

INDEX OF STEEL INDUSTRIAL VALVES

ITEM	DESCRIPTION	FIGURE
CHECK VALVES		
01.	STRAIGHT PATTERN CHECK VALVES PN 40 DN 15-250	
	without spring for general application	ZPT 1
	without spring for naval application	ZMT 1
	without spring for petroleum products	ZFT 1
	with spring for general application	ZPS 1
	with spring for naval application	ZMS 1
	with spring for petroleum products	ZFS 1
02.	STRAIGHT PATTERN CHECK VALVES PN 40 DN 15-100	
	with spring, made of acid resisting materials	ZAS 1
03.	ANGLE PATTERN CHECK VALVES PN 40 DN 15-200	
	without spring for general application	ZCT1
	without spring for naval application	ZDT 1
	without spring for petroleum products	ZET 1
	with spring for general application	ZCS 1
	with spring for naval application	ZDS 1
	with spring for petroleum products	ZES 1
04.	STRAIGHT PATTERN CHECK VALVES PN 160 DN 10 - 50	
	check type	ZST
	check type with spring	ZSS
05.	STRAIGHT PATTERN CHECK VALVES PN 320 DN 10 - 100	
	BW ends	ZWT 11
06.	SWING CHECK VALVES	
	BW ends PN 250 DN 80 - 300	ZKT 2
	FL / BW ends, PN 320 DN 150	ZKS 2
07.	FLANGED CHECK VALVES PN 100 DN 15 - 25	425/1
08.	BW CHECK VALVES PN 100 DN 15 - 25	425 S/1
09.	FLANGED CHECK VALVES PN 100 DN 32 - 80	464
10.	BW CHECK VALVES PN 100 DN 32 - 80	464 S
11.	BW CHECK VALVES PN 420 DN 6 - 10 ST.STEEL	678 A
12.	FLAP WAFER CHECK VALVES PN 16 DN 40 - 300	6534

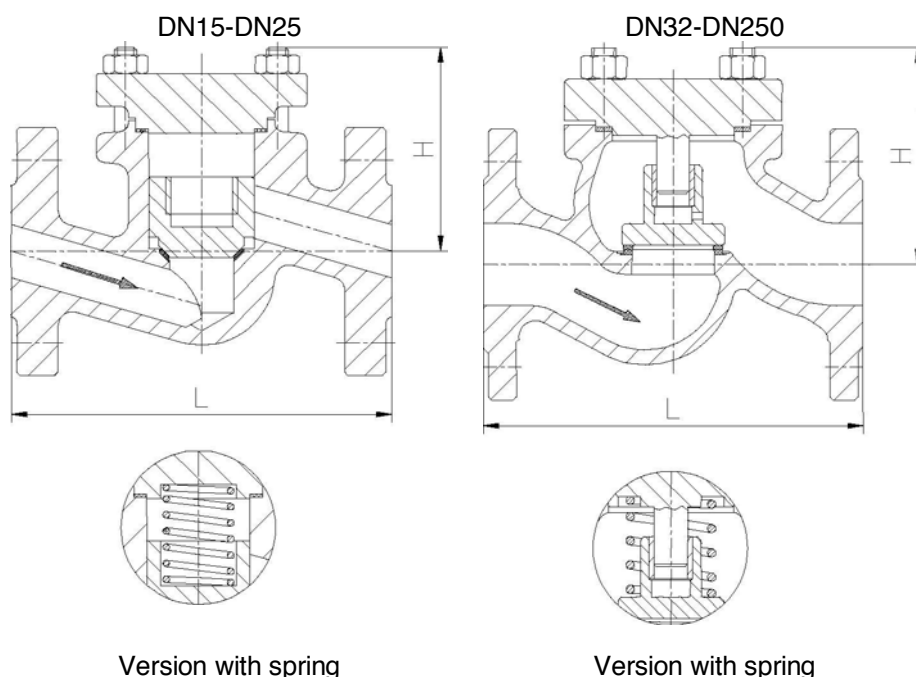
STRAIGHT PATTERN CHECK VALVES PN 40

FLANGED AND WITH BUTT WELDED ENDS

DN15 – DN250

The valves are designed for application in pipeline installations conducting non-aggressive and non-toxic media. They are manufactured in following versions:

- without spring - for general application: type **ZPT1**
- without spring - for naval application: type **ZMT1**
- without spring - for petroleum products: type **ZFT1**
- with spring - for general application: type **ZPS1**
- with spring - for naval application: type **ZMS1**
- with spring - for petroleum products: type **ZFS1**



Maximum permissible operating Temperature TS [°C]							
20	100	150	20 10	250	300	350	400
Maximum permissible operating pressure PS [bar]							
40	35	32	28,5	26	23,4	22	21,2

Materials:

Body:	DN 15 ÷ 25	carbon steel
	DN 32 ÷ 250	carbon cast steel
Bonnet:	DN 15 ÷ 65 and 250	carbon steel
	DN 80 ÷ 200	carbon cast steel
Trim:		stainless steel (min.18%Cr)
Packing:		reinforced graphite

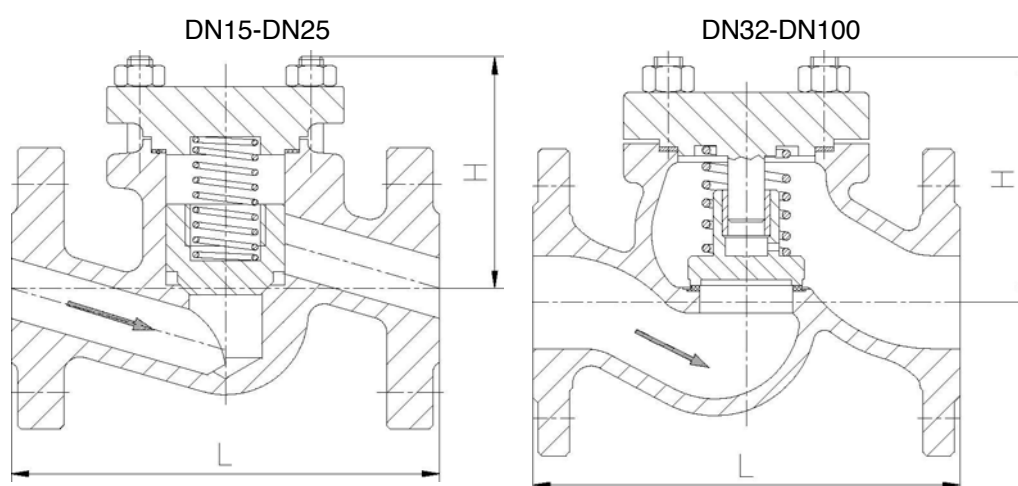
STRAIGHT PATTERN CHECK VALVES WITH SPRING PN 40

MADE OF ACID RESISTANT MATERIAL FLANGED

DN15 – DN100

The valves are designed for pipeline installations of liquid and gaseous aggressive media. They are produced in following versions

- check valves with spring: type **ZAS1**



Maximum permissible operating temperature, TS [°C]					
20	100	150	200	250	300
Maximum permissible operating pressure, PS [bar]					
40	29	27	26	24	22,4

Materials:

Body:	DN 15 ÷ 25	stainless steel
	DN 32 ÷ 100	stainless cast steel
Bonnet:	DN 15 ÷ 65	stainless steel
	DN 80 ÷ 100	stainless cast steel
Trim:		integral
Disc:		stainless steel
Packing:		reinforced graphite

