

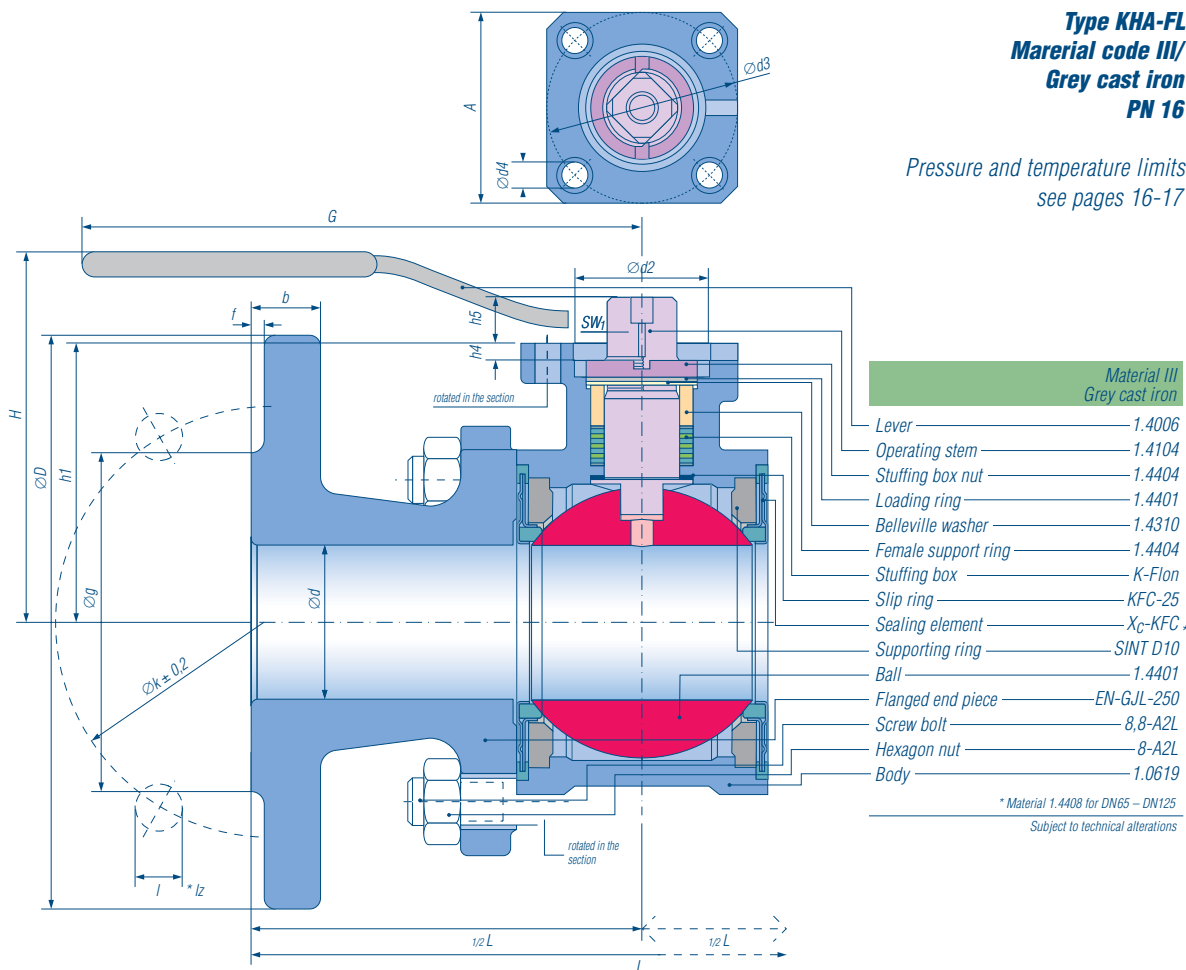


KLINGERballostar-A

Ball valve with flange connection and full port, long

Type KHA-FL
Material code III/
Grey cast iron
PN 16

Pressure and temperature limits
see pages 16-17



Design features

3-piece ball valve,
floating ball, antistatic, lockable.
Double leak tightness bi-directional.
Modular construction kit system:
several versions of stuffing boxes
and sealing elements available

Connections

Flanges acc. to EN 1092-2
(former DIN 2533)

Dimensions

Face-to-face dimensions acc. to
EN 558-1, basic line 1, or DIN 3202-F1.

Main use

Generally for liquids and gases, other
fluids see resistance table.

Leak tightness

DIN 3230, Part 3, test level B0.
Complies with the requirements of
TA Luft.

Automation

Flange connection acc. to ISO 5211,
allows direct mounting of the actuator or
mounting with bracket.
Pneumatic and electrical actuators
possible.

