



Alfa Laval in brief

Alfa Laval is a leading global provider of specialized products and engineered solutions.

Our equipment, systems and services are dedicated to helping customers to optimize the performance of their processes. Time and time again.

We help our customers to heat, cool, separate and transport products such as oil, water, chemicals, beverages, foodstuffs, starch and pharmaceuticals.

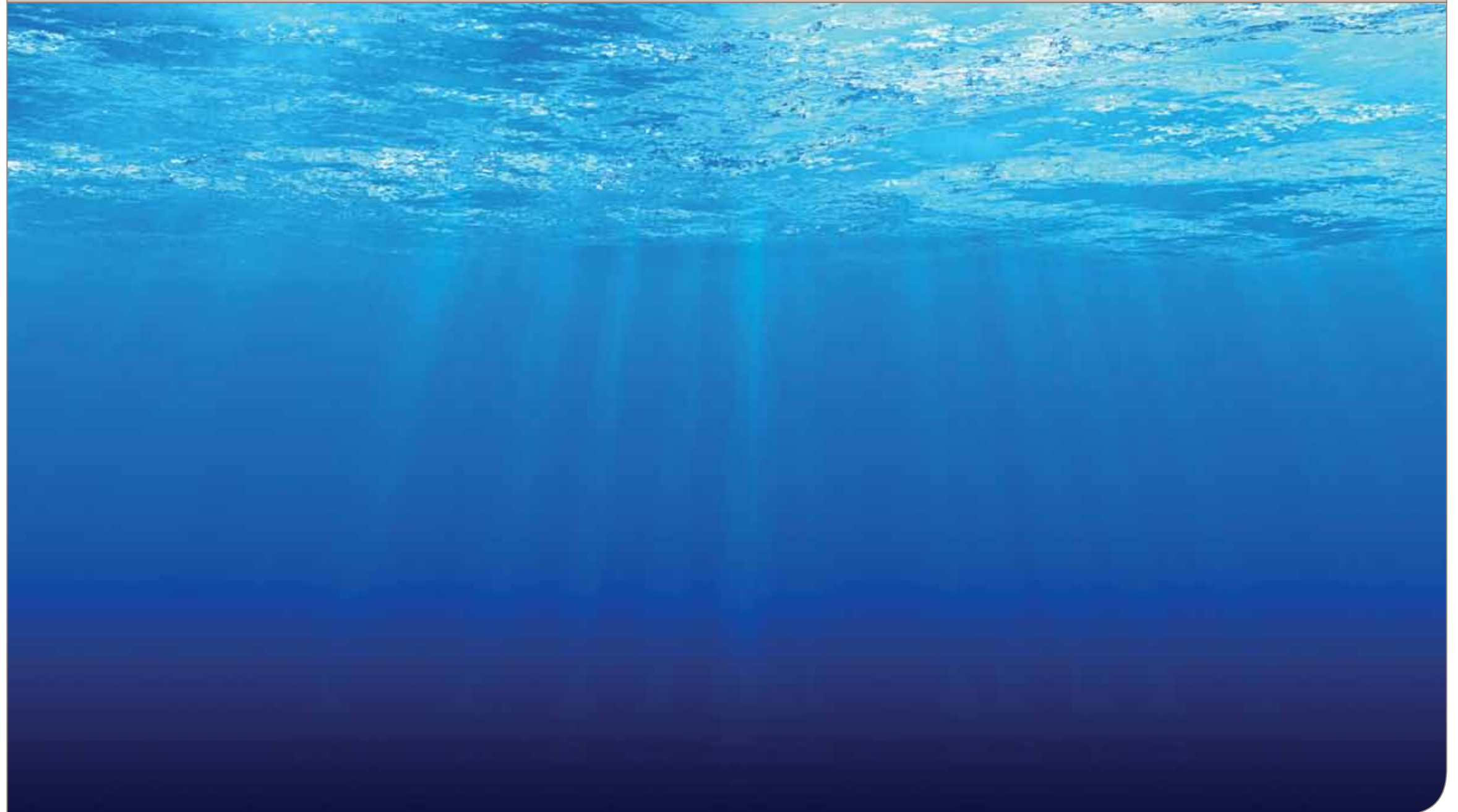
Our worldwide organization works closely with customers in almost 100 countries to help them stay ahead.

How to contact Alfa Laval

Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

Well-equipped for any challenge

Shell-and-tube water cooled condensers for fresh and seawater applications



One range for all waters

Whether it is in the search of precision fine-tuning or braving high seas, Alfa Laval's condenser range provides optimal individual solutions for all applications where fresh or seawater is used as coolant.



A strong set of benefits

Alfa Laval has a long-term track record in supplying optimal heat transfer solutions to industries around the world. Optimized for HFC condensation, our unique range of shell-and-tube condensers ensures reliable performance for all waters.

Ensuring premium efficiency

The special design of the Alfa Laval condensers feature finned tubes and tube geometry – ensuring a lower condensing temperature which results in high efficiency of the cooling system.

Easy to install

All condenser models are simple to install and can be easily opened for inspection, cleaning and maintenance purposes. The cleaning procedures of the tubes depend on the type of copper tube used.

Flexibility of different choices

The condenser serie is available ready-made but is by no means rigid – models can be customized to suit every need.

A vast number of different refrigerants can be used where fresh, dirty or seawater is available. The option of 2, 4 or even 8 passes gives flexibility for various types of water depending on fouling and velocity factors.

Alfa Laval quality and reliability

Each unit undergoes an individual pressure and leak test. These tests are specified by the relevant authority and in accordance with Alfa Laval quality systems which are certified with ISO9001 from TÜV-Italia*. A further warranty of the shell and tube condenser's high quality level.

*International service corporation focusing on consulting, testing, certification and training





Five shell-and-tube condensers to match all water coolants

The Alfa Laval shell-and-tube condenser family consists of five series in different configurations for various requirements. Whether your focus is on capacity, efficiency or the flexibility to use different types of refrigerant we have the solution.

Condensers for fresh water applications

CDEW, CDEW-E and CXP series are optimized for HFC condensation to provide the best efficiency in applications when fresh water is used as cooling medium. The cooling water source can be a cooling tower, dry cooler, a well, river, lake or an industrial process. Standard models fulfill condensation capacities ranging from 15 to 1680 kW.

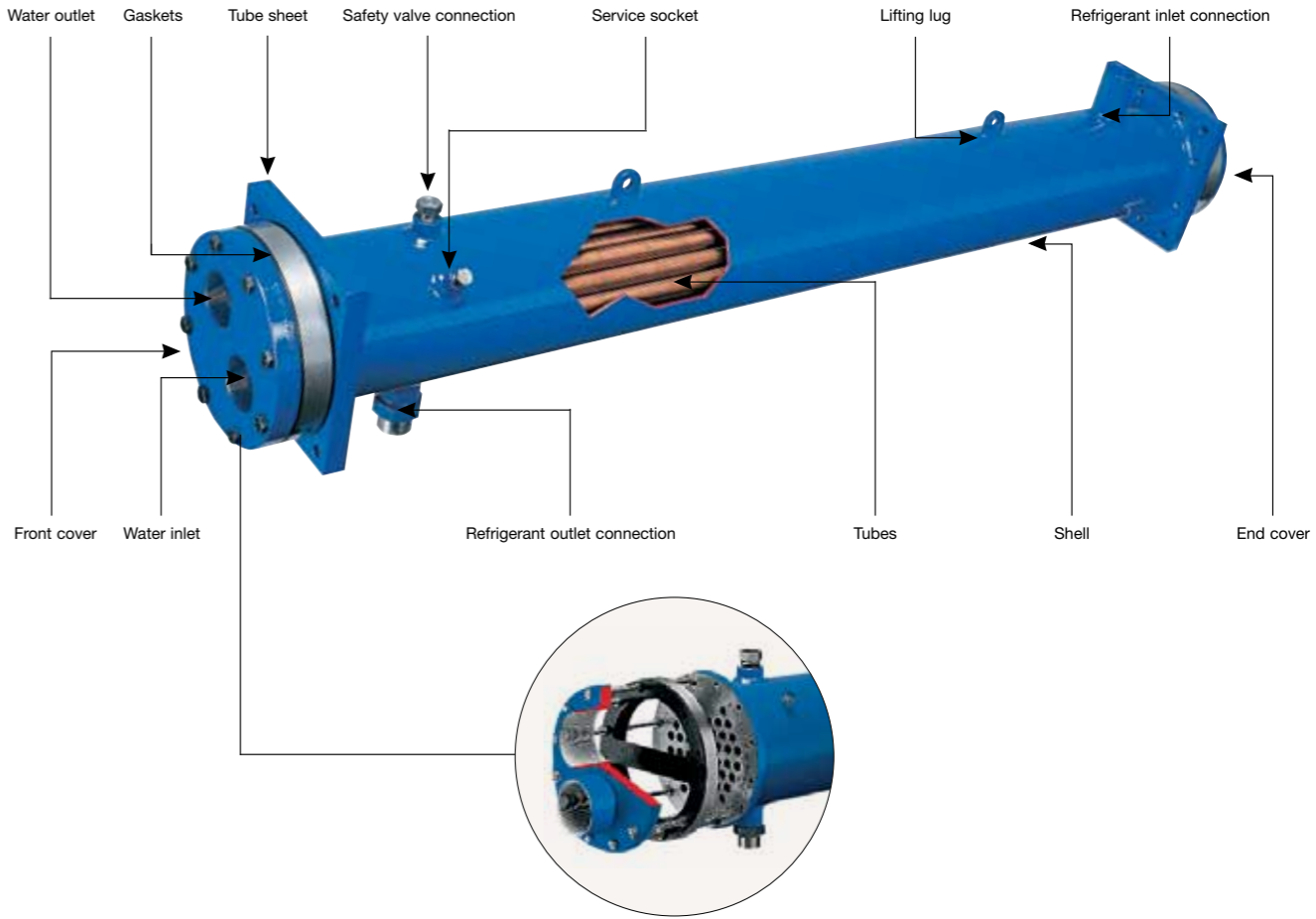
Condensers for seawater applications

McDEW and CXPM – of shell-and-tube condensers are optimized for HFC condensation in order to provide the best reliability and efficiency whenever seawater is used as the cooling medium. Both series are dedicated to seawater and provide optimal condensation and reliable operation for on-board marine applications and for all other

mainland installations where it is possible to use the sea as a natural source of cooling water. Standard models fulfill condensation capacities ranging from 15 to 1500 kW.

