

The tube system for high-pressure applications

The tube system for high-pressure applications in refrigeration technology, especially in supermarket refrigeration systems, are increasingly using ecologically oriented system concepts. The natural, environmentally friendly refrigerant CO₂ leads to very high operating pressures.

Application and easy handling

High-pressure lines, especially for CO₂ as a refrigerant. Other media are possible in consultation with the manufacturer. The thinner wall thicknesses of the tubes not only save material, but also result in a lighter a lighter product that is easier to handle during installation.

Proven connection technology

K65 can be processed just as easily as copper. K65 tubes can be connected to K65 fittings by brazing. K65 fittings are manufactured by IBP Conex | Bänninger.

Safety from two renowned manufacturers

The use of Wieland K65 tubes and K65 fittings from IBP Conex | Bänninger is covered by a system warranty. This system warranty includes CO₂ applications for the items listed in the following tables.

Easy to identify - even after installation

K65 tubes and fittings are labeled so that the system components can be clearly identified at all times. In addition, the material is slightly magnetic and can be easily distinguished from copper with the help of a strong magnet. A helpful advantage in practice.

K65-Tubes

Dimensional tolerances:	EN 12735-1
Internal cleanliness:	EN 12735-1
Material:	Wieland K65, CuFe2P
Temper:	R300 (with heat treatment) R420 (drawn)
Maximum operating pressure:	80 bar, 120 bar and 130 bar, see tables on the following page
Application range:	-196 °C to 150 °C
Certification:	closed according to VdTÜV WB 567 on request UL 207 certification on request
Tube ends:	closed
Packaging:	bundled into small bundles
Availability:	3 product series available from stock, other dimensions on request
Material control:	K65 tubes are slightly magnetic and can be distinguished from copper easily



According to the requirements of EN 14276:2020, the following dimensions are available ex stock:

Wieland material number	Dimensions		Wall thickness	Nominal weight	Content Volume	Packaging unit: bundle		Packaging unit: ballot		Minimum bending radius
	mm	inch	mm	kg/m	l/m	Number of tubes per 5 m	Metres per bundle	Bundles per ballot	Metres per ballot	mm
Wieland K65 tubes for up to 80 bar (at 150 °C service temperature), acc. to EN 14276:2020, temper R300										
433015878	15.87	5/8"	0.63	0.267	0.168	10	50	20	1,000	63
433019058	19.05	3/4"	0.76	0.386	0.241	10	50	20	1,000	75
433022238	22.23	7/8"	0.89	0.528	0.328	10	50	10	500	98
433028578	28.57	1 1/8"	1.20	0.913	0.538	5	25	20	500	102
433034928	34.92	1 3/8"	1.47	1.367	0.803	3	15	10	150	140
433041278	41.27	1 5/8"	1.74	1.912	1.122	3	15	10	150	140
433053978	53.97	2 1/8"	2.27	3.263	1.919	1	5	–	–	not defined

Wieland K65 tubes for up to 120 bar (at 150 °C service temperature), acc. to EN 14276:2020, temper R300										
433009522	9.52	3/8"	0.56	0.140	0.050	20	100	20	2,000	43
433012702	12.70	1/2"	0.75	0.249	0.099	20	100	20	2,000	52
433015872	15.87	5/8"	0.93	0.386	0.154	10	50	20	1,000	63
433019052	19.05	3/4"	1.19	0.591	0.218	10	50	20	1,000	75
433022232	22.23	7/8"	1.38	0.800	0.298	10	50	10	500	98
433028572	28.57	1 1/8"	1.78	1.326	0.491	5	25	20	500	102
433034922	34.92	1 3/8"	2.17	1.976	0.734	3	15	10	150	140
433041272	41.27	1 5/8"	2.56	2.755	1.026	3	15	10	150	140
433053972	53.97	2 1/8"	3.35	4.715	1.755	1	5	–	–	not defined

Wieland K65 tubes for up to 130 bar (at 150 °C service temperature), acc. to EN 14276:2020, temper R300										
433009523	9.52	3/8"	0.61	0.151	0.054	20	100	20	2,000	43
433012703	12.70	1/2"	0.81	0.268	0.096	20	100	20	2,000	52
433015873	15.87	5/8"	1.04	0.429	0.149	10	50	20	1,000	63
433019053	19.05	3/4"	1.28	0.632	0.214	10	50	20	1,000	75
433022233	22.23	7/8"	1.49	0.859	0.291	10	50	10	500	98
433028573	28.57	1 1/8"	1.92	1.423	0.480	5	25	20	500	102
433034923	34.92	1 3/8"	2.34	2.120	0.718	3	15	10	150	140
433041273	41.27	1 5/8"	2.76	2.955	1.004	3	15	10	150	140
433053973	53.97	2 1/8"	3.61	5.055	1.717	1	5			not defined
433066673	66.67	2 5/8"	4.46	7.730	2.618	1	5			not defined

Working instructions

K65 copper tubes must be processed in accordance with the standard EN 378 for refrigeration technology. The safety precautions for high-pressure systems, in particular for pressure testing and commissioning, must be observed by experts! K65 tubes must be cold bent using suitable bending equipment and bending segments precisely matched to the outside diameter. Hot bending is not intended. Industrial bending tubes also allow tighter bending radii. Hairpin bending is possible on suitable equipment. K65 tubes may be widened in order to connect tubes of the same nominal diameter.

