

Hygienic 4000

Safety valve made of stainless steel, angle type, with stainless steel spring

→ **Series Hygienic 4000**



■ SUITABLE FOR

Liquids	neutral and non-neutral	
Air, gases and vapours	neutral and non-neutral	
Steam		

■ EXAMPLES OF USE

For the protection of:

- processes, plants and containers in the food and pharmaceutical industry for air, neutral and non-neutral vapours and gases, steam and liquids
- food industry
- Dairy industry
- breweries and beverage industry
- pharmaceutical industry
- cosmetic industry
- medical technology
- clean Service applications

■ FEATURES

- Smooth and faultless surface finish optimized for cleaning process
- Minimal dead space in inlet area and no gaps in the valve
- Exposed and rinsed o-ring seals
- Shape of valve body avoids forming of puddles in the valve after it has opened
- Suitable for CIP/SIP due to pneumatic lifting device
- Gap-free installation of seals in contact with the medium
- Surface roughness standard Ra<0,8 um
- Option: mechanically polished and/or electro-polished
- Moulded diaphragm to divide the product chamber from the spring housing

■ APPROVALS

TÜV-Type test approval 2095	D/G, F
EC type examination	S/G, L
KGS	G
TR ZU 032/2013 - TR ZU 010/2011	S/G, L
Requirements	
DIN EN ISO 4126-1	AD 2000 Data sheet A2
PED 2014/68/EU	VdTÜV Guideline SV 100
TRD 421	KGS AA 319
Classification society	
Bureau Veritas	BV



■ MATERIAL



■ SPECIFICATION



Clamp connection
DN 25 – DN 100

–40°C to + 200°C

0,4–16 bar

■ MATERIALS

Component	Material	DIN EN	ASME
Body	Stainless steel	1.4404	316 L
Inner parts, wetted	Stainless steel	1.4404	316 L
Upper section, other inner parts	Stainless steel	1.4404	316 L
Spring	Stainless steel	1.4310	302
Diaphragm	Elastomer	FKM, EPDM	FKM, EPDM

Series 4000 ■ VALVE VERSION

t	Standard with diaphragm	for neutral and non-neutral media. Spring, moving parts and the environment are protected from being affected by the medium.
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Parts which are difficult to clean in the guide, the spring housing and the spindle / disc combination are protected against soiling by elastomer diaphragm.

■ MEDIUM

GF	gaseous and liquid	Air, vapours, gases, liquids and - depending on safety valve version and seal - also for steam
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■ TYPE OF LIFTING MECHANISM

P	Pneumatic lifting device
0	without lifting device

■ AVAILABLE NOMINAL DIAMETERS AND CONNECTION SIZES

Nominal diameter	25	40	50	65	80	100
Inlet	25	40	50	65	80	100
Outlet DN	40	■				
	65		■			
	80			■		
	100				■	
	125					■
	150					

■ TYPE OF CONNECTION INLET / OUTLET Special connections

KLSDIN / KLSDIN	Standard	Clamp connection / Clamp connection	DIN 32676 / DIN 32676	Pipe Standard DIN 11850
Against surcharge				
N / N		Aseptic-Threaded ferrule connection A/ Aseptic-Threaded ferrule connection A	DIN 11864-1 / DIN 11864-1 DIN 11853-1 / DIN 11853-1	Pipe Standard DIN 11850
GSDIN / GSDIN		Threaded ferrule connection / Threaded ferrule connection	DIN 11851 / DIN 11851	Pipe Standard DIN 11850
Further connection types available on request				

■ SEALS

FKM	Fluorcarbon	Elastomere moulded seal	FDA, USP	-20°C to +200°C
EPDM	Ethylene propylene diene	Elastomere moulded seal	FDA, USP	-40°C to +170°C

■ OPTIONS

Surface mechanically polished	MP
Surface mechanically polished and electro-polished	MEP
Proximity switch for indication of valve position	Order description: S62
Special versions on request.	