In accordance with all major pressure vessel codes

All condensers are available in accordance with the major pressure vessel codes as CE (Europe), GOST (Russia), SQL (China) and ASME (USA).



Product overview

- Shell: carbon steel
- Tube sheets: carbon steel for fresh water, AISI316 stainless steel for seawater
- Tubes: integrally finned thick copper tubing for fresh water and integrally finned copper-nickel tubing for seawater
- Covers: carbon steel for fresh water, AISI316 stainless steel for seawater
- Gaskets: thermo-polymer compound
- Baffles: Teflon



Condensers for fresh water applications

The Alfa Laval condenser series for fresh water applications features models for various requirements and are optimized for HFC condensation to provide the best efficiency. Three series in a number of configurations enable a solution for every need.

CDEW series – optimized for R407c refrigerant

When high performance is a must the CDEW series is optimized for HFC-R407C. This refrigerant is particularly affected by glide. This phenomenon can be relevant during the condensing phase, as it causes losses in performance if standard condensers are used which are designed to operate with azeotropic refrigerant.

The special design and sizing of the CDEW condenser ensures the highest performance when using R407c refrigerant.

The CDEW series can be manufactured in stainless steel by request. The special gasket configuration resists high pressure and gives the best resistance to aging in the working temperature range. CDEW condensers are equipped with square tube sheets ensuring a simple solution for the unit positioning.

CDEW-E series – for the use of R134a refrigerant

When it comes to high efficiency, the CDEW-E series contributes to energy savings and is optimized for the use of R134a refrigerant.

R134a refrigerant is getting used more frequently in cooling systems, as it saves energy and assures important advantages in comparison with conventional systems.

CXP series – for applications using R404 refrigerants

For lower capacity requirements, the CXP series is ideal as it is specially designed to use smaller tubing for up to 150 kW. This series is suitable for (among others) R404 refrigerants.



Model CXP		111-XS-2P	112-XS-2P	113-XS-2P	142-XS-2P	143-XS-2P	144-XS-2P	142-S-2P	143-S-2P	144-S-2P	161-S-2P	162-S-2P	163-S-2P	161-M-1P	162-M-1P	163-M-1P
R404A refrigerant	Qn (kW)*	19	25	32	42	52	60	67	75	85	105	115	125	166	185	205
Tc, mean =40°C	Wn(m³/h)	3,7	4,4	5,4	7	9,2	10,5	10,5	12	14,5	17	19	21,5	28,6	32	35
Ti=30°C ΔT=5K*	Wm(m³/h)	4,45	6,7	8,9	11	13,2	15,5	11,2	13,4	15,7	17,9	20,1	22,4	35,7	40	44,8
FF=0.000043 m² KW	Dpn(bar)	0,24	0,16	0,15	0,14	0,17	0,17	0,38	0,36	0,39	0,4	0,4	0,41	0,21	0,22	0,23

Model CXP		111-XS-4P	112-XS-4P	113-XS-4P	142-XS-4P	143-XS-4P	144-XS-4P	142-S-2P	143-S-2P	144-S-2P	161-S-4P	162-S-4P	163-S-4P
R404A refrigerant	Qn (kW)*	24	35	45	55	70	80	90	100	120	130	140	150
Tc, mean =35°C	Wn (m³/h)	1,5	2,15	2,7	3,3	4,3	4,9	5,6	6,3	7,5	7	7,5	8
Ti=15°C ΔT=15K*	Wm (m³/h)	2,2	3,3	4,4	5,5	6,7	7,8	11	13,4	15,7	8,9	10	11
FF=0.000043 m² KW	Dpn (bar)	0,35	0,33	0,32	0,27	0,32	0,3	0,13	0,12	0,11	0,55	0,51	0,5

Model CDEW		60	80	100	120	135	165	190	215	240	260	300	360	400	450	470	520	550	610	680	760	840
Cooling tower water (2 passes)																						
R407C refrigerant	Qn (kW)	57	75	100	118	135	165	190	215	233	260	300	360	400	450	470	520	550	610	680	760	840
Tc, mean = 42°C	Wn (m³/h)	9.5	12.7	17.5	20.6	20.2	25.5	27.7	30.7	33.6	37.0	44.0	53.3	59.2	62.9	68.4	75.8	83.4	90.8	99.9	110.5	121.7
Ti = 29.4°C	Wm (m³/h)	10.2	13.6	18.7	22.1	23	19.8	32.4	35.8	35.8	42.5	51	61.4	68.3	72.5	78.5	87	95	102	112	126	140
FF = 0.000043 m² KW	Dpn (bar)	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
City water (4 passes)																						
R407C refrigerant	Qn (kW)	55	74	99	118	133	165	185	205	230	255	300	365	415	445	467	520	581	613	680	755	850
Tc, mean = 35°C	Wn (m³/h)	3.4	4.5	6.1	7.2	7.5	9.3	10.2	11.3	12.1	14	16.8	20	22.1	23.8	25.6	28	31.5	33.8	37.1	41.6	46.2
Ti = 15°C	Wm (m³/h)	4.5	6	8.2	9.7	10.1	13.1	14.2	15.7	15.7	18.7	22.5	27	30	31.7	34.5	38	42	45	49.5	55.2	61.2
FF = 0.000043 m² KW	Dpn (bar)	0.35	0.35	0.35	0.35	0.38	0.38	0.38	0.38	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.43	0.43	0.43	0.43

Model CDEW		900	940	1040	1100	1220	1360	1520	1680
Cooling tower water (2 passes)									
R407C refrigerant	Qn (kW)*	940	990	1070	1180	1280	1400	1560	1750
Tc, mean =42°C	Wn(m³/h)	130	140	151	165	180	195	224	252
Ti=29.4°C	Wm(m³/h)	146	156	174	190	204	225	252	280
FF=0.000043m2KW	Dpn(bar)	0,41	0,4	0,4	0,4	0,4	0,4	0,4	0,45
Cooling city water (4 passes)									
R407C refrigerant	Qn (kW)*	900	945	1040	1100	1220	1360	1520	1680
Tc, mean =42°C	Wn(m³/h)	49	51	56	60	66	74	85	91
Ti=15°C	Wm(m³/h)	64,5	69	76	84,2	90	99	111	123
FF=0.000043m2KW	Dpn(bar)	0,45	0,44	0,44	0,42	0,44	0,45	0,5	0,5

Model CDEW-E		155	170	185	215	260	315	350	370	395	440	480	520	570	640	705
Cooling tower water (2 passes)																
R134a refrigerant	Qn (kW)	155	168	183	216	260	313	348	368	394	438	479	520	570	638	705
Tc = 37.5°C	Wn (m³/h)	24	26	28.6	34.1	41	49	54.5	58	62.6	69.5	76.2	82	90	101	112
Ti = 29.4°C	Wm (m³/h)	29.8	32.4	35.8	42.5	51	61.4	68	72.4	78	87	95	102	112	126	140
FF = 0.000043 m² KW	Dpn (bar)	0.40	0.39	0.35	0.40	0.41	0.39	0.39	0.39	0.40	0.40	0.39	0.39	0.39	0.40	0.40
City tower water (4 passes)																
R134a refrigerant	Qn (kW)	175	190	210	250	300	360	400	428	460	512	560	600	660	740	825
Tc = 35°C	Wn (m³/h)	8.9	9.7	10.8	12.8	15.3	18.4	20.5	21.8	23.5	26.1	28.6	30.8	33.7	37.8	41.8
Ti = 15°C	Wm (m³/h)	13.1	14.2	15.7	18.7	22.5	27	30	31.9	34.5	38	42	45	49.5	55.5	61.5
FF = 0.000043 m² KW	Dpn (bar)	0.47	0.46	0.41	0.44	0.43	0.44	0.44	0.43	0.44	0.46	0.43	0.45	0.45	0.45	0.44

Qn Nominal condensation capacity Wm Maximum water flow rate Ti Water inlet temperature
 Wn Nominal water flow rate Tc Condensing temperature Ff Fouling factor

* the datas are indicative. To select precise datas, please use our dedicated software.



Condensers for seawater applications

Two series of shell-and-tube condensers have been optimized for HFC condensation in order to provide the best reliability and efficiency when seawater is used as the cooling medium.

