

AB-cocks

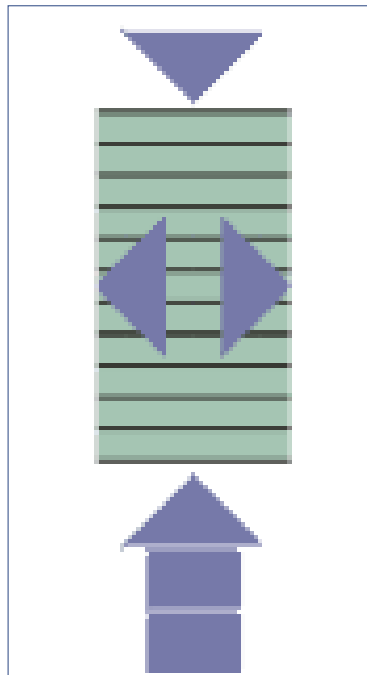
Proved by the million

KLINGER AB-cocks are simple, extremely robust shut-off valves which have been developed to meet the special requirements of Instrumentation services. Due to their absolute reliability and economy they are employed by the million.

Operating principle

A cylindrical cock plug, which has a stop rigidly attached by a circlip, and an elastic packing sleeve ensure fast opening and shutting of the cock via 90° rotation. Pressure gauges of the type MAB do not have a stop but type MABAL is equipped with a stop.

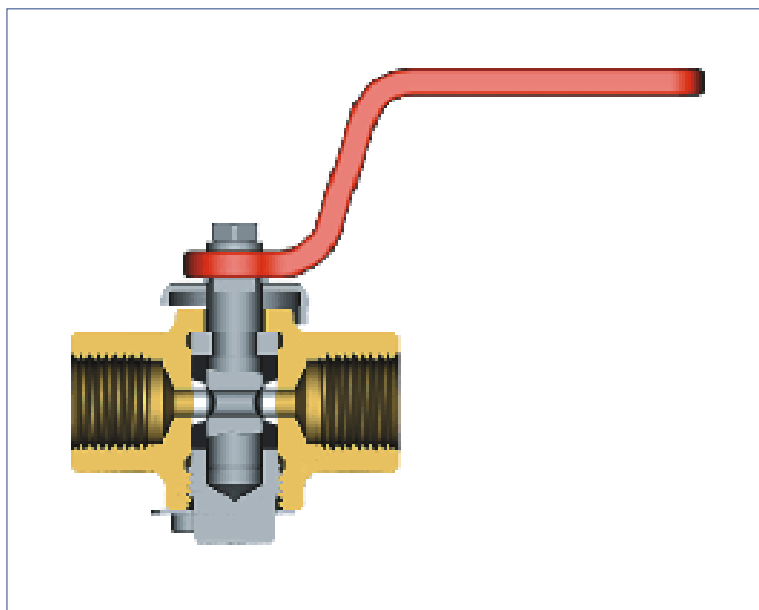
The cock is operated with a handle which can be removed (protection against unauthorized operation). All cocks are shut by a clockwise rotation except types ABIE and MABAL which are shut via counter-clockwise rotation.



Elastic packing sleeve of KAF or KOR-AF: Under pressure the lamellas are pressed against the wall of the body and thereby achieve an excellent seal.

Advantages of AB cocks

- 90° operation permits immediate opening and shutting
- Generously dimensioned sealing surface guarantees leak-tight seal across the ports and to the atmosphere – hence no false instrument readings.
- May be used for throttling purposes and therefore in blow-down lines.
- Simple design (only one moving part) ensures uninterrupted operation.
- The packing sleeve, the only part subjected to wear, can be replaced within minutes with the cock staying in the line.
- KLINGER AB-cocks are provided with a plug of stainless steel (1.4401)
- No jamming through corrosion
- Special designs for application with pressure gauges, indicators and liquid level gauges are available.



KLINGER is world wide the only producer who has accumulated experience over decades in manufacturing both seals and valves.

The packing sleeve The heart of the AB-cock



PTFE

Suitable for chemicals and aggressive media in the food industry



KAF

Suitable for high temperatures up to 400 °C



KOR-AF

The material used at most for temperatures up to 250 °C



KLINGER®

**Decades of experience
in sealing and valve
manufacturing**

KLINGER

The KLINGER-name has become a synonym for valves and seals in Europe. The enterprise produces valves since more than hundred years. In 1886 the founder of the company, Richard KLINGER, discovered the reflex glass which became the first reliable liquid level gauge. Other world-wide known products followed such as "Klingerit" (the first lt-sealing material) and the piston valve.

KLINGER is an international group which originates from Austria. The parent factory was built in 1892 in Gumpoldskirchen, near Vienna, and is now only one out of many all over the world. Further companies were established in Germany, England, Australia, South Africa, South-, Central and North America and manufacturing licences were assigned in several countries. All these companies together cover the

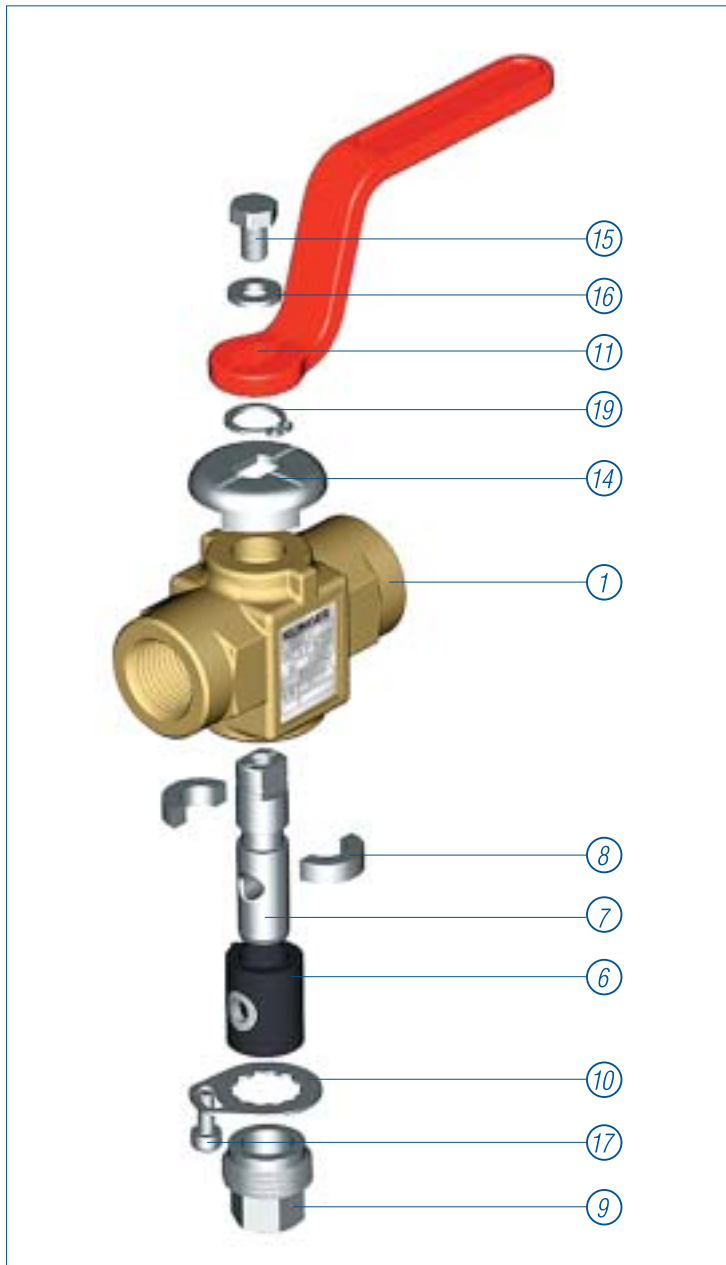
worldwide demand for Klinger products today.

