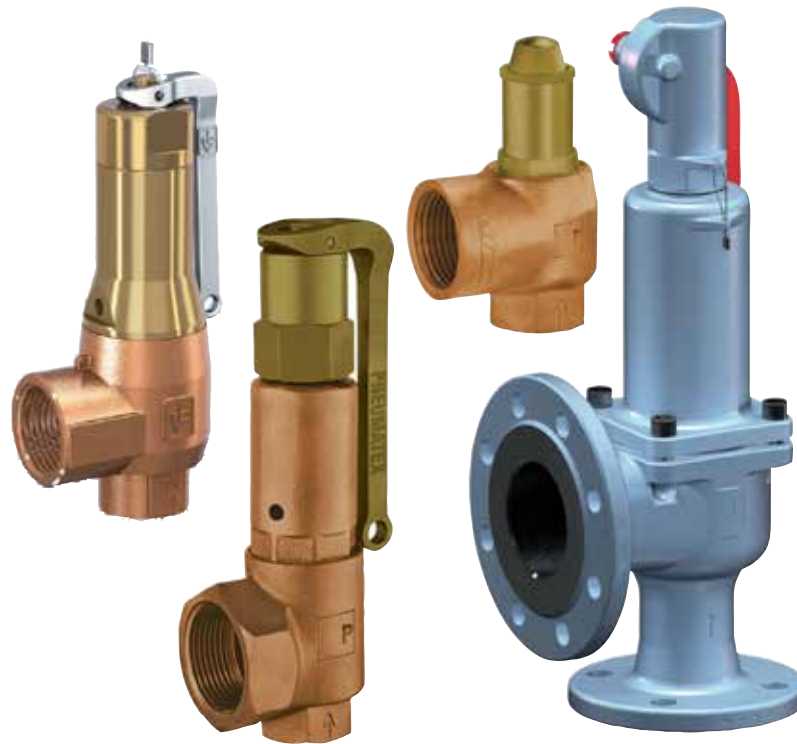


Safety valves



Safety valves

Safety valves for heating, cooling and solar systems
DN 15 – DN 50

Safety valves

For the safeguarding of thermostatically protected, closed-circuit water heating, cooling, and solar systems with supply temperatures of up to 200°C, for all static heights according to TRD 721, DIN 4751, SWKI HE301-01 and PED 2014/68/EU.

Key features

> Easy selection, broad product portfolio

DSV...DGH and DSV...DGF valves can be supplied in 0,1 bar increments. Special versions in other materials such as stainless steel, or with a thermal resistance of up to 400°C, are available upon request.

> According to standards

All valves are TÜV type approved and comply with the standards listed under Approvals.

> High blow off rates

Enhanced lift and capacity thanks to a special valve construction.

> Cleaning of seat possible

A fully detachable bonnet allows for easy cleaning of the gasket while leaving valve settings unchanged.



Technical description

Applications:

Heating, cooling and solar systems for building technology and industrial applications.

Concrete examples:

- Condensing boiler systems
- Steam and industrial boiler systems
- Cold water and chiller systems
- Heat pump systems
- Biogas plants
- District heating transfer stations and building sub-stations
- Installations according to EN 12828, SWKI HE301-01
- SWKI HE301-01 allows safety valves with DGH and DGF approval

Functions:

Protection of the maximum pressure on heat generators and systems.

Dimensions:

DN 15-50

Temperature:

Max. admissible temperature, TS:

DSV...H, DSV...DGH: 120°C ¹⁾

DSV...SOL: 160°C

DSV...DGF: 200°C

DSV...F: 150°C

¹⁾ Materials are suitable for temperatures up to 160°C during the blow-off process.

Min. admissible temperature, TSmin:

DSV...H, DGH, SOL: -10°C

DSV...DGF, DSV...DGF: -50°C

Material:

DSV...H, DSV...F, DSV...SOL:

Body: gunmetal. Internal parts: Brass.

Spring: Spring steel with anti-rust protection.

DSV...DGH:

Body: gunmetal. Internal parts: Brass.

Spring: Stainless steel.

DSV...DGH Flanges (DN 40-50):

Nodular graphite iron GGG, Colour beryllium.

DSV...DGF:

Body: gunmetal. Internal dry parts: Brass.

Internal wetted parts: stainless steel.

Spring: stainless steel.

Media:

DSV...H: Addition of antifreeze agent up to 30%.

DSV...DGH, DSV...DGF: Addition of antifreeze agent up to 50%.

DSV...F: Addition of antifreeze agent up to 100%.

Approvals:

All safety valves featured in this datasheet have been officially certified and approved (D=Steam, G=Gases, H=Heating, SOL=Solar, F=Fluids). For details such as certificate numbers please refer to the applicable Declaration of Conformity. Safety valves with sole approval code letters F, H, SOL are not allowed for installations according to SWKI HE301-01. Safety valves of the approval type DGF and DGH are to be used here.

Warranty:

5-year warranty

Pressure:

DSV...H:

Max. admissible pressure, PS: 3 bar
 Min. admissible pressure, PSmin: 0 bar
DSV...DGH (DN 15-32):

Max. admissible pressure, PS: 25 bar
 Min. admissible pressure, PSmin: 0 bar
DSV...DGH Flanges (DN 40-50), DSV...F:

Max. admissible pressure, PS: 16 bar
 Min. admissible pressure, PSmin: 0 bar
DSV...DGF:

Max. admissible pressure, PS: 25 bar
 Min. admissible pressure, PSmin: 0 bar
DSV...SOL:

Max. admissible pressure, PS: 10 bar
 Min. admissible pressure, PSmin: 0 bar

Accuracy:

DSV...H:

Closing pressure tolerance: 0,5 bar
 Open pressure tolerance: 0,5 bar
 Selectable valves: psv = 2.5 and 3.0 bar

DSV...DGH:

Closing pressure tolerance: psv · 0,1 bar
 Open pressure tolerance: psv · 0,1 bar
 Selectable valves: psv from 1,0 to 25 bar in 0,5 bar (standard) and 0.1 bar (on request) increments.

DSV...SOL:

Closing pressure tolerance: psv · 0,2 bar and > 0,6 bar
 Open pressure tolerance: psv · 0,1 bar and > 0,5 bar
 Selectable valves: psv = 2, 3, 4, 6, 8 and 10 bar

DSV...F:

Closing pressure tolerance: psv · 0,2 bar and > 0,6 bar
 Open pressure tolerance: psv · 0,1 bar and > 0,1 bar
 Selectable valves: psv from 3 to 10 bar in 1,0 bar increments.

DSV...DGF:

Closing pressure tolerance: psv · 0,1 bar
 Open pressure tolerance: psv · 0,1 bar
 Selectable valves: psv from 1,0 to 16 bar in 0,5 bar (standard) and 0.1 bar (on request) increments.

Dimensioning

Safety valves

Safety valves protect plant components from inadmissible excess pressure. For dimensioning purposes all possible load cases must be taken into account (such as heating of boilers with closed connections, dynamic pressures etc.).

In a heating system, each heat generator must be secured by at least a safety valve to protect against exceeding maximum operating pressure.