As the use of seawater can cause chemical corrosion, galvanic corrosion and erosion, both series are made of high-resistance materials. The design ensures easy inspection and cleaning of the condensers and assures that the water velocity is kept within the safety limits.

All units are provided with interchangeable anodes made of soft iron. The carbon steel components are sandblasted to

protect against rusting, including the internal wall of the shell.

The two series are optimized especially for R407 and R404 refrigerant, however they offer flexibility in use of other refrigerants as well.

McDEW series

– optimized for R407c refrigerant
McDEW models have enhanced, internally finned Cu/Ni 90/10 tubes, but

alternative versions with Cu/Ni 70/30 tubes are also available on request.

CXPM series

– optimized for R404 refrigerants
CXPM models have enhanced, internally finned Cu/Ni 90/10 tubes.



Model CXPM		111-XS-2P	112-XS-2P	113-XS-2P	142-XS-2P	143-XS-2P	144-XS-2P	142-S-2P	143-S-2P	144-S-2P	161-S-2P	162-S-2P	163-S-2P	161-M-1P	162-M-1P	163-M-1P
R404A refrigerant	Qn (kW)*	14	24	34	40	45	55	58	65	75	90	100	110	135	150	175
Tc, mean = 40°C	Wn (m³/h)	2,5	4,8	7	7,5	8,2	10,5	8,8	10	11,5	14	15,4	16,5	23,4	26	30,3
Ti = 30°C ΔT = 5K*	Wm (m³/h)	3,5	5,4	7,2	9	10,8	12,5	9	10,8	12,4	14,2	16	17,9	28,5	32	36
FF = 0.000043 m²/KW	Dpn (bar)	0,11	0,19	0,25	0,16	0,14	0,17	0,28	0,25	0,25	0,27	0,27	0,25	0,14	0,15	0,18

Model	CXPM	111-XS-4P	112-XS-4P	113-XS-4P	142-XS-4P	143-XS-4P	144-XS-4P	142-S-2P	143-S-2P	144-S-2P	161-S-4P	162-S-4P	163-S-4P
R404A refrigerant	Qn (kW)*	18	28	37	49	60	72	85	93	110	122	135	150
Tc, mean = 35°C	Wn (m³/h)	1,1	1,7	2,2	3	3,7	4,4	5,5	6	7	6,9	7,7	8,6
Ti = 15°C ΔT = 15K*	Wm (m³/h)	1,8	2,7	3,6	4,5	5,4	6,3	9	10,7	12,5	7,2	8	9
FF = 0.000043 m²/KW	Dpn (bar)	0,2	0,21	0,22	0,22	0,29	0,24	0,12	0,1	0,1	0,55	0,55	0,55

Model McDEW		15	25	34	48	50	67	90	105	123
Seawater	Passes	4	4	4	4	2	2	2	2	2
R407C refrigerant	Qn (kW)	15	24,5	34	48	51	67	90	106	123
Tc, mean = 43°C	Wn (m³/h)	2,4	3,6	4,8	6	7,2	9,59	13,19	15,59	16,19
Ti = 29,4°C	Wm (m³/h)	2,65	4	5,3	7,3	8	10,6	14,6	17,3	18
FF = 0.000043 m²/KW	Dpn (bar)	0,21	0,21	0,21	0,21	0,19	0,19	0,19	0,19	0,21
Seawater	Passes	8	8	8	8	4	4	4	4	4
R407C refrigerant	Qn (kW)	22,2	33,2	46,1	57,5	60	81	109	130	146
Tc, mean = 38°C	Wn (m³/h)	1,2	1,8	2,4	3	3,4	4,5	6,1	7,2	7,5
Ti = 15°C	Wm (m³/h)	1,33	2,2	2,66	3,65	4	5,4	7,32	8,64	9
FF = 0.000043 m²/KW	Dpn (bar)	0,4	0,4	0,41	0,4	0,34	0,34	0,34	0,34	0,34

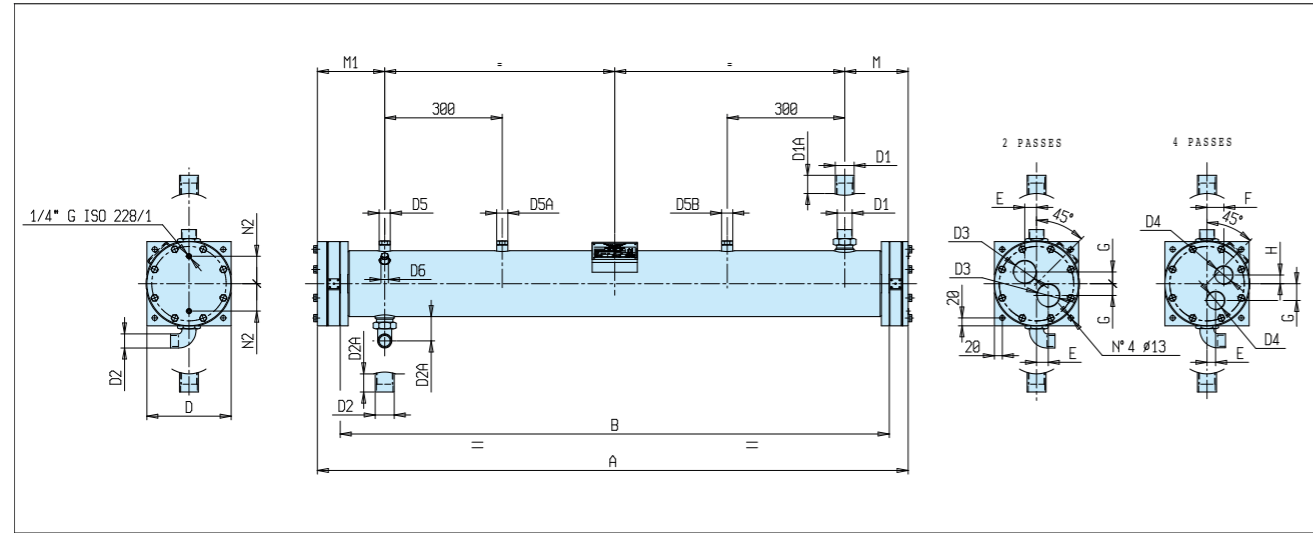
Model McDEW		153	175	200	205	238	275	330	370	410
Seawater	Passes	2	2	2	2	2	2	2	2	2
R407C refrigerant	Qn (kW)	153	175	198	206	238	276	331	367	413
Tc, mean = 43°C	Wn (m³/h)	20,99	22,78	25,18	25,18	29,98	35,98	43,17	47,97	50,96
Ti = 29,4°C	Wm (m³/h)	23,3	25,3	28	28	33,3	40	48	53,4	56,7
FF = 0.000043 m²/KW	Dpn (bar)	0,22	0,22	0,22	0,22	0,24	0,25	0,24	0,24	0,24
Seawater	Passes	4	4	4	4	4	4	4	4	4
R407C refrigerant	Qn (kW)	182	203	225	250	280	330	396	452	487
Tc, mean = 38°C	Wn (m³/h)	9,3	10,2	11,3	12,6	14	16,8	20	22,1	23,8
Ti = 15°C	Wm (m³/h)	11,6	12,6	14	14	16,7	20	24	26,5	28,5
FF = 0.000043 m²/KW	Dpn (bar)	0,34	0,34	0,4	0,4	0,4	0,4	0,4	0,4	0,4

Model McDEW		430	480	505	555	620	700	770
Seawater	Passes	2	2	2	2	2	2	2
R407C refrigerant	Qn (kW)	431	477	505	555	619	696	772
Tc, mean = 43°C	Wn (m³/h)	55,16	61,16	67,15	71,95	79,15	88,74	98,33
Ti = 29,4°C	Wm (m³/h)	61,3	68	74,5	80	88	98,5	109
FF = 0.000043 m²/KW	Dpn (bar)	0,24	0,24	0,24	0,24	0,24	0,24	0,24
Seawater	Passes	4	4	4	4	4	4	4
R407C refrigerant	Qn (kW)	510	566	635	670	740	828	924
Tc, mean = 38°C	Wn (m³/h)	25,6	28	31,5	33,8	37,1	41,6	46,2
Ti = 15°C	Wm (m³/h)	30,7	33,9	37,4	40	44	49,4	54,7
FF = 0.000043 m²/KW	Dpn (bar)	0,4	0,4	0,41	0,41	0,41	0,41	0,41

Qn Nominal condensation capacity
Wn Nominal water flow rate
Wm Maximum water flow rate
Tc Condensing temperature
Ti Water inlet temperature
FF Fouling factor

* the datas are indicative. To select precise datas, please use our dedicated software.

