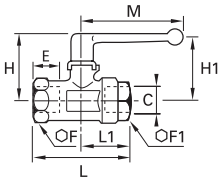
Universal and Universal Customised Series

0402 2/2 In-Line Ball Valve, Female BSPP Thread



Nickel-plated brass, NBR



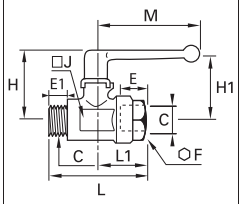
C	DN		E	F	F1	H	H1	L	L1	M	kg
G1/8	4	0402 04 10	8	-	14	35	29	44	25	48	0.094
	7	0402 07 10	8	19	19	38	31	51	27	48	0.166
G1/4	7	0402 07 13	12	19	19	38	31	53	28	48	0.156
G3/8	10	0402 10 17	12	24	24	45	43	59	31	69	0.244
G1/2	13	0402 13 21	15	27	27	47	44	67	34	69	0.292
G3/4	20	0402 20 27	16.5	32	38	63	54	80	39	108	0.655
G1	23	0402 23 34	19	41	46	67	57	94	47	108	1.036
G1¼	32	0402 32 42*	21.5	55	60	97	115	112	59	180	2.467
G1½	32	0402 32 49*	22	55	60	97	115	120	62	180	2.340
	40	0402 40 49*	22	55	55	104	-	111	55	190	2.445
G2	40	0402 40 48*	26	70	70	104	-	122	61	190	2.614

*Models with CE marking
Maximum working pressure: 40 bar

0401 2/2 In-Line Ball Valve, Male/Female BSPP Thread



Nickel-plated brass, NBR



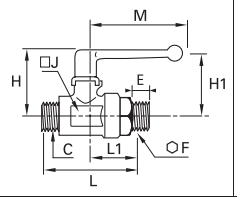
C	DN		E	E1	F	H	H1	J	L	L1	M	kg
G1/8	4	0401 04 10	8	7	14	35	29	14	45	25	48	0.094
	5	0401 05 10	8	7	19	38	31	19	51	27	48	0.160
G1/4	7	0401 07 13	12	9	19	38	31	19	52	28	48	0.150
G3/8	10	0401 10 17	12	11	24	45	43	24	58	31	69	0.234
G1/2	13	0401 13 21	15	12	27	47	44	27	66	34	69	0.286
G3/4	18	0401 18 27	16.5	12	38	63	54	39	79	39	108	0.652
G1	23	0401 23 34	19	15	46	67	57	48	91	47	108	0.952
G1¼	32	0401 32 42*	21.5	18	60	97	115	55	113	59	108	2.385

*Models with CE marking
Maximum working pressure: 40 bar

0400 2/2 In-Line Ball Valve, Male BSPP Thread



Nickel-plated brass, NBR



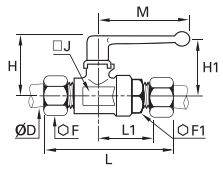
C	DN		E	F	H	H1	J	L	L1	M	kg
G1/8	4	0400 04 10	7	14	35	29	14	45	25	48	0.094
G1/4	7	0400 07 13	9	19	38	31	19	60	36	48	0.166
G3/8	10	0400 10 17	11	24	45	43	24	70	43	69	0.252
G1/2	13	0400 13 21	12	27	47	44	27	78	45	69	0.324
G3/4	18	0400 18 27	12	38	63	54	39	90	50	108	0.714

Maximum working pressure: 40 bar

0411 2/2 In-Line Ball Valve with Connections for Use with Steel Tube



Nickel-plated brass, NBR



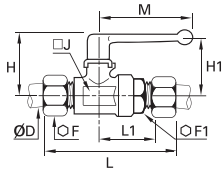
ØD	DN		F	F1	H	H1	J	L	L1	M	kg
6	4	0411 04 06	14	19	38	31	19	76	30	48	0.073
8	6	0411 06 08	17	19	38	31	19	77	30	48	0.095
10	7	0411 07 10	19	19	38	31	19	78	31	48	0.100
12	10	0411 10 12	22	24	45	43	24	85	36	69	0.110

Maximum working pressure: 40 bar

0414 2/2 In-Line Ball Valve with Compression Connections



Nickel-plated brass, NBR



ØD	DN		F	F1	H	H1	J	L	L1	M	kg
6	4	0414 04 06	13	19	38	31	19	72	31	48	0.177
8	6	0414 06 08	14	19	38	31	19	74	30	48	0.180
10	7	0414 07 10	19	19	38	31	19	78	31	48	0.210
12	10	0414 10 12	22	24	45	43	24	86	36	69	0.308

