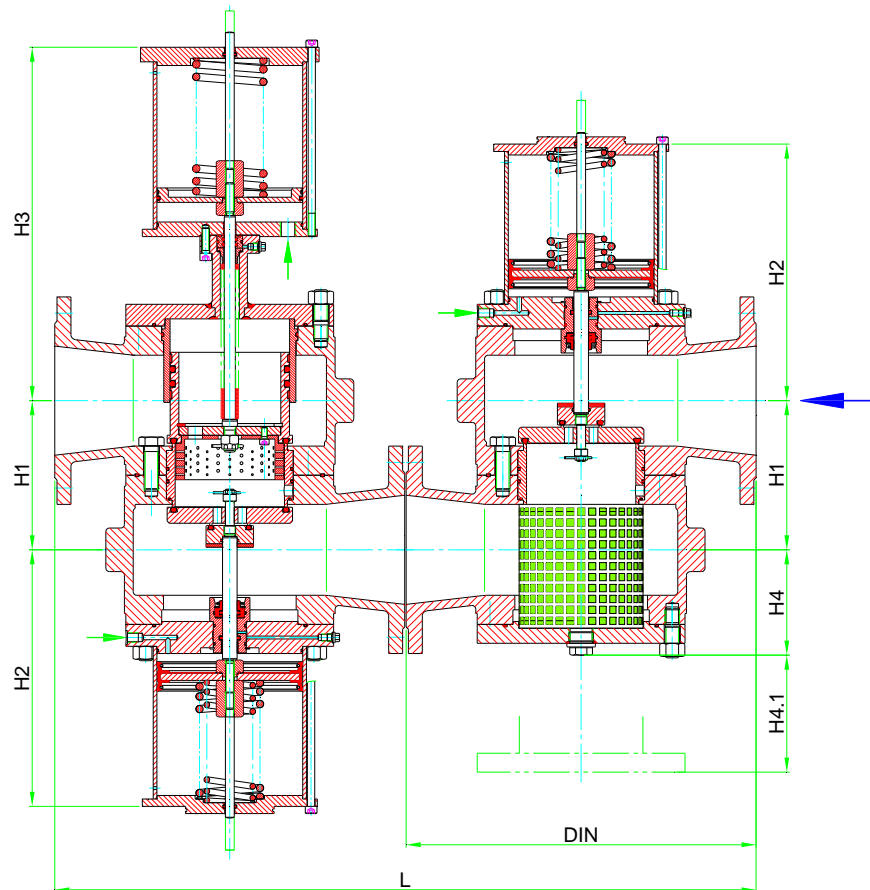
Note: Other designs are available in the Compact Systems rubric

Nominal diameter:	DN100, 125, 150, 200
Nominal pressure:	PN10-25
Casing material:	GP240GH (1.0619)
Permissible operating pressure:	max. 16 bar
Spindle sealing:	Rod sealing system and stainless steel bellows

DN	Length, face-to-face (mm)		Height (mm)					Weight (kg)
	DIN	L	H1	H2	H3	H4	H4.1	DIN PN16
100	350	702	175	305	395	120	165	84
125	400	802	200	320	430	135	185	130
150	480	962	205	343	485	128	180	152
200	600	1202	280	420	-	186	260	230

Weight figures for the B+SF variant

*Design example in flow direction:
This unit connects a manual quick shut-off valve (B), a dirt trap (SF) and a safety shut-off combination (B/CRV).*



Venting production series

In the idle position, venting valves are normally opened through spring force. They are closed by impacting control air with a separate solenoid valve or by force via the solenoid valve of the first quick shut-off valve of a valve combination.

Type ZE 40 is a very compact and robust valve which is installed as venting valve between two automatic shut-off valves.