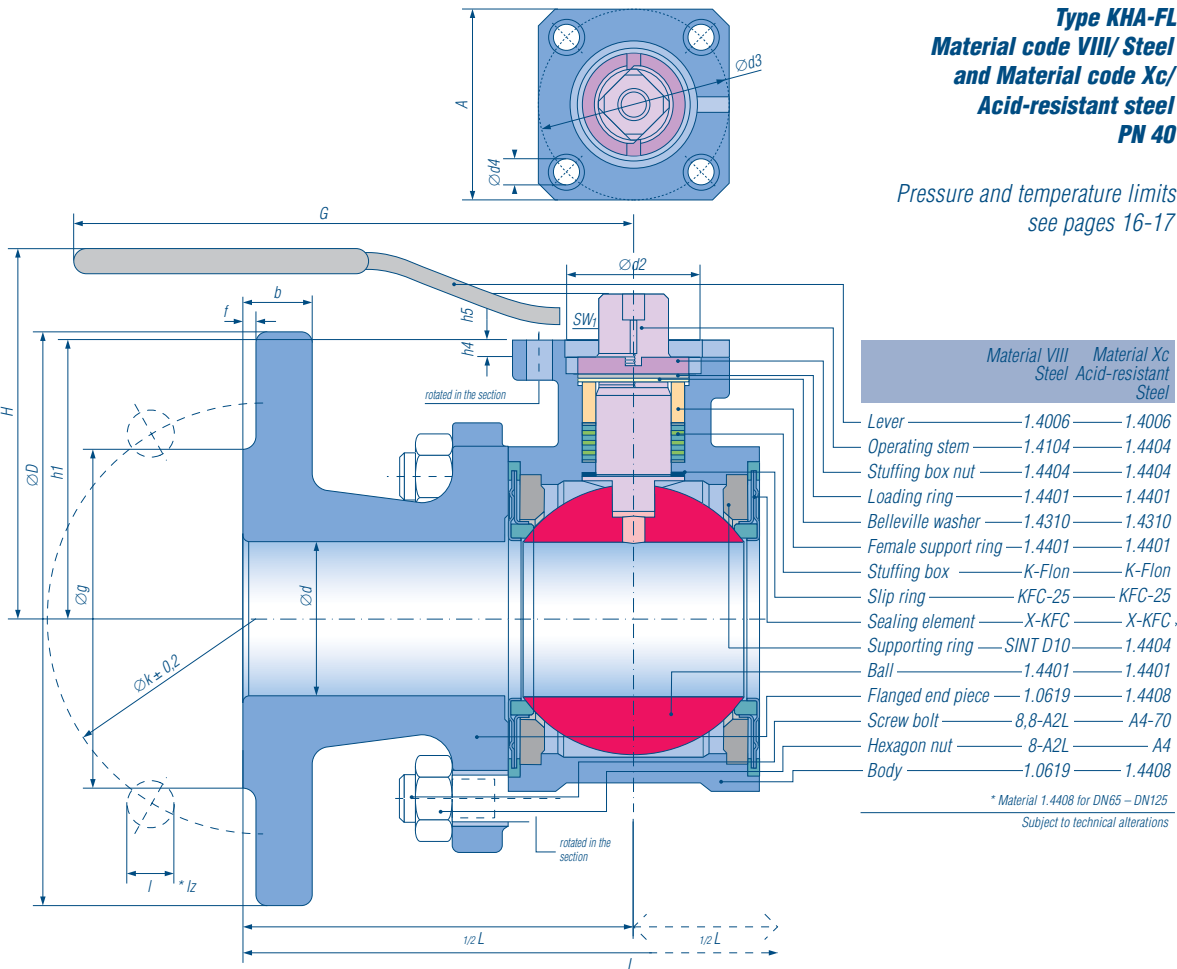
DN	Dimensions			PN	Connecting dimensions										Mounting flange for actuator									Weight kg/pc
	L	H	G		h1	Ød	ØD	Øg	f	b	Øk	l	lz*	ISO	A	d3	SW ₁	Ød2	Ød4	h4	h5			
15	130	80	130	16	35	15	95	45	2	14	65	14	4	F04	42	42	8	30	5,8	3	7	2.4		
50	230	131	315	16	90	50	165	102	3	20	125	18	4	F07	70	70	17	55	10	4	15	13.3		
65	290	141	315	16	100	65	185	122	3	20	145	18	4	F07	70	70	17	55	10	4	15	16.4		
80	310	162	500	16	122	80	200	138	3	22	160	18	8	F10	102	102	22	70	12	4	20	30.1		
100	350	176	500	16	135	100	220	158	3	24	180	18	8	F10	102	102	22	70	12	4	20	36.8		

all dimensions in mm

* lz: number of bore holes

KLINGERballostar-A

Ball valve with flange connection and full port, long



Design features
3-piece ball valve,
floating ball, antistatic, lockable.
Double leak-tightness in both port
directions.
Modular construction kit system:
several versions of stuffing boxes
and sealing elements available

Connections
Flanges acc. to EN 1092-1
Dimensions
Face-to-face dimensions acc. to
EN 558-1, basic line 1, or DIN 3202-F1.
Main use
Generally for liquids and gases, other
fluids see resistance table.

Leak tightness
DIN 3230, Part 3, test level B0. Complies
with the requirements of TA Luft.
Fire safety (special version)
Fire safe acc. to API 607.
Automation
Flange connection acc. to ISO 5211,
permits direct mounting of the actuator or
mounting with bracket. Pneumatic and
electrical actuators possible.