The KLINGER research centre in Switzerland is responsible for continuously developing our products in order to meet the demands of all branches of industry

Because of new regulations in 1990, asbestos-free sealing material has been developed and is since used in KLINGER valves.

AB cocks

Maintenance and installation



- Packing sleeves of KAF and KOR-AF – fabricated from graphite or SIL-laminate – are treated with PTFE which ensures smooth operation of the cock throughout the life time of the packing sleeve.
- Resistant to nearly every medium met in the different branches of industry such as steam, hot water, oils, solutions, many alkalis, acids and numerous chemicals.
- Suitable for especially aggressive media are packing sleeves of the quality KFG (= PTFE reinforced with glass fibre) and PTFE.

Simple maintenance

If after years an AB- or MAB-cock starts to leak all that needs to be done is for the nut to be fastened so that the packing sleeve is tightly enclosing the plug. Therefore the cock must be in OPEN position. Economical because replaceable without problems.

Disassembly / installation

Note: Each KLINGER-cock comes with a detailed mounting instruction.

Loosen the cap screw (17), remove locking disc (10), unscrew tightening nut (9), loosen the lever screw (15), remove washer (16) and lever (11) from the cock plug (7). Remove safety ring (19) and the stop (14) from the cock plug (7). Knock the cock plug (7) to-

gether with the split ring (8) and the packing sleeve (6) out of the body (1). Remove the split ring (8) and push the plug (7) through the packing sleeve (6). Now replace the packing sleeve and together with plug and split ring push it back into the body whereby you have to align the tongue of the packing sleeve with the groove inside the body. Put stop, safety ring and lever back into

place and fix with the lever screw. Bring cock to open position, tighten screw with indicated torque (15 Nm ^{+15Nm}) and secure with locking disc.

AB-cocks Materials

Materials for AB-cocks

Material code	Body	Cock plug	Tightening nut	Split ring
IV	Hot pressed brass Ms 58p (2.0401)	Hot pressed brass Ms 58p, (2.0401) Stainless steel 1.4401	2.0401 1.4401 1.4016	Stainless steel 1.4401
VII, VIII	Forged steel C 22,8 (1.0460)			
X, Xc	Stainless steel 1.4571	Stainless steel 1.4401	Stainless steel 1.4401	

Equivalent material codes

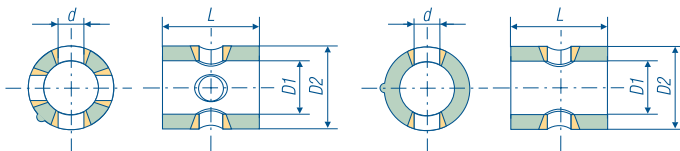
Material code acc. to KLINGER	Material class	DIN-code	ANSI-code	BS-code	ASTM-code
C22,8 VIII	Forged steel	C22,8	M1020	1503–161 Gr.B	A181 Gr. II
Ms58p IV	Hot pressed brass	Ms58p	–	B36-Nr. 8	–
9SMn28K	Machining steel	9SMn28K	1213	2030Mo7	–
St 37.2	Steel	1.0037	–	–	–
1.4571 Xc	Stainless steel	X8CrMoTi 17	316 Ti	320 S 31	–
1.4401	stainless cr.-steel	X5CrNiMo 1810	316	316-S 16	A182-F316

* AISI- BS- and ASTM-codes are the nearest to DIN

Materials and measurements of packing sleeves

Four-hole packing sleeve

Two-hole packing sleeve



Cock size	Nominal width mm Zoll d	Internal Ø D 1	External Ø D 2	Length L	Number of holes	Weight ca. kg	Suitable for cock type	Material	
AB 10							ABB 10 on request	PTFE, KFG	
AB 12	6	1/4	12	18	23	2	0,006	ABL 12, ABM 12, ABZ 12, MABI 12, ABI 12, ABIE 12, ABS 12	KAF, KOR-AF, PTFE, KFG
AB 12	3,25	1/8	12	18	23	4	0,007	MABA 12, MABC 12, MABU 12	PTFE, KFG, KOR-AF
AB 18	8	5/16	18	26	32	2	0,019		KAF, KOR-AF PTFE, KFG

Pressure- temperature limits to ISO 7005/3 and EN 1092-3

Type: Klinger AB-cock MAB 12
 Material: 2.0401
 CuZn39Pb3
 Klinger Wkz. IV
 Pressure rate: PN 40

Point	Temperature °C	Pressure (bar)
A	120	40
B	150	38.5
C	180	34
D	200	30
E	220	25.5
F	240	21.5
G	250	19.5