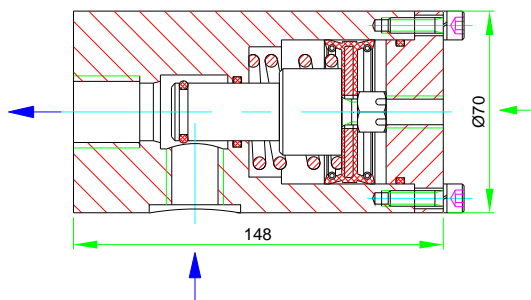
Note: Type ZE is not suitable for line venting.

Nominal diameter:	G ¾" inner threads – standard
Nominal pressure:	PN40
Connections:	Inner threads, flange connections as well as weld-on ends DN15, 20 and 25 are possible
Sealing:	O-ring sealing
Casing material:	Stainless steel X5CrNi18 10 (1.4301)
Permissible operating pressure:	16 bar
Permissible temperatures:	max. 100°C
Weight:	3,5 kg

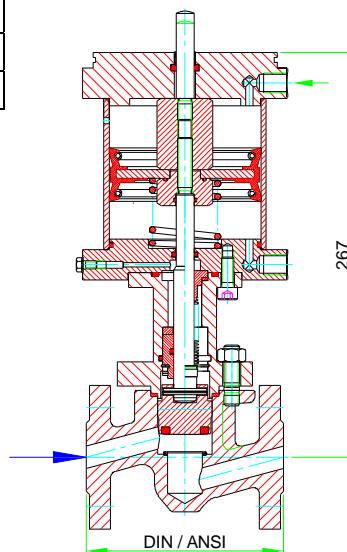
The ASVG/O and KVAZ/O types are venting valves adapted to the corresponding production series

Nominal sizes:	ASVG/O	DN15, 20, 25
	KVAZ/O	DN50

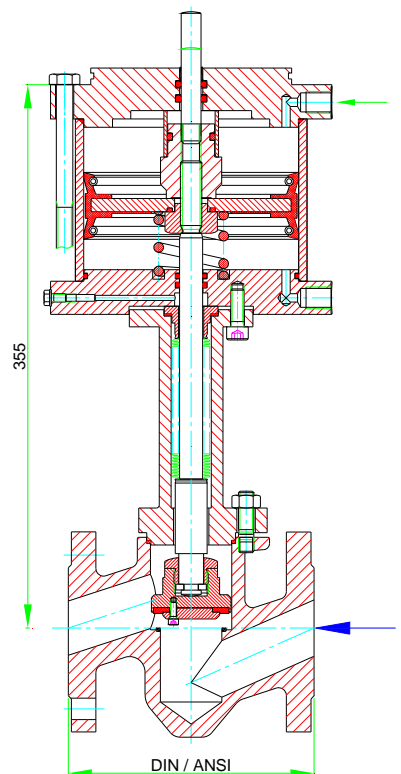
DN	Length, face-to-face (mm) ASVG and KVAZ			Weight (kg)
	DIN	ANSI 150lbs	ANSI 300lbs	
15	130	108	152	17
20	150	117	178	18
25	160	127	203	19
50	230	203	267	31