K65 fittings

The following K65-fitting designs are available:

Type	Detailed designation	Size	Item No.
 K65 Bend 90° i/a	K5001 i/a	3/8"	K5001003000000
	K5001 i/a	1/2"	K5001004000000
	K5001 i/a	5/8"	K5001005000000
	K5001 i/a	3/4"	K5001006000000
	K5001 i/a	7/8"	K5001007000000
	K5001 i/a	1 1/8"	K5001009000000
	K5001 i/a	1 1/3"	K5001011000000
	K5001 i/a	1 5/8"	K5001013000000
	K5001 i/a	2 1/8"	K5001017000000
	K5001 i/a	2 5/8"	K5001021000000
 K65 Bend 90° i/i	K5002 i/i	3/8"	K5002003000000
	K5002 i/i	1/2"	K5002004000000
	K5002 i/i	5/8"	K5002005000000
	K5002 i/i	3/4"	K5002006000000
	K5002 i/i	7/8"	K5002007000000
	K5002 i/i	1 1/8"	K5002009000000
	K5002 i/i	1 3/8"	K5002011000000
	K5002 i/i	1 5/8"	K5002013000000
	K5002 i/i	2 1/8"	K5002017000000
	K5002 i/i	2 5/8"	K5002021000000
 K65 Bend 45° i/a	K5040 i/a	3/8"	K5040003000000
	K5040 i/a	1/2"	K5040004000000
	K5040 i/a	5/8"	K5040005000000
	K5040 i/a	3/4"	K5040006000000
	K5040 i/a	7/8"	K5040007000000
	K5040 i/a	1 1/8"	K5040009000000
	K5040 i/a	1 3/8"	K5040011000000
	K5040 i/a	1 5/8"	K5040013000000
	K5040 i/a	2 1/8"	K5040017000000
	K5040 i/a	2 5/8"	K5040021000000
 K65 Bend 45° i/i	K5041 i/i	3/8"	K5041003000000
	K5041 i/i	1/2"	K5041004000000
	K5041 i/i	5/8"	K5041005000000
	K5041 i/i	3/4"	K5041006000000
	K5041 i/i	7/8"	K5041007000000
	K5041 i/i	1 1/8"	K5041009000000
	K5041 i/i	1 3/8"	K5041011000000
	K5041 i/i	1 5/8"	K5041013000000
	K5041 i/i	2 1/8"	K5041017000000
	K5041 i/i	2 5/8"	K5041021000000

Identification: >B< K65
 Maximum operating pressure: 130 bar / 1885 psi

Type	Detailed designation	Size	Item No.
 K65 Tee	K5130	3/8"	K5130003003003
	K5130	1/2" x 3/8" x 3/8"	K5130004003003
	K5130	1/2" x 1/2" x 3/8"	K5130004004003
	K5130	1/2"	K5130004004004
	K5130	5/8" x 1/2" x 1/2"	K5130005004004
	K5130	5/8" x 5/8" x 3/8"	K5130005005003
	K5130	5/8" x 5/8" x 1/2"	K5130005005004
	K5130	5/8"	K5130005005005
	K5130	3/4" x 3/4" x 1/2"	K5130006006004
	K5130	3/4" x 3/4" x 5/8"	K5130006006005
	K5130	3/4"	K5130006006006
	K5130	7/8" x 7/8" x 1/2"	K5130007007004
	K5130	7/8" x 7/8" x 5/8"	K5130007007005
	K5130	7/8" x 7/8" x 3/4"	K5130007007006
	K5130	7/8"	K5130007007007
	K5130	1 1/8" x 7/8" x 1/2"	K5130009007004
	K5130	1 1/8" x 1 1/8" x 3/4"	K5130009009006
K5130	1 1/8" x 1 1/8" x 7/8"	K5130009009007	
K5130	1 1/8"	K5130009009009	
K5130	1 3/8" x 1 3/8" x 3/4"	K5130011011006	
K5130	1 3/8" x 1 3/8" x 7/8"	K5130011011007	
K5130	1 3/8" x 1 3/8" x 1 1/8"	K5130011011009	
K5130	1 3/8"	K5130011011011	
K5130	1 5/8" x 1 5/8" x 3/4"	K5130013013006	
K5130	1 5/8" x 1 5/8" x 7/8"	K5130013013007	
K5130	1 5/8" x 1 5/8" x 1 1/8"	K5130013013009	
K5130	1 5/8" x 1 5/8" x 1 3/8"	K5130013013011	
K5130	1 5/8"	K5130013013013	
K5130	2 1/8" x 2 1/8" x 1 5/8"	K5130017017013	
K5130	2 1/8"	K5130017017017	
K5130	2 5/8" x 2 5/8" x 2 1/8"	K5130021021017	
K5130	2 5/8"	K5130021021021	