Pressure- temperature limits to ISO 7005/1

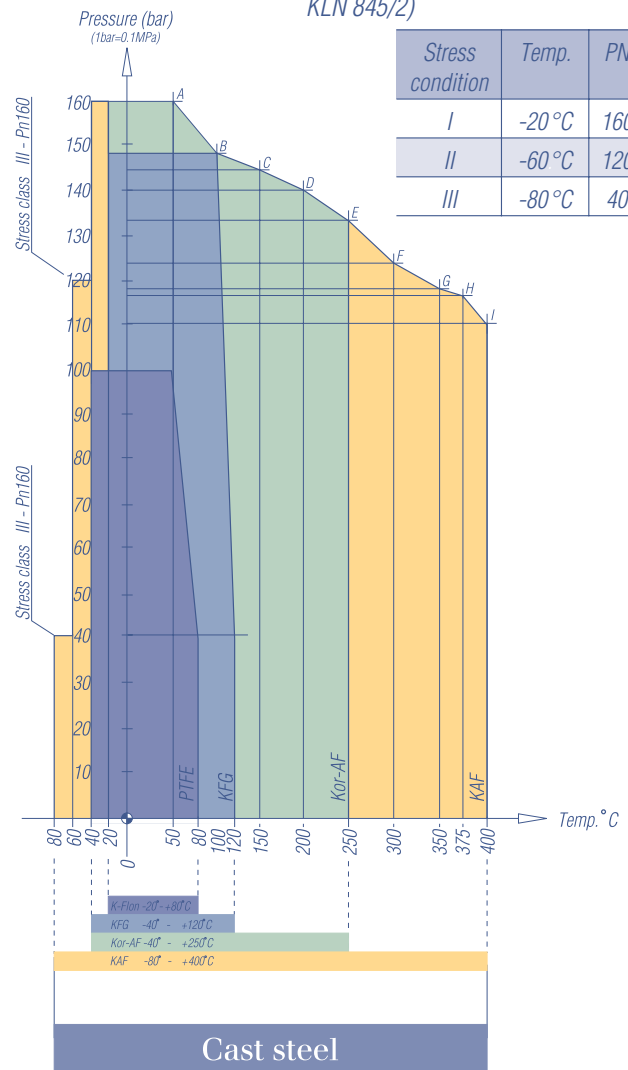
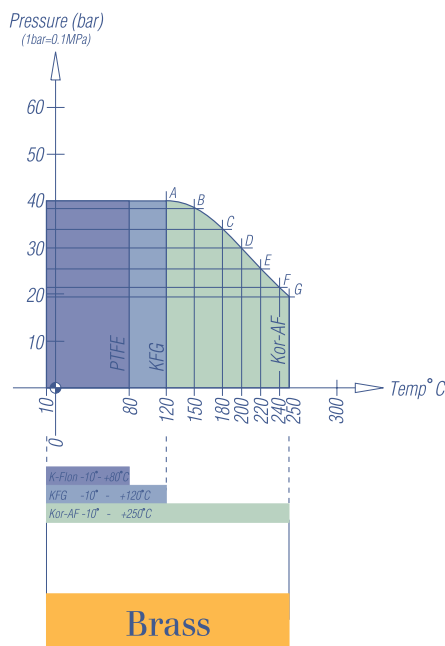
Type: Klinger AB-cock AB12, MAB12, AB18
 Material: 1.0460
 C22.8
 Klinger m. c. VIII
 Pressure rate: PN 160

Point	Temperature °C	Pressure (bar)
A	50	160
B	100	148.3
C	150	144.7
D	200	140.2
E	250	133.5
F	300	123.9
G	350	118.2
H	375	116.6
I	400	110.4

Low temperature limits

(acc. to AD-code of practice W10 or KLN 845/2)

Stress condition	Temp.	PN160
I	-20°C	160 bar
II	-60°C	120 bar
III	-80°C	40 bar



With the pT-diagram you find the most efficient AB-cock

Pressure- temperature limits according to ISO 7005/1

Type: Klinger AB-cock AB12,
MAB12, AB18

Material: 1.4571
X 10 CrNiMo Ti 1810
Klinger m. c. Xc

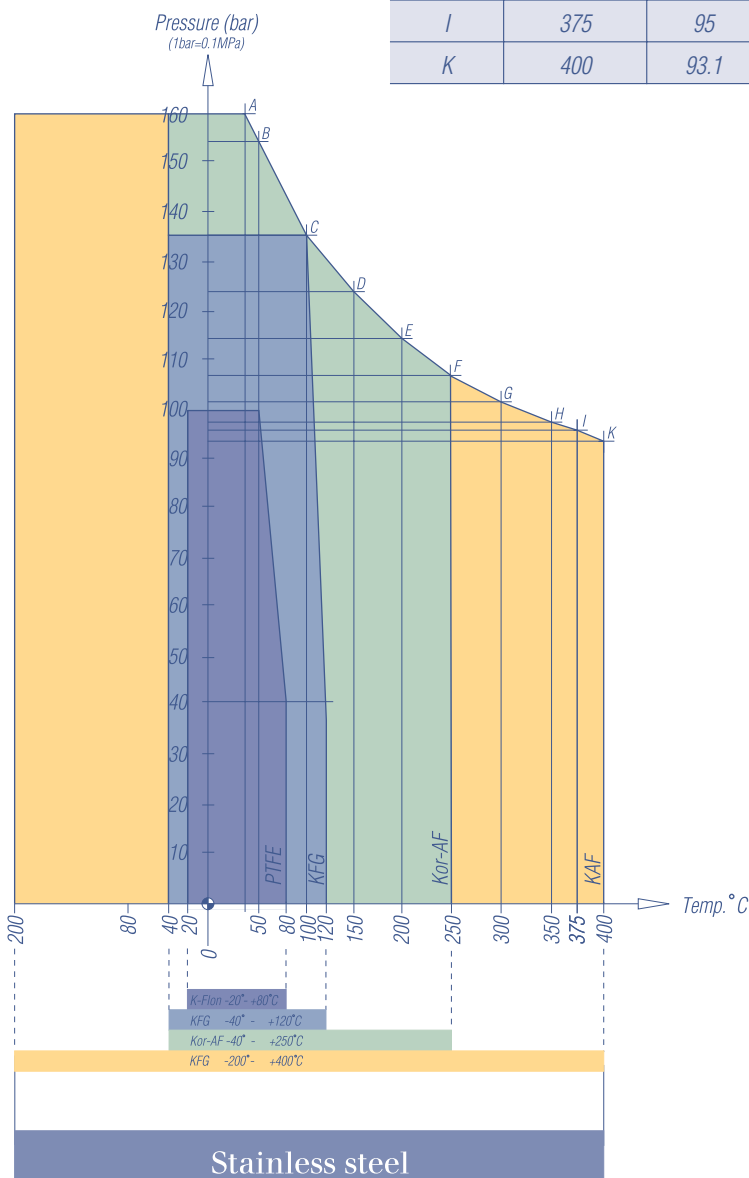
Pressure rate: PN 160

Point	Temperature °C	Pressure (bar)
A	38	160
B	50	154
C	100	135
D	150	123.2
E	200	114.1
F	250	106.8
G	300	101.2
H	350	97.3
I	375	95
K	400	93.1

Pressure- temperature limits

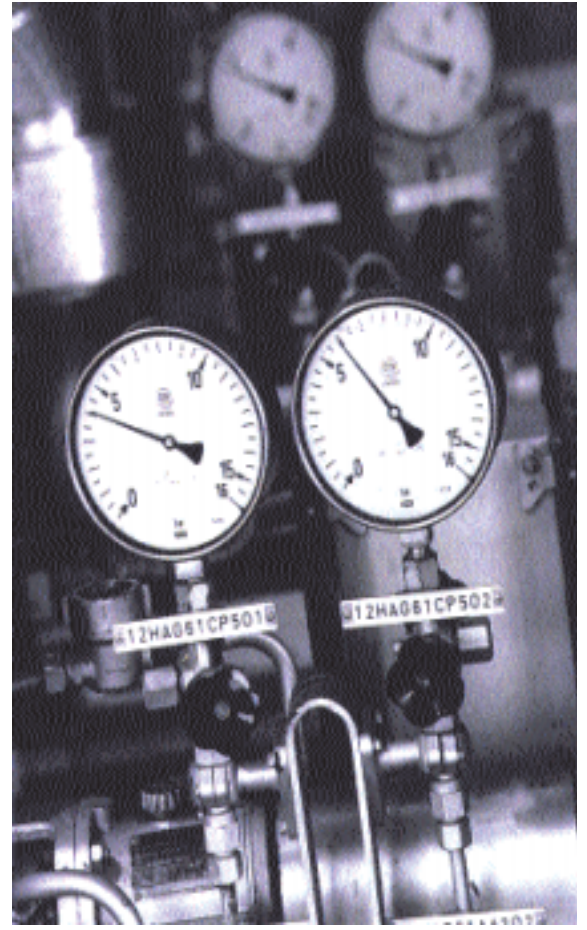
As seen on the pT-diagram it depends a great deal on the sealing material for which area of application an AB-cock is suitable. By placing a point representing your operation condition on the respective diagram field you will find the most suitable sealing material according to your needs. If the operation pressure drops within the nominal-pressure range the application field within the temperature range increases.