ZE 40



ASVG/O



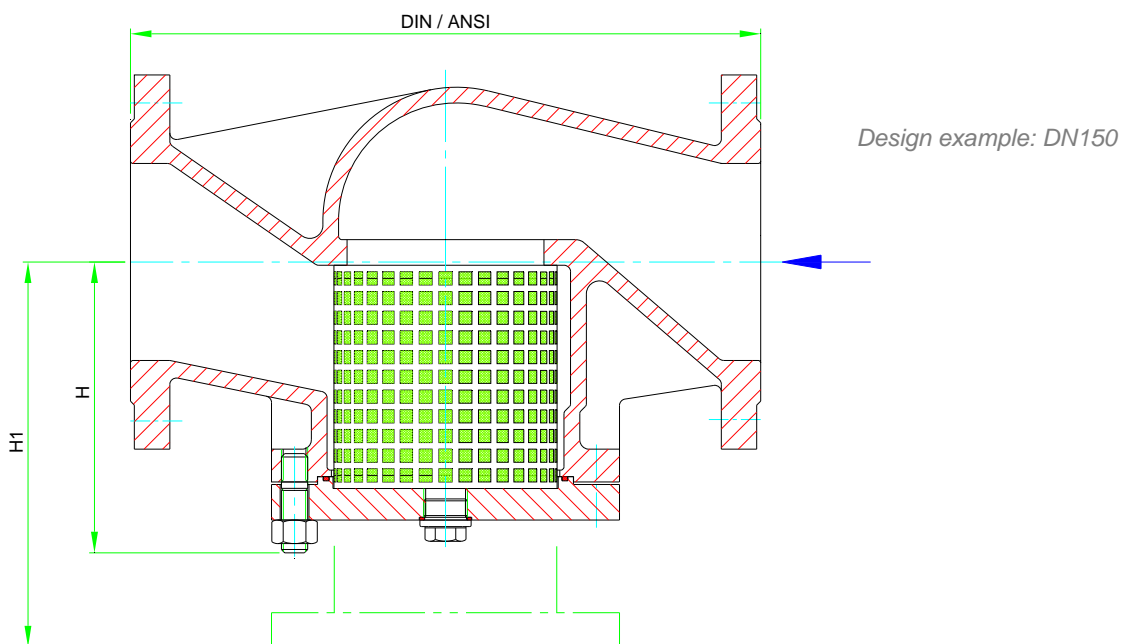
KVAZ/O

Dirt trap accessory

**Straight-type dirt trap with replaceable filter basket.
From DN65 onwards with emptying-screw.**

	DIN	ANSI
Nominal diameter:	DN15 to 300	DN½" to 10"
Nominal pressure:	PN10-40	PN150lbs, 300 lbs
Casing material:	up to DN50 P250GH (1.0460) from DN65 GP240GH (1.0619)	A105, A216 WCB A216 WCB
Fine-meshed sieve material:	X 5 CrNi Mo 17 22 2 (1.4401)	
Supporting basket material::	X5CrNi1810 (1.4301)	
Permissible operating pressure:	max. 16 bar	
Sieve mesh width:	0.5 – 1.0 mm	

Note: A model with differential pressure display can be delivered for monitoring the degree of pollution (optical or with electrical contact).



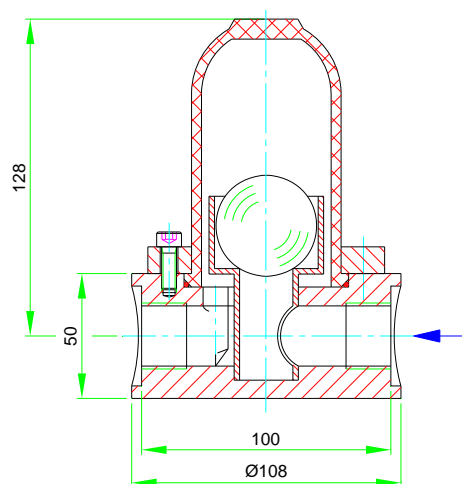
	DN	15	20	25	40	50	65	80	100	125	150	200	250	300
Height (mm)	H	70	70	80	85	95	110	130	155	165	215	285	325	365
Removal height (mm)	H1	110	110	130	145	155	185	225	255	290	375	500	595	665
Length, face-to-face (mm)	DIN PN16	130	150	160	200	230	290	310	350	400	480	600	730	850
	ANSI 150lbs	108	117	127	165	203	216	241	292	-	406	495	622	-
	ANSI 300lbs	152	178	203	229	267	292	318	356	-	444	559	622	-
Weight (kg)	DIN PN16	3,5	4	5	8	11	16	21	31	49	69	132	198	278

Tightness-control accessory

The tightness-control-device DKG (floating ball principle) supports the optical checking of the shut-off equipment sealing.