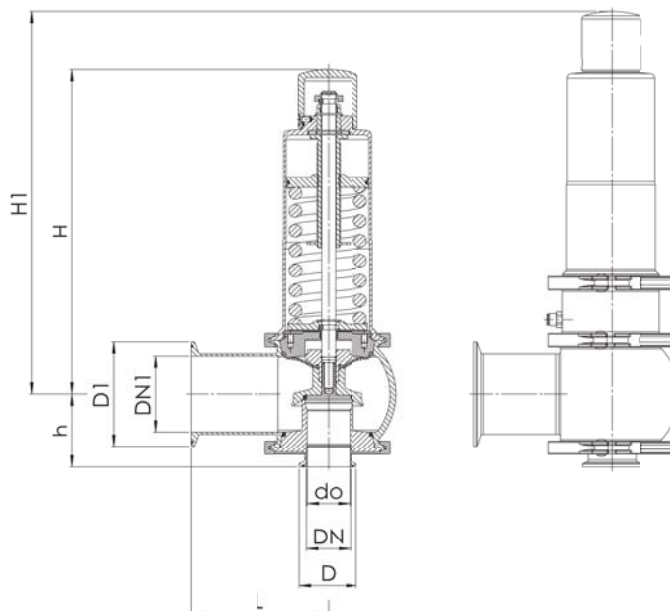
■ NOMINAL DIAMETERS, CONNECTIONS, INSTALLATION DIMENSIONS

Series Hygienic 4000: Connection, installation dimensions, ranges of adjustment								
Nominal diameter	DN	25	40	50	65	80	100	
Connection		Clamp connection DIN 32676						
Inlet	DN	25	40	50	65	80	100	
Outlet	DN1	40	65	80	100	125	150	
Installation dimensions in mm		L	80	120	140	153	178	181
		h	47	64	80	92	112	126
		D	51	51	64	91	106	119
		D1	51	91	106	119	155	183
		H	183	285	354	445	513	586
		H1 ²⁾	216	335	414	515	613	701
		α_w / K_{dr} (F)	0,45	0,45	0,45	0,45	0,45	0,45
		α_w / K_{dr} (D/G) ¹⁾	0,70	0,70	0,70	0,70	0,70	0,70
		do	23,0	37,0	46,0	60,0	74,0	92,0
Weight tGFO	kg		2,2	7,0	13,0	24,5	41,3	64,0
Weight tGFP	kg ²⁾		3	8	15	29	50	76
Range of adjustment	bar		0,4-16	0,4-16	0,4-16	0,4-16	0,4-16	0,4-16

¹⁾ Coefficient of flow for S/G valid for 6,00 bar or more, for smaller set pressures see values in capacity table

²⁾ Values for version with pneumatic lifting device

■ MAIN DIMENSIONS, INSTALLATION DIMENSIONS



■ INDIVIDUAL SELECTION / VALVE CONFIGURATION

Series	Valve version	Medium	Lifting device	Nominal diameter DN	Connection type		Connection size		Seal	Options	Set pressure	Quantity
					Inlet	Outlet	Inlet	Outlet				
4000	t	GF	P	25	KLSDIN	KLSDIN	25	40	EPDM	MP	3,2	1
4000	t	GF										
4000	t	GF										
4000	t	GF										
4000	t	GF										

In this table you can configure a valve according to your individual requirements (similar to the *example* shown, which should be deleted before you enter your own data). Please complete the table by hand using the abbreviations in this datasheet and then fax it to: +49(0)7141.4889488
Please do not forget to add your personal data so that our sales team can contact you.

Name

First Name

Company

Telephone

E-Mail

■ CAPACITY TABLE

Series Hygienic 4000: Blowing-off rates at 10% above set pressure

Nominal diameter DN	Set pressure bar	25			40			50		
		d0 = 23 mm			d0 = 37 mm			d0 = 46 mm		
		I	II	III	I	II	III	I	II	III
Air I Nm ³ /h	0,4	88,1	177,5	6,6	227,9	459,4	17,2	352,2	710,1	26,6
	0,7	117,4	230,2	8,5	303,7	595,9	21,9	469,5	921,0	33,8
	1	352,7	280,8	9,9	912,8	726,7	25,7	1410,9	1123,2	39,7
	1,5	477,8	377,6	12,2	1236,4	977,1	31,5	1911,0	1510,3	48,8
Steam II kg/h	2	596,3	468,5	14,1	1543,1	1212,4	36,5	2385,2	1873,9	56,4
	2,5	713,4	557,8	15,8	1846,2	1443,4	40,8	2853,5	2231,1	63,0
	3	830,2	646,5	17,3	2148,5	1673,0	44,7	3320,9	2585,9	69,1
Water III m ³ /h	3,5	945,5	733,6	18,7	2446,8	1898,5	48,3	3782,0	2934,4	74,6
	4	1058,7	818,9	20,0	2739,7	2119,2	51,6	4234,7	3275,6	79,8
	4,5	1171,1	903,4	21,2	3030,8	2337,9	54,8	4684,5	3613,6	84,7
	5	1284,4	988,4	22,3	3324,0	2558,0	57,8	5137,8	3953,7	89,3
	5,5	1398,3	1073,6	23,4	3618,6	2778,5	60,6	5593,0	4294,6	93,6
	6	1507,3	1155,0	24,5	3900,9	2989,1	63,3	6029,4	4620,2	97,8
	6,5	1616,4	1236,5	25,5	4183,2	3200,0	65,9	6465,7	4946,1	101,8
	7	1725,5	1317,9	26,4	4465,5	3410,7	68,4	6902,0	5271,7	105,7
	7,5	1834,6	1399,2	27,3	4747,8	3621,0	70,8	7338,4	5596,8	109,4
	8	1943,7	1480,3	28,2	5030,0	3831,0	73,1	7774,7	5921,4	113,0
	8,5	2052,8	1561,4	29,1	5312,3	4040,8	75,3	8211,1	6245,7	116,4
	9	2161,8	1642,5	30,0	5594,6	4250,5	77,5	8647,4	6569,9	119,8
9,5	2270,9	1723,6	30,8	5876,9	4460,4	79,7	9083,7	6894,3	123,1	
10	2380,0	1804,6	31,6	6159,2	4670,1	81,7	9520,1	7218,4	126,3	
11	2598,2	1966,8	33,1	6723,8	5089,8	85,7	10392,7	7867,1	132,5	
12	2816,4	2128,6	34,6	7288,4	5508,7	89,5	11265,4	8514,5	138,4	
13	3034,5	2290,2	36,0	7853,0	5926,9	93,2	12138,1	9160,9	144,0	
14	3252,7	2452,5	37,4	8417,6	6346,9	96,7	13010,7	9810,2	149,5	
15	3470,9	2614,8	38,7	8982,2	6766,8	100,1	13883,4	10459,2	154,7	
16	3689,0	2776,4	40,0	9546,8	7185,0	103,4	14756,1	11105,6	159,8	

