 <b>HEAT EXCHANGERS</b>	<b>HEAT EXCHANGERS CALCULATION SHEET</b>		
Project	<b>EU.24.02.000042</b> CRM44246PL		
Calculation	<b>EU2402000112</b> Dwuprzepływowy 1400kW_14/8, 6/12	<b>3</b>	
Prepared	2024-02-19	Prepared by	Piotr Kamiński
HEX type	<b>JFE-045-P10-2-425</b>	Catalog Number	
Total no. of units	<b>1</b>	No. of units in series/parallel	<b>1 / 1</b>

## PROJECT DATA SHEET


INPUT DATA	Side 1	Side 2	UNITS
Heat load		1400,00	kW
LMTD		2,0	°C
Min oversizing		0,0	%
Fluid	Ethylene Glycol (35,0)	Water	%
Inlet temperature	6,000	14,000	°C
Outlet temperature	12,000	8,000	°C
Mass flow	65,639	55,527	kg/s
Inlet volume flow	222,81	200,09	m³/h
Outlet volume flow	223,34	199,81	m³/h
Max pressure drop	50,00	50,00	kPa
HEAT EXCHANGER	Side 1	Side 2	UNITS
Heat transfer area		179,1	m²
Fouling factor		0,00000000	m²K/kW
OHTC clean		3908,8	W/m²K
OHTC fouling		3907,4	W/m²K
Oversize		0,0	%
Calc. press. drop	49,4	34,8	kPa
Connections velocity	3,51	3,14	m/s
Internal velocity	0,46	0,41	m/s
Internal Reynolds No.	753	1671	
Heat transfer coefficient	5718,1	9045,2	W/m²K
NTU	3,0	3,0	
PHYSICAL PROPERTIES	Side 1	Side 2	UNITS
Fluid	Ethylene Glycol (35,0)	Water	%
Ref. temperature	9,0	11,0	°C
Density	1059,32	999,75	kg/m³
Heat capacity	3,555	4,202	kJ/kgK
Thermal conductivity	0,459	0,589	W/mK
Dynamic viscosity	3,3159	1,2749	cP
Prandtl No.	25,84	9,06	