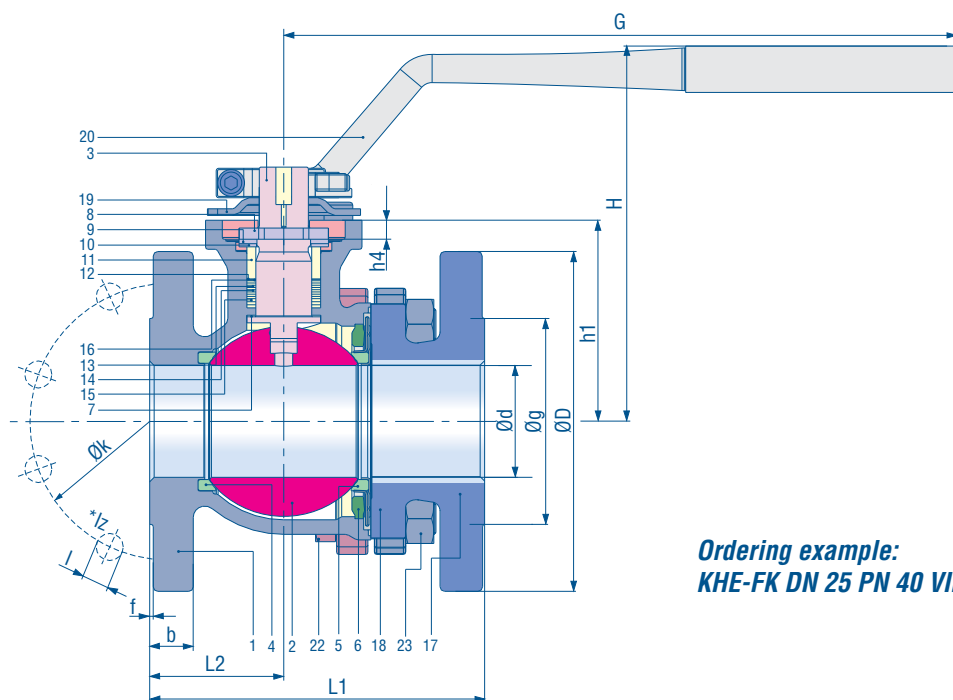
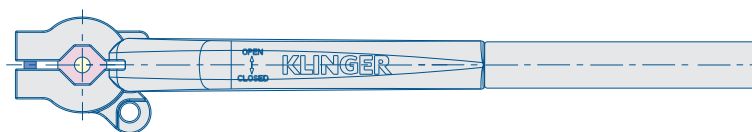
DN	Dimensions			PN	Connecting dimensions								Mounting flange for actuator								Weight kg/pc	
	L	H	G		h1	Ød	ØD	Øg	f	b	Øk	l	Iz*	ISO	A	d3	SW ₁	Ød2	Ød4	h4		h5
10	120	80	130	40	35	10	90	40	2	16	60	14	4	F04	42	42	8	30	5.8	3	7	2.3
15	130	80	130	40	35	15	95	45	2	16	65	14	4	F04	42	42	8	30	5.8	3	7	2.8
20	150	94	160	40	46	20	105	58	2	18	75	14	4	F04	42	42	11	30	5.8	3	9	3.8
25	160	98	160	40	50	25	115	68	2	18	85	14	4	F04	42	42	11	30	5.8	3	9	5.1
32	180	106	250	40	65	32	140	78	2	18	100	18	4	F05	50	50	14	35	7	4	12	7.9
40	200	113	250	40	72	40	150	88	3	18	110	18	4	F05	50	50	14	35	7	4	12	9.8
50	230	131	315	40	90	50	165	102	3	20	125	18	4	F07	70	70	17	55	10	4	15	14.1
65	290	141	315	40	100	65	185	122	3	22	145	18	8	F07	70	70	17	55	10	4	15	18.3
80	310	162	500	40	122	80	200	138	3	24	160	18	8	F10	102	102	22	70	12	4	20	30.9
100	350	176	500	40	135	100	235	162	3	24	190	22	8	F10	102	102	22	70	12	4	20	39.7
125	400	211	650	40	175	125	270	188	3	26	220	26	8	F12	125	125	27	85	15	4	25	52.2



Split-body ball valves KLINGERballostar KHE

Flanges acc. to EN 1092-1 / PN 40 or PN 16, short design

Materials: carbon steel, stainless steel



KHE-FK

PN 40

DN 15 - 125
Material VIII, Xc

PN 16

DN 15 - 200
Material VIII, Xc

**Face-to-face
dimensions
acc. to EN 558-1,
basic series 27**

Ordering example:
KHE-FK DN 25 PN 40 VIII-KFC-Laby.

Pressure range PN 40

DN	PN	Body dimensions					Flange dimensions								Weight
		d	L1	L2	H	G	h1	D	g	f	b	k	l	lz*1	kg/piece
15	40	15	115	50	80	132	35	95	45	2	16	65	14	4	2.3
20	40	20	120	45	94	162	46	105	58	2	18	75	14	4	3.4
25	40	25	125	45	98	162	50	115	68	2	18	85	14	4	4.1
32	40	32	130	50	106	252	65	140	78	2	18	100	18	4	6.2
40	40	40	140	50	113	252	72	150	88	3	18	110	18	4	7.8
50	40	50	150	60	131	317	90	165	102	3	20	125	18	4	11.4
65	40	65	170	65	144	317	100	185	122	3	22	145	18	8	16.2
80	40	80	180	65	162	502	122	200	138	3	24	160	18	8	23.9
100	40	100	190	75	176	502	135	235	162	3	24	190	22	8	31.6
125	40	125	325	125	211	652	175	270	188	3	26	220	26	8	64

Pressure range PN 16*2

DN	PN	Body dimensions					Flange dimensions							Weight	
		D	L1	L2	H	G	h1	D	g	f	b	k	l	lz*1	kg/piece
65	16	65	170	65	144	315	100	185	122	3	18	145	18	4	16.2
80	16	80	180	65	162	500	122	200	138	3	24	160	18	8	23.9
100	16	100	190	75	176	500	135	220	158	3	20	180	18	8	31.6
125	16	125	325	125	211	650	175	250	188	3	22	210	18	8	64
150	16	150	350	140	234	650	195	285	212	3	22	240	22	8	62.7
200	16	200	400	165	300	650	236	340	268	3	24	295	22	12	99.8

*1 = Number of drilling holes

*2 = DN 15-50 and DN 80: the flange dimensions of pressure stage PN 16 are equal to the measurements of PN 40 flanges.

