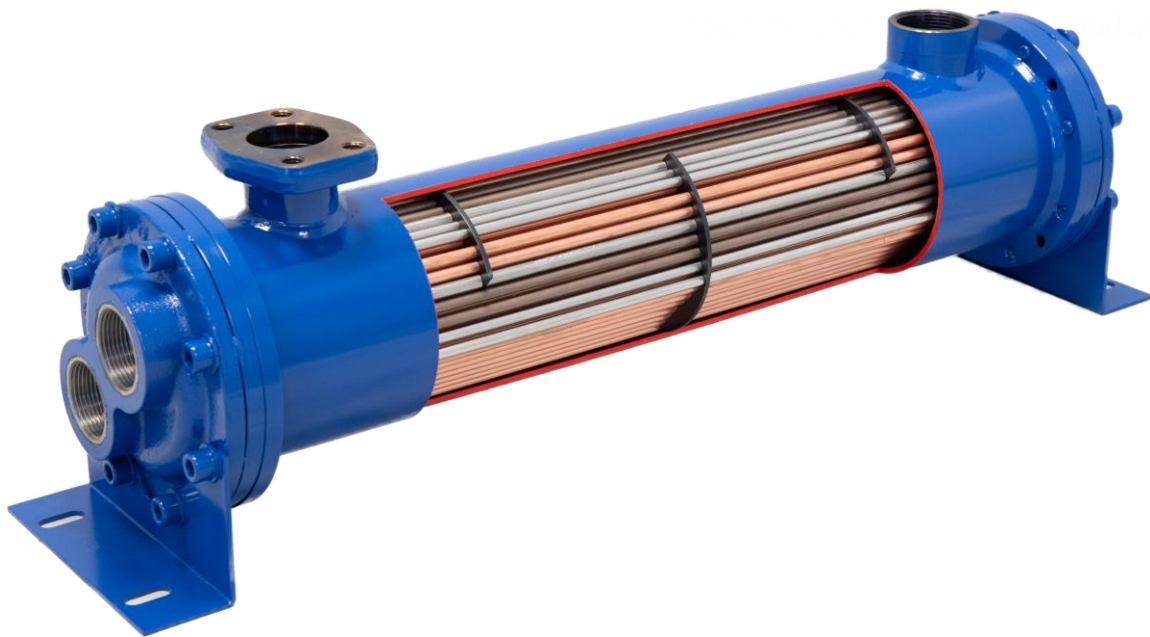


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*customized designs*  
*made in europe and usa*

**UNIVERSAL  
HYDRAULIK**®  
Your Partner for coolers and systems

**STANDARD  
COOLING**

## Heat Exchanger Series CKM



- Compact tube-bundle for an efficient heat transfer
- Tube side (water): long service life, easy to clean
- Tube side (Water): various material options: for example CU /CN /TI /SS
- Heat capacity up to 2000 kW
- Flow rates up to 5500 l/min
- Also available as failsafe heat exchanger



## Product description

The heat exchangers of the CKM series are based on the classic tube bundle heat exchanger with smooth, bundled tube stacks. Due to the integrated baffles, the medium on the shell side are guided through the heat exchanger in a forced flow, thus optimizing the efficiency of the heat exchange between the cold and warm medium.

Removable end caps allow easy cleaning of the water side. The heat exchangers of the CKM series are available in several sizes and can be equipped with different water flow variants.

### Product features

- Heat output up to 2000 kW
- Shell side (Oil): Flow rates up to 2400 l/min
- Removable end caps for easy cleaning of the tubes
- Max. pressure: shell (oil) 20 bar / tubes (water) 16 bar (high pressure on demand)
- High-quality materials
- Tested five times during production

### Options

- Sea water resistant version
- Certifications of marine applications: Bureau Veritas, ABS, DNVGL, Rina, CSS, TL, PRS, NKK and others
- Stainless steel version or chemically nickel plated
- 3.1 certification on request
- Hydrotest on request
- ATEX-certification on request
- ASME-certification on request
- Titanium parts
- Fail-safe-versions