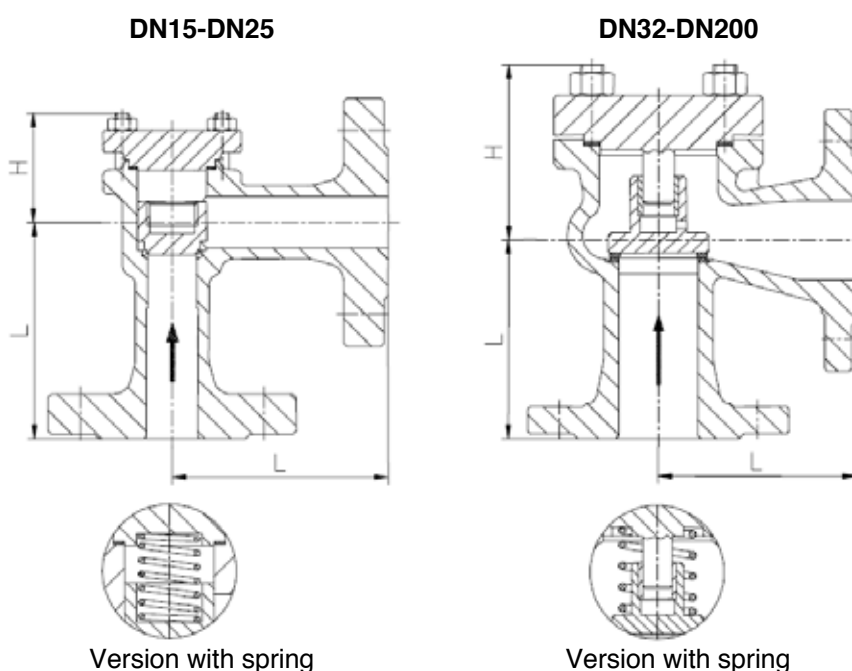
ANGLE PATTERN CHECK VALVES PN 40

FLANGED AND WITH BUTT WELD ENDS

DN15 – DN200

The valves are designed for application in pipeline installations conducting non-aggressive and non-toxic media. They are manufactured in following versions:

- without spring, for general application: type **ZCT1**
- without spring, for petroleum products: type **ZET1**
- without spring, for naval application: type **ZDT1**
- with spring, for general application: type **ZCS1**
- with spring, for petroleum products: type **ZES1**
- with spring, for naval applications: type **ZDS1**



Dimensions and weights:

DN	15	20	25	32	40	50	65	80	100	125	150	200
L	90	95	100	105	115	125	145	155	175	200	225	275
H	75	75	75	105	115	120	150	170	190	215	235	280
Weight [kg]	2 0,9*	2,6 1,7*	3,2 2,2*	8 5,4*	9,5 6,5*	14,4 10,9*	20,5 14,5*	29,7 21,2*	39,5 31*	53,3 43,3*	61 48*	117 107*
*) – relates to valves with buttweld ends												

Materials:

Body:	carbon cast steel
Bonnet: DN 15 ÷ 65	carbon steel
DN 80 ÷ 200	carbon cast steel
Trim:	stainless steel (min.18%Cr)
Packing:	reinforced graphite

STRAIGHT PATTERN CHECK VALVES

FLANGED AND WITH WELDING ENDS

PN160 DN10 – DN50

The valves are designed for application in pipeline installations conducting petroleum products, steam, water and other non-aggressive and non-toxic liquid and gaseous media.

They are manufactured in following versions:

- check valves – type **ZST**
- check valves with spring – type **ZSS**

Operating data:

Material	Maximum permissible operating temperature, TS, °C																		
	20	100	150	200	250	300	350	400	425	450	475	500	510	520	530	540	550	560	570
	Maximum permissible operating pressure, PS, bar																		
P245GH	160	140	133	125	117	102	98	90	72	51									
16Mo3	160	160	160	160	148	129	122	114	112	110	105	71	58	47	36				
13CrMo4-5	160	160	160	160	160	148	137	129	125	122	117	103	88	72	59	47	37	29	24
11CrMo9-10	160	160	160	160	160	160	160	148	145	140	130	103	90	79	68	59	51	43	38