Components and materials of standard type

Pos	Part	Material	
		VIII	Xc
1	Body	1.0619	1.4408
2	Ball	1.4301	1.4401
3	Operating stem	1.4104	1.4571, 1.4401
4	Sealing ring	KFC-25	KFC-25
5	Sealing element	KFC-25	KFC-25
6	Supporting ring	SINT C39	1.4404
7	Slip ring	KFC-25	KFC-25
8	Stuffing box nut	1.4404	1.4404
9	Loading ring	1.4404	1.4404
10	Belleville washer	1.4310	1.4310
11	Fem. Supporting ring	1.4404	1.4404
12	Antistatic disc	1.4401	1.4401
13	Disc	1.4401	1.4401
14	Stuffing box lamella	K-Flon	K-Flon
15	Washer	Graphite	Graphite
16	Washer	Graphite	Graphite
17	End piece	1.0619	1.4408
18	Sealing ring	Graphite	Graphite
19	Stop	1.4310	1.4310
20	Hand lever	steel nickle plated	
22	Heavy hex screw	8.8	A4-70
23	Heavy hex nut	8	A4



Pressure and temperature limits of KHE ball valves made of carbon steel

P/T-diagrams are an important tool to visualise the application field of a ball valve.

The strengthness of the body material restricts and standardises the application limits of pressure and temperature.

A general rule for valve bodies consisting of steel:

A decrease of operating pressure in the nominal pressure range means an increase in the field of applications in the temperature range.

KHE-FK, KHE-FL

PN 16

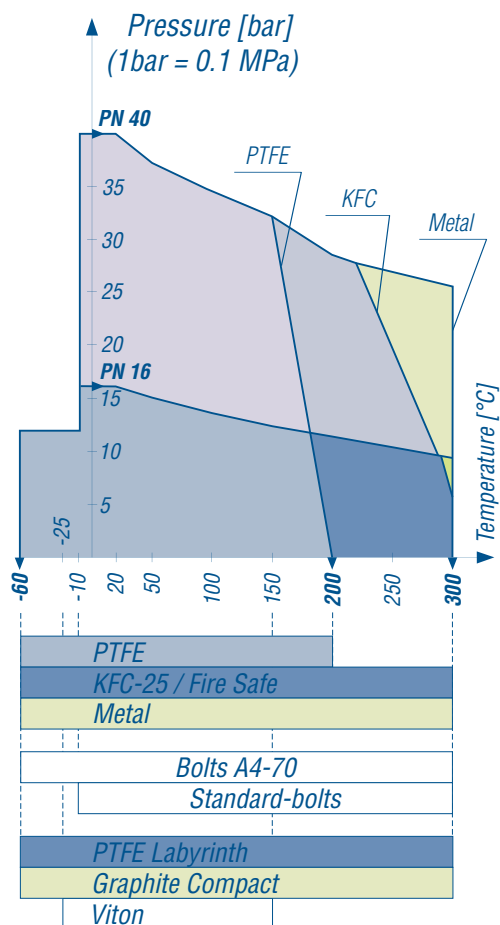
DN 15 – 125

Material: VIII

PN 40

DN 15 – 125

Material: VIII



Sealing element
and seat ring

Body hexagon
screws / nuts

Stuffing box

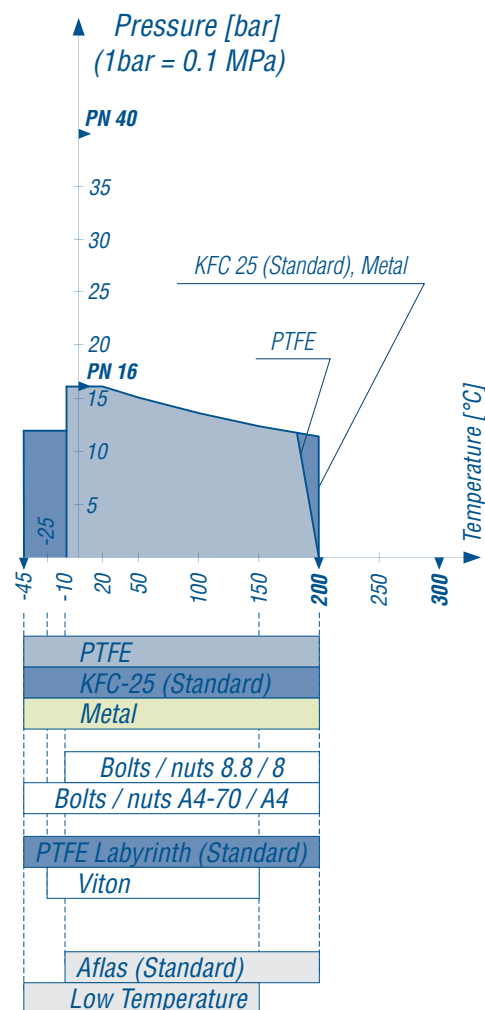
O-Ring
(Body gasket)

KHE-FK

PN 16

DN 150 – 200

Material: VIII





Pressure and temperature limits of KHE ball valves made of stainless steel

Additionally the influence of the body materials, the sealing materials and the screws on the range of application of the ball valve is clearly shown in the P/T-diagrams.

Plot your operating point in the diagram fields to find out whether the safety margins meet your requirements or not. At the same time you can see which parameters have to be changed.

Choosing your ball valve this way means optimizing the economy and safety of the valve.