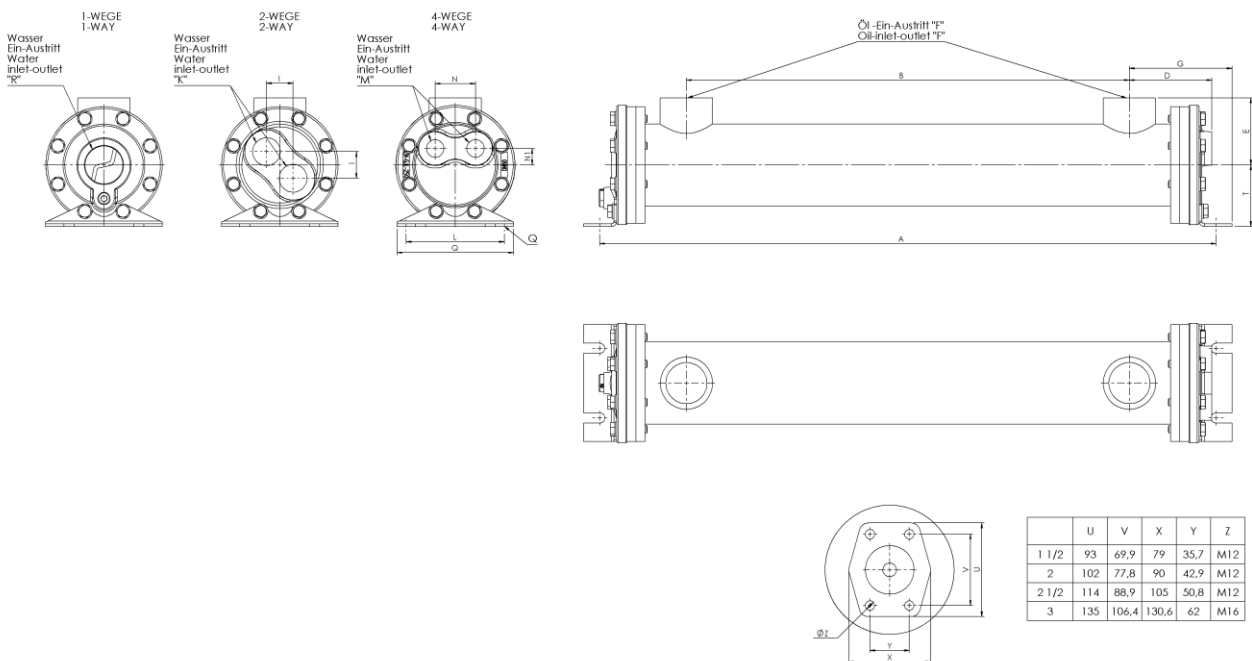
## Materials

	Standard	Option	Seawater Standard
Shell Mounting Baffels	Steel	Stainless steel (SS)	
Tube sheet	Steel	Stainless steel (SS)	Brass (W)
Tubes	CuNi 90/10 (CN)	Stainless steel (SS) / Copper (CU)	Titan (TI) or Copper-nickel (CN)
End caps	Cast iron	Stainless steel (SS)	Cast iron: chem. nickel plated (SW) or gun metal with zinc anode (SWBZ)

## Unit dimensions CKM-700-Series

Typ	A	B	D	E	F	G	I	K	L	M	N	N1	O	Q	R	T
CKM-708-O	265	76	101	73	G1 1/2"	94,5	-	-	76	-	-	-	127	Ø11x23	G1 1/4"	66
CKM-714-O	418	229	101	73	G1 1/2"	94,5	-	-	76	-	-	-	127	Ø11x23	G1 1/4"	66
CKM-718-O	519	330	101	73	G1 1/2"	94,5	-	-	76	-	-	-	127	Ø11x23	G1 1/4"	66
CKM-724-O	672	483	101	73	G1 1/2"	94,5	-	-	76	-	-	-	127	Ø11x23	G1 1/4"	66
CKM-736-O	976	787	101	73	G1 1/2"	94,5	-	-	76	-	-	-	127	Ø11x23	G1 1/4"	66
Typ	A	B	D	E	F	G	I	K	L	M	N	N1	O	Q	R	T
CKM-708-T	265	76	101	73	G1 1/2"	94,5	29	G1"	76	-	-	-	127	Ø11x23	-	66
CKM-714-T	418	229	89	73	G1 1/2"	94,5	29	G1"	76	-	-	-	127	Ø11x23	-	66
CKM-718-T	519	330	89	73	G1 1/2"	94,5	29	G1"	76	-	-	-	127	Ø11x23	-	66
CKM-724-T	672	483	89	73	G1 1/2"	94,5	29	G1"	76	-	-	-	127	Ø11x23	-	66
CKM-736-T	976	787	89	73	G1 1/2"	94,5	29	G1"	76	-	-	-	127	Ø11x23	-	66
Typ	A	B	D	E	F	G	I	K	L	M	N	N1	O	Q	R	T
CKM-708-F	265	76	90	73	G1 1/2"	94,5	-	-	76	G 1/2"	44	18	127	Ø11x23	-	66
CKM-714-F	418	229	90	73	G1 1/2"	94,5	-	-	76	G 1/2"	44	18	127	Ø11x23	-	66
CKM-718-F	519	330	90	73	G1 1/2"	94,5	-	-	76	G 1/2"	44	18	127	Ø11x23	-	66
CKM-724-F	672	483	90	73	G1 1/2"	94,5	-	-	76	G 1/2"	44	18	127	Ø11x23	-	66
CKM-736-F	976	787	90	73	G1 1/2"	94,5	-	-	76	G 1/2"	44	18	127	Ø11x23	-	66