CDEW

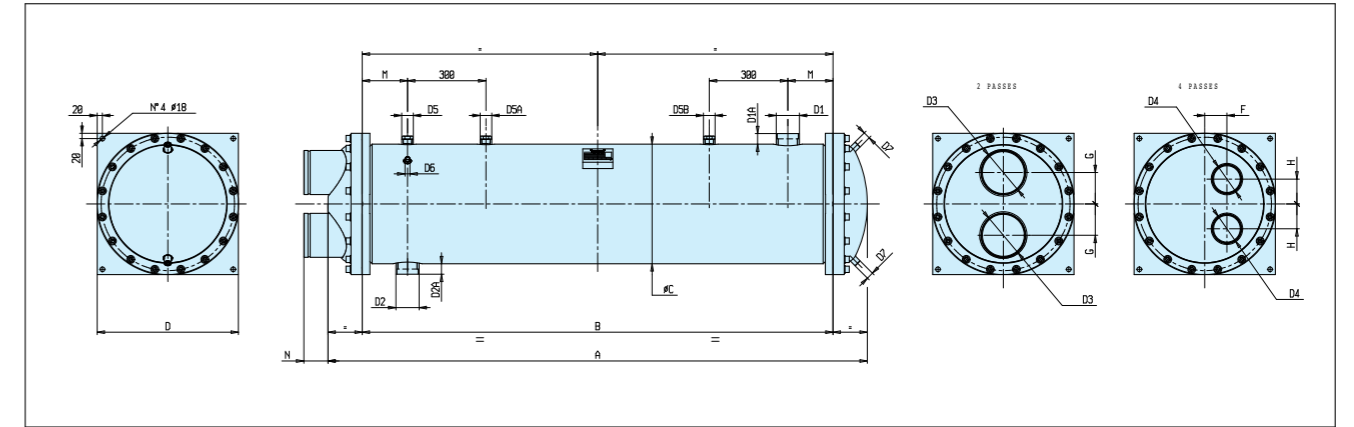


Model CDEW	60	80	100	120	135	165	190	215	240	260	300	360	400	450	470	520	550	610	680	760	840	
A	mm	1500		1600	1740	1940	1970		1980	1980		1980		1980		1980		1980		1980		
B	mm	1400		1700	1600	1800	1800		1800	1800		1800		1800		1800		1800		1800		
C	mm	168		194	273		324		406	324		406		406		406		406		406		
D	mm	215		245	325		380		480	380		480		480		480		480		480		
E 2 passes	mm	30		35	55		65		0	65		0		0		0		0		0		
E 4 passes	mm	22		25	45		55		70	55		70		70		70		70		70		
F	mm	43		55	75		90		70	75		90		90		90		90		90		
G 2 passes	mm	30		35	55		65		105	65		105		105		105		105		105		
G 4 passes	mm	43		55	75		90		80	90		80		80		80		80		80		
H	mm	22		25	45		55		80	55		80		80		80		80		80		
M	mm	170		200	225		250		260	250		260		260		260		260		260		
M1	mm	180		210	235		260		270	260		270		270		270		270		270		
D1	mm	RC35		WA42	WA54		WA67		WA80	WA54		WA67		WA67		WA67		WA67		WA67		
D1A	mm	60		50	50		50		50	50		50		50		50		50		50		
D2	mm	RCL28		RCL35	WA42		WA54		WA54	WA42		WA54		WA54		WA54		WA54		WA54		
D2A	mm	65		65	50		50		50	50		50		50		50		50		50		
D3	in-G	T2		T21	T3		T4		T5	T3		T4		T4		T4		T4		T4		
D4	in-G	T11		T11	T2		T3		T4	T2		T3		T3		T3		T3		T3		
D5	in-NPT	1/2		3/4	1		1		1	1		1		1		1		1		1		
D5A	in-NPT	no		no	no		1		1	no		1		1		1		1		1		
D5B	in-NPT	no		no	no		no		1	no		1		1		1		1		1		
D6	in-NPT	1/4		1/4	1/4		1/4		1/4	1/4		1/4		1/4		1/4		1/4		1/4		
N2	mm	70		85	120		148		195	120		148		148		148		148		148		
Vr	dm3	22,3	20,8	19,4	18,1	20,1	24,9	23,7	21,9	24,9	70,6	66,1	57,0	53,1	50,6	90,5	86,1	81,7	152,1	146,0	137,8	129,6
Lres	dm4	3,8	3,8	3,4	3,1	0,9	7,1	6,7	2,8	3,1	10,0	10,0	8,4	8,4	3,4	5,2	5,2	4,7	14,8	14,8	14,8	14,8
VH2O	dm5	4,8	5,9	7,3	8,2	10,1	13,3	14,2	15,4	17,1	24,7	27,7	31,2	33,9	35,7	41,0	44,1	47,5	52,4	57,7	64,7	71,7
P	Kg	58	61	65	68	85	105	108	111	121	195	203	215	222	227	293	304	313	441	452	467	482

D1 Refrigerant inlet D3-D4 Water connections D5-D5A-D5B Safety valve connection VH2O Water volume
 D2 Refrigerant outlet N1-N2 For air vent/for drain of water Vr Refrigerant volume P net Weight

Attention: tolerance has to be considered on the dimensional data.

CDEW

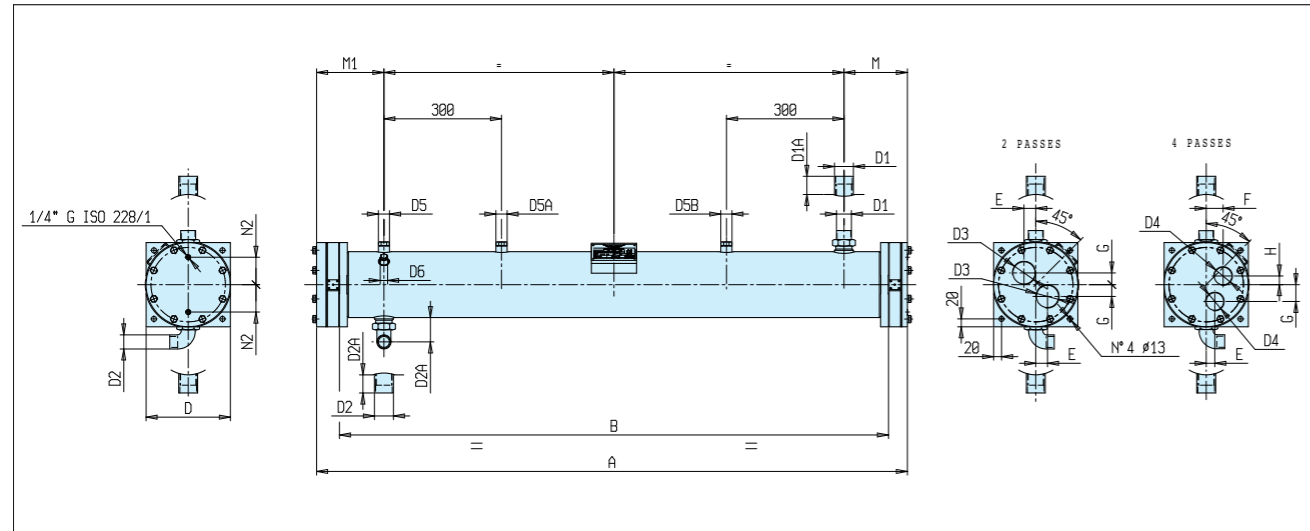


Model CDEW	900	940	1040	1100	1220	1360	1520	1680	
A	mm	2075		2105	2115		2115		
B	mm	1800		1800	1800		1800		
C	mm	457,2		508	558,8		558,8		
D	mm	540		590	640		640		
F	mm	80		90	100		100		
G	mm	120		150	140		140		
H	mm	95		100	110		110		
M	mm	173		178	183		183		
M1	mm	173		178	183		183		
D1	mm	WA80		WA89	WA100		WA100		
D1A	mm	50		50	50		50		
D2	mm	WA54		WA80	WA89		WA89		
D2A	mm	50		50	50		50		
D3	in-G	J6		J6	J8		J8		
D4	in-G			J5	J5		J5		
D5	in-NPT	1		1	1		1		
D5A	in-NPT	1		1	1		1		
D5B	in-NPT	1		1	1		1		
D6	in-NPT	1/4		1/4	1/4		1/4		
N2	mm	450		500	559		559		
Vr	dm3	176,0	170,0	160,0	212,0	204,0	192,0	243,0	227,0
Lres	dm4	17,0	17,0	17,0	21,0	21,0	21,0	15,0	15,0
VH2O	dm5	88,0	92,0	99,0	116,0	121,0	129,0	152,0	163,0
P	Kg	597	608	627	736	750	773	913	943

D1 Refrigerant inlet D3-D4 Water connections D5-D5A-D5B Safety valve connection VH2O Water volume
 D2 Refrigerant outlet N1-N2 For air vent/for drain of water Vr Refrigerant volume P net Weight

Attention: tolerance has to be considered on the dimensional data.