If more than one safety valve is used in parallel, the smaller must have a blow-off capacity of at least 40% of the total.

Safety valves must be designed so that the maximum permissible operating pressure that can occur in the heating system, or in a part thereof, may be secured.

Safety valves must:

- Comply with EN ISO 4126-1:2013; however, a minimum diameter of DN 15 is necessary.
- Open at a pressure not exceeding maximum system design pressure, and be able to prevent exceeding maximum operating pressure by more than 10%;
- Be installed so that the pressure loss in connection pipes does not exceed 10%, and the pressure drop in the blow-off pipe does not exceed 3%, of the nominal pressure of the safety valve

Safety valves must be accessible on the heat generator or built into the supply pipe in its immediate proximity, without a barrier between the heat generator and the safety valve. Spring-loaded safety valves are to be installed with the spring bonnet pointing vertically upward. To ensure satisfactory operation, safety valves must be installed in such a way that they are not exposed to any impermissible static, dynamic or thermal loads. If the medium discharged upon valve actuation can present direct or indirect harm to persons or the environment, appropriate protection devices must be applied. Always pay attention to possible

fumes discharging from the relief bores in the spring bonnet.

For heat generators with a capacity of over 300 kW additional precautions may be required. The outlet of the safety valve must be fitted with an expansion trap ET close to the valve and with an ending outdoor exhaust pipe.

In installations where each heat generator is equipped with an additional temperature and pressure limiter, expansion traps are not necessary.

For indirectly heated heat generators (heat exchangers), dimensioning can be obtained according to water outflow performance, if the escape of steam caused by pressure conditions or a rise in temperature is excluded. See column QNsv_w for the respective product.

Heat generator

All valves must as safety-relevant component bear a CE marking according to PED 2014/68/EU and need a type approval.

Safety valves with code H*):

These safety valves are the most commonly used and known also as the "diaphragm safety valve". These valves are approved according to EN 12828 only with pressure rates of 2,5 and 3,0 bar. H valves may be used only up to an operating pressure of max 3 bar. Discharge capacity refers to column QNsv_v of the datasheet.

Safety valves with code DGH:

For opening pressures other than 2,5 and 3,0 bar, or if the power exceeds 900 kW, DGH safety valves must be used. Discharge capacity refers to column QNsv_v of the datasheet.

Domestic hot water generation plants

In accordance with DIN 4753, only safety valves with the code W are allowed in domestic (potable) hot water heating systems. PNEUMATEX can supply W valves upon request.

*) Safety valves of license type F, H, SOL are not allowed for installations according to SWKI HE301-01. Only safety valves of the approval type DGF and DGH are to be used here.

Solar energy systems

For intrinsically safe solar systems (max. 120 °C), DSV... SOL*) safety valves or DSV... DGH valves may be used. DSV...DGF valves can be used for solar systems with higher temperatures and evaporation.

Cold water systems

In cold water systems where evaporation can be excluded, DSV ... F*) series valves can be used. The DSV ..DGF series valves are to be used when there is a risk of refrigerant gas entry. Dimensioning can be obtained according to the maximum discharge capacity specified in column $qNsv_w$. Blow-off capacity of a safety valve at air discharge $qNsv_a$ can be a relevant parameter when there is risk of refrigerant gas entry.

Heat pumps, chillers and similar systems with refrigerant to water heat exchangers

DGF safety valves must be used when there is a risk of gas entry in systems which require normal F type safety valves. Typical examples for these kind of systems are heat pumps and chillers. In the case of a leakage in the heat exchanger between the refrigerant and the system water refrigerant gas can enter the water circuit. The safety valve must be able to discharge this gas and must also handle the liquid. Therefore a safety valve is required which is able to work with both media. Discharge capacity refers to columns $qNsv_a$ (air) or $qNsv_w$ (water) in the datasheet.

Supply

Supply-side connection pieces for safety valves are to be kept as short as possible and should be designed so that pressure loss does not exceed 3% of the safety valve response pressure.

Blow off capacity

$qNsv_v$: Related to steam flow for direct fired heat generator (e.g. gas, oil, electric, ...).

$qNsv_w$: Related to water flow for indirect fired heat generator (e.g. water to water heat exchanger) in case the temperature of the primary circuit t_{pr} does not enable a possible vaporisation of the secondary system water. The values given in the table must not be exceeded (wet vapour pressure $p_v(t_{pr}) \leq psv$).

psv [bar]	2,0	2,5	3,0	3,5	4,0	4,5	5,0
t_{pr} [°C]	133,5	138,5	143,5	148,0	152,0	156,0	160,0

Removal of condensate discharge

If condensate formation is likely to occur, the pipes or the valves themselves (in flanged version) must be fitted at their lowest point with a continuously operating condensate discharge device. Hazard-free removal of the condensate or medium discharge must be ensured. The body, pipes and expansion trap must be protected against freezing.

Blow-off pipe / backpressure

The blow-off pipe of safety valves must be designed to ensure that the required mass flow can be discharged pressure-free during blow-off. In DGH safety valves fitted with metal bellows, a backpressure of up to 4 bar will have no impact on their response pressure.

Expansion traps

Used in the blow-off pipe of safety valves, expansion traps enable the phase separation of steam and water. A water discharge pipe must be connected at the lowest part of the expansion trap to ensure that leaks of heating water are dissipated safely and in a visible manner. The steam exhaust pipe must be routed outdoors from the high point of the expansion trap.

Expansion traps must be used according to DIN EN 12828 for heat generators with a rated thermal input above 300 kW. For indirectly heated heat generators (heat exchangers), expansion traps are not required, unless there is a risk of vapour buildup on the secondary side.

*) Safety valves of license type F, H, SOL are not allowed for installations according to SWKI HE301-01. Only safety valves of the approval type DGF and DGH are to be used here.

Application examples

Without expansion trap ET ¹⁾

End of expansion pipe inside building

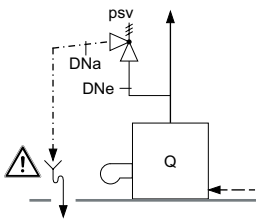
EU: EN 12828 $Q \leq 300\text{kW}$

CH: SWKI HE301-01

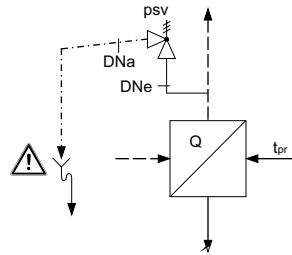
$V_{nbr} > Q[\text{kW}] / 2,5$ and

- $Q \leq 1200\text{kW}$ (ground floor and below)
- $Q \leq 600\text{kW}$ (2nd basement and below)
- wet vapour pressure $p_v(t_{pr}) \leq p_{sv}$

Directly heated



Indirectly heated



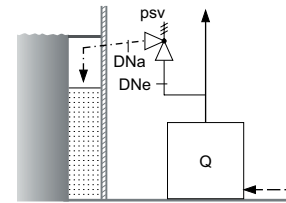
End of expansion pipe outside building

CH: SWKI HE301-01

- $V_{nbr} \leq Q[\text{kW}] / 2,5$

- $Q > 1200\text{kW}$ (ground floor and below)
- $Q > 600\text{kW}$ (2nd basement and below)