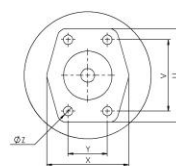
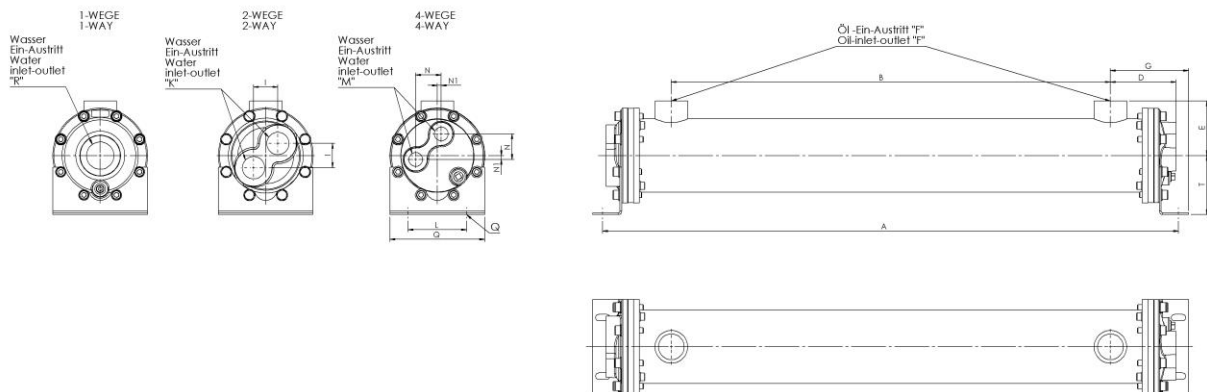
All dimension in mm



## Unit dimensions CKM-1000-Series

Typ	A	B	D	E	F	G	I	K	L	M	N	N1	O	Q	R	T
CKM-1014-O	448	208	116,5	92	G1 1/2"	120	-	-	102	-	-	-	165	Ø11x25	G1 1/2"	103
CKM-1024-O	702	462	116,5	92	G1 1/2"	120	-	-	102	-	-	-	165	Ø11x25	G1 1/2"	103
CKM-1036-O	1007	767	116,5	95	G1 1/2"	120	-	-	102	-	-	-	165	Ø11x25	G1 1/2"	103
CKM-1048-O	1306	1067	116,5	95	G1 1/2"	120	-	-	102	-	-	-	165	Ø11x25	G1 1/2"	103
CKM-1060-O	1612	1372	116,5	92	G1 1/2"	120	-	-	102	-	-	-	165	Ø11x25	G1 1/2"	103
Typ	A	B	D	E	F	G	I	K	L	M	N	N1	O	Q	R	T
CKM-1014-T	448	208	113,5	92	G1 1/2"	120	42,4	G1 1/4"	102	-	-	-	165	Ø11x25	-	103
CKM-1024-T	702	462	113,5	92	G1 1/2"	120	42,4	G1 1/4"	102	-	-	-	165	Ø11x25	-	103
CKM-1036-T	1007	767	113,5	95	G1 1/2"	120	42,4	G1 1/4"	102	-	-	-	165	Ø11x25	-	103
CKM-1048-T	1306	1067	113,5	95	G1 1/2"	120	42,4	G1 1/4"	102	-	-	-	165	Ø11x25	-	103
CKM-1060-T	1612	1372	113,5	92	G1 1/2"	120	42,4	G1 1/4"	102	-	-	-	165	Ø11x25	-	103
Typ	A	B	D	E	F	G	I	K	L	M	N	N1	O	Q	R	T
CKM-1014-F	448	208	114,5	92	G1 1/2"	120	-	-	102	G3/4"	44,5	6,7	165	Ø11x25	-	103
CKM-1024-F	702	462	114,5	92	G1 1/2"	120	-	-	102	G3/4"	44,5	6,7	165	Ø11x25	-	103
CKM-1036-F	1007	767	114,5	95	G1 1/2"	120	-	-	102	G3/4"	44,5	6,7	165	Ø11x25	-	103
CKM-1048-F	1306	1067	114,5	95	G1 1/2"	120	-	-	102	G3/4"	44,5	6,7	165	Ø11x25	-	103
CKM-1060-F	1612	1372	114,5	92	G1 1/2"	120	-	-	102	G3/4"	44,5	6,7	165	Ø11x25	-	103