KHE-FK, KHE-FL

PN 16

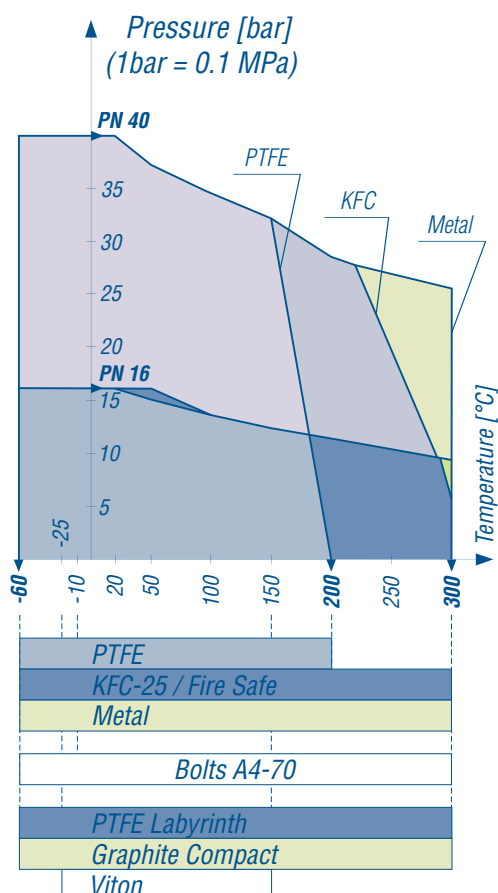
DN 15 – 125

Material: Xc

PN 40

DN 15 – 125

Material: Xc



Sealing element
and seat ring

Body hexagon
screws / nuts

Stuffing box

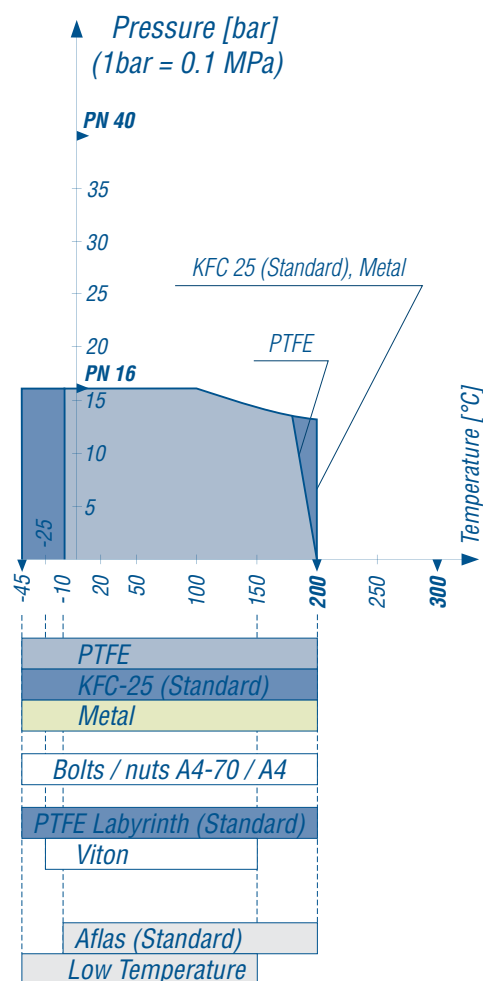
O-Ring
(Body gasket)

KHE-FK

PN 16

DN 150 - 200

Material: Xc

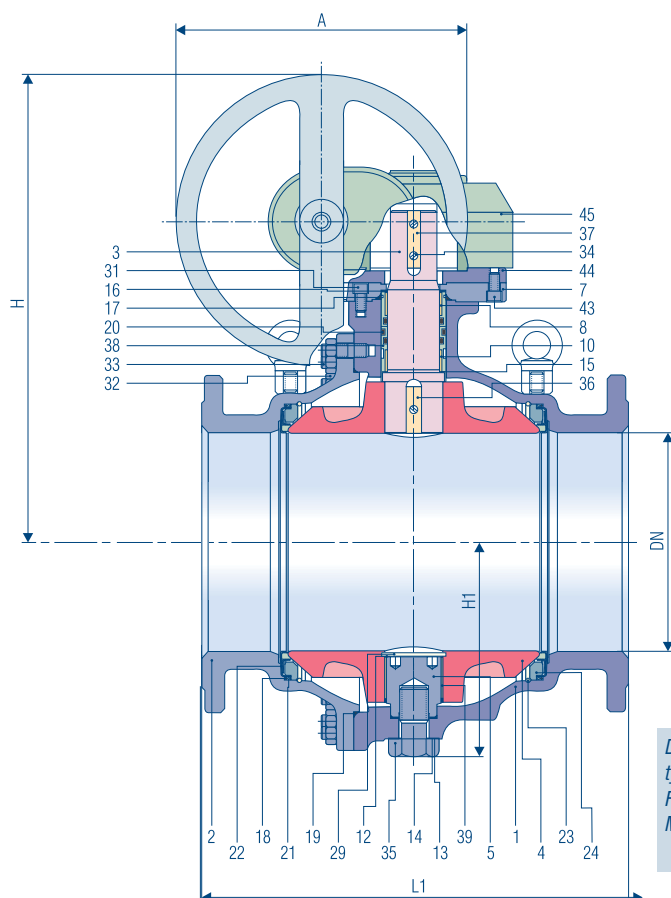
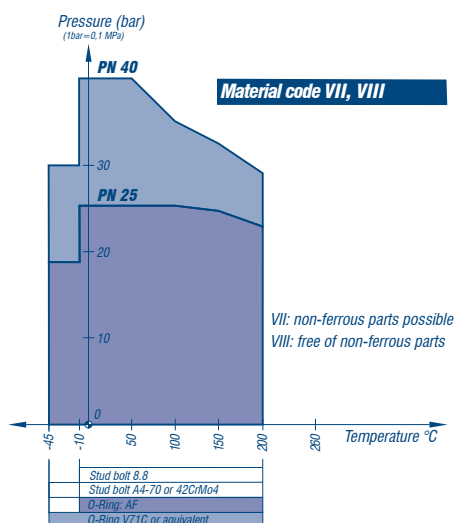