Directly and indirectly heated



Dimensions for the supply and discharge

DNe | DNa: DIN 4751 T2



EN 12828 DSV...DGH	L/m	Bends/No. 1)	psv/bar	DN psv
DNe	$\leq 0,2$	≤ 1	≤ 10	DNe = DN Sin
	$\leq 1,0$	≤ 1	≤ 10	DNe = DN Sout + 1 DN
DNa	$\leq 5,0$	≤ 2	≤ 5	DNa = DN Sout
	$\leq 7,5$	> 3	$< 5 \leq 10$	DNa = DN Sout + 1 DN

SWKI HE301-01 DSV...DGH/DGF	L/m	Bends/No. 1)	psv/bar	DN psv
DNe	≤ 1	≤ 2	all	DNe = DN Sin
	≤ 2	≤ 2	all	DNa = DN Sout
DNa	> 2	> 2	SWKI HE301-01	

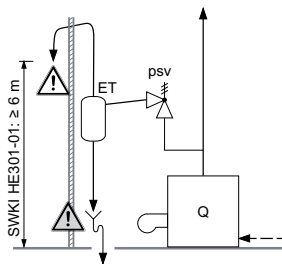
EN 12828 DSV...H	L/m	Bends/No. 1)	psv/bar	DN psv
DNe	≤ 1	≤ 1	2,5 , 3,0	DNe = DN Sin
DNa	≤ 2	≤ 2	2,5 , 3,0	DNa = DN Sout
	> 3	> 3	2,5 , 3,0	DNa = DN Sout + 1 DN

With expansion trap ET

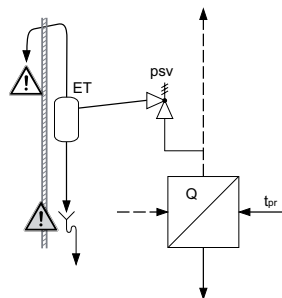
EU: EN 12828 $Q > 300\text{kW}$

CH: SWKI HE301-01

Directly heated



Indirectly heated



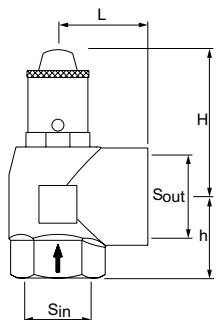
Expansion traps and dimensions for the supply and discharge according to national provisions.

Remarks

V_{nbr} = Net volume of boiler room DNe = iSV (SWKI) DNa = iSA (SWKI)

1) wet vapour pressure $p_v(t_{max}) \leq p_{sv}$

Articles

**Safety valve DSV...H**

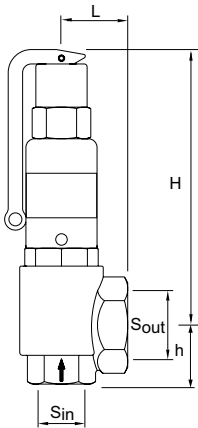
Spring-loaded, can be vented manually, spring compartment protected by diaphragms.

Inlet and outlet side with female thread, outlet side increased.

Vertical installation.

Type	psv [bar]	QNsv _v [kW]	H	h	L	m [kg]	S _{in}	S _{out}	EAN	Article No
DN 15										
DSV 15-3.0 H	3,0	50	70	28	34	0,3	G1/2	G3/4	7640148634816	537 1030
DN 20										
DSV 20-3.0 H	3,0	100	65	34	40	0,45	G3/4	G1	7640161632486	537 2030
DN 25										
DSV 25-3.0 H	3,0	200	75	41	45	0,75	G1	G1 1/4	7640148634854	537 3030
DN 32										
DSV 32-3.0 H	3,0	350	85	47	55	1,1	G1 1/4	G1 1/2	7640161632493	537 4030
DN 40										
DSV 40-3.0 H	3,0	600	155	54	62	2,2	G1 1/2	G2	7640148634892	537 5030
DN 50										
DSV 50-3.0 H	3,0	900	185	65	75	3,2	G2	G2 1/2	7640148634915	537 6030

QNsv_v - Blow-off capacity of a safety valve with steam discharge according to component test, related to the heat capacity of a heat generator.



Safety valve DSV...DGH

Spring loaded, with manual blow off lever, spring chamber is bellow sealed, pressure balanced.
Inlet and outlet side with female thread, outlet side increased.
Vertical installation.

DN 15

Type*	psv [bar]	QNs _v _v [kW]	QNs _v _w [MW]	H	h	L	m [kg]	S _{in}	S _{out}	EAN	Article No
DSV 15-2.0 DGH	2,0	68	3,6	91	30	40	0,4	G1/2	G1	7640161632509	536 1020
DSV 15-2.5 DGH	2,5	79	4,0	91	30	40	0,4	G1/2	G1	7640161632516	536 1025
DSV 15-3.0 DGH	3,0	89	4,4	91	30	40	0,4	G1/2	G1	7640161632523	536 1030
DSV 15-3.5 DGH	3,5	99	4,7	91	30	40	0,4	G1/2	G1	7640161632530	536 1035
DSV 15-4.0 DGH	4,0	109	5,0	91	30	40	0,4	G1/2	G1	7640161632547	536 1040
DSV 15-4.5 DGH	4,5	119	5,3	91	30	40	0,4	G1/2	G1	7640161632554	536 1045
DSV 15-5.0 DGH	5,0	129	5,6	91	30	40	0,4	G1/2	G1	7640161632561	536 1050
DSV 15-5.5 DGH	5,5	139	5,9	91	30	40	0,4	G1/2	G1	7640161632578	536 1055
DSV 15-6.0 DGH	6,0	149	6,2	91	30	40	0,4	G1/2	G1	7640161632585	536 1060
DSV 15-7.0 DGH	7,0	168	6,6	91	30	40	0,4	G1/2	G1	7640161632608	536 1070
DSV 15-8.0 DGH	8,0	187	7,1	91	30	40	0,4	G1/2	G1	7640161632622	536 1080
DSV 15-9.0 DGH	9,0	206	7,5	91	30	40	0,4	G1/2	G1	7640161632646	536 1090
DSV 15-10.0 DGH	10,0	225	7,9	91	30	40	0,4	G1/2	G1	7640161632660	536 1100