If there is leakage in the first quick shut-off valve, the operating medium flows through the tightness-control-device and lifts the fully relieved floated element (indicator). The medium is derived safely on the outlet side.

Nominal diameter:	G1/2", G3/4", G1" Inner threads - standard
Nominal pressure:	PN10-16
Connections:	Inner threads, flange connections as well as weld-on ends according to DN15, 20 and 25 are possible
Casing material:	S235JR+AR (1.0110), stainless steel X5CrNi18 10 (1.4301)
Permissible operating pressure:	10 bar
Permissible temperatures:	Medium: -10°C bis +60°C Ambient: -15°C bis +60°C
Weight:	4 kg
	Other variants on request



Use examples

References for use in valve stations

Valve Station DN100 for a double shaft furnace in the limestone industry

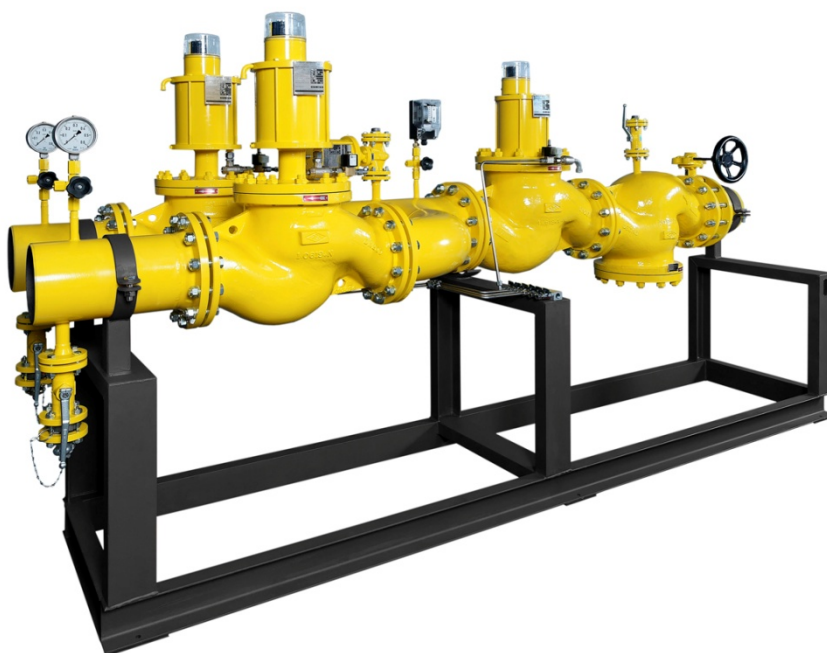
with volume measurement, control and automatic leakage check
in insulated housing with heating

- Manual operated quick shut-off valve and dirt trap GSV-GASSKO-B/HV-SF
- N2 flushing connection
- Volume measuring
- Outlet of ignition gas line with double shut-off opening ASVG/N-2 and venting ZE 40
- Splitting into two burners with venting
- In each case with a separate quick shut-off valve combination GSV-C/CRV and venting ZE 40, second quick shut-off valve as control valve
- Automatic leakage check with filling valve ASVG/N and pressure switch MIN/MAX



Burner station DN250/200 for a thermal power plant

- Common supply with manual shut-off
- Dirt trap with hand exhaust
- Common first quick shut-off valve FDS-VE
- Splitting into two burners with venting
- In each case with quick shut-off valve FDS-VE
- N2 flushing connection



Use examples

References for use in valve stations

Valve station DN150/200

Gas pressure reduction- and control station
for a rotary kiln burner (cement industry) with ignition gas line

Part 1

- Manual shut-off
- Dirt trap SF with optical delta-p display
- Gas pressure controller with upstream SAV
- Inlet zone for volume measuring



Part 2

- Volume measuring
- Hand exhaust and SBV
- Quick shut-off valve combination FDS-VE/FDS-VE/RV
- Second quick shut-off valve as control valve
- Ignition gas line
- Control air collector with accessories