CONTINUATION - Series Hygienic 4000: Blowing-off rates at 10% above set pressure										
Nominal diameter DN		65			80			100		
Set pressure bar		d0 = 60 mm			d0 = 74 mm			d0 = 92 mm		
		I	II	III	I	II	III	I	II	III
	0,4	599,3	1208,0	45,2	911,6	1837,6	68,8	1409,0	2840,2	106,4
	0,7	798,7	1566,9	57,5	1214,9	2383,4	87,5	1877,9	3684,0	135,2
Air I	1	2400,4	1911,0	67,6	3651,2	2906,8	102,8	5643,6	4493,0	158,9
Nm ³ /h	1,5	3251,2	2569,5	82,9	4945,5	3908,5	126,2	7644,0	6041,2	195,0
	2	4057,9	3188,2	95,9	6172,6	4849,6	145,8	9540,6	7495,8	225,4
Steam II	2,5	4854,8	3795,8	107,3	7384,7	5773,8	163,2	11414,2	8924,3	252,2
kg/h	3	5649,9	4399,5	117,5	8594,2	6692,1	178,8	13283,6	10343,7	276,4
	3,5	6434,3	4992,4	127,0	9787,3	7594,0	193,2	15127,8	11737,6	298,6
Water III	4	7204,5	5572,9	135,8	10958,9	8477,0	206,6	16938,6	13102,5	319,3
m ³ /h	4,5	7969,9	6148,0	144,1	12123,1	9351,8	219,1	18738,1	14454,6	338,7
	5	8741,0	6726,6	151,9	13296,1	10231,9	231,0	20551,2	15814,9	357,1
	5,5	9515,6	7306,5	159,3	14474,2	11114,0	242,3	22372,1	17178,4	374,5
	6	10257,9	7860,4	166,4	15603,4	11956,5	253,1	24117,5	18480,6	391,2
	6,5	11000,3	8414,9	173,2	16732,6	12800,0	263,5	25862,8	19784,3	407,2
	7	11742,6	8968,9	179,8	17861,8	13642,7	273,4	27608,2	21086,9	422,6
	7,5	12485,0	9522,0	186,1	18991,0	14484,1	283,0	29353,5	22387,3	437,5
	8	13227,3	10074,2	192,2	20120,2	15323,9	292,3	31098,9	23685,5	451,9
	8,5	13969,7	10626,0	198,1	21249,4	16163,4	301,4	32844,2	24983,0	465,8
	9	14712,0	11177,4	203,9	22378,6	17002,1	310,1	34589,5	26279,4	479,3
	9,5	15454,3	11729,5	209,5	23507,8	17841,8	318,6	36334,9	27577,2	492,5
	10	16196,7	12280,8	214,9	24637,0	18680,4	326,9	38080,2	28873,5	505,3
	11	17681,4	13384,5	225,4	26895,4	20359,3	342,9	41570,9	31468,4	530,0
	12	19166,1	14486,0	235,4	29153,8	22034,7	358,1	45061,6	34058,1	553,5
	13	20650,8	15585,7	245,1	31412,1	23707,6	372,8	48552,3	36643,7	576,2
	14	22135,5	16690,2	254,3	33670,5	25387,7	386,9	52043,0	39240,6	597,9
	15	23620,2	17794,4	263,3	35928,9	27067,3	400,4	55533,7	41836,7	618,9
	16	25104,9	18894,2	271,9	38187,3	28740,2	413,6	59024,4	44422,4	639,3