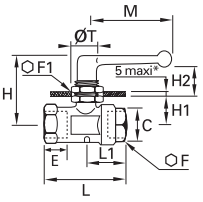
Maximum working pressure: 40 bar

Universal and Universal Customised Series

0446 2/2 In-Line Panel-Mountable Ball Valve, Female BSPP Thread



Nickel-plated brass, NBR



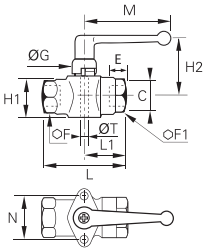
C	DN		E	F	F1	H	H1	H2	L	L1	M	ØT	kg
G1/8	4	0446 04 10	8	14	22	37	14	12	44	25	48	16.5	0.112
G1/4	7	0446 07 13	12	19	24	45	19	14	53	28	48	20.5	0.188
G3/8	10	0446 10 17	12	24	27	50	21	21	59	31	69	20.5	0.294
G1/2	13	0446 13 21	15	27	27	51	23	21	67	34	69	20.5	0.338

Maximum working pressure: 20 bar
*For G1/8 version, maximum panel thickness = 3 mm

6402 2/2 In-Line Ball Valve for Screw Fixing, Female BSPP Thread



Nickel-plated brass, NBR



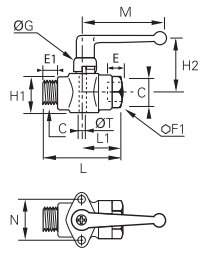
C	DN		E	F	F1	G	H1	H2	L	L1	M	N	ØT	kg
G1/8	4	6402 04 10	8	14	14	18	18	30	44	25	48	25	4x70	0.132
G1/4	7	6402 07 13	12	19	19	19	24	31	53	28	48	31	5x80	0.216
G3/8	10	6402 10 17	12	24	24	20	30	45	59	31	69	31	5x80	0.324
G1/2	13	6402 13 21	15	27	27	20	34	47	67	34	69	34	6x100	0.404
G3/4	20	6402 20 27	16.5	32	38	27	44	52	80	39	108	43	8x125	0.830
G1	23	6402 23 34	19	41	46	27	53	56	94	47	108	51	8x125	1.290

Maximum working pressure: 40 bar

6401 2/2 In-Line Ball Valve for Screw Fixing, Male/Female BSPP Thread



Nickel-plated brass, NBR



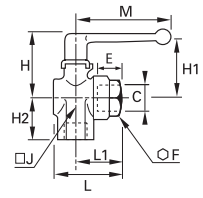
C	DN		E	E1	F	G	H1	H2	L	L1	M	N	ØT	kg
G1/8	4	6401 04 10	8	7	14	18	18	30	45	25	48	25	4x70	0.127
G1/4	7	6401 07 13	12	9	19	19	24	31	52	28	48	31	5x80	0.212
G3/8	10	6401 10 17	12	11	24	20	30	45	58	31	69	31	5x80	0.306
G1/2	13	6401 13 21	15	12	27	20	34	47	67	34	69	34	6x100	0.394

Maximum working pressure: 40 bar

0472 2/2 Right-Angled Ball Valve, Female BSPP Thread



Nickel-plated brass, NBR



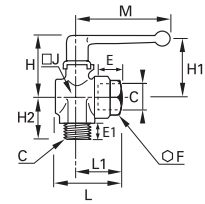
C	DN		E	F	H	H1	H2	J	L	L1	M	kg
G1/8	4	0472 04 10	8	14	35	29	18	14	34	25	48	0.096
	6	0472 06 10	8	19	38	31	20	22	37	27	48	0.183
G1/4	6	0472 06 13	12	19	38	31	24	22	38	28	48	0.191
G3/8	9	0472 09 17	12	24	45	43	27	25	46	31	69	0.260
G1/2	12	0472 12 21	15	27	47	44	33	29	49	34	69	0.312
G3/4	18	0472 18 27	16.5	38	59	51	40	39	60	39	108	0.704
G1	23	0472 23 34	19	46	63	55	47	48	72	47	108	1.062