Choosing your AB-cock based on this diagram will optimize the efficiency of your valve.



A wide application range

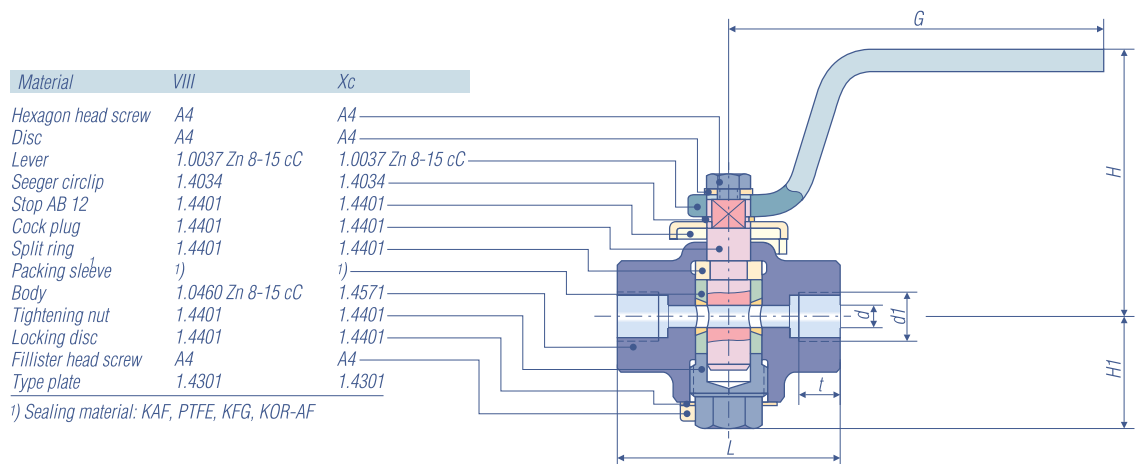
Processing industry, automation, shipbuilding industry, diesel engines, compressed-air supply, instrumentation and control, electric supply, energy generating companies and many more.



ABM 12

Straight-way cocks, female

Connection: Female with pipe thread to DIN/ISO 228/1 or NPT- thread to ANSI B2.1
 Material: VIII/steel, Xc/stainless steel PN 160



Characteristics

Cylindrical plug, elastic packing sleeve, 90°-rotation with stop, to close with clockwise rotation, removable handle, simple maintenance.

Application limits acc. to pt-diagram

Suggested order specification

Straight-way cock as cylinder cock, sealed by elastic packing sleeve which can be retightened. Body of steel or stainless steel, handle of GTS 35, cock plug of stainless steel. Female with pipe thread to DIN/ISO 228/1 or NPT-thread to ANSI B2.1.

Make: KLINGER
 Type: ABM 12

Ordering example:

ABM 12-G 1/2" VIII, PN 160

Overall and connection dimensions in mm

Cock type	Bore		Overall dimension			Connection dimension		Weight ca. kg
	d	H	H1	L	G	d1	t	
ABM 12-G 1/4"	6	72	31,5	70	100	G 1/4"	10,5	0,36
ABM 12-G 3/8"	6	72	31,5	70	100	G 3/8"	11,5	0,38
ABM 12-G 1/2"	6	72	31,5	70	100	G 1/2"	15,5	0,38
ABM 12-1/4" - 18 NPT	6	72	31,5	70	100	1/4" - 18 NPT	10	0,34
ABM 12-1/2" - 14 NPT	6	72	31,5	70	100	1/2" - 14 NPT	13,5	0,35

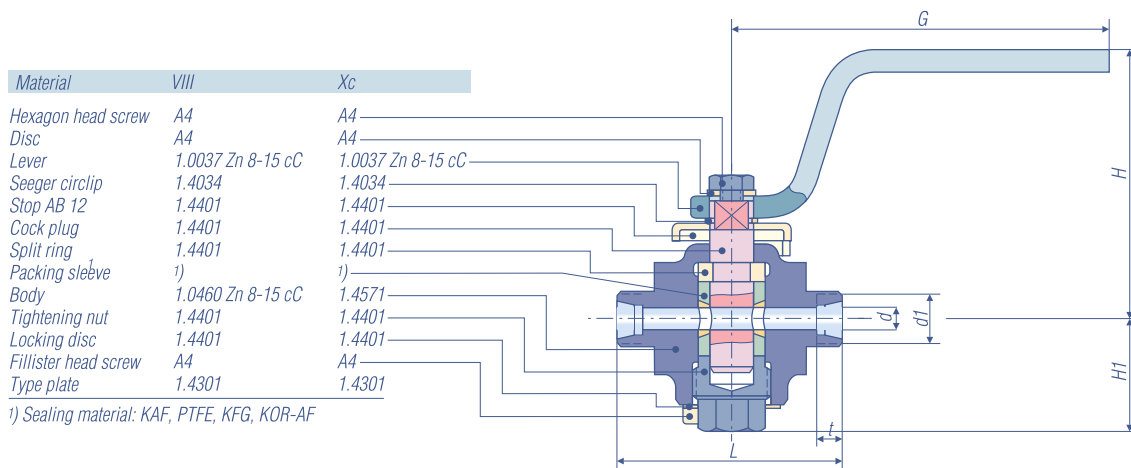
Straight-way cocks, male

Connection: Male with pipe thread acc. to DIN/ISO 228/1

Ermeto cutting ring connection to DIN 2353

Material: VIII, Xc

PN 160



Characteristics

Cylindrical cock plug, elastic packing sleeve, 90°-rotation with stop, to close with clockwise rotation. Removable handle. Simple maintenance.