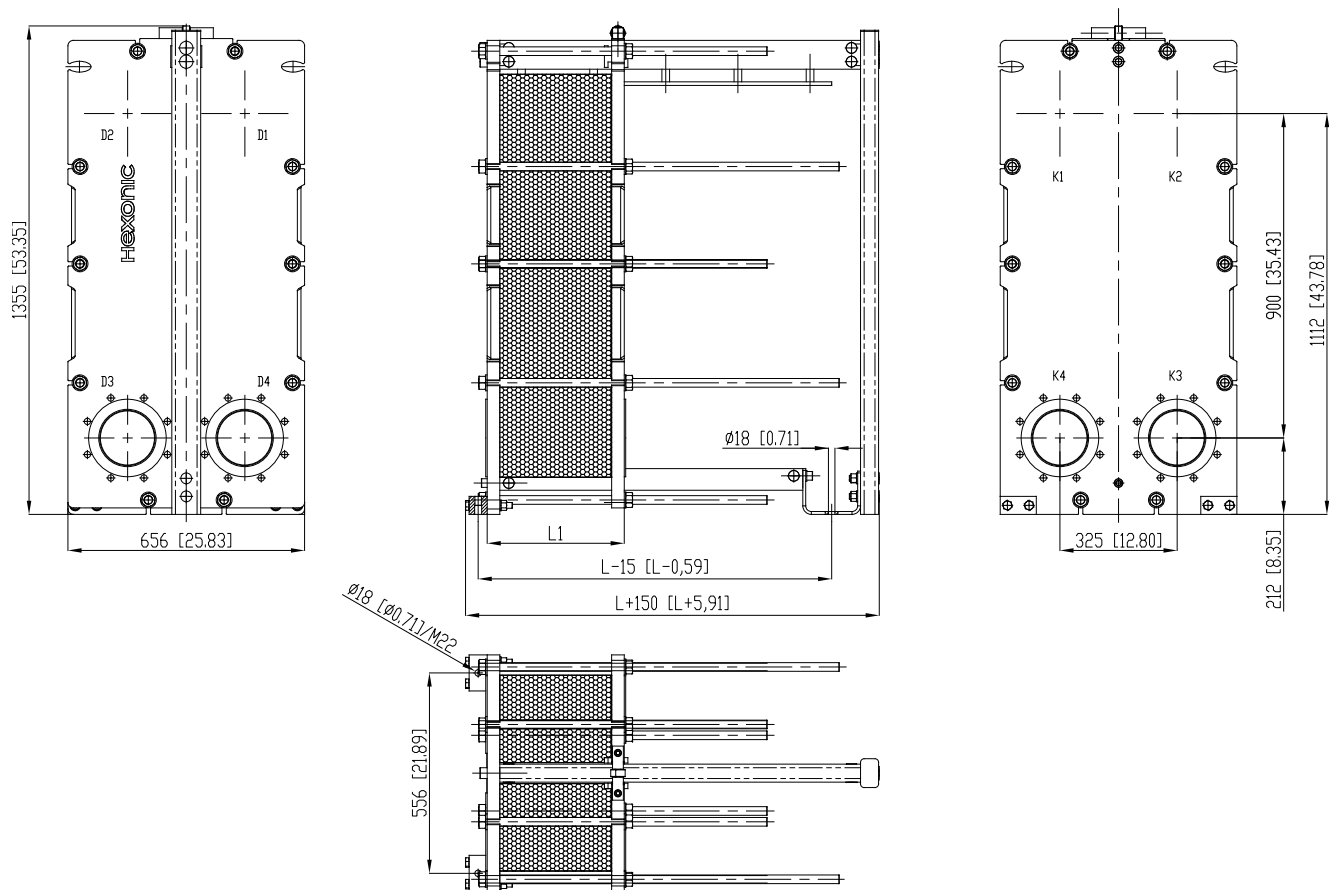
### CAIRO

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ver. 1.0.0.99, build 171123

 <b>HEAT EXCHANGERS</b>	<b>HEAT EXCHANGERS TECHNICAL DATA SHEET</b>		
Project	<b>EU.24.02.000042</b> CRM44246PL		
Calculation	<b>EU2402000112</b> Dwuprzepływowy 1400kW_14/8, 6/12	<b>3</b>	
Prepared	2024-02-19	Prepared by	Piotr Kamiński
HEX type	<b>JFE-045-P10-2-425</b>	Catalog Number	



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<b>WORKING CONDITIONS</b>		<b>DESIGN DATA</b>	
Max pressure	10 bar	Side 1 flow arrangement	106 x 1 + 106 x 1
Test pressure	15 bar	Side 2 flow arrangement	106 x 1 + 106 x 1
Max temperature	110 °C	Total number of plates	425
Min temperature	-10 °C	Max no. of plates	449
Fluid group	2	Channel mixing	404M+20H
<b>CONNECTION TYPES</b>		Fluid volume	596,1 l
4 x Liner DN150 316L		Weight	1480,6 / 2094,4 kg
<b>CONNECTIONS LOCATION</b>		Frame	STD 10 bar Carbon steel
<b>Counter-current flow</b>		Frame colour	RAL 2004
D3 - side 2 outlet		Plates	0,4 mm 10 bar 304L
D4 - side 1 inlet		Gaskets	NBR HT
K3 - side 2 inlet		Design code	EN 13445:2021
K4 - side 1 outlet		Inspection code	2014/68/EU, Category SEP
		<b>DIMENSIONS</b>	
		L	2500,0 mm
		L1	1355,0 mm
		Assembly Measurement	1275,0 mm

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