Maximum working pressure: 20 bar

0471 2/2 Right-Angled Ball Valve, Male/Female BSPP Thread



Nickel-plated brass, NBR



C	DN		E	E1	F	H	H1	H2	J	L	L1	M	kg
G1/8	4	0471 04 10	8	7	14	35	29	19	14	34	25	48	0.096
	6	0471 06 10	8	7	19	38	31	22	22	37	27	48	0.182
G1/4	6	0471 06 13	12	9	19	38	31	25	22	38	28	48	0.187
G3/8	9	0471 09 17	12	11	24	45	43	28	25	46	31	69	0.256
G1/2	12	0471 12 21	15	12	27	47	44	32	29	49	34	69	0.300
G3/4	18	0471 18 27	16.5	12	38	59	51	37	39	60	39	108	0.682
G1	23	0471 23 34	19	15	46	63	55	44	48	72	47	108	1.020

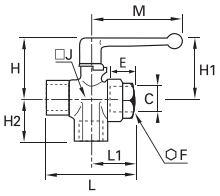
Maximum working pressure: 20 bar

Universal and Universal Customised Series

0482 3/3 Right-Angle Ported Ball Valve, Female BSPP Thread

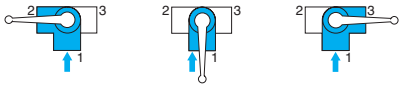


Nickel-plated brass, NBR



C	DN		E	F	H	H1	H2	J	L	L1	M	kg
G1/8	4	0482 04 10	8	14	35	29	18	14	44	25	48	0.103
G1/4	6	0482 06 13	12	19	38	31	24	22	53	28	48	0.200
G3/8	9	0482 09 17	12	24	45	43	27	25	59	31	69	0.284
G1/2	12	0482 12 21	15	27	47	44	33	29	67	34	69	0.346
G3/4	18	0482 18 27	16.5	38	59	51	40	39	80	39	108	0.742
G1	23	0482 23 34	19	46	63	55	47	48	94	47	108	1.160

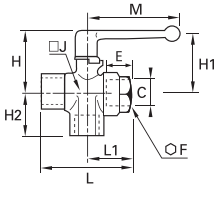
Maximum working pressure: 20 bar



0483 3/3 Right-Angle Ported Ball Valve without Closed Position, Female BSPP Thread

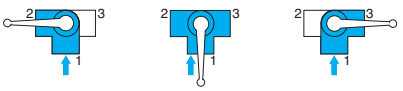


Nickel-plated brass, NBR



C	DN		E	F	H	H1	H2	J	L	L1	M	kg
G1/8	4	0483 04 10	8	14	35	29	18	14	44	25	48	0.102
G1/4	6	0483 06 13	12	19	38	31	24	22	53	28	48	0.196
G3/8	9	0483 09 17	12	24	45	43	27	25	59	31	69	0.278
G1/2	12	0483 12 21	15	27	47	44	33	29	67	34	69	0.340
G3/4	18	0483 18 27	16.5	38	59	51	40	39	80	39	108	0.716
G1	23	0483 23 34	19	46	63	55	47	48	94	47	108	1.066

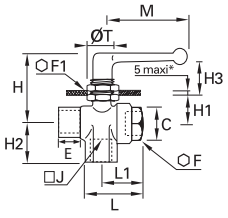
Maximum working pressure: 20 bar



0448 3/2 Panel-Mountable Right-Angled Ball Valve, Female BSPP Thread

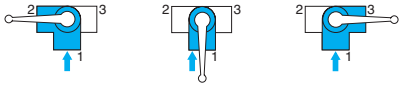


Nickel-plated brass, NBR



C	DN		E	F	F1	H	H1	H2	H3	J	L	L1	M	ØT	kg
G1/8	4	0448 04 10	8	14	22	37	14	18	12	14	44	25	48	16.5	0.126
G1/4	6	0448 06 13	12	19	24	45	19	24	14	22	53	28	48	20.5	0.230
G3/8	9	0448 09 17	12	24	27	50	21	27	21	25	59	31	69	20.5	0.328
G1/2	12	0448 12 21	15	27	27	51	23	33	21	29	67	34	69	20.5	0.392

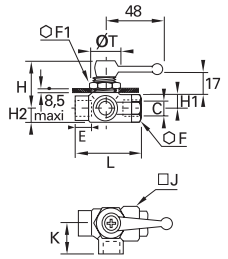
Maximum working pressure: 20 bar
*For G1/8 version: maximum panel thickness = 3 mm



0452 3/2 Panel-Mountable Equal Plane Ball Valve, Female BSPP Thread

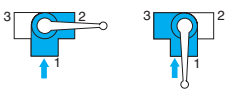


Nickel-plated brass, NBR



C	DN		E	F	F1	H	H1	H2	J	K	L	ØT	kg
G1/8	4	0452 04 10	8	14	22	39	10	8	16	18	25	19	0.130
G1/4	6	0452 06 13	12	19	24	40	11	11	23	24	28	20	0.206

Maximum working pressure: 20 bar



Ball Valves, Universal Series

This range of valves has patented **seal wear compensating** technology for **reliable** and **durable** sealing, **protecting** any system whether under pressure or **vacuum**.