CDEW-E

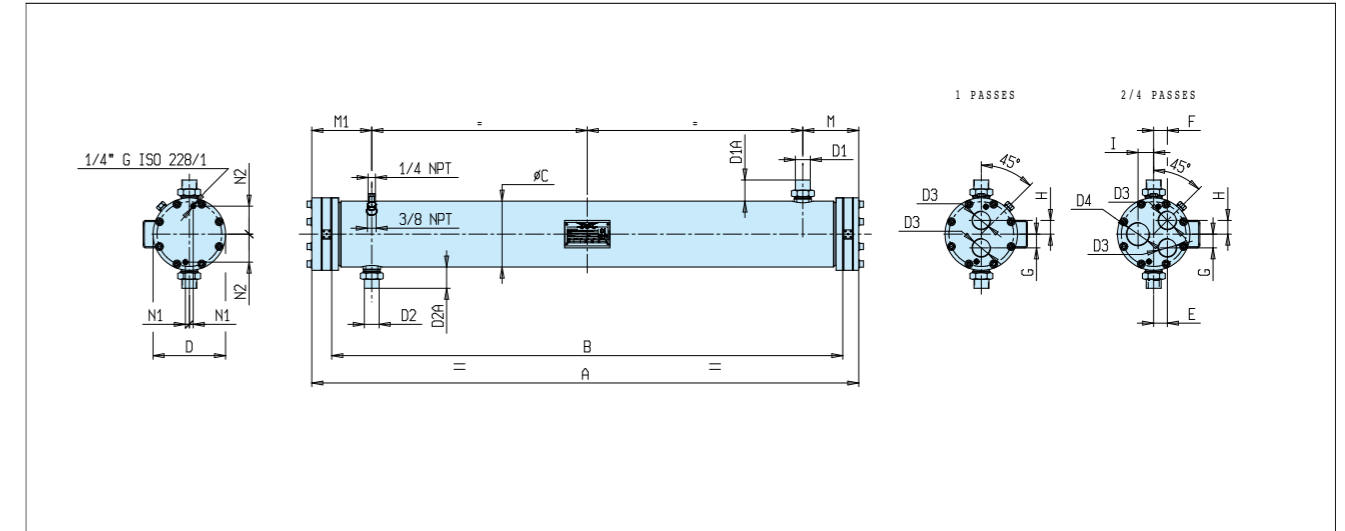


Model CDEW-E		155	170	185	215	260	315	350	370	395	440	480	520	570	640	705
A	mm		2540		2570		2570		2570		2580				2580	
B	mm		2400		2400		2400		2400		2400				2400	
C	mm		194		273		273		273		324				406	
D	mm		245		325		325		325		380				480	
E 2 passes	mm		35		55		55		55		65				0	
E 4 passes	mm		25		45		45		45		55				70	
F	mm		55		75		75		75		90				80	
G 2 passes	mm		35		55		55		55		65				105	
G 4 passes	mm		55		75		75		75		90				80	
H	mm		25		45		45		45		55				70	
M	mm		200		225		225		225		250				260	
M1	mm		210		235		235		235		260				270	
D1	mm		WA42		WA54		WA67		WA67		WA67				WA80	
D1A	mm		50		50		50		50		50				50	
D2	mm		RCL35		WA42		WA54		WA54		WA54				WA54	
D2A	mm		65		50		50		50		50				50	
D3	in-G		T21		T3		T3		T3		T4				T5	
D4	in-G		T11		T2		T2		T2		T3				T4	
D5	in-NPT		3/4		1		1		1		1				1	
D5A	in-NPT		no		no		no		no		1				1	
D5B	in-NPT		no		no		no		no		no				1	
D6	in-NPT		1/4		1/4		1/4		1/4		1/4				1/4	
N2	mm		85		120		120		120		148				195	
Vr	dm3	37,4	35,6	33,1	93,9	87,9	75,8	70,6	67,3	120,4	114,5	108,7	202,3	194,2	183,0	172,4
Lres	dm4	10,7	10,1	4,1	13,3	13,3	11,2	11,2	4,5	6,9	6,9	6,3	19,7	19,7	19,7	19,7
VH2O	dm5	20,0	21,3	20,5	32,9	36,9	41,5	41,5	47,5	54,5	58,7	63,2	69,7	76,7	86,1	95,4
P	Kg	147	151	157	253	264	279	289	295	381	395	407	573	588	607	627

D1 Refrigerant inlet D3-D4 Water connections D5-D5A-D5B Safety valve connection VH2O Water volume
 D2 Refrigerant outlet N1-N2 For air vent/for drain of water Vr Refrigerant volume P net Weight

Attention: tolerance has to be considered on the dimensional data.

CXP



Model CXP		111-XS	112-XS	113-XS	142-XS	143-XS	144-XS	142-S	143-S	144-S	161-S	162-S	163-S	161-M-1P*	162-M-1P*	163-M-1P*
A	mm	973	973	973	981	981	981	1381	1381	1381	1396	1396	1396	1906	1906	1906
B	mm	900	900	900	900	900	900	1300	1300	1300	1300	1300	1300	1800	1800	1800
C	mm	114	114	114	141	141	141	141	141	141	168	168	168	168	168	168
D	mm	130	130	130	158	158	158	158	158	158	185	185	185	185	185	185
E	mm	25	25	25	25	25	25	25	25	25	35	35	35	0	0	0
F	mm	25	25	25	25	25	25	25	25	25	35	35	35	35	35	35
G	mm	25	25	25	30	30	30	30	30	30	35	35	35	35	35	35
H	mm	25	25	25	30	30	30	30	30	30	35	35	35	35	35	35
I	mm	20	20	20	35	35	35	35	35	35	40	40	40	40	40	40
M	mm	111	111	111	114	114	114	138	138	138	143	143	143	153	153	153
M1	mm	115	115	115	120	120	120	143	143	143	153	153	153	153	153	153
D1	mm	RA16	RA16	RA16	RB22	RB22	RB22	RC28	RC28	RC28	RC35	RC35	RC35	RC35	RC35	RC35
D1A	mm	57	57	57	57	57	57	54	54	54	54	54	54	54	54	54
D2	mm	RA16	RA16	RA16	RB22	RB22	RB22	RC28	RC28	RC28	RC28	RC28	RC28	RC28	RC28	RC28
D2A	mm	57	57	57	57	57	57	54	54	54	54	54	54	54	54	54
D3	in-G	1/2	1/2	1/2	T1	T1	T1	T1	T1	T1	T11	T11	T11	T11	T11	T11
D4	in-G	T1	T1	T1	T11	T11	T11	T11	T11	T11	T2	T2	T2	no	no	no
N1	mm	15	15	15	10	10	10	10	10	10	0	0	0	12	12	12
N2	mm	42	42	42	55	55	55	55	55	55	71,5	71,5	71,5	70	70	70
Vr	dm3	7,36	7,19	7,02	10,85	10,68	10,51	15,91	15,66	15,41	22,92	22,67	22,42	32,02	31,67	31,33
VH2O	dm5	0,92	1,37	1,83	2,29	2,75	3,20	3,31	3,97	4,63	5,29	5,95	6,61	7,32	8,24	9,15
P	Kg	21,7	23,3	24,9	36,6	38,2	39,8	47,3	49,6	51,9	64,7	67,0	69,4	82,4	85,6	88,8

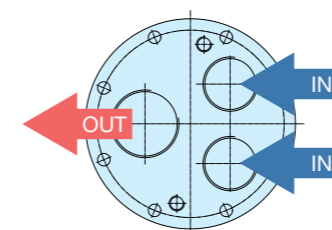
*1P: one pass version

D1 Refrigerant inlet D3-D4 Water connections D5-D5A-D5B Safety valve connection VH2O Water volume
 D2 Refrigerant outlet N1-N2 For air vent/for drain of water Vr Refrigerant volume P net Weight

2 passes or 4 passes have the same design.

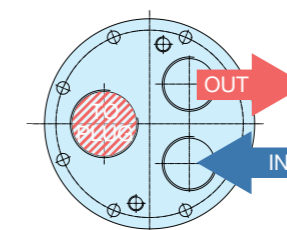
In case of 2 passes configuration, water connections have to be connected as scheme A:

Scheme A:



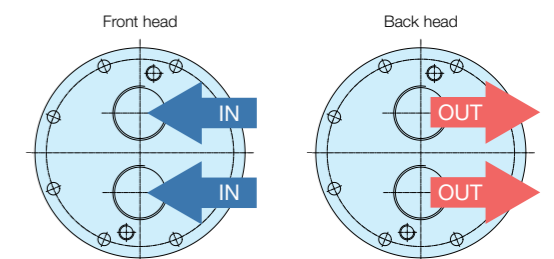
In case of 4 passes configuration, water connections have to be connected as scheme B:

Scheme B:

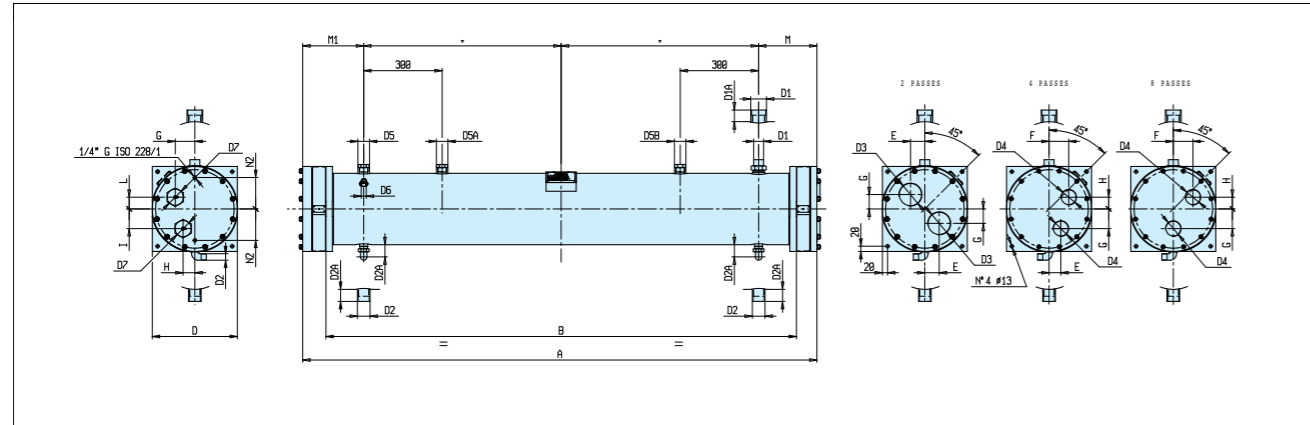


In case of single pass configuration, water connections have to be connected as scheme C:

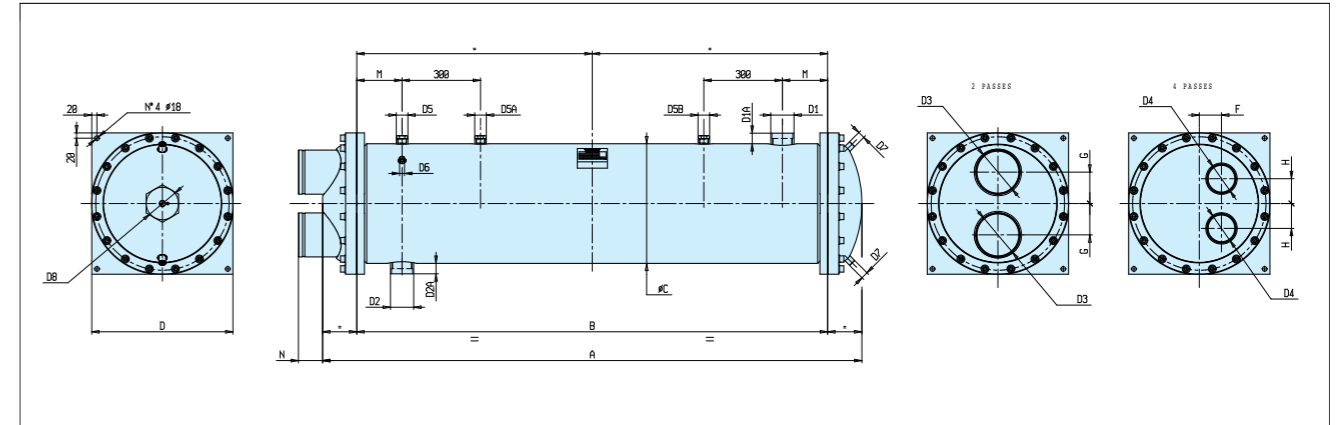
Scheme C:



McDEW



McDEW



Model McDEW	15	25	34	48	50	67	90	105	123	153	175	200	205	238	275	330	370	410	430	480	505	555	620	700	770	
A	mm	800			1500	1600	1740	1940		1970	1980	1980														
B	mm	700			1400	1700	1600	1800		1800	1800	1800														
C	mm	168			168		194			273	324	406														
D	mm	215			215		245			325	380	480														
E 2 passes	mm	no			30		35			55	65	0														
E 4 passes	mm	22			22		25			45	55	70														
E 8 passes	mm	0			no		no			no	no	no														
F 4 passes	mm	43			43		55			75	90	70														
F 8 passes	mm	45			no		no			no	no	no														
G 2 passes	mm	no			30		35			55	65	105														
G 4 passes	mm	43			43		55			75	90	80														
G 8 passes	mm	55			no		no			no	no	no														
H 4 passes	mm	22			22		25			45	55	80														
H 8 passes	mm	32			no		no			no	no	no														
M	mm	160			170		200			225	250	260														
M1	mm	170			180		210			235	260	270														
D1	mm	RC28			RC35		WA42			WA54	WA67	WA80														
D1A	mm	60			60		50			50	50	50														
D2	mm	RBL22			RCL28		RCL35			WA42	WA54	WA54														
D2A	mm	65			65		65			50	50	50														
D3	in-G	-			T2		T21			T3	T4	T5														
D4 4 passes	in-G	T11			T11		T11			T2	T3	T4														
D4 8 passes	in-G	T1			-		-			-	-	-														
D5	in-NPT	3/8			1/2		3/4			1	1	1														
D5A	in-NPT	no			no		no			no	1	1														
D5B	in-NPT	no			no		no			no	no	1														
D6	in-NPT	1/4			1/4		1/4			1/4	1/4	1/4														
N2	mm	70			70		85			120	148	195														
Vr	dm3	11,7	11,0	10,3	8,7	22,3	20,8	19,4	18,1	20,1	24,9	23,7	21,9	24,9	70,6	66,1	57,0	53,1	50,6	90,5	86,1	81,7	152,1	146,0	137,8	129,6
Lres	dm4	1,9	1,9	1,9	1,9	3,8	3,8	3,4	3,1	0,9	7,1	6,7	2,8	3,1	10,0	10,0	8,4	8,4	3,4	5,2	5,2	4,7	14,8	14,8	14,8	14,8
VH2O	dm5	1,9	2,4	2,9	3,7	4,8	5,9	7,3	8,2	10,1	13,3	14,2	15,4	17,1	24,7	27,7	31,2	33,9	35,7	41,0	44,1	47,5	52,4	57,7	64,7	71,7
P	Kg	41	43	45	47	58	61	65	68	85	105	108	111	121	195	203	215	222	227	293	304	313	441	452	467	482

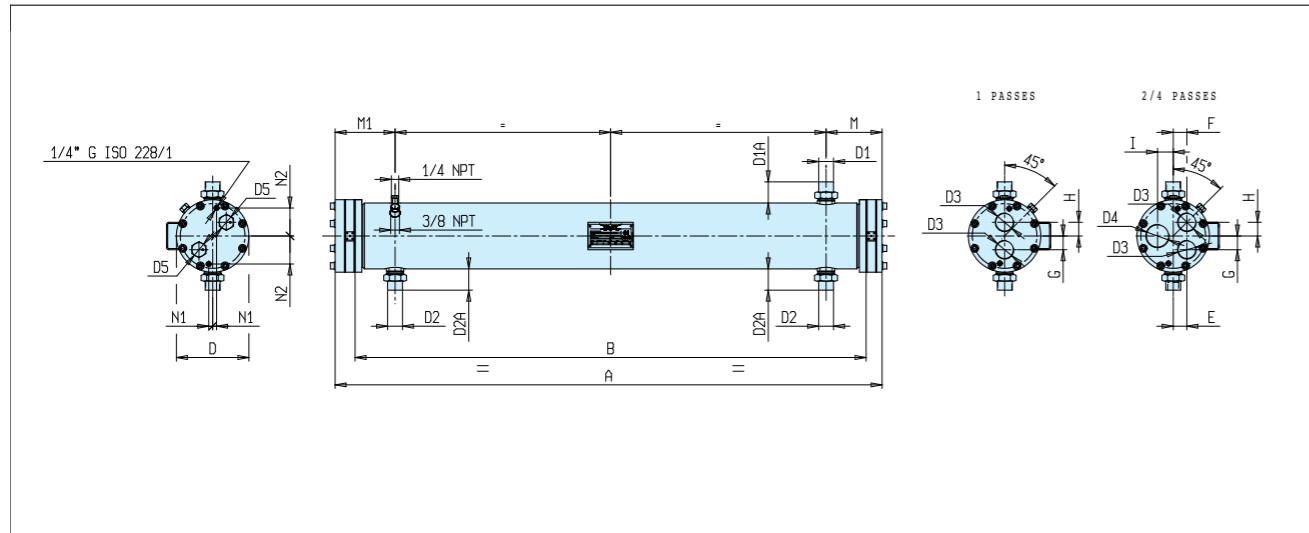
D1 Refrigerant inlet D3-D4 Water connections D5-D5A-D5B Safety valve connection VH2O Water volume
 D2 Refrigerant outlet N1-N2 For air vent/for drain of water Vr Refrigerant volume P net Weight

Attention: tolerance has to be considered on the dimensional data.

Model McDEW	900	940	1040	1100	1220	1360	1520	1680
A	mm	2075			2105		2115	
B	mm	1800			1800		1800	
C	mm	457,2			508		558,8	
D	mm	540			590		640	
F	mm	80			90		100	
G	mm	120			150		140	
H	mm	95			100		110	
M	mm	173			178		183	
M1	mm	173			178		183	
D1	mm	WA80			WA89		WA100	
D1A	mm	50			50		50	
D2	mm	WA54			WA80		WA89	
D2A	mm	50			50		50	
D3	in-G	J6			J6		J8	
D4	in-G	J4			J4		J5	
D5	in-NPT	1			1		1	
D5A	in-NPT	1			1		1	
D5B	in-NPT	1			1		1	
D6	in-NPT	1/4			1/4		1/4	
N2	mm	450			500		559	
Vr	dm3	176,0	170,0	160,0	212,0	204,0	192,0	243,0
Lres	dm4	17,0	17,0	17,0	21,0	21,0	21,0	15,0
VH2O	dm5	88,0	92,0	99,0	116,0	121,0	129,0	152,0
P	Kg	597	608	627	736	750	773	913

D1 Refrigerant inlet D3-D4 Water connections D5-D5A-D5B Safety valve connection VH2O Water volume
 D2 Refrigerant outlet N1-N2 For air vent/for drain of water Vr Refrigerant volume P net Weight

Attention: tolerance has to be considered on the dimensional data.