Application limits acc. to pt-diagram (see page 8–9)

Suggested order specification

Straight-way cock as cylinder cock, sealed by elastic packing sleeve which can be retightened. Body of steel or stainless steel, handle of GTS 35, cock plug of stainless steel. Male with pipe thread acc. to DIN/ISO 228/1 or Ermeto cutting ring connection to DIN 2353

Make: KLINGER

Type: ABZ 12

Ordering example:

ABZ 12-S 10 VIII, PN 160

Overall and connection dimensions in mm

Cock type	Bore d	Overall dimension				Connection dimension					Weight ca. kg
		H	H1	L	G	d1	d2	t	d3	t2	
ABZ 12 – L8	6	72	31,5	70	100	M14× 1,5	8	7	–	–	0,55
ABZ 12 – L10	6	72	31,5	70	100	M16× 1,5	10	8	–	–	0,55
ABZ 12 – L12	6	72	31,5	70	100	M18× 1,5	12	8	–	–	0,55
ABZ 12 – S 8	6	72	31,5	70	100	M16× 1,5	8	9	–	–	0,55
ABZ 12 – S 10	6	72	31,5	70	100	M18× 1,5	10	9	–	–	0,55
ABZ 12 – S 12	6	72	31,5	70	100	M20× 1,5	12	9	–	–	0,55
ABZ 12 – 1/2" – 14 NPT/S 12 ²⁾	6	72	31,5	80	100	M20× 1,5	12	9	1/2" – 14 NPT	13,5	0,65
ABZ 12 – 1/4" – 18 NPT/S 12 ²⁾	6	72	31,5	80	100	M20× 1,5	12	9	1/4" – 18 NPT	10	0,65

²⁾ Not shown in illustration

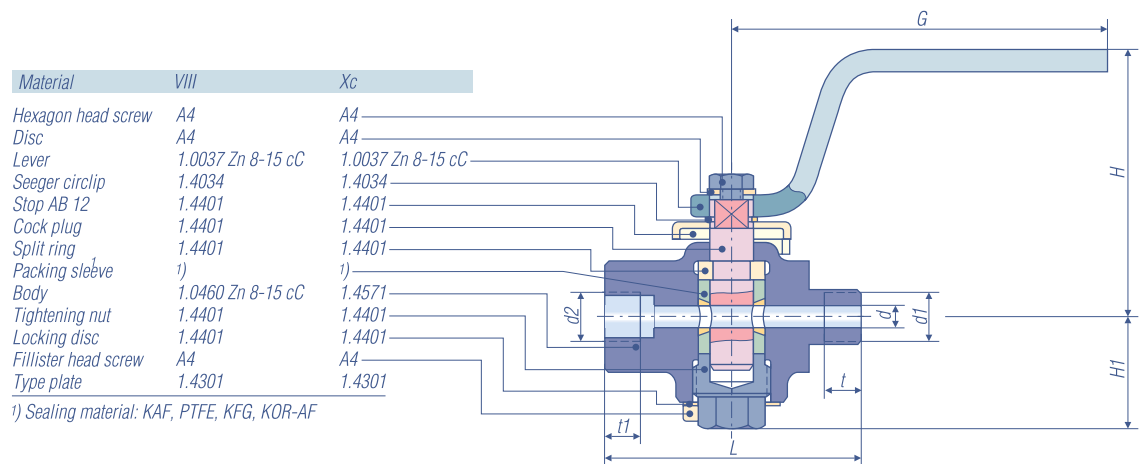
Version: L = light (leicht), S = heavy (schwer)

Minimum order: 32 pieces.

As a result of technical progress construction and design are subject to modification

Straight-way cocks with female and male

Connections: female and male with thread acc. to DIN/ISO 228/1 or NPT-thread to ANSI B2.1
Material: VIII, Xc PN 160



Characteristics

Cylindrical cock plug, elastic packing sleeve, 90°-rotation with stop, to close with clockwise rotation. Removable handle. Simple maintenance. Application limits acc. to pT-diagram (see page 8–9)

Suggested order specification

Straight-way cock as cylinder cock, sealed by elastic packing sleeve which can be retightened. Body of steel or stainless steel, handle of St 37.2, cock plug of stainless special steel. Female and male with pipe thread acc. to DIN/ISO 228/1 or or NPT-thread to ANSI B2.1
Make: KLINGER
Type: ABMZ 12

Ordering example:

ABMZ 12 1/4" – 18 NPT/G 1/2" VIII, PN 160

Overall and connection dimensions in mm

Cock type	Bore d	Overall dimension				Connection dimension				Weight ca. kg
		H	H1	L	G	d2	t1	d1	t	
ABMZ 12 1/4" – 18 NPT/G 1/4"	6	72	31,5	70	100	1/4" – 18 NPT	10	G 1/4" A	10,5	0,65
ABMZ 12 G 1/2" – 14 NPT/G 1/2"	6	72	31,5	70	100	G 1/2"	14	1/2" – 14 NPT	13,5	0,65

Three-way pressure gauge shut-off cocks

MABA 12: Three-way pressure gauge shut-off cock, female with plugs

MABC 12: Three-way pressure gauge shut-off cock, female with test flange

Connection: pipe thread to DIN/ISO 228/1

Material: IV/brass PN 40, VIII/steel PN 160, Xc/stainless steel PN 160

Material	IV	VIII	Xc
Hexagon head screw	A4	A4	A4
Disc	A4	A4	A4
Lever	1.0037 Zn 8-15 cC	1.0037 Zn 8-15 cC	1.0037 Zn 8-15 cC
Cock plug	1.4401	1.4401	1.4401
Split ring	1.4401	1.4401	1.4401
Type plate	1.4301	1.4301	1.4301
Packing sleeve	1)	1)	1)
Locking disc	1.4401	1.4401	1.4401
Fillister head screw	A4	A4	A4
Tightening nut	1.4401	1.4401	1.4401
Body	2.0401	1.0460 Zn 8-15 cC	1.4571
Tightening screw	2.0401	1.0711.07 FeNi5p	1.4571
Plug	1.0715.07 FeNi5p	1.0715.07 FeNi5p	1.4305
Gasket	Softnickel	Softnickel	Softnickel
Test flange 40	2.0402.20	1.0715.07 FeNi5p	1.4401
Gasket	Softnickel	Softnickel	Softnickel

1) Sealing material: PTFE, KFG, KOR-AF

Suggested order specification
 Three-way pressure gauge shut-off cock as cylinder cock, female with plugs (Type MABA) or female with test flange (Type MABC), sealed with elastic packing sleeve which can be retightened. Body of brass, steel or stainless steel, hand of GTS 35, cock plug of stainless steel. Female with pipe thread to DIN/ISO 228/1.
 Make: KLINGER
 Type: MABA 12, MABC 12

Application limits acc. to pt-dia-gram (see page 8–9)