All dimension in mm

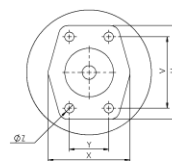
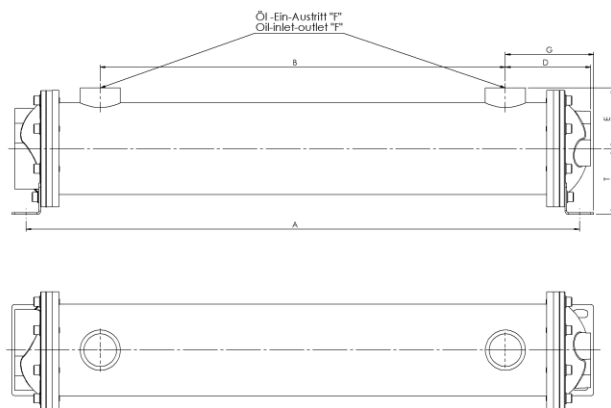
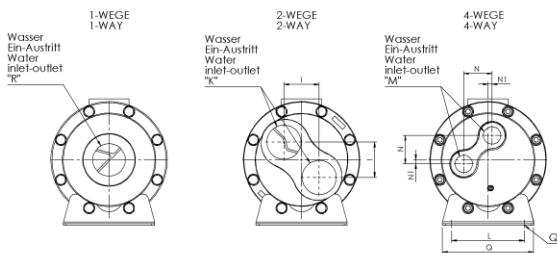


	U	V	X	Y	Z
1 1/2	93	69,9	79	35,7	M12
2	102	77,8	90	42,9	M12
2 1/2	114	88,9	105	50,8	M12
3	135	106,4	130,6	62	M16

## Unit dimensions CKM-1200-Series

Typ	A	B	D	E	F	G	I	K	L	M	N	N1	O	Q	R	T
CKM-1224-O	663	402	149	106	G2"	130,5	-	-	127	-	-	-	159	∅13,5x27,5	G2"	114,3
CKM-1236-O	968	707	149	106	G2"	130,5	-	-	127	-	-	-	159	∅13,5x27,5	G2"	114,3
CKM-1248-O	1273	1012	149	106	G2"	130,5	-	-	127	-	-	-	159	∅13,5x27,5	G2"	114,3
CKM-1260-O	1578	1317	149	106	G2"	130,5	-	-	127	-	-	-	159	∅13,5x27,5	G2"	114,3
CKM-1272-O	1900	1621	149	106	G2"	130,5	-	-	127	-	-	-	159	∅13,5x27,5	G2"	114,3
Typ	A	B	D	E	F	G	I	K	L	M	N	N1	O	Q	R	T
CKM-1224-T	663	402	149	106	G2"	130,5	61,5	G2"	127	-	-	-	159	∅13,5x27,5	-	114,3
CKM-1236-T	968	707	149	106	G2"	130,5	61,5	G2"	127	-	-	-	159	∅13,5x27,5	-	114,3
CKM-1248-T	1273	1012	149	106	G2"	130,5	61,5	G2"	127	-	-	-	159	∅13,5x27,5	-	114,3
CKM-1260-T	1578	1317	149	106	G2"	130,5	61,5	G2"	127	-	-	-	159	∅13,5x27,5	-	114,3
CKM-1272-T	1900	1621	149	106	G2"	130,5	61,5	G2"	127	-	-	-	159	∅13,5x27,5	-	114,3
Typ	A	B	D	E	F	G	I	K	L	M	N	N1	O	Q	R	T
CKM-1224-F	663	402	149	106	G2"	130,5	-	-	127	G1*	49,5	7	159	∅13,5x27,5	-	114,3
CKM-1236-F	968	707	149	106	G2"	130,5	-	-	127	G1"	49,5	7	159	∅13,5x27,5	-	114,3
CKM-1248-F	1273	1012	149	106	G2"	130,5	-	-	127	G1"	49,5	7	159	∅13,5x27,5	-	114,3
CKM-1260-F	1578	1317	149	106	G2"	130,5	-	-	127	G1"	49,5	7	159	∅13,5x27,5	-	114,3
CKM-1272-F	1900	1621	149	106	G2"	130,5	-	-	127	G1"	49,5	7	159	∅13,5x27,5	-	114,3

