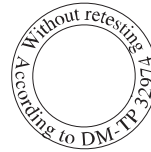




# Sea water-cooled condensers

OPTIMA FKM

*Enhanced reliability*  
*Lower refrigerant charges*  
*Easy maintenance*  
*and integration*



Capacity : 20 to 500 kW

## USE

The **OPTIMA FKM** "sea water" condensers are particularly adapted to specific requirements of marine installations on the land or on ships.

Designed to operate with all the halogenised fluids (R22, R134a, R404A, R407C).

## DESCRIPTION

All the components are made of plain material, the refrigerant circuit has no gaskets and each unit is individually tested. The units are equipped in standard with two liquid outlets.

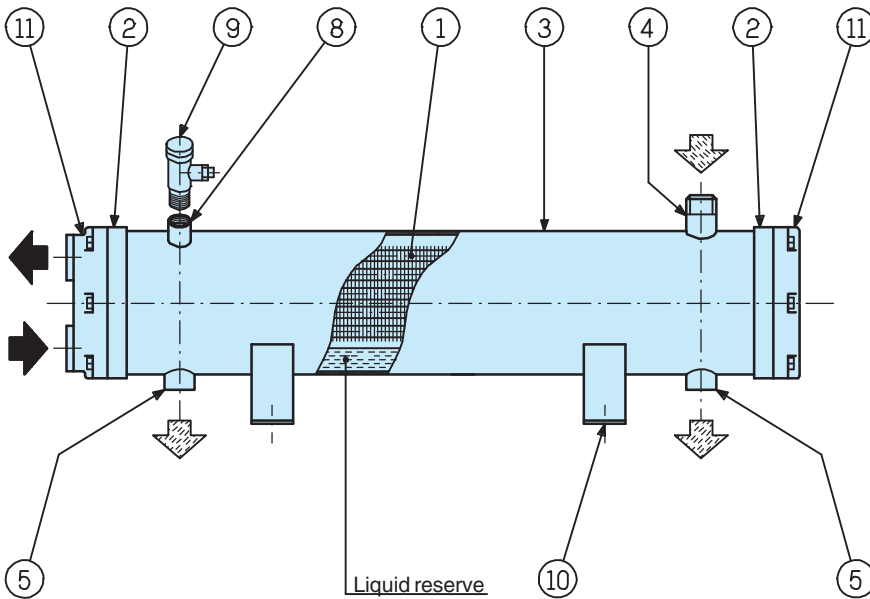
The very light water boxes make the frequent cleaning operations easier.

## QUICK SELECTION

Optima	Max. water flow m <sup>3</sup> /h	Rejected capacity kW					
		<b>R407C</b> Condensation (*) 45 °C		<b>R404A</b> Condensation 40 °C		<b>R134a</b> Condensation 40 °C	
		sea water at 22 °C	sea water at 31 °C	sea water at 22 °C	sea water at 31 °C	sea water at 22 °C	sea water at 31 °C
<b>FKM 168 10 4A</b>	4,1	42	25	45	24	49	26
<b>FKM 219 10 2A</b>	16	94	56	106	58	116	62
<b>FKM 219 10 2U</b>	27	154	92	172	93	188	100
<b>FKM 273 10 2U</b>	43	250	149	280	150	300	160
<b>FKM 273 15 2U</b>	43	358	212	385	210	420	220
<b>FKM 273 20 2U</b>	43	455	270	480	250	515	275

\*Dew point temperature at the exchanger inlet

### PHYSICAL DATA

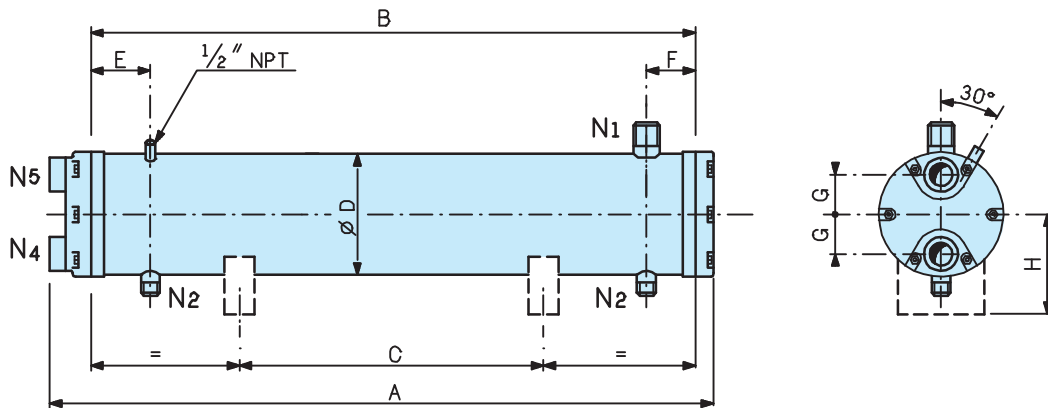


- Cupro-nickel 90.10 tube bundle (1) flanged on 2 tubular plates (2) in stainless steel Z2 NCDU2520
  - Casing (3) in carbon steel with :
    - refrigerant inlet gas (4) and liquid outlets (5) to be brazed or threaded,
    - connector (8) for fixing the optional valve (9),
    - supports (10), optional.
  - Water boxes (11) in synthetic material  
Connections for quick connectors on smooth tubes (Straub)
- The shades of materials are selected in conformity with the specifications of the control organizations (BV, LLOYDS, ...).

### WORKING LIMITS

Mechanical data		
	Outside tubes	Inside tubes
Fluids	Refrigerant	Sea water
Maximum allowable pressure PS	bar	6
Min. / Max. operating temperature	°C	-10 / +50

### DIMENSIONS



Optima	A	B	C	D	E	F	G	H	N1	N2	N4 / N5	Weight in kg	Internal capacity in dm <sup>3</sup>	External capacity in dm <sup>3</sup>	Liquid reserve in dm <sup>3</sup>
<b>FKM 168 10 4A</b>	1120	1000	400	168	100	80	60	194	1" 1/4	1" 1/4	∅ 50	50	3,2	15	6
<b>FKM 219 10 2A</b>	1140	1000	400	219	100	100	70	220	1" 3/4	1" 1/4	∅ 75	70	3,6	27,8	12,3
<b>FKM 219 10 2U</b>	1140	1000	400	219	100	100	70	220	1" 3/4	1" 1/4	∅ 75	76	5,9	23,6	8,1
<b>FKM 219 15 2A</b>	1640	1500	900	219	100	100	70	220	1" 3/4	1" 1/4	∅ 75	110	4,7	42	18,5
<b>FKM 219 15 2U</b>	1640	1500	900	219	100	100	70	220	1" 3/4	1" 1/4	∅ 75	122	7,8	36,1	12,1
<b>FKM 273 10 2U</b>	1165	1000	400	273	100	120	90	247	2" 1/8	1" 3/4	∅ 90	90	16	41,5	10,9
<b>FKM 273 15 2U</b>	1665	1500	900	273	100	120	90	247	2" 1/8	1" 3/4	∅ 90	122	23	62,5	16,3
<b>FKM 273 20 2U</b>	2165	2000	1000	273	100	120	90	247	2" 1/8	1" 3/4	∅ 90	154	30	83,5	21,7