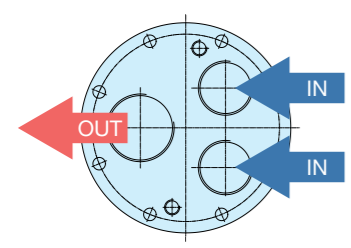
Model CXPM	111-XS	112-XS	113-XS	142-XS	143-XS	144-XS	142-S	143-S	144-S	161-S	162-S	163-S	161-M-1P*	162-M-1P*	163-M-1P*	
A	mm	973	973	973	981	981	981	1381	1381	1381	1396	1396	1396	1906	1906	1906
B	mm	900	900	900	900	900	900	1300	1300	1300	1300	1300	1800	1800	1800	1800
C	mm	114	114	114	141	141	141	141	141	141	168	168	168	168	168	168
D	mm	130	130	130	158	158	158	158	158	185	185	185	185	185	185	185
E	mm	25	25	25	25	25	25	25	25	35	35	35	0	0	0	0
F	mm	25	25	25	25	25	25	25	25	35	35	35	35	35	35	35
G	mm	25	25	25	30	30	30	30	30	35	35	35	35	35	35	35
H	mm	25	25	25	30	30	30	30	30	35	35	35	35	35	35	35
I	mm	20	20	20	35	35	35	35	35	40	40	40	40	40	40	40
M	mm	111	111	111	114	114	114	138	138	138	143	143	153	153	153	153
M1	mm	115	115	115	120	120	120	143	143	143	153	153	153	153	153	153
D1	mm	RA16	RA16	RA16	RB22	RB22	RB22	RC28	RC28	RC28	RC35	RC35	RC35	RC35	RC35	RC35
D1A	mm	57	57	57	57	57	57	54	54	54	54	54	54	54	54	54
D2	mm	RA16	RA16	RA16	RB22	RB22	RB22	RC28	RC28	RC28	RC28	RC28	RC28	RC28	RC28	RC28
D2A	mm	57	57	57	57	57	57	54	54	54	54	54	54	54	54	54
D3	in-G	1/2	1/2	1/2	T1	T1	T1	T1	T1	T1	T1	T1	T1	T1	T1	T1
D4	in-G	T1	T1	T1	T1	T1	T1	T1	T1	T2	T2	T2	no	no	no	no
N1	mm	15	15	15	10	10	10	10	10	0	0	0	12	12	12	12
N2	mm	42	42	42	55	55	55	55	55	71,5	71,5	71,5	70	70	70	70
Vr	dm3	7,36	7,19	7,02	10,85	10,68	10,51	15,91	15,66	15,41	22,92	22,67	22,42	32,02	31,67	31,33
VH2O	dm5	0,92	1,37	1,83	2,29	2,75	3,20	3,31	3,97	4,63	5,29	5,95	6,61	7,32	8,24	9,15
P	Kg	21,7	23,3	24,9	36,6	38,2	39,8	47,3	49,6	51,9	64,7	67,0	69,4	82,4	85,6	88,8

*1P: one pass version

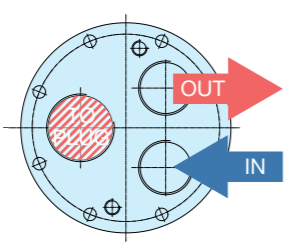
D1 Refrigerant inlet D3-D4 Water connections D5-D5A-D5B Safety valve connection VH2O Water volume
 D2 Refrigerant outlet N1-N2 For air vent/for drain of water Vr Refrigerant volume P net P net Weight

2 passes or 4 passes have the same design.

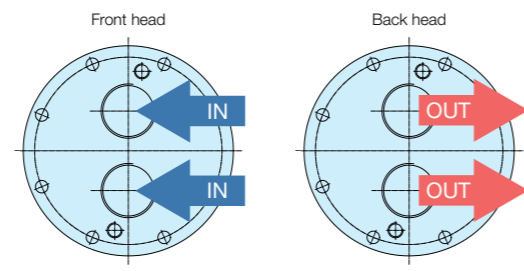
In case of 2 passes configuration, water connections have to be connected as scheme A:
 Scheme A:



In case of 4 passes configuration, water connections have to be connected as scheme B:
 Scheme B:



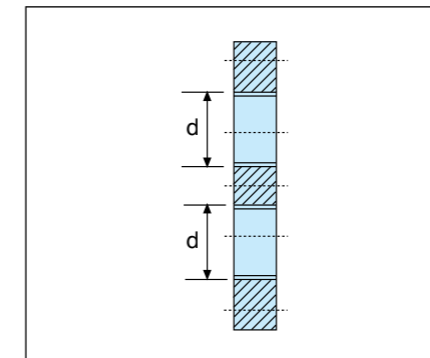
In case of single pass configuration, water connections have to be connected as scheme C:
 Scheme C:



Water connections

CDEW, CDEW-E, McDEW

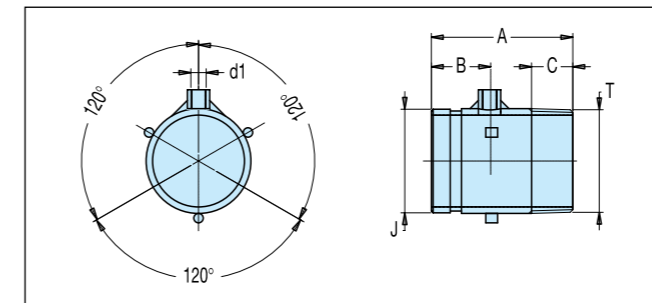
Water inlet and outlet connections on the condenser are ISO 228/1-G female threaded connections.



Model	Tower		City	
	Name	d (In)	Name	d (In)
McDEW 15-48	T11	11/2	T1	1
CDEW 60-135/McDEW 50-123	T2	2	T11	11/2
CDEW 165-240/CDEW-E 155-185/McDEW 153-205	T21	21/2	T11	11/2
CDEW-E 260-450/CDEW-E 215-370/McDEW 238-410	T3	3	T2	2
CDEW 470-550/CDEW-E 395-480/McDEW 430-505	T4	4	T3	3
CDEW 610-840/CDEW-E 520-705/McDEW 555-770	T5	5	T4	4

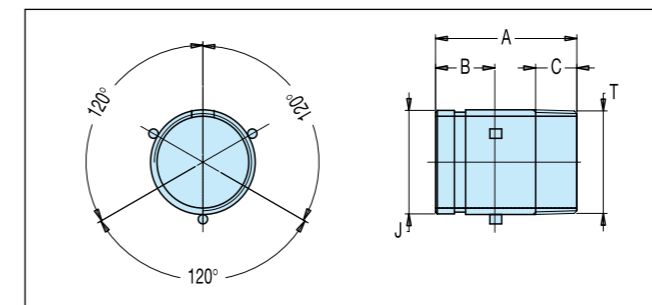
It is possible to convert the standard female threaded connections to a flexible joint solution with or without temperature sockets. Different adaptor kits can be supplied.

Water inlet with temperature socket



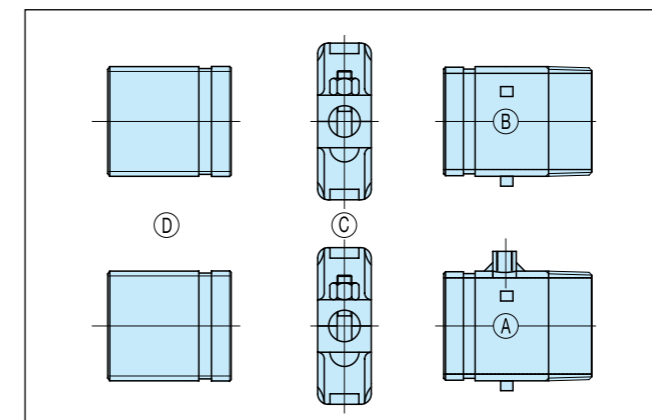
Type	Connection pipe					
	A (mm)	B (mm)	C (mm)	T (in-G)	J (in)	d1 (in-G)
T21-14 - J21	170	100	30	2-1/2	2-1/2	1/4
T3-14 - J3	120	50	35	3	3	1/4
T4-14 - J4	170	100	40	4	4	1/4
T5-14 - J5	170	100	45	5	5	1/4

Water outlet



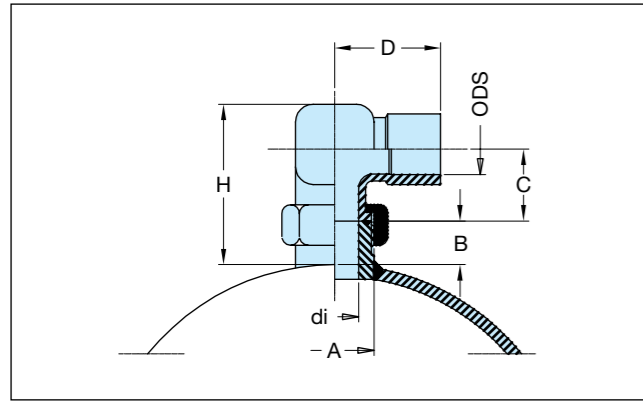
Type	Connection pipe					
	A (mm)	B (mm)	C (mm)	T (in-G)	J (in)	DN x sp (mm)
T21 - J21	100	50	30	2-1/2	2-1/2	76.1x5
T3 - J3	100	50	35	3	3	88.9x5.49
T4 - J4	100	50	40	4	4	114.3x3.2
T5 - J5	100	50	45	5	5	139.7x4