All dimension in mm

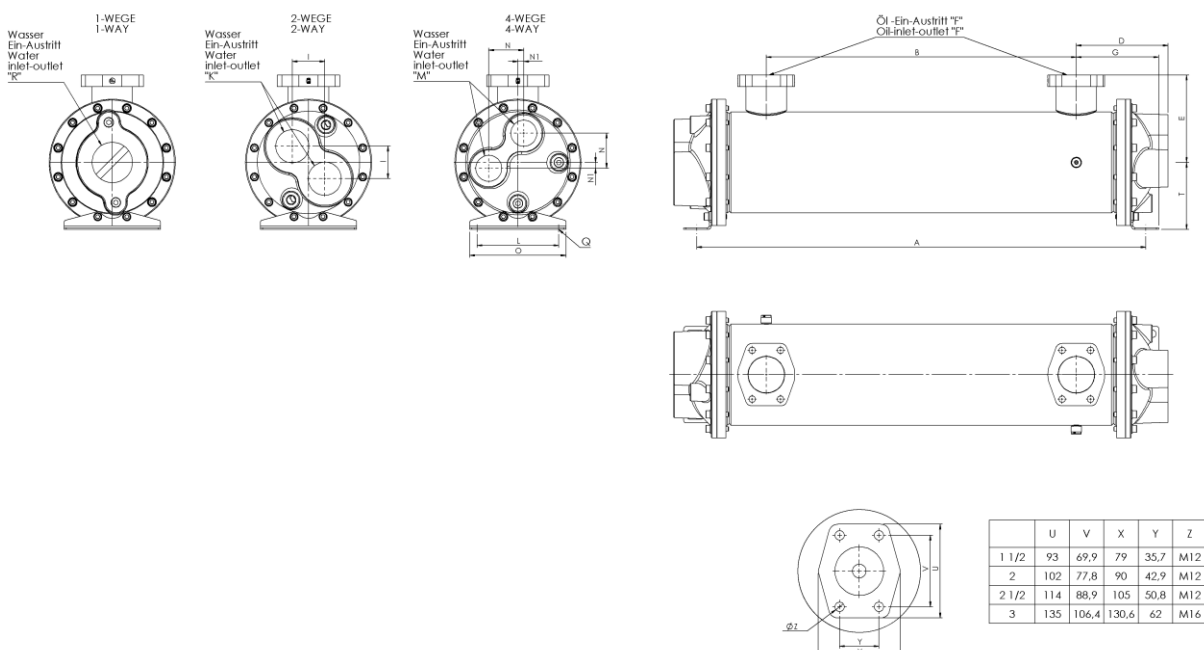


	U	V	X	Y	Z
1 1/2	93	69,9	79	35,7	M12
2	102	77,8	90	42,9	M12
2 1/2	114	88,9	105	50,8	M12
3	135	106,4	130,6	62	M16

## Unit dimensions CKM-1700-Series

Typ	A	B	D	E	F	G	I	K	L	M	N	N1	O	Q	R	T
CKM-1724-O	698	386	215,5	160	G3"	170,5	-	-	178	-	-	-	210	Ø16x38	G3"	146
CKM-1736-O	1003	691	215,5	160	G3"	170,5	-	-	178	-	-	-	210	Ø16x38	G3"	146
CKM-1748-O	1308	996	215,5	160	G3"	170,5	-	-	178	-	-	-	210	Ø16x38	G3"	146
CKM-1760-O	1613	1301	215,5	160	G3"	170,5	-	-	178	-	-	-	210	Ø16x38	G3"	146
CKM-1772-O	1932	1591	215,5	160	G3"	170,5	-	-	178	-	-	-	210	Ø16x38	G3"	146
CKM-1784-O	2237	1896	215,5	160	G3"	170,5	-	-	178	-	-	-	210	Ø16x38	G3"	146
Typ	A	B	D	E	F	G	I	K	L	M	N	N1	O	Q	R	T
CKM-1724-T	698	386	215,5	160	G3"	170,5	70,7	G2 1/2"	178	-	-	-	210	Ø16x38	-	146
CKM-1736-T	1003	691	215,5	160	G3"	170,5	70,7	G2 1/2"	178	-	-	-	210	Ø16x38	-	146
CKM-1748-T	1308	996	215,5	160	G3"	170,5	70,7	G2 1/2"	178	-	-	-	210	Ø16x38	-	146
CKM-1760-T	1613	1301	215,5	160	G3"	170,5	70,7	G2 1/2"	178	-	-	-	210	Ø16x38	-	146
CKM-1772-T	1932	1591	215,5	160	G3"	170,5	70,7	G2 1/2"	178	-	-	-	210	Ø16x38	-	146
CKM-1784-T	2237	1896	215,5	160	G3"	170,5	70,7	G2 1/2"	178	-	-	-	210	Ø16x38	-	146
Typ	A	B	D	E	F	G	I	K	L	M	N	N1	O	Q	R	T
CKM-1724-F	698	386	215,5	160	G3"	170,5	-	-	178	G2"	76,4	12,7	210	Ø16x38	-	146
CKM-1736-F	1003	691	215,5	160	G3"	170,5	-	-	178	G2"	76,4	12,7	210	Ø16x38	-	146
CKM-1748-F	1308	996	215,5	160	G3"	170,5	-	-	178	G2"	76,4	12,7	210	Ø16x38	-	146
CKM-1760-F	1613	1301	215,5	160	G3"	170,5	-	-	178	G2"	76,4	12,7	210	Ø16x38	-	146
CKM-1772-F	1932	1591	215,5	160	G3"	170,5	-	-	178	G2"	76,4	12,7	210	Ø16x38	-	146
CKM-1784-F	2237	1896	215,5	160	G3"	170,5	-	-	178	G2"	76,4	12,4	210	Ø16x38	-	146