Type	Detailed designation	Size	Item No.	
K65 Red Coupler 	K5240	1/2" x 3/8"	K5240004003000	
	K5240	5/8" x 1/2"	K5240005004000	
	K5240	3/4" x 5/8"	K5240006005000	
	K5240	7/8" x 3/4"	K5240007006000	
	K5240	1 1/8" x 1/2"	K5240009004000	
	K5240	1 1/8" x 7/8"	K5240009007000	
	K5240	1 3/8" x 1/2"	K5240011004000	
	K5240	1 3/8" x 5/8"	K5240011005000	
	K5240	1 3/8" x 3/4"	K5240011006000	
	K5240	1.3/8" x 7/8"	K5240011007000	
	K5240	1 3/8" x 1 1/8"	K5240011009000	
	K5240	1 5/8" x 3/4"	K5240013006000	
	K5240	1 5/8" x 7/8"	K5240013007000	
	K5240	1 5/8" x 1 1/8"	K5240013009000	
	K5240	1 5/8" x 1 3/8"	K5240013011000	
	K5240	2 1/8" x 1 5/8"	K5240017013000	
	K5240	2 5/8" x 2 1/8"	K5240021017000	
	K65 Reducer 	K5243 o-i	1/2" x 3/8"	K5243004003000
		K5243 I/M	1/2" x 12 mm	K5243004012000
		K5243 o-i	5/8" x 3/8"	K5243005003000
K5243 o-i		5/8" x 1/2"	K5243005004000	
K5243 I/M		5/8" x 15 mm	K5243005015000	
K5243 o-i		3/4" x 3/8"	K5243006003000	
K5243 o-i		3/4" x 1/2"	K5243006004000	
K5243 o-i		3/4" x 5/8"	K5243006005000	
K5243 I/M		3/4" x 18 mm	K5243006018000	
K5243 o-i		7/8" x 3/8"	K5243007003000	
K5243 o-i		7/8" x 1/2"	K5243007004000	
K5243 o-i		7/8" x 5/8"	K5243007005000	
K5243 o-i		7/8" x 3/4"	K5243007006000	
K5243 I/M		7/8" x 22 mm	K5243007022000	
K5243 o-i		1 1/8" x 1/2"	K5243009004000	
K5243 o-i		1 1/8" x 5/8"	K5243009005000	
K5243 o-i		1 1/8" x 3/4"	K5243009006000	
K5243 o-i		1 1/8" x 7/8"	K5243009007000	
K5243 I/M		1 1/8" x 28 mm	K5243009028000	
K5243 o-i		1 3/8" x 1 1/8"	K5243011009000	
K5243 I/M		1 3/8" x 35 mm	K5243011035000	
K5243 o-i		1 5/8" x 7/8"	K5243013007000	
K5243 o-i		1 5/8" x 1 3/8"	K5243013011000	
K5243 I/M		1 5/8" x 42 mm	K5243013042000	
K5243 o-i		2 1/8" x 1 5/8"	K5243017013000	
K5243 o-i		2 5/8" x 2 1/8"	K5243021017000	

Type	Detailed designation	Size	Item No.
K65 Coupler 	K5270	3/8"	K5270003000000
	K5270	1/2"	K5270004000000
	K5270	5/8"	K5270005000000
	K5270	3/4"	K5270006000000
	K5270	7/8"	K5270007000000
	K5270	1 1/8"	K5270009000000
	K5270	1 3/8"	K5270011000000
	K5270	1 5/8"	K5270013000000
	K5270	2 1/8"	K5270017000000
	K5270	2 5/8"	K5270021000000
K65 Stop End 	K5301	3/8"	K5301003000000
	K5301	1/2"	K5301004000000
	K5301	5/8"	K5301005000000
	K5301	3/4"	K5301006000000
	K5301	7/8"	K5301007000000
	K5301	1 1/8"	K5301009000000
	K5301	1 3/8"	K5301011000000
	K5301	1 5/8"	K5301013000000
	K5301	2 1/8"	K5301017000000
	K5301	2 5/8"	K5301021000000