DN 20

Type*	psv [bar]	QNs _v _v [kW]	QNs _v _w [MW]	H	h	L	m [kg]	S _{in}	S _{out}	EAN	Article No
DSV 20-2.0 DGH	2,0	152	10,4	158	39	43	1,0	G3/4	G1 1/4	7640153584090	536 2020
DSV 20-2.5 DGH	2,5	182	11,6	158	39	43	1,0	G3/4	G1 1/4	7640161632677	536 2025
DSV 20-3.0 DGH	3,0	210	12,7	158	39	43	1,0	G3/4	G1 1/4	7640161632684	536 2030
DSV 20-3.5 DGH	3,5	234	13,7	158	39	43	1,0	G3/4	G1 1/4	7640161632691	536 2035
DSV 20-4.0 DGH	4,0	258	14,7	158	39	43	1,0	G3/4	G1 1/4	7640161632707	536 2040
DSV 20-4.5 DGH	4,5	282	15,6	158	39	43	1,0	G3/4	G1 1/4	7640161632714	536 2045
DSV 20-5.0 DGH	5,0	305	16,4	158	39	43	1,0	G3/4	G1 1/4	7640161632721	536 2050
DSV 20-5.5 DGH	5,5	329	17,2	158	39	43	1,0	G3/4	G1 1/4	7640161632738	536 2055
DSV 20-6.0 DGH	6,0	352	18,0	158	39	43	1,0	G3/4	G1 1/4	7640161632745	536 2060
DSV 20-7.0 DGH	7,0	397	19,4	158	39	43	1,0	G3/4	G1 1/4	7640161632769	536 2070
DSV 20-8.0 DGH	8,0	442	20,8	158	39	43	1,0	G3/4	G1 1/4	7640161632783	536 2080
DSV 20-9.0 DGH	9,0	487	22,0	158	39	43	1,0	G3/4	G1 1/4	7640161632806	536 2090
DSV 20-10.0 DGH	10,0	530	23,2	158	39	43	1,0	G3/4	G1 1/4	7640161632820	536 2100

QNs_v_v - Blow-off capacity of a safety valve with steam discharge according to component test, related to the heat capacity of a heat generator.

QNs_v_w - Blow-off capacity of a safety valve in the event of water outflow according to component test, related to the heat output of the heat generator, 1 kW = 1 l/h. Only for indirect fired heat generator (e.g. water to water heat exchanger) in case the temperature of the primary circuit does not enable a possible vaporisation of the secondary system at blow-off pressure psv.

DN 25

Type*	psv [bar]	QNsv _v [kW]	QNsv _w [MW]	H	h	L	m [kg]	S _{in}	S _{out}	EAN	Article No
DSV 25-2.0 DGH	2,0	236	17	192	45	50	1,8	G1	G1 1/2	7640148635028	536 3020
DSV 25-2.5 DGH	2,5	277	19	192	45	50	1,8	G1	G1 1/2	7640148635073	536 3025
DSV 25-3.0 DGH	3,0	320	21	192	45	50	1,8	G1	G1 1/2	7640148635127	536 3030
DSV 25-3.5 DGH	3,5	357	22	192	45	50	1,8	G1	G1 1/2	7640148635172	536 3035
DSV 25-4.0 DGH	4,0	393	24	192	45	50	1,8	G1	G1 1/2	7640148635226	536 3040
DSV 25-4.5 DGH	4,5	430	25	192	45	50	1,8	G1	G1 1/2	7640148635271	536 3045
DSV 25-5.0 DGH	5,0	465	27	192	45	50	1,8	G1	G1 1/2	7640148635325	536 3050
DSV 25-5.5 DGH	5,5	501	28	192	45	50	1,8	G1	G1 1/2	7640148635370	536 3055
DSV 25-6.0 DGH	6,0	537	29	192	45	50	1,8	G1	G1 1/2	7640148635424	536 3060
DSV 25-7.0 DGH	7,0	605	32	192	45	50	1,8	G1	G1 1/2	7640148635523	536 3070
DSV 25-8.0 DGH	8,0	674	34	192	45	50	1,8	G1	G1 1/2	7640148635622	536 3080
DSV 25-9.0 DGH	9,0	742	36	192	45	50	1,8	G1	G1 1/2	7640148635721	536 3090
DSV 25-10.0 DGH	10,0	808	38	192	45	50	1,8	G1	G1 1/2	7640148635820	536 3100

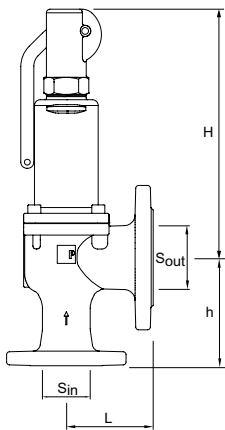
DN 32

Type*	psv [bar]	QNsv _v [kW]	QNsv _w [MW]	H	h	L	m [kg]	S _{in}	S _{out}	EAN	Article No
DSV 32-2.0 DGH	2,0	401	29	264	55	61	4,0	G1 1/4	G2	7640148635936	536 4020
DSV 32-2.5 DGH	2,5	481	33	264	55	61	4,0	G1 1/4	G2	7640148635981	536 4025
DSV 32-3.0 DGH	3,0	555	36	264	55	61	4,0	G1 1/4	G2	7640148636032	536 4030
DSV 32-3.5 DGH	3,5	619	39	264	55	61	4,0	G1 1/4	G2	7640148636087	536 4035
DSV 32-4.0 DGH	4,0	682	42	264	55	61	4,0	G1 1/4	G2	7640148636131	536 4040
DSV 32-4.5 DGH	4,5	746	44	264	55	61	4,0	G1 1/4	G2	7640148636186	536 4045
DSV 32-5.0 DGH	5,0	808	47	264	55	61	4,0	G1 1/4	G2	7640148636230	536 4050
DSV 32-5.5 DGH	5,5	870	49	264	55	61	4,0	G1 1/4	G2	7640148636285	536 4055
DSV 32-6.0 DGH	6,0	931	51	264	55	61	4,0	G1 1/4	G2	7640148636339	536 4060
DSV 32-7.0 DGH	7,0	1051	55	264	55	61	4,0	G1 1/4	G2	7640148636438	536 4070
DSV 32-8.0 DGH	8,0	1170	59	264	55	61	4,0	G1 1/4	G2	7640148636537	536 4080
DSV 32-9.0 DGH	9,0	1287	62	264	55	61	4,0	G1 1/4	G2	7640148636636	536 4090
DSV 32-10.0 DGH	10,0	1402	66	264	55	61	4,0	G1 1/4	G2	7640148636735	536 4100

QNsv_v - Blow-off capacity of a safety valve with steam discharge according to component test, related to the heat capacity of a heat generator.

QNsv_w - Blow-off capacity of a safety valve in the event of water outflow according to component test, related to the heat output of the heat generator, 1 kW = 1 l/h. Only for indirect fired heat generator (e.g. water to water heat exchanger) in case the temperature of the primary circuit does not enable a possible vaporisation of the secondary system at blow-off pressure psv.

*) The valve can be supplied with settings up to 16 bar.



Safety valve DSV...DGH

Spring loaded, with manual blow-off lever, spring chamber is bellow sealed.

Inlet and outlet with flanged connections and increased outlet size.

Vertical installation.