All dimension in mm

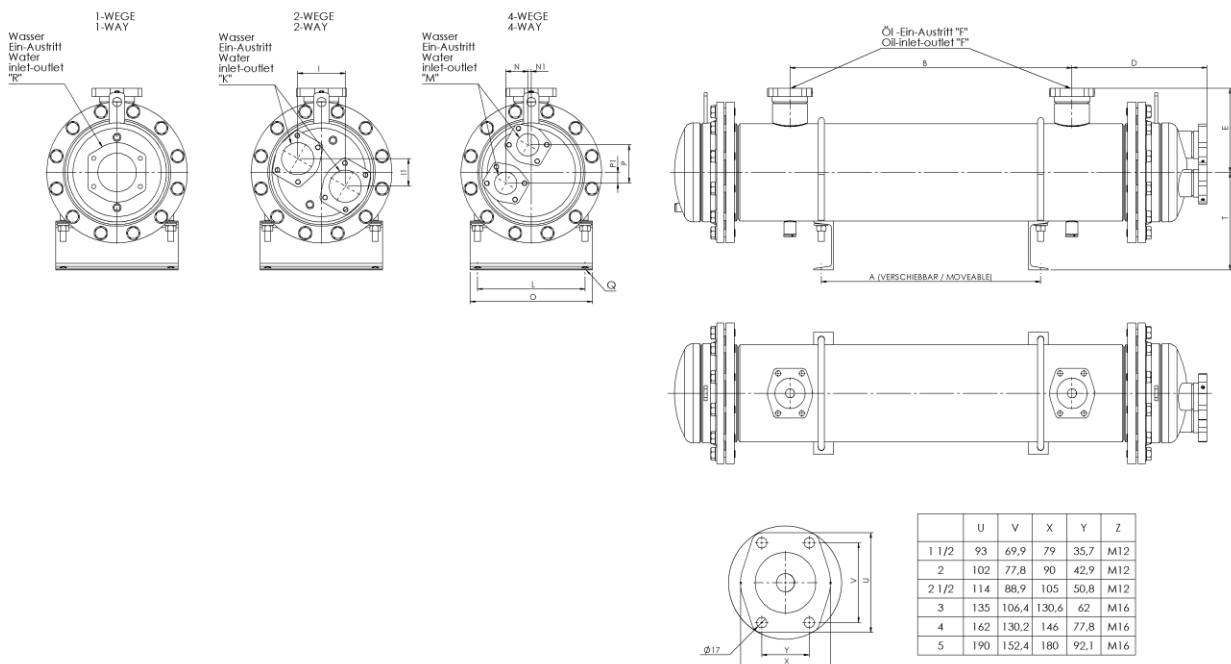


## Unit dimensions CKM-2400-Series

Typ	A	B	D	E	F	I	K	L	M	N	N1	O	Q	R	T
CKM-2448-O	718	923	442	275	SAE 4"	-	-	352	-	-	-	400	Ø22	SAE 5"	319
CKM-2460-O	1023	1228	442	275	SAE 4"	-	-	352	-	-	-	400	Ø22	SAE 5"	319
CKM-2472-O	1328	1533	442	275	SAE 4"	-	-	352	-	-	-	400	Ø22	SAE 5"	319
CKM-2484-O	1633	1838	442	275	SAE 4"	-	-	352	-	-	-	400	Ø22	SAE 5"	319
CKM-2496-O	1938	2142	442	275	SAE 4"	-	-	352	-	-	-	400	Ø22	SAE 5"	319
Typ	A	B	D	E	F	I	K	L	M	N	N1	O	Q	R	T
CKM-2448-T	718	923	442	275	SAE 4"	147,2	SAE 4"	352	-	-	-	400	Ø22	-	319
CKM-2460-T	1023	1228	442	275	SAE 4"	147,2	SAE 4"	352	-	-	-	400	Ø22	-	319
CKM-2472-T	1328	1533	442	275	SAE 4"	147,2	SAE 4"	352	-	-	-	400	Ø22	-	319
CKM-2484-T	1633	1838	442	275	SAE 4"	147,2	SAE 4"	352	-	-	-	400	Ø22	-	319
CKM-2496-T	1938	2142	442	275	SAE 4"	147,2	SAE 4"	352	-	-	-	400	Ø22	-	319
Typ	A	B	D	E	F	I	K	L	M	N	N1	O	Q	R	T
CKM-2448-F	718	923	442	275	SAE 4"	-	-	352	SAE 3"	72,5	11,4	400	Ø22	-	319
CKM-2460-F	1023	1228	442	275	SAE 4"	-	-	352	SAE 3"	72,5	11,4	400	Ø22	-	319