Product Advantages

Durability & Reliability

- Automatic seal wear compensation for long-term reliability
- Robust, corrosion-resistant materials
- 100% leak-tested in production
- Date coding to guarantee quality and traceability

Versatility & Performance

- Ideal for ensuring the performance of pneumatic circuits
- Customised valves for all special applications
- Unequalled performance under vacuum
- Smooth operation thanks to self-lubricating seals
- Large range of working pressures and temperatures
- Lever can be repositioned and replaced
- Many configurations to satisfy all system requirements



Applications

Pneumatics
Vacuum
Transportation
Packaging
Textile
Sawmill
Rubber & Plastics

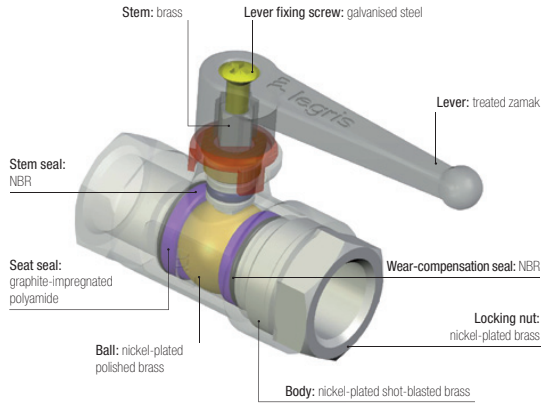
Technical Characteristics

Compatible Fluids	Industrial fluids
Working Pressure	Vacuum to 40 bar
Working Temperature	-20°C to + 80°C

Tightening Torques	Threads	G1/8	G1/4	G3/8	G1/2	G3/4	G1
	daN.m	0.10 to 0.20	0.10 to 0.20	0.15 to 0.25	0.20 to 0.35	0.50 to 0.70	0.50 to 0.70
	Threads	G1¼	G1½	G2			
	daN.m	0.40 to 0.60	0.80 to 1.20	0.80 to 1.20			

Reliable performance is dependent upon the type of fluid conveyed, component materials and tubing being used.
Guaranteed for use with a vacuum of 755 mm Hg (99 % vacuum).

Component Materials



Silicone-free

Regulations

DI: 97/23/EC (module PED A - diameters greater than 25 mm)
DI: 2006/42/EC (Machinery Directive)
DI: 2002/95/EC (RoHS)
RG: 1907/2006 (REACH)

Universal Series

Installation Options

Lockable Valves

Our lockable ball valves have been developed in order to prevent potentially dangerous consequences caused by unintended operation. Lockable in different positions, this range meets international safety requirements, such as ISO 4414.

The valves are lockable:

- at one point: models 0432 and 0439
- at three points: models 0437 and 0438

Vented Valves

To stop fluid circulation and vent the circuit, 2 venting systems are provided:

- with threaded exhaust, to allow discharge of downstream media
- with pin-hole vent, for applications with no special discharge requirement

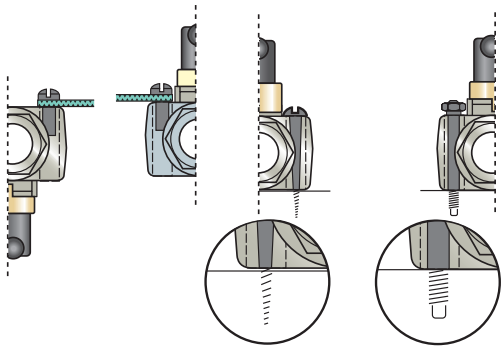
Fluid flow direction is indicated by an arrow on the valve body.

Mountable Valves

On steel plate:
- bulkhead fixing
- complete valve below bulkhead

On frame:
- assemble with bolts

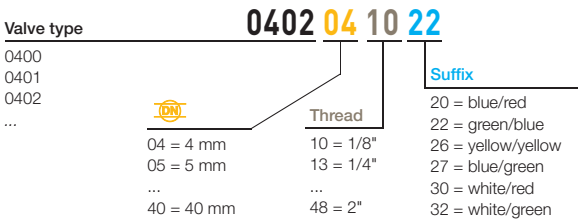
On wooden panel:
- assemble with woodscrews



Universal Customised Valve Series

Based on the standard components of the universal series, this range allows the valve to be adapted to specific needs.
There are 6 product versions available on request.