DN 40

Type*	psv [bar]	QNsv _v [kW]	QNsv _w [MW]	H	h	L	m [kg]	S _{in} PN40	S _{out} PN16	EAN	Article No
DSV 40-3.0 DGH	3,0	1040	55	345	140	115	17,0	DN40	DN65	7640148636940	536 5030
DSV 40-3.5 DGH	3,5	1160	59	345	140	115	17,0	DN40	DN65	7640148636995	536 5035
DSV 40-4.0 DGH	4,0	1280	63	345	140	115	17,0	DN40	DN65	7640148637046	536 5040
DSV 40-4.5 DGH	4,5	1400	67	345	140	115	17,0	DN40	DN65	7640148637091	536 5045
DSV 40-5.0 DGH	5,0	1510	71	345	140	115	17,0	DN40	DN65	7640148637145	536 5050
DSV 40-5.5 DGH	5,5	1625	74	345	140	115	17,0	DN40	DN65	7640148637190	536 5055
DSV 40-6.0 DGH	6,0	1740	77	345	140	115	17,0	DN40	DN65	7640148637244	536 5060
DSV 40-7.0 DGH	7,0	1965	84	345	140	115	17,0	DN40	DN65	7640148637343	536 5070
DSV 40-8.0 DGH	8,0	2190	89	345	140	115	17,0	DN40	DN65	7640148637442	536 5080
DSV 40-9.0 DGH	9,0	2400	95	345	140	115	17,0	DN40	DN65	7640148637541	536 5090
DSV 40-10.0 DGH	10,0	2620	100	345	140	115	17,0	DN40	DN65	7640148637640	536 5100

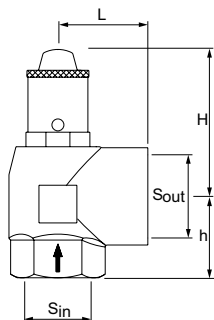
DN 50

Type*	psv [bar]	QNsv _v [kW]	QNsv _w [MW]	H	h	L	m [kg]	S _{in} PN40	S _{out} PN16	EAN	Article No
DSV 50-3.0 DGH	3,0	1600	85	345	150	120	19,0	DN50	DN80	7640148637855	536 6030
DSV 50-3.5 DGH	3,5	1790	91	345	150	120	19,0	DN50	DN80	7640148637909	536 6035
DSV 50-4.0 DGH	4,0	1980	98	345	150	120	19,0	DN50	DN80	7640148637954	536 6040
DSV 50-4.5 DGH	4,5	2160	104	345	150	120	19,0	DN50	DN80	7640148638005	536 6045
DSV 50-5.0 DGH	5,0	2330	109	345	150	120	19,0	DN50	DN80	7640148638050	536 6050
DSV 50-5.5 DGH	5,5	2510	114	345	150	120	19,0	DN50	DN80	7640148638104	536 6055
DSV 50-6.0 DGH	6,0	2680	120	345	150	120	19,0	DN50	DN80	7640148638159	536 6060
DSV 50-7.0 DGH	7,0	3030	129	345	150	120	19,0	DN50	DN80	7640148638258	536 6070
DSV 50-8.0 DGH	8,0	3370	138	345	150	120	19,0	DN50	DN80	7640148638357	536 6080
DSV 50-9.0 DGH	9,0	3710	146	345	150	120	19,0	DN50	DN80	7640148638456	536 6090
DSV 50-10.0 DGH	10,0	4040	154	345	150	120	19,0	DN50	DN80	7640148638555	536 6100

QNsv_v - Blow-off capacity of a safety valve with steam discharge according to component test, related to the heat capacity of a heat generator.

QNsv_w - Blow-off capacity of a safety valve in the event of water outflow according to component test, related to the heat output of the heat generator, 1 kW = 1 l/h. Only for indirect fired heat generator (e.g. water to water heat exchanger) in case the temperature of the primary circuit does not enable a possible vaporisation of the secondary system at blow-off pressure psv.

*) The valve can be supplied with settings up to 16 bar.



Safety valve DSV...SOL for solar applications

Spring-loaded, can be vented manually, spring compartment protected by diaphragms.

Inlet and outlet side with female thread, outlet side increased.

Vertical installation.

The valves are made entirely of metal and can withstand high environmental or radiation temperatures.

All materials are suitable for max. temperatures up to 160°C.

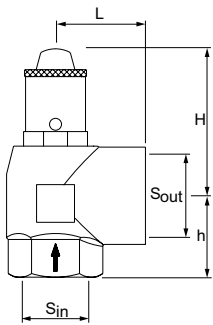
For intrinsically safe solar systems (max. 120 °C).

TÜV-CE Type test approval xx-2013 SOL. In accordance with TRD 721, DIN 4757 and DIN EN 12976.

Type*	psv [bar]	QNsv _v [kW]	Collector [m ²]	H	h	L	m [kg]	S _{in}	S _{out}	EAN	Article No
DN 15											
DSV 15-3.0 SOL	3,0	50	50	70	28	34	0,3	G1/2	G3/4	7640161633179	301051-10430
DSV 15-4.0 SOL	4,0	50	50	70	28	34	0,3	G1/2	G3/4	7640161633186	301051-10440
DSV 15-6.0 SOL	6,0	50	50	70	28	34	0,3	G1/2	G3/4	7640161633193	301051-10460
DSV 15-8.0 SOL	8,0	50	50	70	28	34	0,3	G1/2	G3/4	7640161633209	301051-10480
DSV 15-10.0 SOL	10,0	50	50	70	28	34	0,3	G1/2	G3/4	7640161633216	301051-10410
DN 20											
DSV 20-3.0 SOL	3,0	100	100	65	34	40	0,5	G3/4	G1	7640161633223	301051-10530
DSV 20-4.0 SOL	4,0	100	100	65	34	40	0,5	G3/4	G1	7640161633230	301051-10540
DSV 20-6.0 SOL	6,0	100	100	65	34	40	0,5	G3/4	G1	7640161633247	301051-10560
DSV 20-8.0 SOL	8,0	100	100	65	34	40	0,5	G3/4	G1	7640161633254	301051-10580
DSV 20-10.0 SOL	10,0	100	100	65	34	40	0,5	G3/4	G1	7640161633261	301051-10510
DN 25											
DSV 25-3.0 SOL	3,0	200	200	75	41	45	0,75	G1	G1 1/4	7640161633278	301051-10630
DSV 25-4.0 SOL	4,0	200	200	75	41	45	0,75	G1	G1 1/4	7640161633285	301051-10640
DSV 25-6.0 SOL	6,0	200	200	75	41	45	0,75	G1	G1 1/4	7640161633292	301051-10660
DSV 25-8.0 SOL	8,0	200	200	75	41	45	0,75	G1	G1 1/4	7640161633308	301051-10680
DSV 25-10.0 SOL	10,0	200	200	75	41	45	0,75	G1	G1 1/4	7640161633315	301051-10610

QNsv_v - Blow-off capacity of a safety valve with steam discharge according to component test, related to the heat capacity of a heat generator.

*) The valve can be supplied with settings up to 16 bar.



Safety valve DSV...F

For the protection of:

- cooling plants and closed cooling circuits
- pressure tanks/-systems for water and cooling liquids with glycol content of up to 100 %

The temperature of the medium under atmospheric pressure must not reach boiling point.

Spring-loaded, can be vented manually, spring compartment protected by diaphragms.

Inlet and outlet side with female thread.

Vertical installation.

The valves are made entirely of metal and can withstand high environmental or radiation temperatures.