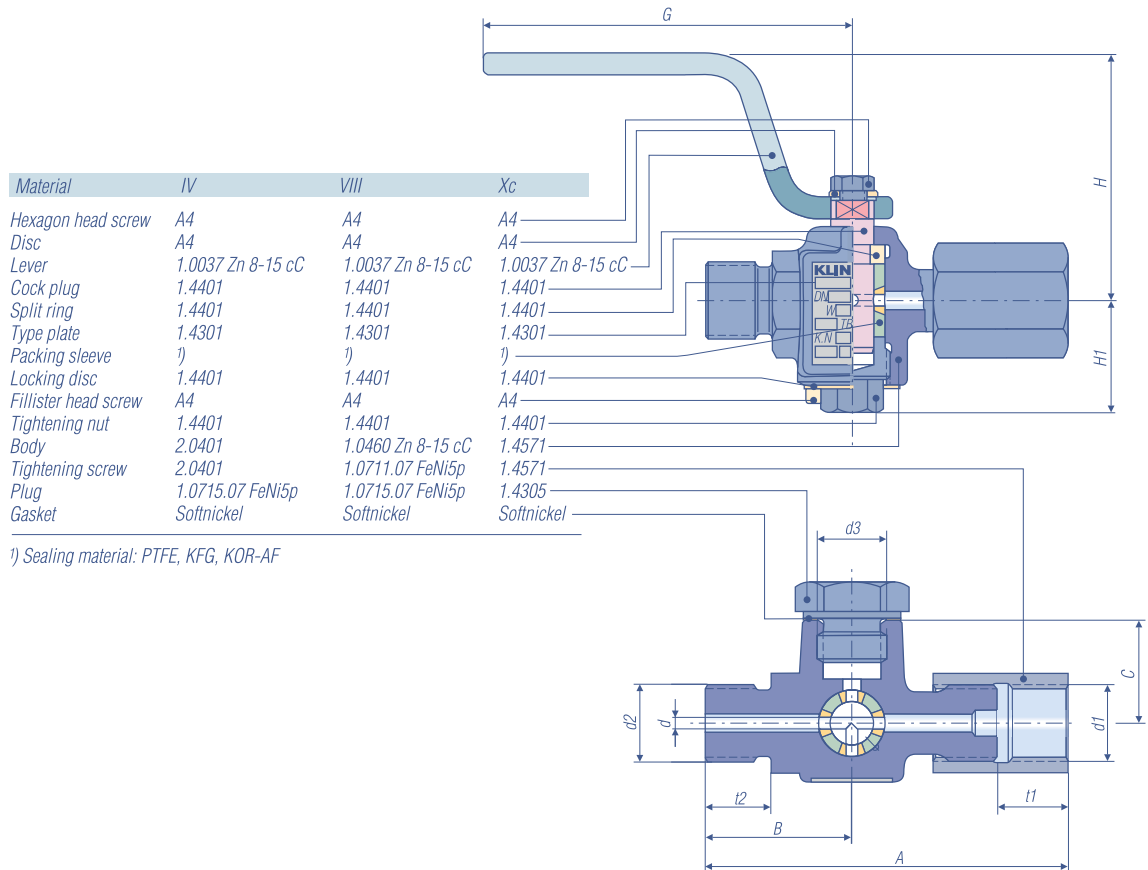
Ordering example:
MABC 12 Xc PN 160

Overall and connection dimensions in mm

Cock type	Bore d	Overall dimension					Connection dimension				Control connection				Weight ca. kg	
		H	H1	A	B	G	d1	t1	d2	t2	d3	C	D	b		C
MABA 12	5	68	31	88	30	100	G ¹ / ₂ "	19	G ¹ / ₂ "	14	G ¹ / ₂ "	28	–	–	–	0,80
MABC 12	5	68	31	88	30	100	G ¹ / ₂ "	19	G ¹ / ₂ "	14	–	–	40	6	45	0,80

Three-way pressure gauge shut-off cocks

Three-way pressure gauge shut-off cock female and male with plug
 Connection: pipe thread to DIN/ISO 228/1
 Material: IV/brass PN 40, VIII/steel PN 160, Xc/stainless steel PN 160



Characteristics

Cylinder cock, elastic packing sleeve, 90°-rotation without stop, to close with a clockwise rotation. Removable handle, simple maintenance.

Application limits acc. to pt-diagram (see page 8–9)

Suggested order specification

Three-way pressure gauge shut-off cock as cylinder cock, female and male with plug, sealed with elastic packing sleeve which can be retightened. Body of brass, steel or stainless steel, handle of GTS 35, cock plug of stainless steel.

Female and male with pipe thread to DIN/ISO 228/1.

Make: KLINGER

Type: MABU 12

Ordering example:

MABU 12 Xc, PN 160

Overall and connection dimensions in mm

Cock type	Bore d	Overall dimension					Connection dimension				Kontrollanschluß d3	C	Weight ca. kg
		H	H1	A	B	G	d1	t1	d2	t2			
MABU 12	5	68	31	98	40	100	G ¹ / ₂ "	19	G ¹ / ₂ "	18	G ¹ / ₂ "	28	0,70