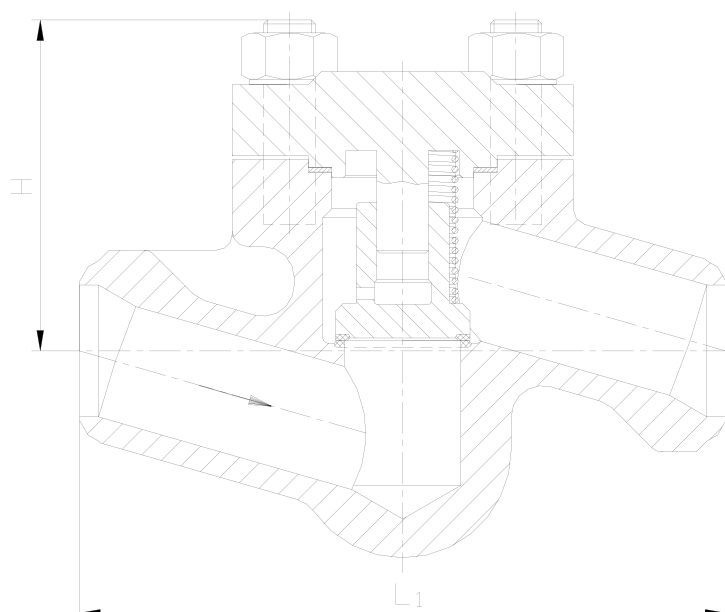
A. m. data are maximum permitted parameters for valves with flanges PN160.
For valves with butt welding ends, data PS and TS marked on bodies are obligatory

Dimensions and weights:

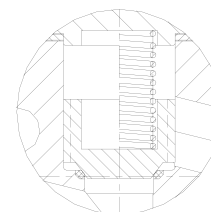
Size		DN10	DN15	DN20	DN25	DN32	DN40	DN50
H		76	76	96	96	120	120	130
Weight [kg]	flanged	4,6	4,8	9,3	10,1	17,9	19,3	24,7
	welded	2,6	2,6	5,1	5,3	11,3	11,5	13,4

valves without spring

valves with spring



Design for
DN10 to DN25



STRAIGHT PATTERN HIGH PRESSURE CHECK VALVES

WITH BUTT WELD ENDS

DN15 – DN100

The valves are designed for application in pipeline installations conducting non-aggressive and non-toxic media - type **ZWT1A**

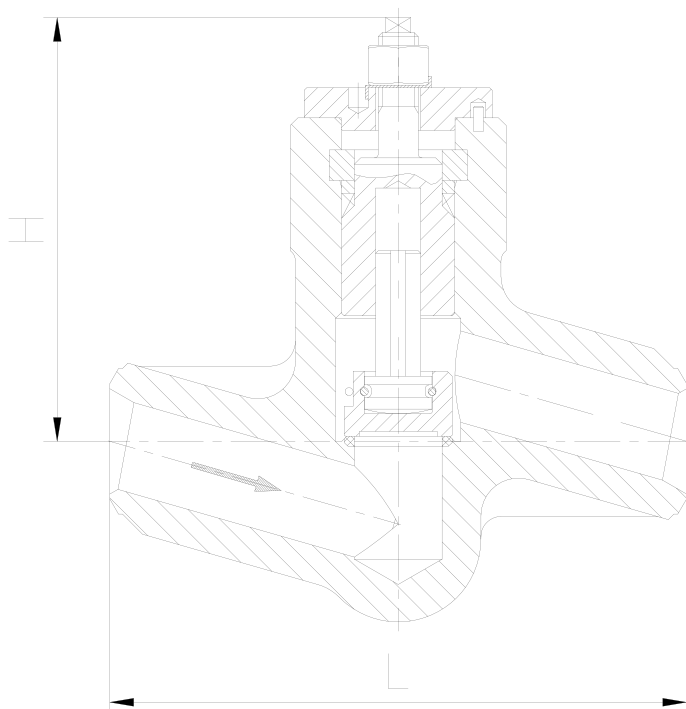
Operating data:

Material	Maximum permissible operating temperature TS, °C													
	20	200	250	300	350	400	450	490	500	530	550	570	590	600
	Maximum permissible operating pressure PS, bar													
P245GH	320	317	310	290	280	260	132							
16Mo3	320	320	315	284	273	265	255	245	200	93				
13CrMo4-5	320	320	320	317	314	311	292	284	282	170	110	63		
11CrMo9-10	320	320	320	320	320	312	296	283	280	192	144	109	80	67
14MoV6-3	320	320	320	320	320	320	320	320	320	280	213	152		
X10CrMoVNB	320	320	320	320	320	320	320	320	320	311	298	274	218	180

Materials:

Body: carbon steel / alloy steel
 Disc, stem: stainless steel (min.17%Cr)
 Trim: stainless steel (min.18%Cr)

Dimensions and weights:



DN	L	H	Weight [kg]
15	160	140	3,8
20	160	140	3,4
25	160	140	3,4
32	230	170	10
40	230	170	9,4
50	300	190	16,5
65	340	165	35
80	380	185	50
100	430	260	89,5

SWING CHECK VALVES ZKT2, ZKS2

DN80 – DN300

The offered swing check valves are designed to protect installation from reverse flow of medium.

They are suitable to be mounted on pipeline installations conducting non-aggressive and non-toxic operating media.

They are manufactured in following versions :

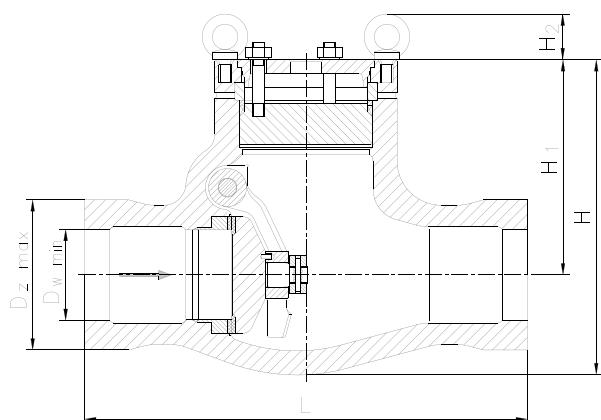
- type ZKT2 / PN 250 / diameters : DN 80 – DN 300 / butt weld ends at inlet and outlet
- type ZKS2 / PN 320 / diameters : DN 150 / flange at inlet, butt weld end at outlet/.

The valves can be mounted on vertical pipelines with bonnet directed up or on vertical pipelines when medium flows up, under the disc.

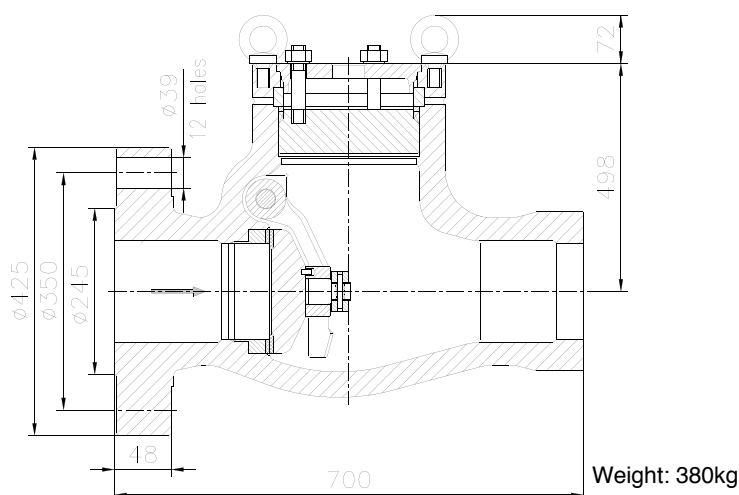
Operating data:

Type	Material	Maximum permissible operating temperature, TS [°C]														
		20	110	200	250	300	350	400	425	450	460	470	480	490	500	510
		Maximum permissible operating pressure, PS [bar]														
ZKT	L20	250	220	180	160	150	138	132	127	92						
	L18HM	250	250	250	250	237	222	212	204	196	194	192	165	141	120	100
ZKS	L20	320	278	223	200	190	178	170	169	118						
	L18HM	320	320	320	320	304	284	270	261	252	248	246	212	180	154	130