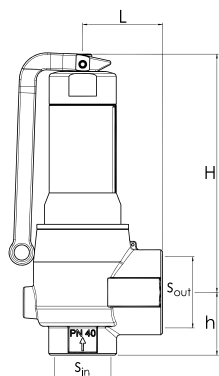
All materials are suitable for max. temperatures up to 150°C.

TÜV - Approval 293 F.

Type*	psv [bar]	qNsv [m³/h]	H	h	L	m [kg]	S _{in}	S _{out}	EAN	Article No
DN 15										
DSV 15-3.0 F	3,0	2,6	70	17	26	0,2	G1/2	G1/2	7640161633322	301051-20430
DSV 15-4.0 F	4,0	3,0	70	17	26	0,2	G1/2	G1/2	7640161633339	301051-20440
DSV 15-5.0 F	5,0	3,4	70	17	26	0,2	G1/2	G1/2	7640161633346	301051-20450
DSV 15-6.0 F	6,0	3,7	70	17	26	0,2	G1/2	G1/2	7640161633353	301051-20460
DSV 15-7.0 F	7,0	4,0	70	17	26	0,2	G1/2	G1/2	7640161633360	301051-20470
DSV 15-8.0 F	8,0	4,3	70	17	26	0,2	G1/2	G1/2	7640161633377	301051-20480
DSV 15-9.0 F	9,0	4,5	70	17	26	0,2	G1/2	G1/2	7640161633384	301051-20490
DSV 15-10.0 F	10,0	4,8	70	17	26	0,2	G1/2	G1/2	7640161633391	301051-20410
DN 20										
DSV 20-3.0 F	3,0	4,4	70	18	31	0,3	G3/4	G3/4	76401616333407	301051-20530
DSV 20-4.0 F	4,0	5,1	70	18	31	0,3	G3/4	G3/4	76401616333414	301051-20540
DSV 20-5.0 F	5,0	5,7	70	18	31	0,3	G3/4	G3/4	76401616333421	301051-20550
DSV 20-6.0 F	6,0	6,3	70	18	31	0,3	G3/4	G3/4	76401616333438	301051-20560
DSV 20-7.0 F	7,0	6,8	70	18	31	0,3	G3/4	G3/4	76401616333445	301051-20570
DSV 20-8.0 F	8,0	7,2	70	18	31	0,3	G3/4	G3/4	76401616333452	301051-20580
DSV 20-9.0 F	9,0	7,7	70	18	31	0,3	G3/4	G3/4	76401616333469	301051-20590
DSV 20-10.0 F	10,0	8,1	70	18	31	0,3	G3/4	G3/4	76401616333476	301051-20510
DN 25										
DSV 25-3.0 F	3,0	6,7	80	22	35	0,5	G1	G1	76401616333483	301051-20630
DSV 25-4.0 F	4,0	7,7	80	22	35	0,5	G1	G1	76401616333490	301051-20640
DSV 25-5.0 F	5,0	8,6	80	22	35	0,5	G1	G1	76401616333506	301051-20650
DSV 25-6.0 F	6,0	9,5	80	22	35	0,5	G1	G1	76401616333513	301051-20660
DSV 25-7.0 F	7,0	10,2	80	22	35	0,5	G1	G1	76401616333520	301051-20670
DSV 25-8.0 F	8,0	10,9	80	22	35	0,5	G1	G1	76401616333537	301051-20680
DSV 25-9.0 F	9,0	11,6	80	22	35	0,5	G1	G1	76401616333544	301051-20690
DSV 25-10.0 F	10,0	12,2	80	22	35	0,5	G1	G1	76401616333551	301051-20610

qNsv - Blow-off capacity of a safety valve in the event of water outflow according to component test. Related to the thermal output of a heat generator or cooling unit, the following can be assumed: 1 l/h = 1 kW.

*) The valve can be supplied with settings up to 16 bar.



Safety valve DSV...DGF

Spring loaded, with manual blow-off lever. Spring chamber is membrane sealed and pressure balanced. Female thread on both inlet and outlet sides, with the latter being larger. Vertical installation.

DN 15

Type*	psv [bar]	qNsv _a [Nm ³ /h]	qNsv _v [kg/h]	qNsv _w [m ³ /h]	H	h	L	m [kg]	S _{in}	S _{out}	EAN	Article No
DSV...DGF 15-2.0	2,0	180	142	4,5	90	30	35,5	0,5	G1/2	G3/4	5902276810305	301051-20420
DSV...DGF 15-2.5	2,5	214	167	5	90	30	35,5	0,5	G1/2	G3/4	5902276810312	301051-20425
DSV...DGF 15-3.0	3,0	248	193	5,5	90	30	35,5	0,5	G1/2	G3/4	5902276810329	301051-20431
DSV...DGF 15-3.5	3,5	280	217	5,95	90	30	35,5	0,5	G1/2	G3/4	5902276810336	301051-20435
DSV...DGF 15-4.0	4,0	312	242	6,4	90	30	35,5	0,5	G1/2	G3/4	5902276810343	301051-20441
DSV...DGF 15-4.5	4,5	344	266	6,75	90	30	35,5	0,5	G1/2	G3/4	5902276810350	301051-20445
DSV...DGF 15-5.0	5,0	376	290	7,1	90	30	35,5	0,5	G1/2	G3/4	5902276810367	301051-20451
DSV...DGF 15-5.5	5,5	408	313	7,45	90	30	35,5	0,5	G1/2	G3/4	5902276810374	301051-20455
DSV...DGF 15-6.0	6,0	440	337	7,8	90	30	35,5	0,5	G1/2	G3/4	5902276810381	301051-20461
DSV...DGF 15-7.0	7,0	503	385	8,4	90	30	35,5	0,5	G1/2	G3/4	5902276810398	301051-20471
DSV...DGF 15-8.0	8,0	567	432	9	90	30	35,5	0,5	G1/2	G3/4	5902276810404	301051-20481
DSV...DGF 15-9.0	9,0	631	480	9,6	90	30	35,5	0,5	G1/2	G3/4	5902276810411	301051-20492
DSV...DGF 15-10.0	10,0	694	527	10,1	90	30	35,5	0,5	G1/2	G3/4	5902276810428	301051-20411