Product Codes



Identification

Each series may be easily identified by a colour marking on the lever.



Suffix Specification

Identification		Body		Lever			Ball		Stem and Wear-Compensation Seals			Seat Seals			Application Examples
Suffix on the body	Colour bands on the lever	Nickel-plated brass	Chemical nickel-plated brass	Standard	Nickel-plated brass	Chemical nickel-plated brass	Nickel-plated polished brass	Chemical nickel-plated brass	EPDM	FKM	PTFE white	Rilsan: graphite-impreg-nated	Filled PTFE	PTFE white	
20		●		●			●			●		●			Hydrocarbons
22		●		●				●		●			●		Industrial fluids and high temperature
26*		●			●			●			● olive			●	Corrosive liquids or high temperature
27			●			●		●		●			●		Industrial fluids and/or harsh environments
30**		●		●			●		●			●			Gaseous oxygen circuits
32		●		●				●	●				●		Water and steam circuits

*degreased **oxygen-compatible grease

A usage chart in this chapter shows which type of valve to use according to the fluid being conveyed.

Ball Valves: Usage Chart

The chart below shows the compatibility between valves and fluids along with their pressure and temperature characteristics.

Certain models have a maximum working pressure which differs from that given in this table. In this case, the pressure is shown in the heading for the model number in question.

N.B.: Above 32 mm or 1¼" diameters, divide the maximum pressure by 2.

If the fluid you are using is not shown in this chart, please contact us.

Chemical Description	Maximum Pressure (bar)	Temperature °C		Universal and Light Series	Standard Series	DVGW series	Customised Series					
		Min.	Max.				20	22	26	27	30	32
"Aromatic" hydrocarbons	20	-20	+60					●				
Acetone and other ketones	20	-20	+60									●
Acetophenone	20	-20	+60									●
Acetylene - Acetone	20	-20	+60									●
Acetylene (gas)	20	-20	+60	●	●	●						
Alcohol (100%)	20	-20	Boiling									●
Aluminium (liquid suspension, thick)	40	-20	+90	●	●	●						
Amyl alcohol	20	-20	Boiling									●
Animal fats, greases	20	+5	+200		●	●			●			
Antifreeze or glycol (diluted)	40	-20	+40	●	●	●						
Argon (gas) Ar	20	-20	+60	●	●	●						
Barium - Hydroxide	20	-20	+40									●
Benzaldehyde	20	-20	+60									●
Benzene	20	-20	+60					●				
Benzyl alcohol	20	-20	Boiling					●				
Borax (pastes or solutions)	20	-20	+60									●
Brake fluids (automobile)	20	-20	+90									●
Bromochlorotrifluorethane	20	-20	+60		●	●			●			
Butadiene (hydrocarbon)	20	-20	+60							●		
Butane	20	-20	+60	●	●	●						
Butanol	20	-20	Boiling					●				
Butyl alcohol	20	-20	Boiling					●				
Butylene (hydrocarbon)	20	-20	+60					●				
Carbon dioxide gas CO_2	40	-20	+60	●	●							
Castor oil	40	-20	+90	●	●							
Compressed air	20	-25	+180					●				
Creosotes	20	-20	+60							●		
Cresols	20	-20	+60							●		
Crude oil	20	-20	+40				●					
Cutting oil	40	-20	+90	●	●							
Decalin (hydrocarbon, solvent)	20	-20	+60							●		
Detergents (solutions)	20	-20	+100									●
Diacetone alcohol	20	-20	Boiling									●
Diesel oils	40	-20	+90	●	●							
Di-Esters	20	-20	+90					●				
Di-Isobutylene	20	-20	+60							●		
Di-Pentane	20	-20	+60					●				