Ball valves with flanges, full bore
Flange connection acc. to EN 1092-1 / PN 25 or PN 40
Material: cast steel

**KHI
150 – 350**

PN 25
material code VII, VIII

PN 40
material code VII, VIII
face to face dimensions
acc. to EN 558, GR 12



Dimension A, H: depending on gear type. Torques see summary.
Flange dimensions see summary.
Mounting eyelet up DN 350

Specification

Ball valve PN 25 or PN 40
Split body, full bore with supported ball
two independent sealing elements, main
sealing element KFC is metallicity en-
closed on three sides, operating stem
made of acid resistant steel, mainte-
nance-free operating stem-sealing
made of AF, pressure possible on both
sides, body and end piece made of cast
steel GP 240 GH, overall dimension
acc. to EN 558, GR.12. Operated via
worm gear.

Make: KLINGER

Type: KHI-VII, VIII, for DN 150 - 350

Leak tightness through the bore tested
acc. to EN ISO 12266-1 P12.

External leak tightness tested acc. to
EN ISO 12266-1 P11.

Strength determined acc. to
EN ISO 12266-1 P10.

Ordering example:

KHI 150-VII – KFC/AF, PN 25

KHI 150-VII – KFC/AF, PN 40

with mechanical gear

Part	Material code VII
1 body	GP 240 GH
2 flange end-piece	GP 240 GH
3 operating stem	1.4104
4 ball	EN-JS 1030 Fe/Cr30f, mt
5 trunnion	1.4104
7 flange	GP 240 GH
8 bush insert OT	1.0553
10 bush insert UT	1.0553
12 washer	1.4401 ¹⁾
13 gasket	soft nickel
14 gasket	soft nickel
15 cushions joint	KFC-25
16 cushions joint	K-SIL
17 O-ring	AF ³⁾
18 O-ring	AF ³⁾
19 O-ring	AF ³⁾
20 O-ring	AF ³⁾
21 U-section sleeve	KFC-25

Part	Material code VII
22 sealing element	VII-KFC
23 circlip	1.4401.07
24 supporting ring	0.6020
29 locking ring	1.4122 ¹⁾
31 hex. head cap screw	10.9
32 hex. nut	8
33 stud bolt	8.8
34 screw	A4
35 hex. bolt	1.0540
36 feather key	1.0052.07
37 feather key	1.0052.07
38 bearing busg	St/Bz/Flon ²⁾
39 bearing bush	St/Bz/Flon ²⁾
43 hex. head cap screw	A4
44 flange	St
45 gear	

1) not applicable for DN 150

2) material code VIII: AISI316L P90

3) O-ring compound of standard version

PN 25						
dimension in mm					weight	
DN	L1	H1	H4)	A4)	in kg ⁵⁾	in kg ⁶⁾
150	394	166	473	315	85	98
200	457	218	600	400	150	170
250	533	260	591	315	220	266
300	610	290	616	315	380	426
350	686	353	749	400	580	645

4) measurements relate to AUMA-gear

PN 40						
dimension in mm					weight	
DN	L1	H1	H4)	A4)	in kg ⁵⁾	in kg ⁶⁾
150	394	166	525	400	85	103
200	457	218	600	400	160	180
250	533	260	591	315	240	286
300	610	290	658	400	410	468
350	686	353	749	400	620	685

5) without gear

6) complete with AUMA-gear

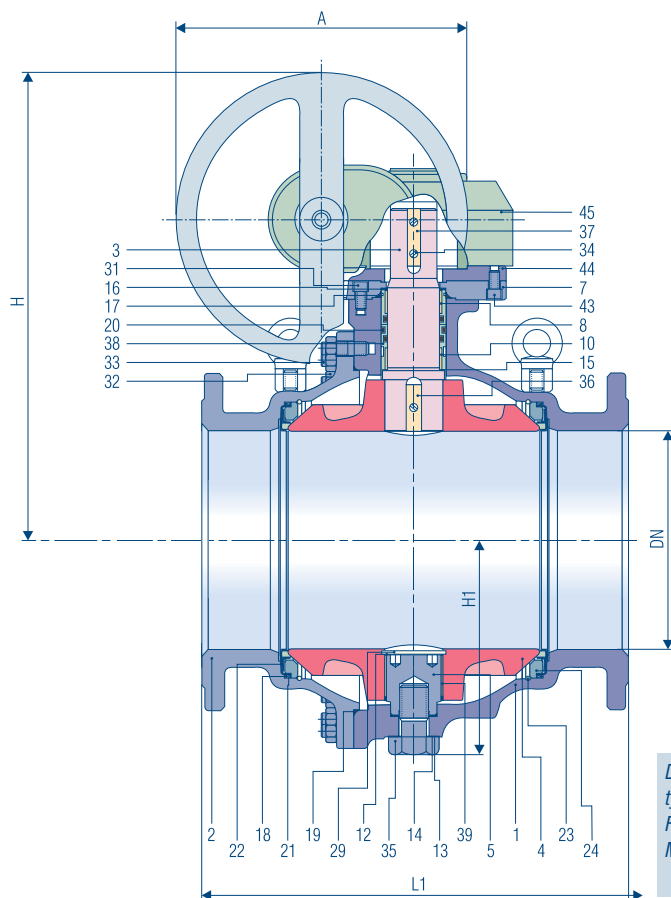
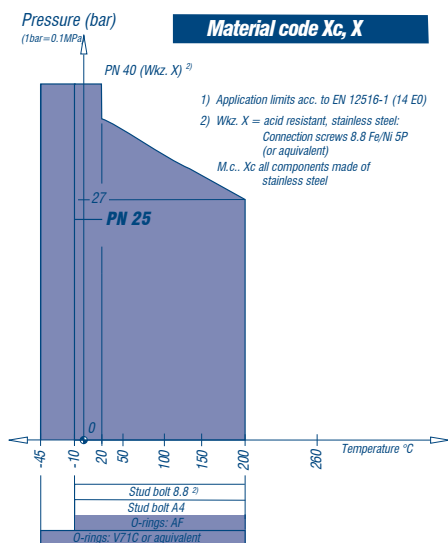
Ball valves with flanges, full bore
Flange connection acc. to EN 1092-1 / PN 25 or PN 40
Material: acid resistant steel