DN 20

Type*	psv [bar]	qNsv _a [Nm ³ /h]	qNsv _v [kg/h]	qNsv _w [m ³ /h]	H	h	L	m [kg]	S _{in}	S _{out}	EAN	Article No
DSV...DGF 20-2.0	2,0	340	268	8,2	115	35	42,5	0,9	G3/4	G1	5902276810435	301051-20520
DSV...DGF 20-2.5	2,5	404	316	9,15	115	35	42,5	0,9	G3/4	G1	5902276810442	301051-20525
DSV...DGF 20-3.0	3,0	468	365	10,1	115	35	42,5	0,9	G3/4	G1	5902276810459	301051-20531
DSV...DGF 20-3.5	3,5	530	411	10,9	115	35	42,5	0,9	G3/4	G1	5902276810466	301051-20535
DSV...DGF 20-4.0	4,0	592	458	11,7	115	35	42,5	0,9	G3/4	G1	5902276810473	301051-20541
DSV...DGF 20-4.5	4,5	652	503	12,4	115	35	42,5	0,9	G3/4	G1	5902276810480	301051-20545
DSV...DGF 20-5.0	5,0	712	549	13,1	115	35	42,5	0,9	G3/4	G1	5902276810497	301051-20551
DSV...DGF 20-5.5	5,5	772,5	594	13,7	115	35	42,5	0,9	G3/4	G1	5902276810503	301051-20555
DSV...DGF 20-6.0	6,0	833	639	14,3	115	35	42,5	0,9	G3/4	G1	5902276810510	301051-20561
DSV...DGF 20-7.0	7,0	953	729	15,5	115	35	42,5	0,9	G3/4	G1	5902276810527	301051-20571
DSV...DGF 20-8.0	8,0	1074	819	16,5	115	35	42,5	0,9	G3/4	G1	5902276810534	301051-20581
DSV...DGF 20-9.0	9,0	1194	908	17,5	115	35	42,5	0,9	G3/4	G1	5902276810541	301051-20591
DSV...DGF 20-10.0	10,0	1315	998	18,5	115	35	42,5	0,9	G3/4	G1	5902276810558	301051-20511

Coefficients of flow ISO 4126-1

Nominal diameter	DN15	DN20	DN25	DN32	DN40	DN50
α _w /Kdr (F)	0,45	0,43	0,43	0,38	0,38	0,38
α _w /Kdr (D/G)	0,64	0,63	0,63	0,55	0,55	0,55

qNsv_a - Blow-off capacity of a safety valve at air discharge according to component test.

qNsv_v - Blow-off capacity of a safety valve at steam discharge according to component test.

qNsv_w - Blow-off capacity of a safety valve in the event of water outflow according to component test. Related to the thermal output of a heat generator or cooling unit, the following can be assumed: 1 l/h = 1 kW.

*) The valve can be supplied with settings up to 16 bar.

DN 25

Type*	psv [bar]	qNsv _a [Nm ³ /h]	qNsv _v [kg/h]	qNsv _w [m ³ /h]	H	h	L	m [kg]	S _{in}	S _{out}	EAN	Article No
DSV...DGF 25-2.0	2,0	556	437	13,5	146	37	48	1,6	G1	G1 1/4	5902276810565	301051-20620
DSV...DGF 25-2.5	2,5	660	516	15	146	37	48	1,6	G1	G1 1/4	5902276810572	301051-20625
DSV...DGF 25-3.0	3,0	764	595	16,5	146	37	48	1,6	G1	G1 1/4	5902276810589	301051-20631
DSV...DGF 25-3.5	3,5	865	671	17,8	146	37	48	1,6	G1	G1 1/4	5902276810596	301051-20635
DSV...DGF 25-4.0	4,0	966	748	19,1	146	37	48	1,6	G1	G1 1/4	5902276810602	301051-20641
DSV...DGF 25-4.5	4,5	1064,5	822	20,2	146	37	48	1,6	G1	G1 1/4	5902276810619	301051-20644
DSV...DGF 25-5.0	5,0	1163	896	21,3	146	37	48	1,6	G1	G1 1/4	5902276810626	301051-20651
DSV...DGF 25-5.5	5,5	1261	969	22,35	146	37	48	1,6	G1	G1 1/4	5902276810633	301051-20655
DSV...DGF 25-6.0	6,0	1359	1043	23,4	146	37	48	1,6	G1	G1 1/4	5902276810640	301051-20661
DSV...DGF 25-7.0	7,0	1556	1190	25,2	146	37	48	1,6	G1	G1 1/4	5902276810657	301051-20671
DSV...DGF 25-8.0	8,0	1753	1337	27	146	37	48	1,6	G1	G1 1/4	5902276810664	301051-20681
DSV...DGF 25-9.0	9,0	1950	1483	28,6	146	37	48	1,6	G1	G1 1/4	5902276810671	301051-20691
DSV...DGF 25-10.0	10,0	2147	1629	30,2	146	37	48	1,6	G1	G1 1/4	5902276810688	301051-20611

DN 32

Type*	psv [bar]	qNsv _a [Nm ³ /h]	qNsv _v [kg/h]	qNsv _w [m ³ /h]	H	h	L	m [kg]	S _{in}	S _{out}	EAN	Article No
DSV...DGF 32-2.0	2,0	816	642	20,2	192	45	58	3,3	G1 1/4	G1 1/2	5902276810695	301051-20720
DSV...DGF 32-2.5	2,5	972	760	22,5	192	45	58	3,3	G1 1/4	G1 1/2	5902276810701	301051-20725
DSV...DGF 32-3.0	3,0	1128	879	24,8	192	45	58	3,3	G1 1/4	G1 1/2	5902276810718	301051-20731
DSV...DGF 32-3.5	3,5	1279	993	26,75	192	45	58	3,3	G1 1/4	G1 1/2	5902276810725	301051-20735
DSV...DGF 32-4.0	4,0	1430	1107	28,7	192	45	58	3,3	G1 1/4	G1 1/2	5902276810732	301051-20741
DSV...DGF 32-4.5	4,5	1575,5	1216	30,4	192	45	58	3,3	G1 1/4	G1 1/2	5902276810749	301051-20745
DSV...DGF 32-5.0	5,0	1721	1326	32,1	192	45	58	3,3	G1 1/4	G1 1/2	5902276810756	301051-20751
DSV...DGF 32-5.5	5,5	1867	1435	33,6	192	45	58	3,3	G1 1/4	G1 1/2	5902276810763	301051-20755
DSV...DGF 32-6.0	6,0	2013	1544	35,1	192	45	58	3,3	G1 1/4	G1 1/2	5902276810770	301051-20761
DSV...DGF 32-7.0	7,0	2304	1762	37,9	192	45	58	3,3	G1 1/4	G1 1/2	5902276810787	301051-20771
DSV...DGF 32-8.0	8,0	2595	1979	40,6	192	45	58	3,3	G1 1/4	G1 1/2	5902276810794	301051-20781
DSV...DGF 32-9.0	9,0	2887	2196	43	192	45	58	3,3	G1 1/4	G1 1/2	5902276810800	301051-20792
DSV...DGF 32-10.0	10,0	3178	2412	45,4	192	45	58	3,3	G1 1/4	G1 1/2	5902276810817	301051-20711

Coefficients of flow ISO 4126-1

Nominal diameter	DN15	DN20	DN25	DN32	DN40	DN50
α _w /Kdr (F)	0,45	0,43	0,43	0,38	0,38	0,38
α _w /Kdr (D/G)	0,64	0,63	0,63	0,55	0,55	0,55

qNsv_a - Blow-off capacity of a safety valve at air discharge according to component test.

qNsv_v - Blow-off capacity of a safety valve at steam discharge according to component test.

qNsv_w - Blow-off capacity of a safety valve in the event of water outflow according to component test. Related to the thermal output of a heat generator or cooling unit, the following can be assumed: 1 l/h = 1 kW.