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Ball Valves: Usage Chart

Chemical Description	Max. Pressure (bar)	Temperature °C		Universal and Light Series	Standard Series	DVGW Series	Customised Series					
		Min.	Max.				20	22	26	27	30	32
Di-Pentene (solvents, varnish)	20	-20	+60					●				
Di-Phenyl-Oxide (thin detergents)	20	-20	+60							●		
Distilled water	40		+90	●	●	●						
Edible fats	20	+5	+200		●				●			
Edible oils	20	+5	+200		●				●			
Erytrene (see Butadiene)	20	-20	+60							●		
Ethane (gas) $CH_2 CH_3$	20	-20	+60	●	●							
Ethane (hydrocarbon gas)	20	-20	+60							●		
Ethyl alcohol	20	-20	+60									●
Ethylene glycol (antifreeze) - see Glycols	20	-20	+120									●
Fatty alcohols	20	-20	Boiling					●				
Fuel oils	40	-20	+40	●	●	●						
Fuels-Diesels	40	-20	+40	●	●							
Gaseous oxygen (ambient air)	20	-20	+40								●	
Glycerine	20	-20	+40	●	●							
Glycol (for antifreeze, lubricants)	40	-20	+40	●	●							
Graphite in suspension in water, oils and greases	40	-20	+90	●	●							
Greases (from petroleum)	40	-20	+90	●	●							
Helium (gas)	20	-20	+60								●	
Heptanal	20	-20	+50	●	●							
Hexane (solvent)	20	-20	+60								●	
Hydraulic oils (petroleum-based)	40	-20	+90	●	●							
Hydrogen (gas)	20	-20	+60								●	
Inks	20	-20	+60							●		
Insecticides	20	0	+40	●	●	●						
Iso-Butane (aliphatic hydrocarbon)	20	-20	+60							●		
Iso-Octane	20	-20	+60							●		
Isopropyl alcohol	20	-20	Boiling									●
Krypton (gas) Kr	20	-20	+60	●	●	●						
Light water	40		+80	●	●	●						
Lighting gas	20	-20	+40			●						
Methane (gas) CH_4	20	-20	+60	●	●	●						
Methanol	20	-20	Boiling									●
Methyl alcohol	20	-20	Boiling									●
Methylated spirit	40	-20	+40	●	●	●						
Mineral oils	40	-20	+90	●	●							
Natural gas	20	-20	+40			●						
Natural waxes (vegetable, beeswax, carnauba, Chinese, lignite)	40	-20	+90							●		
Neatsfoot oil	40	-20	+90	●	●	●						
Neon (Gas) Ne	20	-20	+60	●	●	●						
Nitrogen (gas) N^2	40	-20	+90	●	●	●						
Oil (petroleum-based) and water emulsions	40	-20	+90	●	●	●						

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Ball Valves: Usage Chart

Chemical Description	Max. Pressure (bar)	Temperature °C		Universal and Light Series	Standard Series	DVGW Series	Customised Series					
		Min.	Max.				20	22	26	27	30	32
Oils "synthetic"	20	-20	+100									●
Ordinary petrol	20	-20	+40	●	●							
Oxygenated water	40	-20	+30				●					
Paints and relevant solvents	20	-20	+60		●	●			●			
Paraffin oil	40	-20	+90	●	●	●						
Paraffins	20	-20	+60	●	●	●						
Pentane (liquid hydrocarbon)	20	-20	+60	●	●	●						
Pentanols 1 and 2	20	-20	Boiling									●
Petrol "super"	20	-20	+40				●					
Petroleum mineral oils	20	-20	+160					●				
Phenol (aqueous or alcoholic)	20	-20	+60		●	●			●			
Propane	20	-20	+60	●	●	●						
Propanols 1 and 2	20	-20	Boiling									●
Propanone 2	20	-20	+60									●
Propene or Propylene	20	-20	+60					●				
Propyl alcohol	20	-20	Boiling									●
Propylene or Propene	20	-20	+60					●				
Rapeseed oil	40	-20	+90	●	●							
Saponifying liquids	20	-20	+30	●	●	●						
Seawater	40		+80	●	●	●						
Seawater (high temperature)	20		+150			●				●		
Soaps	20	-20	+100									●
Soaps (liquid or paste)	40	-20	+40	●	●	●						
Sodium carbonate (with water)	20	0	+40	●	●	●						
Starch (gels or pastes)	40	+10	+40	●	●	●						
Steam	20	-20	+150									●
Toluene (terpenic hydrocarbon)	20	-20	+60		●	●			●			
Trichlorethylene	20	-20	+65					●				
Turpentine	20	-20	+50	●	●	●						
Varnish and paints	20	-20	+60		●	●			●			
Vaseline	40	-20	+60	●	●	●						
Vaseline oil	40	-20	+90	●	●	●						
Water (carbonated)	40		+90	●	●	●						
Water (high temperature)	20		+150			●						●
Xenon (gas) Xe	20	-20	+60	●	●	●						
Xylene	20	-20	+60					●				

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