CKM-2472-F	1328	1533	442	275	SAE 4"	-	-	352	SAE 3"	72,5	11,4	400	Ø22	-	319
CKM-2484-F	1633	1838	442	275	SAE 4"	-	-	352	SAE 3"	72,5	11,4	400	Ø22	-	319
CKM-2496-F	1938	2142	442	275	SAE 4"	-	-	352	SAE 3"	72,5	11,4	400	Ø22	-	319

All dimension in mm

CKM-3000-Series and CKM-4000-Series on request



## Technical data

**Caution:** Incorrect installation can lead to damage to the cooler. For the seawater version, zinc anodes should be provided on the waterside. Exact information for the pressure resistance can be found in the respective component drawings.

### Maximum operating pressure

Shell = up to 20 bar

Tubes = up to 16 bar

### Operating temperature

5 - 95 °C

### Maximum flow rates (l/min)

Typ	Oil Shell	Water Tubes CuNi 90/10 (CN) / Stainless steel (SS)			Max. Power (kW)
		1-Way (O)	2-Ways (T)	4-Ways (F)	
CKM-700	225	200	100	-	40
CKM-1000	330	450	225	110	100
CKM-1200	650	850	420	210	200
CKM-1700	1200	1550	750	375	500
CKM-2400	1500	1800	1000	6000	1000
CKM-3000	2100	4500	2000	1400	1500
CKM-4000	2400	5500	3000	2000	2000