ZKT 2



ZKS 2



Materials and dimensions:

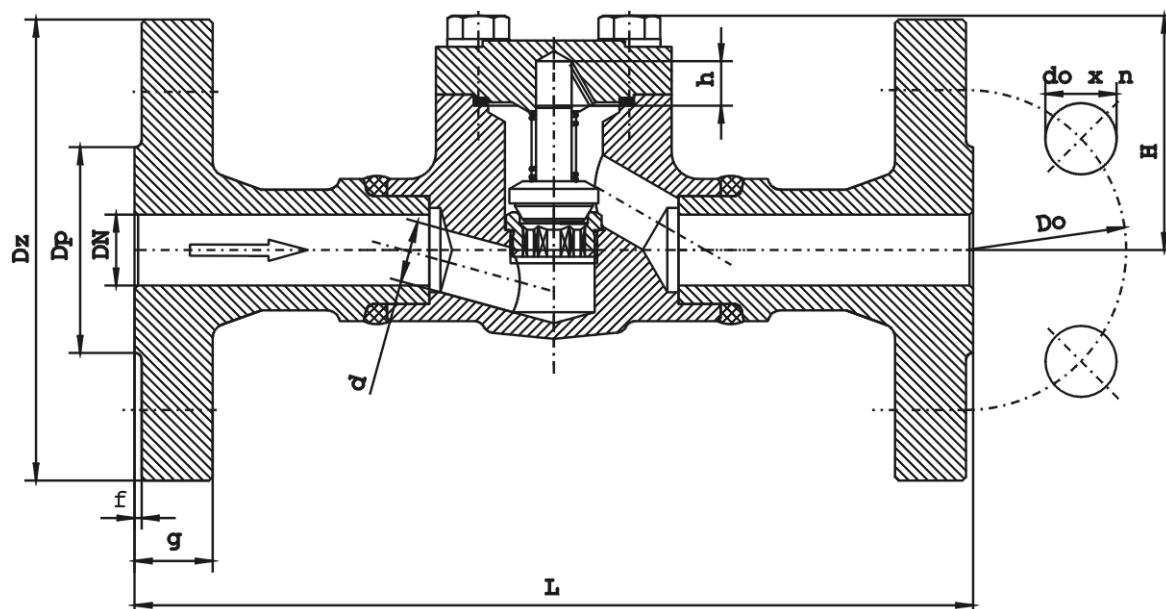
Body: carbon cast steel / up to temp. 450°C /
 Body: alloy cast steel / up to temp. 510°C /
 Bonnet: alloy steel
 Trim: stainless steel (min.18%Cr)
 Packing: reinforced graphite

DN	L	H	H ₁	H ₂	Dz _{max}	Dw _{min}	Weight [kg]
80	590	400	270	64	118	78	116
100	520	400	270	64	170	98	116
125	600	400	270	64	170	104	123
150	700	480	340	72	245	144	322
175	750	480	340	72	245	144	344
200	800	553	360	72	300	198	390
250	1050	758	496	43	420	248	883
300	1050	758	496	43	420	287	872

CHECK VALVE WITH FLANGES IN STRAIGHT FORM

CAT. NO. 464

ND 15÷25 / NP 10,0 MPA / TMAX= 425°C*



Dimensions:

ND	Dz	Dp	Do	d ₀ x n	L	d	f	g	H	h	Weight
mm											kg
15	105	45	75	14 x 4	210	10	2	20	52	10	2,1
20	130	58	90	18 x 4	230	13	2	22	56	13	2,4
25	140	68	100	18 x 4	230	18	2	24	65	15	3,9