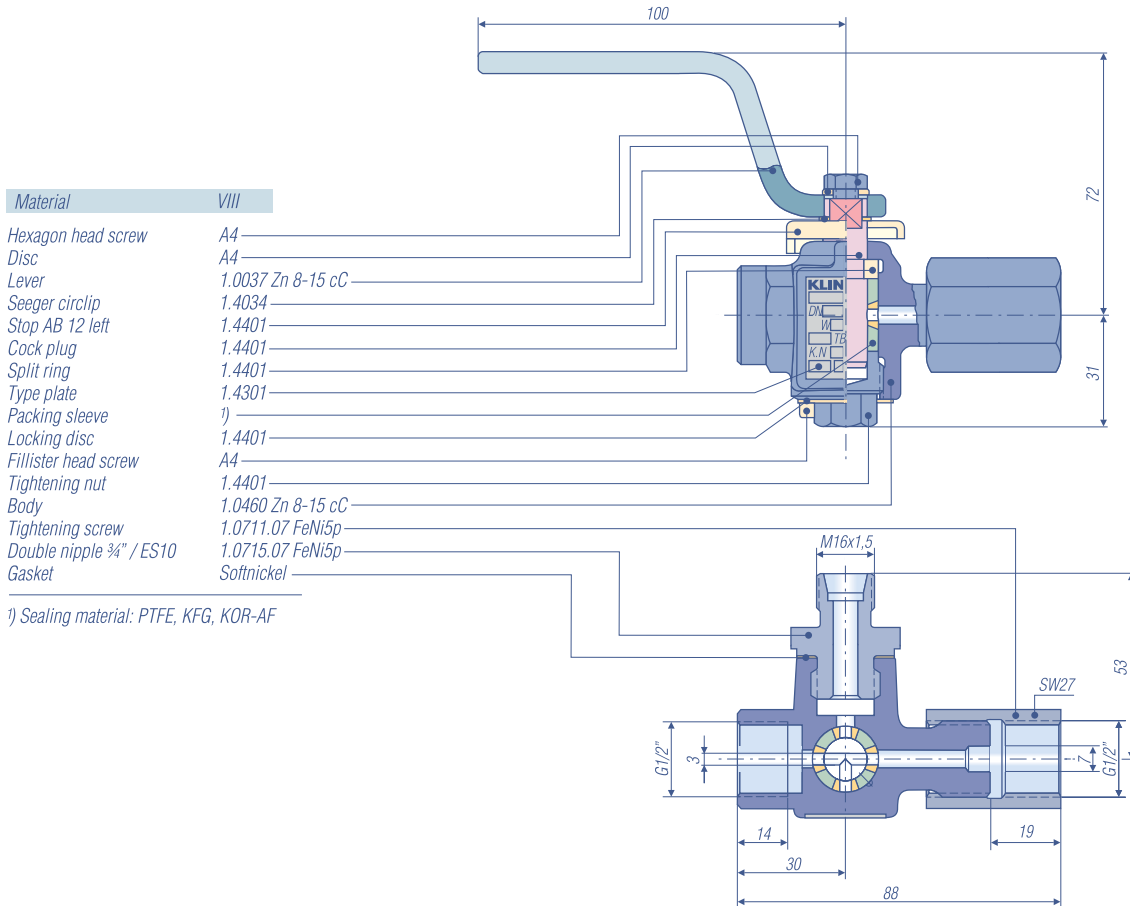
Three-way pressure gauge shut-off cocks

Three-way pressure gauge shut-off cock female and
Ermeto cutting ring connection

Connection: Female with pipe thread acc. to DIN/ISO 228/1

Ermeto cutting ring connection to DIN 2353

Material: VIII/steel, Xc/stainless steel PN 160; IV, PN 40



Suggested order specification

Three-way pressure gauge cock, designed as a shut-off and control valve, in particular for differential-pressure measuring at three measuring points, 90°-rotation with stop. With female screwed ends for pressure gauge R 1/2, for pipe connection R 1/2 and Ermeto ES 10. Can be retightened. Body of 1.0460. Cock plug of Niro-special steel. Sealed with elastic packing sleeve. Simple maintenance.

Application limits acc. to pt-dia-gram (see page 8–9)
Make: KLINGER
Type: MABAL 12-VII

Ordering example:
MABAL 12 VIII, PN 160

The recommendations given here are intended to help in selecting suitable materials and cock types. No guarantee can be given since the performance and service life of the products depend on a series of factors on which the manufacturer has no influence.

If special regulations apply these must be observed. Please contact us in cases of doubt. Where solid media are

listed in the table, these are to be understood as aqueous solutions or suspensions.

Abbreviations:
 Kp = boiling point
 conc. = concentrated
 satd. = saturated
 • = recommended
 – = not recommended

Foot note:

*) With heat-transfer media please inquire in our Gumpoldskirchen factory regarding choice of packing sleeves. Please state the type of medium and the temperature range.

Fluid	Concentration and temperature		Packing sleeve			Material code
	%	°C	KAF KOR-AF	KFG	PTFE	
Aceton		20	•	•		all
Acetylen			•	•		VIII, Xc
Air, dry			•	•		all
Alum	10	20	•	•		Xc
Alum	10	100	•	•		Xc
Aluminium acetate			•	•		Xc
Aluminium ethylate			•	•		all
Aluminium chlorate			•	•		Xc
Aluminium fluoride			–	•		alle
Aluminium oxyde			•	•		all
Ammonia	10	20	•	•		VIII, Xc
Ammonia, Ammonium hydroxyde	10	100	•	•		VIII, Xc
Ammonium carbonate		Kp.	•	•		Xc
Ammonium chloride	5	20	•	•		all
Ammonium chloride	10	20	•	•		all
Ammonium chloride	10	100	•	•		Xc
Ammonium chloride	50	20	•	•		Xc
Ammonium nitrate		Kp.	•	•		Xc
Ammonium sulphate		Kp.	•	•		Xc
Ammoniumdiphosphate (=Diammoniumphosphate)			•	•		VIII, Xc
Amylacetate			•	•		all
Aniline			–	•		all
Arsenic acid			–	•		Xc
Asphalt			•	•		Xc
Beer			•	•		Xc
Benzene			•	•		all
Benzine			•	•		all
Bleaching liquor (chloride of lime)			•	•		Xc
Borax	ges.		•	•		Xc
Boric acid	4	20	•	•		Xc
Boric acid	4	100	•	•		Xc
Boric acid	100	100	•	•		Xc
Butane			•	•		all
Buttermilk		20	–	•		Xc
Butyl acetate			•	•		all
Butyl alcohol			•	•		all
Calcium bisulphite		20	•	•		Xc
Calcium bisulphite		200	•	•		Xc
Calcium chloride	ges.	20	•	•		Xc
Calcium chloride	ges.	100	•	•		Xc
Calcium hydroxide			•	•		all
Calcium hypochlorite			•	•		Xc
Calcium sulphate			•	•		all
Carbon dioxide, dry		150	•	•		all
Carbon dioxide, dry		400	•	–		VIII, Xc
Carbon disulphide		20	•	•		VIII, Xc
Carbon tetrachloride			•	•		all
Chlor sulphonic acid		20	•	–		all
Chloroform		Kp.	•	•		all
Chromic acid	10	20	–	–		VIII, Xc
Chromic acid	10	Kp.	–	–		Xc
Chromic acid	50	20	–	–		VIII, Xc
Citric acid		20	•	•		Xc
Citric acid		Kp.	•	•		Xc
Clophen T 64			•	•		all
Copper acetate		20	•	•		Xc
Copper acetate		Kp.	•	•		Xc
Copper sulphate		20	•	•		Xc
Copper sulphate		Kp.	•	•		Xc
Diazotation bath		20	•	•		Xc
Diazotation bath		80	•	•		Xc
Diesel oil		80	•	•		all

