

Zákazník: ETE
Poptávka č.: Specifikace č.: 4/2063/14
Zpracoval: David Váňa Datum: 3.9.2014 Číslo poz.:

SPECIFIKACE DESKOVÉHO VÝMĚNÍKU G-MAR VT20 CDS-16

Výpočtová data pro počet výměníků zapojených paralelně a v sérii:

Thermal data for unit(s) in parallel and unit(s) in series:		1 / 1	
	teplá strana / hot side	studená strana / cold side	
Médium / Media:	ISO VG 32	Water	
Media group acc. PED 97/23/EC:	Group 2 - others	Group 2 - others	
Výkon / Heat exchanged:	90.00	kW	
Hmotnostní průtok / Mass flow:	5083	19938	kg/h
Objemový průtok / Volume flow:	6.00	20.00	m3/h
Teplota vstupní / Temperature inlet:	65.00	21.00	°C
Teplota výstupní / Temperature outlet:	32.94	24.89	°C
Tlaková ztráta / Pressure drop:	6.802	10.106	kPa
Pracovní tlak / Working pressure inlet:	10.00	10.00	barg
Objem / Filling volume:	0.02016	0.02100	m3

Vlastnosti médií / Product properties

Hustota / Density:	847.16	996.90	kg/m3
Měrná tepelná kapacita / Heat capacity:	1988.25	4177.53	J/kgK
Tepelná vodivost / Thermal conductivity:	0.13141	0.60622	W/mK
Viskozita vstupní / Dyn. viscosity inlet:	10.876	0.982	cP
Viskozita výstupní / Dyn. viscosity outlet:	36.612	0.895	cP

Údaje o zařízení / Unit Data

Typ desek / Plate Type:	VT20 PH L		
Plocha přestupu / Heat transfer area (total / per unit):	12.48	12.48	m2
Počet desek / Number of plates (total / per unit):	50	50	
Síla desky / Plate thickness:	0.60		mm
LMTD:	23.25		K
Rezervní plocha / Surface margin:	58.64		%
Materiál desek / Plate material:	AISI316		
Materiál a typ těsnění / Gasket material & Gasket type:	NBR	glueless	
Vnitřní průtok / Internal flow (passes x channels):	1 x 24	1 x 25	
Počet rámců / No. of frames (par. / ser. / total):	1	1	1
Materiál a úprava rámu / Frame material & surface:	S355J2+N	painted	RAL5002

Připojení a pozice jsou definovány v připojeném výkresu.

The connection types and positions are defined in the attached dimension sheet.

Návrhová teplota / Design temp.:	Min.: 0.00 / 0.00	Max.: 110.00 / 110.00	°C
Návrhový tlak / Design pressure:	Min.: 0.00 / 0.00	Max.: 16.00 / 16.00	barg
Test. tlak / Test pressure:	20.80 / 20.80 barg	Design code:	PED 97/23/EC AD-2000 Checkfactor 1.3

Typ/poznámky /

Type/Remarks:

Cena za ks / Celková cena:

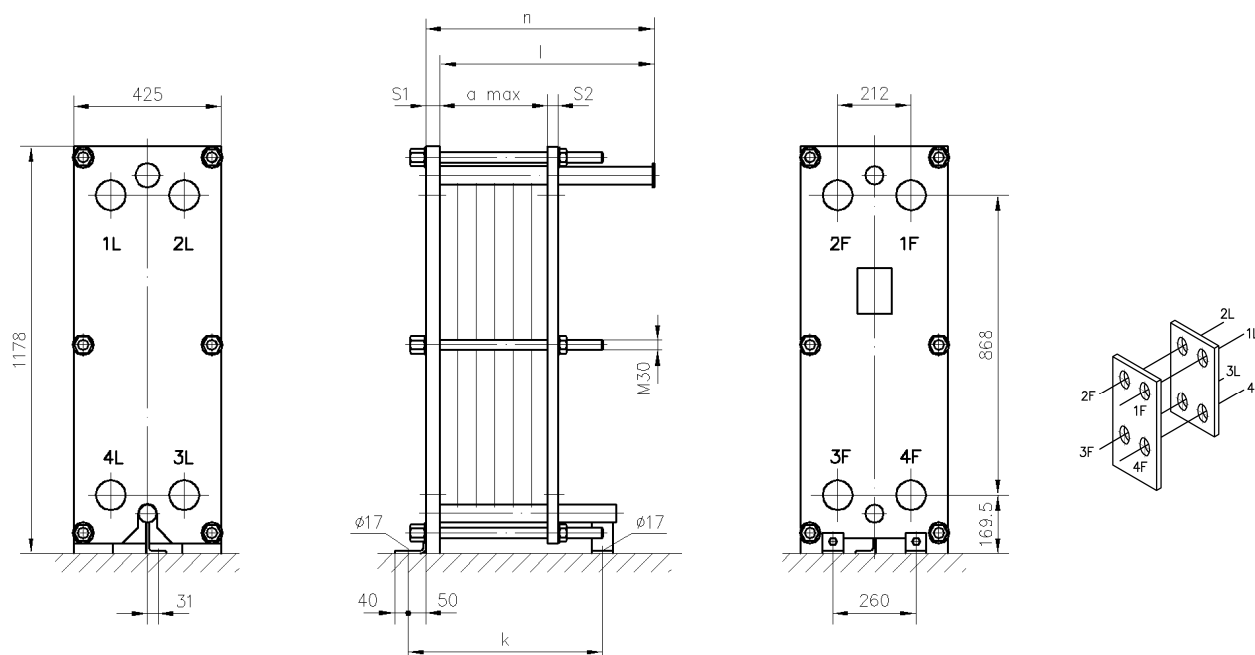
Kč

Poznámky: Cena je uvedena bez DPH.