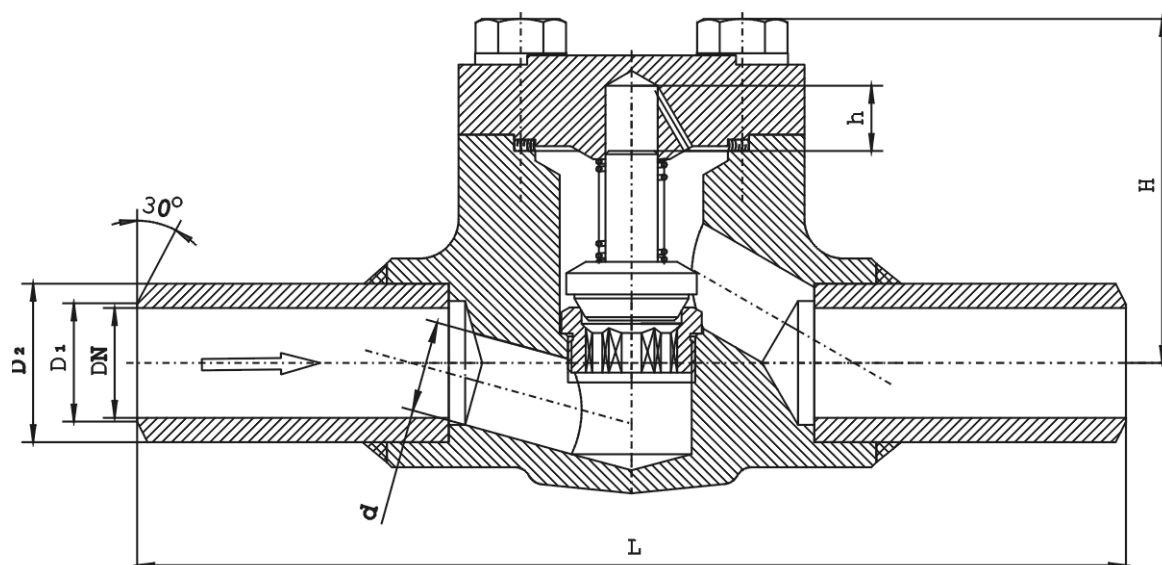
Materials:

Description	Material
Body	A105
Bonnet	A105
Body seat	X17CrNi16-2
Disc seat	X30Cr13
Packing	Graphite

CHECK VALVE WITH BUTT WELDING ENDS IN STRAIGHT FORM

CAT. NO. 464S

ND 15÷25 / NP 10,0 MPA / TMAX= 425°C*



Dimensions:

ND	D ₁	D ₂	L	d	H	h	Weight
mm							kg
15	17	22	160	10	52	10	1,5
20	22	28	160	13	56	12	2,1
25	28	34	160	18	65	15	2,8

Materials:

Description	Material
Body	A105
Bonnet	A105
Body seat	X17CrNi16-2
Disc seat	X30Cr13
Packing	Graphite

Fig. 6534

WAFER CHECK VALVE INTERFLANGED



Technical data:

face to face lenght acc. to drawing
 leakproofness class - A
 working pressure PN16
 medium temperature up to 120°C

Design features:

- By an external centering diameter (body),
- O-ring seal on the flap,
- Additional grip,
- Short lenght,
- All items made of materials not corrosive,
- Reliability and high durability,
- Requires no maintenance,
- Simple installation using a gasket between the Flanges,
- Lenght between the flange to the flanges the rebate acc. PN-EN 1092-2: 1999 PN-EN 1092-1: 2010

Application:

In instalations: for water, industrial water, waste water and other inert fluids to flow closing.

Assembly:

Assembly from horizontal to vertical position.

*- other executions on request

No.	Part	Materials
1	Body	St3S, S235JR/Zn PN-EN 10025-1: 2007 H18N9, X10CrNi18-8 PN-EN 10088-1: 2007
2	Disk	St3S, S235JR/Zn PN-EN 10025-1: 2007 H18N9, X10CrNi18-8 PN-EN 10088-1: 2007
3	Spring	50S2JR/Zn PN-74/H-84032 H18N9, X10CrNi18-10 PN-EN 10088-1: 2007
4	Seal	Guma NBR PN-ISO 1629: 2005
5	Screw with handle	St3S, S235JR/Zn PN-EN 10025-1: 2007 H18N9, X5CrNi18-10 PN-EN 10088-1: 2007