*) The valve can be supplied with settings up to 16 bar.

DN 40

Type*	psv [bar]	qNsv _a [Nm ³ /h]	qNsv _v [kg/h]	qNsv _w [m ³ /h]	H	h	L	m [kg]	S _{in}	S _{out}	EAN	Article No
DSV...DGF 40-2.0	2,0	1379	1085	34,2	229	55	68	5,8	G1 1/2	G2	5902276810824	301051-20820
DSV...DGF 40-2.5	2,5	1643	1285	38,05	229	55	68	5,8	G1 1/2	G2	5902276810831	301051-20825
DSV...DGF 40-3.0	3,0	1907	1486	41,9	229	55	68	5,8	G1 1/2	G2	5902276810848	301051-20831
DSV...DGF 40-3.5	3,5	2162	1679	45,15	229	55	68	5,8	G1 1/2	G2	5902276810855	301051-20835
DSV...DGF 40-4.0	4,0	2417	1872	48,4	229	55	68	5,8	G1 1/2	G2	5902276810862	301051-20841
DSV...DGF 40-4.5	4,5	2663	2056	51,3	229	55	68	5,8	G1 1/2	G2	5902276810879	301051-20845
DSV...DGF 40-5.0	5,0	2909	2241	54,2	229	55	68	5,8	G1 1/2	G2	5902276810886	301051-20851
DSV...DGF 40-5.5	5,5	3155,5	2425	56,8	229	55	68	5,8	G1 1/2	G2	5902276810893	301051-20856
DSV...DGF 40-6.0	6,0	3402	2609	59,4	229	55	68	5,8	G1 1/2	G2	5902276810909	301051-20861
DSV...DGF 40-7.0	7,0	3894	2977	64,1	229	55	68	5,8	G1 1/2	G2	5902276810916	301051-20871
DSV...DGF 40-8.0	8,0	4386	3344	68,6	229	55	68	5,8	G1 1/2	G2	5902276810923	301051-20881
DSV...DGF 40-9.0	9,0	4879	3711	72,7	229	55	68	5,8	G1 1/2	G2	5902276810930	301051-20892
DSV...DGF 40-10.0	10,0	5371	4077	76,7	229	55	68	5,8	G1 1/2	G2	5902276810947	301051-20811

DN 50

Type*	psv [bar]	qNsv _a [Nm ³ /h]	qNsv _v [kg/h]	qNsv _w [m ³ /h]	H	h	L	m [kg]	S _{in}	S _{out}	EAN	Article No
DSV...DGF 50-2.0	2,0	2089	1643	51,8	276	65	80	8,9	G2	G2 1/2	5902276810954	301051-20920
DSV...DGF 50-2.5	2,5	2488,5	1947	57,65	276	65	80	8,9	G2	G2 1/2	5902276810961	301051-20925
DSV...DGF 50-3.0	3,0	2888	2251	63,5	276	65	80	8,9	G2	G2 1/2	5902276810978	301051-20931
DSV...DGF 50-3.5	3,5	3274,5	2543	68,45	276	65	80	8,9	G2	G2 1/2	5902276810985	301051-20935
DSV...DGF 50-4.0	4,0	3661	2835	73,4	276	65	80	8,9	G2	G2 1/2	5902276810992	301051-20941
DSV...DGF 50-4.5	4,5	4034	3115	77,75	276	65	80	8,9	G2	G2 1/2	5902276811005	301051-20945
DSV...DGF 50-5.0	5,0	4407	3395	82,1	276	65	80	8,9	G2	G2 1/2	5902276811012	301051-20951
DSV...DGF 50-5.5	5,5	4780	3674	86	276	65	80	8,9	G2	G2 1/2	5902276811029	301051-20955
DSV...DGF 50-6.0	6,0	5153	3953	89,9	276	65	80	8,9	G2	G2 1/2	5902276811036	301051-20961
DSV...DGF 50-7.0	7,0	5899	4510	97,1	276	65	80	8,9	G2	G2 1/2	5902276811043	301051-20971
DSV...DGF 50-8.0	8,0	6644	5066	103,9	276	65	80	8,9	G2	G2 1/2	5902276811050	301051-20981
DSV...DGF 50-9.0	9,0	7390	5621	110,2	276	65	80	8,9	G2	G2 1/2	5902276811067	301051-20991
DSV...DGF 50-10.0	10,0	8136	6175	116,1	276	65	80	8,9	G2	G2 1/2	5902276811074	301051-20911

Coefficients of flow ISO 4126-1

Nominal diameter	DN15	DN20	DN25	DN32	DN40	DN50
α _w /Kdr (F)	0,45	0,43	0,43	0,38	0,38	0,38
α _w /Kdr (D/G)	0,64	0,63	0,63	0,55	0,55	0,55

qNsv_a - Blow-off capacity of a safety valve at air discharge according to component test.

qNsv_v - Blow-off capacity of a safety valve at steam discharge according to component test.

qNsv_w - Blow-off capacity of a safety valve in the event of water outflow according to component test. Related to the thermal output of a heat generator or cooling unit, the following can be assumed: 1 l/h = 1 kW.

*) The valve can be supplied with settings up to 16 bar.

Accessories

Blow tank ET

Connections for safety valve, steam line and drain line.

Vertical installation behind safety valves for the separation of steam/water mixtures.

Applications:

Heating water systems.

Deployment in systems according to EN 12828, SWKI HE301-01.

Pressure:

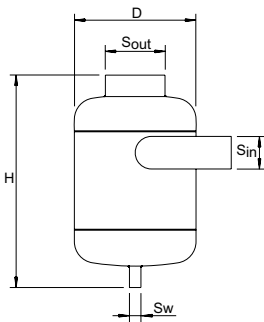
Min. admissible pressure, PSmin: 0 bar

Dimensioning for a flow counter pressure of max. 2 bar

Temperature:

Max. admissible temperature, TS: 120 °C

Min. admissible temperature, TSmin: -10 °C



Material:

Steel. Color beryllium.

Type	D	H	m [kg]	S _{in}	S _{out}	Sw	EAN	Article No
2 bar (PS)								
ET 32-125	133	312	4,5	DN 32	DN 65	DN 15	7640148634762	785 2500
ET 65-250	285	500	9	DN 65	DN 125	DN 20	7640148634779	785 2501
ET 100-400	405	760	23,5	DN 100	DN 200	DN 25	7640148634786	785 2502
ET 150-600	605	1022	38	DN 150	DN 300	DN 32	7640148634793	785 2503

DSV – ET allocation

DSV...H	ET	DSV...DGH	psv ≤ 5 bar ET	psv > 5 bar ET
DSV 15H		-	-	-
DSV 20H		-	-	-
DSV 25H		DSV 25DGH	ET 65-250	ET 65-250
DSV 32H	ET 65-250	DSV 32DGH	ET 65-250	ET 65-250
DSV 40H	ET 100-400	DSV 40DGH	ET 65-250	ET 100-400
DSV 50H	ET 100-400	DSV 50DGH	ET 100-400	ET 100-400

*) No ET as QNsv_v < 350 kW.