Type: VT20 CDS-16

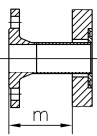
 Dimensions of drawing in
 [mm]

0134-214-Model.tif



n:	660 mm	s ₁ :	40.00 mm	a-max frame:	310 mm	empty weight:	428 kg
k:	570 mm	s ₂ :	40.00 mm	a-max actual:	191 mm	max. total weight:	466 kg
l:	620 mm						

Po	Size	Type	Media	In	Out	Add	m
1F	DN65	Weld neck flange DIN 2633	ISO VG 32	x	-	-	128
2F	DN65	Weld neck flange DIN 2633	Water	-	x	-	128
3F	DN65	Weld neck flange DIN 2633	Water	x	-	-	128
4F	DN65	Weld neck flange DIN 2633	ISO VG 32	-	x	-	128

			
Weld neck flange			
DIN2633			
AISI316Ti			
PN16			
1F;2F;3F;4F			

Internal Specification

Version: 43.00 / 115.00

Plate Heat Exchanger:		VT20 CDS-16		Amount: 1		
Plate type:		VT20 PH L 1.4401 0.6 NBR LOCIN KLEBERLOS				
Frame type		VT20 CDS-16 S355J2+N PAINTED RAL5002				
Number of plates (unit / total):	50 50	Heat transfer area (unit / total):	12.48 12.48	m2		
Number frames serial.:	1	Number frames parallel:	1			
Mix-Theta-Config.:		Number section/frame:	1			
Number of Mix-Theta-Gaps (H,V):	0 0	Number of plates (H,V):	0 0			
CIP:						
Package length max.:	191	Package length min.:	188	mm		
max. package length frame:	310	max. package length bolts:	191	mm		
Frame extension (percent/abs.):	62.30 / 31	Bolt extension (percent/abs.):	0.00 / 0	% / -		
max. total weight:	466	Weight empty:	428	kg		
Design temperature min:	0.00 0.00	Design temperature max:	110.00 110.00	°C		
Design pressure min:	0.00 0.00	Design pressure max:	16.00 16.00	barg		
Test pressure:	20.80		20.80	barg		
Design code: PED 97/23/EC AD-2000 Checkfactor 1.3						
Heat capacity (spec/real):	90.00 107.36			kW		
Surface margin (spec/real/corr):	80.00 58.64 58.64			%		
OHTC (req/clean/corr):	310 492 492			W/m2K		
Fouling (spec/real/corr):	0.000000 0.001192 0.001192			m2K/W		
LMTD (spec/real):	23.25 17.48			K		
Epsilon:	1.00			-		
Media:	Primary ISO VG 32		Secondary Water			
Mass flow:	Inlet 5083 Outlet	Inlet 19938 Outlet			kg/h	
Volume flow:	6.00	20.00			m3/h	
Temperature (spec):	65.00 32.94	21.00 24.89			°C	
Temperature (real):		26.76			°C	
Operation pressure:	10.00 9.93	10.00 9.90			barg	
Pressure drop (spec):	20.000	20.000			kPa	
Pressure drop (real):	6.802	10.106			kPa	
Pressure drop (corr):	6.802	10.106			kPa	
Filling volume:	0.02016	0.02100			m3	
Number of path / section:	1	1				
Number of gaps / path:	24	25				
Density:	836.61 858.06	997.49 996.30			kg/m3	
Heat capacity:	2070.39 1922.42	4180.20 4175.19			J/kgK	
Heat conductivity:	0.13031 0.13240	0.60281 0.60951			W/mK	
Dynamic viscosity:	10.876 36.612	0.982 0.895			cP	
Velocity connection:	0.43 0.42	1.43 1.43			m/s	
Velocity distributor:	0.38 0.37	1.26 1.26			m/s	
Velocity gap in:	0.18	0.57			m/s	
Velocity gap (wave field):	0.07	0.24			m/s	
Pressure drop distributor:	0.316 0.505	1.231 1.189			kPa	
Pressure drop gap:	5.980	7.686			kPa	
HTC (alpha-value) / Reynoldszahl:	528 21.54	10021 1606.91			W/m2K / -	
NTU / Tau:	2.19 12	0.27 15			- / Pa	
Pos	Size	Connection type	Media	In	Out	Add. conn.
1F	DN65	Weld neck flange DIN 2633 AISI316Ti DN65 0.168	ISO VG 32	x	-	-
2F	DN65	Weld neck flange DIN 2633 AISI316Ti DN65 0.168	Water	-	x	-
3F	DN65	Weld neck flange DIN 2633 AISI316Ti DN65 0.168	Water	x	-	-
4F	DN65	Weld neck flange DIN 2633 AISI316Ti DN65 0.168	ISO VG 32	-	x	-
Index heat transfer (pri):	1	Index heat transfer (sec):	51			
Activated knock:	x	Activated Mix-Theta:	-			
Temperature effect:	1	Heat flow direction:	x			
Change of side:	-	Flow type	2			
		Product properties iteration:	1			