**KHI
150 – 400**

PN 25
material code Xc

PN 40
material code Xc

face to face dimensions
acc. to EN 558, GR 12



Dimension A, H: depending on gear
type. Torques see summary.
Flange dimensions see summary.
Mounting eyelet up DN 350

Specification

Ball valve PN 25 or PN 40
Split body, full bore with supported ball,
two independent sealing elements, main
sealing element KFC is metallurgically en-
closed on three sides, operating stem
made of stainless, acid resistant steel
1.4401 maintenance-free operating
stem sealing made of AF, pressure
possible on both sides, body and
end piece made of acid resistant steel
1.4408, overall length to EN 558, GR12,
operated via worm gear.

Make: KLINGER
Type: KHI-Xc, for DN 150 – 400

Leak tightness through the bore tested
acc. to EN ISO 12266-1 P12.
External leak tightness tested acc. to
EN ISO 12266-1 P11.
Strength determined acc. to
EN ISO 12266-1 P10.

Ordering example:
KHI 150-Xc – KFC/AF, PN 25
with mechanical gear

Part	Material code Xc
1 body	1.4408
2 flanged end	1.4408
3 operating stem	1.4401
4 ball	1.4408 ⁴⁾
5 trunnion	1.4401
7 flange	1.4408
8 bush insert OT	1.4401
10 bush insert UT	1.4401
12 washer	1.4401 ¹⁾
13 gasket	soft nickel
14 gasket	soft nickel
15 cushions joint	KFC-25
16 cushions joint	K-SIL
17 O-ring	AF ³⁾
18 O-ring	AF ³⁾
19 O-ring	AF ³⁾
20 O-ring	AF ³⁾
21 U-section sleeve	KFC-25

Part	Material code Xc
22 sealing element	X-KFC
23 circlip	1.4401.07
24 supporting ring	1.4408
29 locking ring	1.4122 ¹⁾
31 hex. head cap screw	A4
32 hex. nut	A4 ²⁾
33 stud bolt	A4-70 ²⁾
34 screw	1.4401
35 hex. bolt	1.4571
36 feather key	1.4401
37 feather key	1.4401
38 bearing bush	AISI316L P90
39 bearing bush	AISI316L P90
43 Zylinderkopfschraube	A4
44 flange	1.4401
45 gear	

1) Not applicable for DN 150

2) Material 8.8 Fe/Zn 5P (or E2P with m.c. X)

3) O-ring compound of standard version

4) Hollow ball with guiding only at DN 400

PN 25						
dimension in mm					weight	
DN	L1	H1	H ⁵⁾	A ⁵⁾	in kg ⁶⁾	in kg ⁷⁾
150	394	166	473	315	85	98
200	457	218	600	400	150	170
250	533	260	591	315	220	266
300	610	290	616	315	380	426
350	686	353	749	400	580	645
400	762	370	769	400	800	913

5) measurements relate to AUMA-gear

PN 40						
dimension in mm					weight	
DN	L1	H1	H ⁵⁾	A ⁵⁾	in kg ⁶⁾	in kg ⁷⁾
150	394	166	525	400	85	103
200	457	218	600	400	160	180
250	533	260	591	315	240	286
300	610	290	658	400	410	468
350	686	353	749	400	620	685
400	762	370	769	400	856	970

6) without gear

7) complete with AUMA-gear

Ball valves with flanges, full bore
 Flange connection acc. to EN 1092-1 / PN 25 or PN 40
 Material: cast steel