Fluid	Concentration and temperature		Packing sleeve		Material code
	%	°C	KAF KOR-AF	KFG PTFE	
Diphenyl			*)	–	all *)
Dowtherm A			*)	–	all *)
Dye liquor, alkaline or neutral		20	•	•	Xc
Dye liquor, alkaline or neutral		Kp.	•	•	Xc
Dye liquor, organic acid		20	•	•	Xc
Dye liquor, organic acid		Kp.	•	•	Xc
Dye liquor, weakly sulphuric acid		Kp.	•	•	Xc
Dye liquor, weakly sulphuric acid		20	•	•	Xc
Dye liquor, weakly sulphuric acid		Kp.	•	•	Xc
Ethane			•	•	all
Ethanol			•	•	all
Ethyl acetate		Kp.	•	•	all
Ethyl ether			•	•	all
Ethylen chloride		20	•	•	all
Ethylene			•	•	all
Fatty acids from C ₆			–	•	all
Formaldehyde		40 20	•	•	Xc
Formaldehyde		40 Kp.	•	•	Xc
Formic acid		10 20	•	•	Xc
Formic acid		10 100	•	•	Xc
Formic acid		100 20	•	•	Xc
Formic acid		100 100	•	•	Xc
Freon 12, Frigen 12			•	•	all
Glacial acetic acid		20	–	•	Xc
Glacial acetic acid		10 20	•	•	Xc
Glacial acetic acid		10 Kp.	•	•	Xc
Glacial acetic acid		50 20	•	•	Xc
Glacial acetic acid		50 Kp.	•	•	Xc
Glacial acetic acid		80 20	•	•	Xc
Glacial acetic acid		80 Kp.	•	•	Xc
Glycerin		20	•	•	Xc
Glycerin		100	•	•	Xc
Grape vinegar		20	•	•	Xc
Heat transfer oils *)			*)	–	all *)
Hydrochloric acid, dry		20	•	•	all
Hydrochloric acid, dry		100	•	•	all
Hydrogen peroxide		20	•	•	Xc
Hydrogen peroxide		50	•	•	Xc
Hydrogen sulphide, gas, dry		20	•	•	Xc
Hydrogen sulphide, gas, wet		20	•	•	Xc
Hydroxylamine sulphate		10 20	–	•	Xc
Hydroxylamine sulphate		10 Kp.	–	•	Xc
Illuminating gas			•	•	all
Kreosote		20	•	•	Xc
Kreosote		Kp.	•	•	Xc
Lead acetate (lead sugar)		100 Kp.	•	•	Xc
Lead arsenate			•	•	Xc
Linseed oil		20	•	•	Xc
Linseed oil		Kp.	•	•	Xc
M.E.K (Butanone)		Kp.	•	•	all
Magnesium sulphate		20	•	•	all
Magnesium sulphate		Kp.	•	•	all
Manganous chloride		20	•	•	Xc
Manganous chloride		Kp.	•	•	Xc
Mercury		20	•	•	VIII, Xc
Mercury (II) chloride		20	•	•	Xc
Mercury (II) nitrate		20	•	•	Xc
Methyl alcohol		20	•	•	all
Methyl alcohol		Kp.	•	•	all
Methylene chloride		20	•	•	Xc
Methylene chloride		Kp.	•	•	Xc
Milk			•	•	Xc
Milk of lime		20	•	•	all
Milk of lime		Kp.	•	–	all
Sodium acetate			•	•	all
Natural gas			•	•	all
Nitric acid		10 20	•	•	Xc
Nitric acid		10 Kp.	•	•	Xc
Nitric acid		40 20	–	•	Xc
Nitric acid		40 Kp.	–	•	Xc
Nitric acid		konz. 20	–	•	Xc
Nitric acid		konz. Kp.	–	•	Xc
Nitric acid		0,2 20	•	•	Xc
Nitric acid		0,2 50	•	•	Xc
Nitric acid		1 20	•	•	Xc
Nitrogen			•	•	all
Oils (lubricating oils, mineral)		20	•	•	all
Oils (vegetable)		20	•	•	all
Oleic acid			•	•	all
Oxalic acid			•	•	Xc
Oxygen		20	•	•	all
Paraffin oil		20	•	•	all
Phenol			•	•	Xc
Phosphoric acid		10 20	•	•	Xc
Phosphoric acid		10 Kp.	•	•	Xc
Phosphoric acid		50 20	•	•	Xc
Phosphoric acid		50 Kp.	•	•	Xc
Phosphoric acid		80 20	•	•	Xc
Phosphoric acid		80 Kp.	•	•	Xc
Potassium acetate		Kp.	•	•	all
Potassium bitartrate		20	•	•	Xc
Potassium bitartrate		ges. Kp.	•	•	Xc

Fluid	Concentration and temperature		Packing sleeve				Material code
	%	°C	KAF	KOR-AF	KFG	PTFE	
Potassium carbonate (potash)	50	20	•	•	•	•	all
Potassium carbonate (potash)		Kp.	•	•	•	•	all
Potassium chlorate		Kp.	•	•	•	•	Xc
Potassium chromium sulphate (chromic alum)		20	•	•	•	•	Xc
Potassium chromium sulphate (chromic alum)		Kp.	•	•	•	•	Xc
Potassium cyanide		20	•	•	•	•	Xc
Potassium dichromate	25	20	•	•	•	•	all
Potassium dichromate		Kp.	•	•	•	•	Xc
Potassium hydrochlorite up to 20g akt. Cl2/		40	•	•	•	•	Xc
Potassium hydroxide	25	20	•	•	•	•	all
Potassium hydroxide	25	Kp.	•	•	•	•	Xc
Potassium hydroxide	50	20	•	•	•	•	all
Potassium hydroxide	50	Kp.	•	•	•	•	Xc
Potassium iodide		20	•	•	•	•	VIII, Xc
Potassium iodide		Kp.	•	•	•	•	Xc
Potassium nitrate		20	•	•	•	•	all
Potassium nitrate	ges.	Kp.	•	•	•	•	Xc
Potassium permanganate		20	•	•	•	•	all
Potassium permanganate		Kp.	•	•	•	•	Xc
Propane		20	•	•	•	•	all
Salicylic acid		20	•	•	•	•	Xc
Sea water		20	•	•	•	•	Xc
Sea water		Kp.	•	•	•	•	Xc
Silicone oil			•	–	•	•	all
Soap			•	•	•	•	all
Soda (Sodium carbonate)		Kp.	•	•	•	•	all
Sodium carbonate		20	•	•	•	•	all
Sodium carbonate		Kp.	•	•	•	•	all
Sodium hydroxide	20	20	•	•	•	•	all
Sodium hydroxide	20	Kp.	•	•	•	•	Xc
Sodium hydroxide	35	20	•	•	•	•	all
Sodium hydroxide	35	Kp.	•	•	•	•	Xc
Sodium sulphate			•	•	•	•	all
Sole		20	•	•	•	•	Xc
Spinbath		80	•	•	•	•	Xc
Starch solution			•	•	•	•	Xc
Steam			•	–	•	•	all
Stearic acid			•	–	•	•	Xc
Sugar		20	–	•	•	•	all
Sugar		80	–	•	•	•	all

Fluid	Concentration and temperature		Packing sleeve				Material code
	%	°C	KAF	KOR-AF	KFG	PTFE	
Sulphuric acid	1	20	•	•	•	•	Xc
Sulphuric acid	10	20	•	•	•	•	Xc
Sulphuric acid	90	20	•	•	•	•	all,
Sulphuric acid	konz.	20	•	•	•	•	except for IV all
Sulphite lye (fresh cooking liquor, spent liquor)		20	•	•	•	•	Xc
Sulphite lye (fresh cooking liquor, spent liquor)		80	•	•	•	•	Xc
Sulphur dioxide			•	•	•	•	Xc
Sulphurous acid	ges.	20	•	•	•	•	Xc
Tannic Acid	10	20	•	•	•	•	Xc
Tannic Acid	10	Kp.	•	•	•	•	Xc
Tannic Acid	50	20	•	•	•	•	Xc
Tar (neutral)		180	•	•	•	•	VII, Xc
Tartaric acid		20	•	•	•	•	Xc
Toluol		20	•	•	•	•	all
Trichlorethylene			•	•	•	•	all
Turpentine oil		20	•	•	•	•	all
Urea		20	•	•	•	•	all
Water (fresh-a.drinking water)			•	•	•	•	all
Water glass			•	•	•	•	all
Water glass (K- and Na-silicate)			•	•	•	•	all
Xylene		20	•	•	•	•	all