*The technical data of this sheet is depending on the described operational conditions and individual cases. At different operational conditions and differing individual cases contact Universal Hydraulik. Technical modifications reserved. Please also pay attention to our operation manuals and maintenance documentations. In case of an order, binding dimensions can be found in the associated component drawing.*



**Ordering code**

**SS - CKMR - 1036 - S - 2 - 6 - F - CN - W - SW (S:G112 - T:G114)**

Complete cooler stainless steel

Series abbreviation CKM-Series

R = removable cartridge

Unit size

**Baffel-window size**  
(From Size 2400)  
S = small window inside the baffel  
L = tall window inside the baffel

Guide segment distance

**Tube diameter**  
12 mm = 7  
10 mm = 6  
6,4 mm = 4

**Connection shell side**  
See following page

**Connection shell side**  
See following page

**End caps material**  
Without data = Cast iron or steel  
SW = Cast iron (nickel coating treatment)  
SWBZ = Sea water resistant gun metal end caps + zinc anode  
SS = Stainless steel

**Tube sheet material**  
Without data = Steel  
W= Brass  
SS = Stainless steel

**Tube material**  
CN = Copper-nickel  
CU = Copper  
SS = Stainless steel  
TI = Titan

**Cooling water connection system**  
O = 1-Way  
T = 2-Ways  
F = 4-Ways

## Connection designation

### CKM-1036-2-6-F-CN (S:G112 - T:G114)

Type code acc. UH-data sheet  
 (see previous page)

Connection type and  
 connection size,  
 shell side

Connection type and  
 connection size, tube  
 side

## Connection table

G BSPP-thread:	N NPT- thread:	# SAE-Port mit UNF:	S SAE-flange:
G1/8" = G18	1/8" NPT = N18	7/16-20 UNF = #4	3/4"-3000psi = S34
G1/4" = G14	1/4" NPT = N14	1/2-20 UNF = #5	1"-3000psi = S1
G3/8" = G38	3/8" NPT = N38	9/16-18 UNF = #6	1 1/4"-3000psi = S114
G1/2" = G12	1/2" NPT = N12	3/4-16 UNF = #8	1 1/2"-3000psi = S112
G3/4" = G34	3/4" NPT = N34	7/8-14 UNF = #10	2"-3000psi = S2
G1" = G1	1" NPT = N1	1 1/16-12 UNF = #12	2 1/2"-3000psi = S212
G1 1/4" = G114	1 1/4" NPT = N114	1 3/16-12 UNF = #14	3"-3000psi = S3
G1 1/2" = G112	1 1/2" NPT = N112	1 5/16-12 UNF = #16	4"-3000psi = S4
G2" = G2	2" NPT = N2	1 5/8-12 UNF = #20	5"-3000psi = S5
		1 7/8-12 UNF = #24	
		2 1/2-12 UNF = #32	
D DIN- flange:	D DIN- flange:	A ANSI- flange:	A ANSI- flange:
DN20/PN16 = D20/16	DN20/PN40 = D20/40	1/2" -150lbs = A12/15	1/2" -300lbs = A12/3
DN25/PN16 = D25/16	DN25/PN40 = D25/40	3/4" -150lbs = A34/15	3/4" -300lbs = A34/3
DN32/PN16 = D32/16	DN32/PN40 = D32/40	1" -150lbs = A1/15	1" -300lbs = A1/3
DN40/PN16 = D40/16	DN40/PN40 = D40/40	1 1/4" -150lbs = A114/15	1 1/4" -300lbs = A114/3
DN50/PN16 = D50/16	DN50/PN40 = D50/40	1 1/2" -150lbs = A112/15	1 1/2" -300lbs = A112/3
DN65/PN16 = D65/16	DN65/PN40 = D65/40	2" -150lbs = A2/15	2" -300lbs = A2/3
DN80/PN16 = D80/16	DN80/PN40 = D80/40	2 1/2" -150lbs = A212/15	2 1/2" -300lbs = A212/3
DN100/PN16 = D100/16	DN100/PN40 = D100/40	3" -150lbs = A3/15	3" -300lbs = A3/3
DN125/PN16 = D125/16	DN125/PN40 = D125/40	4" -150lbs = A4/15	4" -300lbs = A4/3
DN150/PN16 = D150/16	DN150/PN40 = D150/40	5" -150lbs = A5/15	5" -300lbs = A5/3
DN200/PN16 = D200/16	DN200/PN40 = D200/40		

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