Kit

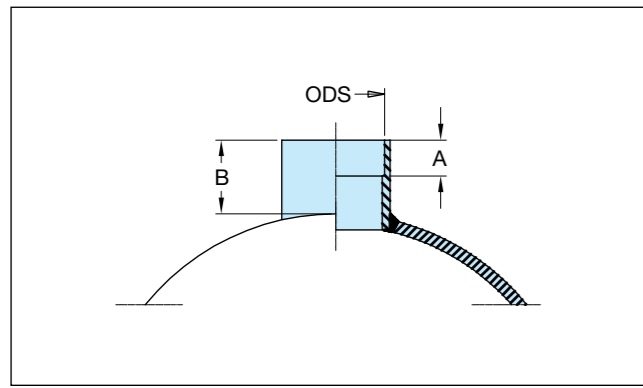


Type	Components			
	Adapter in A) Nbr	Adapter out B) Nbr	Flex. joint C) Nbr	Count. pipe D) Nbr
KIT T21 - J21	1	1	2	2
KIT T3 - J3	1	1	2	2
KIT T4 - J4	1	1	2	2
KIT T5 - J5	1	1	2	2

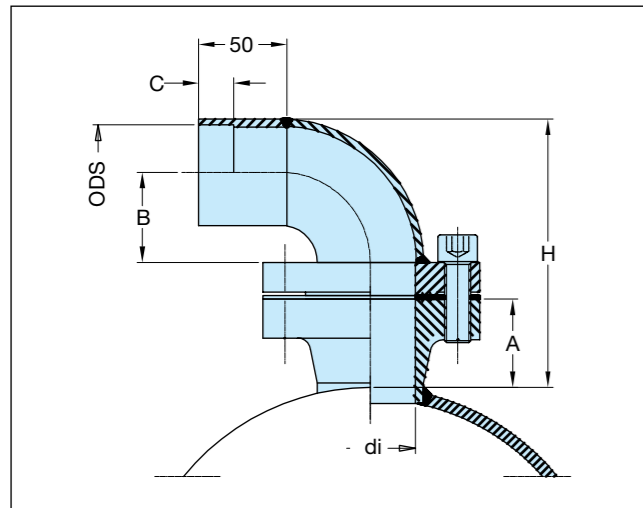
CDEW / CDEW-E / McDEW refrigerant connections



Rotalock CDEW / CDEW-E / McDEW					
Rotalock type	Name	Type B		Type C	
		RB 22	RB 28	RB35	
A	UNF	1 ^{1/4}		1 ^{3/4}	
B	mm	28	27	27	
C	mm	29		38	
D	mm	44	47	52	
di	mm	19		31	
H	mm	71		83	
ODS	mm	22	28	35	



Welding connections CDEW / CDEW-E / McDEW					
Welding type	Name	Type A	Type B	Type C	Type D
		WA 42	WA 54	WA 67	WA 80
A	mm	20	20	25	25
B	mm	50	50	50	50
ODS	mm	42	54	67	80
OD	mm	48.3	60.3	76.1	88.9

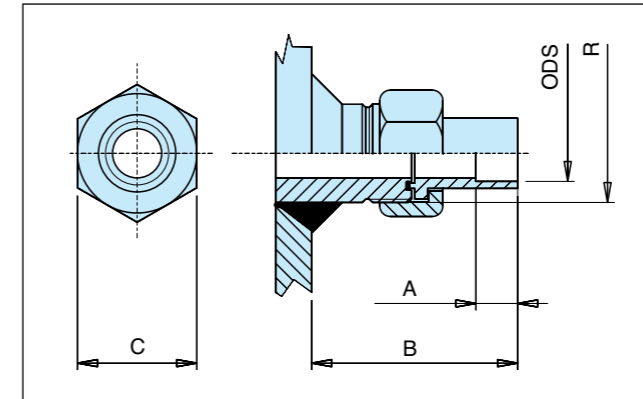


Special flange connections CDEW / CDEW-E / McDEW						
Flange type	Name	Type A	Type B	Type C		
		FA 35	FA 42	FB 54	FC 67	FC 80
A	mm	45	45	45		
B	mm	32	38	51	63	76
C	mm	20		20		25
di	mm	39		51		75
H	mm	119	128	152	172	191
ODS	mm	35	42	54	67	80
OD	mm	42.4	48.3	60.3	76.1	88.9

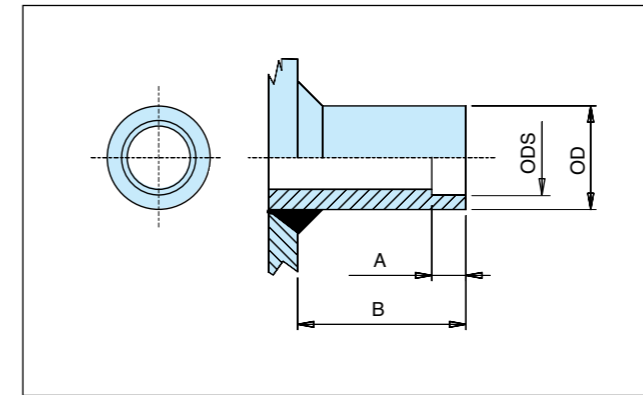
Refrigerant connections

Refrigerant inlet and outlet can be equipped with Rotalock brazing (ODS), welding (OD) or flanged (F) connections. All data concerning the different connections available are indicated in the following table.

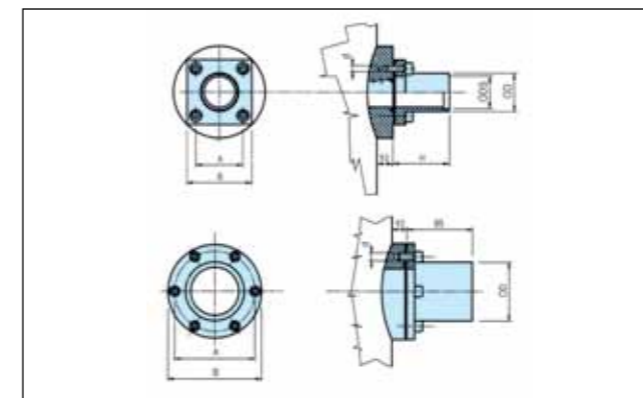
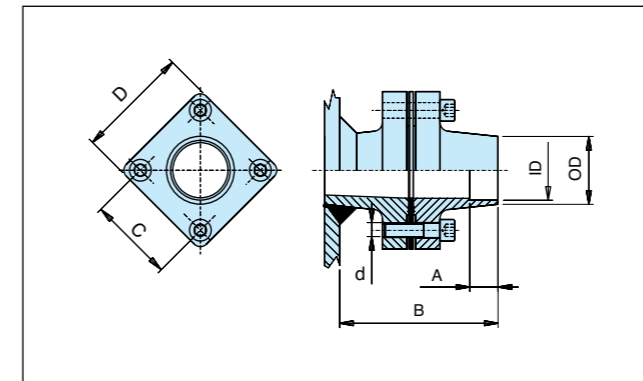
Rotalock connection (R)



Welding connection (W)



Flange connection (F)

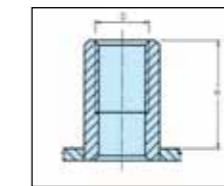


Seawater series have two refrigerant outlet connections.

Rotalock (CDEW / CDEW-E / McDEW)							
Type	A	B	C	RT	Name	ODS	ID
	[mm]	[mm]	[mm]			[mm]	[mm]
B	20	80	36	1 ^{1/4} - 12UNF	RB22	22	22,5
C	20	80	50	1 ^{1/4} - 12UNF	RC28	28	28,2
	20	80	50	1 ^{3/4} - 12UNF	RC35	35	35,3

Rotalock (CXP/CXPM)				
B	C	RT	Name	ODS
[mm]	[mm]			[mm]
63	30	1 - 14UFS	RA16	16
63	36	1 ^{1/4} - 12UNF	RB22	22
63	50	1 ^{3/4} - 12UNF	RC28	28
63	50	1 ^{3/4} - 12UNF	RC35	35

Welding (CDEW / CDEW-E / McDEW)						
Type	A	B	Name	ODS	ID	OD
	[mm]	[mm]		[mm]	[mm]	[mm]
A	20	70	WA42	42	42,4	48,3
	20	70	WA54	54	54,4	60,3
	20	70	WA80	80	80,6	88,9



NPT (CDEW, CDEW-E, McDEW, CXP, CXPM)				
D	1/4"	3/8"	1/2"	1"
d (mm)	20	24	30	40
H (mm)	22	22	25	25

Flange (CDEW / CDEW-E / McDEW)									
Type	A	B	C	D	d	Name	ODS	ID	OD
	[mm]	[mm]	[mm]	[mm]	[mm]		[mm]	[mm]	[mm]
A	20	110	55	75	M10	FA35	35	35,3	-
	20	110	55	75	M10	FA42	42	42,4	-
	20	110	55	75	M10	FA54	54	54,4	-
B	20	130	70	90	M10	FB54	54	54,4	-
	20	130	70	90	M10	FB67	67	67,4	76
C	20	130	90	110	M12	FC67	67	67,4	76
	20	130	90	110	M12	FC80	80	80,6	88,9