KHI
400–800

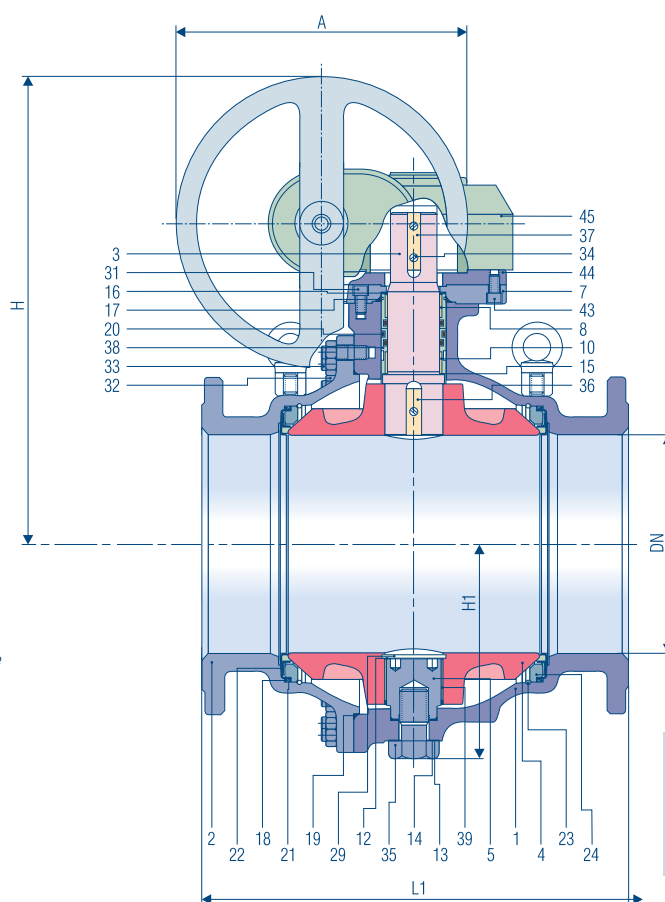
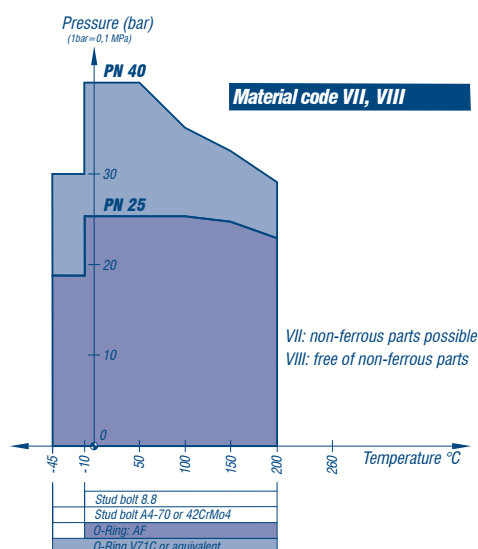
PN 25

material code VII, VIII

PN 40

material code VII, VIII

face to face dimensions
 acc. to EN 558, GR 12



Dimension A, H: depending on gear type. Torques see summary.
 Flange dimensions see summary.
 Mounting eyelet up DN 350

Specification

Ball valve PN 25 or PN 40
 Split body, full bore with supported ball
 two independent sealing elements, main
 sealing element KFC is metallically en-
 closed on three sides, operating stem
 made of acid resistant steel, mainte-
 nance-free operating stem-sealing
 made of AF, pressure possible on both
 sides, body and end piece made of cast
 steel GP 240 GH, overall dimension
 acc. to EN 558, GR.12. Operated via
 worm gear.

Make: KLINGER

Type: KHI-VII, VIII, for DN 400 - 800

Leak tightness through the bore tested
 acc. to EN ISO 12266-1 P12.

External leak tightness testet acc. to
 EN ISO 12266-1 P11.

Strength determined acc. to
 EN ISO 12266-1 P10.

Ordering example:

KHI 400-VII – KFC/AF, PN 25
with mechanical gear

Part	Material code VII
1 body	GP 240 GH
2 flange end-piece	GP 240 GH
3 operating stem	1.4104
4 ball	EN-JS 1030 Fe/Cr30f, mt
5 trunnion	1.4104
7 flange	St
8 bush insert OT	1.0553
10 bush insert UT	1.0553
12 washer	1.4401 ¹⁾
13 gasket	soft nickel
14 gasket	soft nickel
15 cushion joint	KFC-25
16 cushion joint	K-SIL
17 O-ring	AF ³⁾
18 O-ring	AF ³⁾
19 O-ring	AF ³⁾
20 O-ring	AF ³⁾
21 U-section sleeve	KFC-25
22 sealing element	VII-KFC

Part	Material code VII
23 circlip	1.4401.07
24 supporting ring	0.6020
29 locking ring	1.4122
30 cheese headed screw	A4
31 hex head cap screw	10.9
32 hex. nut	8
33 stud bolt	8.8
34 screw	A4
35 hex. bolt	1.0540
36 feather key	1.0052.07
37 feather key	1.0052.07
38 bearing bush	St/Bz/Flon ²⁾
39 bearing bush	St/Bz/Flon ²⁾
43 hex. head cap screw	10.9
44 flange	St
45 gear	

2) material code VIII: AISI316L P90

3) O-ring compound of standard version

PN 25							
dimension in mm							
DN	L1	H1	H ⁴⁾	A ⁴⁾	weight in kg ⁵⁾	weight in kg ⁶⁾	
400	762	370	769	400	800	913	
500	914	465	870	400	1200	1326	
600	1067	528	1100	630	1750	1955	
700	1245	640	1264	630	3100	3354	
800	1372	710	1460	800	4850	5252	

4) measurements relate to AUMA-gear

PN 40							
dimension in mm							
DN	L1	H1	H ⁴⁾	A ⁴⁾	weight in kg ⁵⁾	weight in kg ⁶⁾	
400	762	370	769	400	856	970	
500	914	465	996	630	1330	1535	
600	1067	528	1100	630	1863	2068	
700	1245	640	1364	800	3350	3742	
800	1372	710	1460	800	5055	5447	

5) without gear

6) complete with AUMA-gear