

5.2 Brazed Heat Exchangers

The Brazed Heat Exchangers from Alfa Laval are the perfect heat exchangers for utilities like heating-water or steam.



Application Overview 5.2.1195

PD Sheets

AlfaNova 14, 27, 52, 76 and 400 - Fusion-brazed Plate Heat Exchangers 5.2.1196
CB14-300 - Brazed Plate Heat Exchanger 5.2.1199

Ordering Leaflets

AlfaNova 14, 27, 52 & 76	.....	5.2.1201
CB14	.....	5.2.1202
CB20	.....	5.2.1203
CB30	.....	5.2.1204
CB27/CB30 Extras	.....	5.2.1205
CB52	.....	5.2.1207
CB52 Extras	.....	5.2.1208
CB60	.....	5.2.1210
CB60 Extras	.....	5.2.1211
CB76 H	.....	5.2.1213
CB76 M and L	5.2.1214
CB77	5.2.1215
CB76/77 Extras	5.2.1220
CB200	5.2.1221
CB300	5.2.1222

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	Brazed Heat Exchangers								
	AlfaNova					CB			
	14	27	52	76	400	14, 18, 20, 30, 60, 76 & 77	200	300	400
Main duties									
Dairy									
Milk Cooling									
Milk/cream pasteurization									
Cultured milk cooling									
Whey pasteurization									
Ice cream pasteurization									
Brewery									
Wort cooling									
Beer cooling									
Beer pasteurization									
Beverages									
Clarified juices, drinks, wine									
Juice/drinks with pulp/fibres									
Clarified fruit & sugar conc.									
Clodly fruit concentrate									
Other food									
Low viscous products									
High viscous products									
Sticky/chunky/particles									
Vegetable oil									
Pharma									
Pre-heating in water purification									
In-line heater WFI/PW									
Point of use cooler WFI/PW									
Heating of holding tank WFI/PW									
Product heating/cooling									
Utilities									
CIP Heating	•	•	•	•	•				
Water heating/cooling	•	•	•	•	•	•	•	•	•

AlfaNova 14, 27, 52, 76 and 400

AlfaNova 14, 27, 52, 76 and 400 - Fusion-brazed Plate Heat Exchangers

Applications

Within Refrigeration:

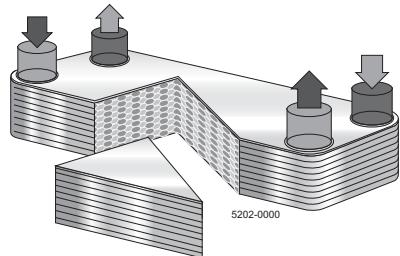
- Oil cooler
- Condenser
- Evaporator
- Economizer
- Desuper heater
- Absorption systems

Other main applications:

- Domestic hot water heater
- Process cooling
- Hydraulic oil cooling
- Laser cooling
- Hygienic/sanitary
- Water/water cooling & heating

Working principles

The heating surface consists of thin corrugated metal plates stacked on top of each other. Channels are formed between the plates and corner ports are arranged so that the two media flow through alternate channels, always in counter-current flow. The media are kept in the unit by a bonded seal around the edge of the plates. The contact points of the plates are also bonded to withstand the pressure of the media handled.



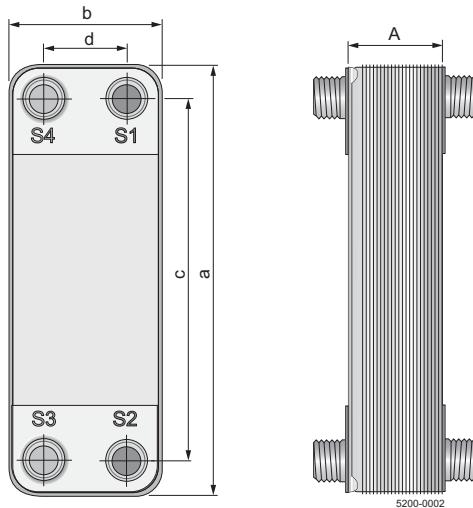
Flow principle of an AlfaNova plate heat exchanger

Standard materials

Cover plates	Stainless steel AISI 316
Connections	Stainless steel AISI 316
Plates	Stainless steel AISI 316
AlfaFusion filler	Stainless steel AISI 316

Dimensions

5.2



Fusion bonded plate heat exchanger (FHE) data and dimensions

	AlfaNova 14	AlfaNova 27	AlfaNova 52	AlfaNova 76	AlfaNova 400
Channel type	H	H, L	H, L	H, A, E	H, L
Max./min. design temperature [°C]	175/160	175/160	175/160	175/160	175/160
Max. design pressure S3-S4/S1-S2 [PSI] *)	21/21	27/22	27/22	27/22	17/17
Volume/channel [litres]	0.02	0.05	0.095	0.251/25	0.74
Max. flowrate [m³/h] **)	4.5	7.5	14.5	34	170
Height a [mm]	207	310	526	618	990
Width b [mm]	77	111	111	191	390
Vertical connection distance, c [mm]	172	250	446	519	825
Horizontal connection distance, d [mm]	42	50	50	92	225
Plate pack lenght, A [mm]	(n x 2.35) + 8	(n x 2.4) + 11	(n x 2.85) + 11	(n x 2.85) + 11 ³⁾	(n x 2.65) + 14
Weight empty [kg]	(n x 0.046) + 0.74	(n x 0.13) + 1.5	(n x 0.23) + 2.2	(n x 0.47) + 11***	(n x 1.5) + 44***
Standard connection, external thread [inch]	2 ¹ / ₂ "	1 ¹ / ₄ " / 1"	1 ¹ / ₄ " / 1"	2"	4"
Plate material	Stainless steel				
Connection material	Stainless steel				
Bounding material	Stainless steel				
Max. number of plates	50	100	150	150	270
Radiator heating, capacity [kW] ²	90	400	500	1200	3300
Tap water heating, capacity [kW] ²	60	180	380	700	2700

*) according to PED

**) water at 5 m/s (connection velocity)

***) Weight with test and LI-S12 flanges

n = number of plates

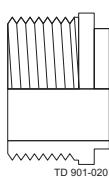
1) E channel 0.18/0.18 - A channel 0.18/0.25

2) Vanes from country to country depending on temperature only. Given values are for typical district heating installations.

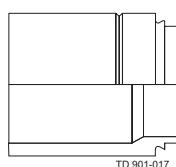
3) Valin for H-plate

Standard connections

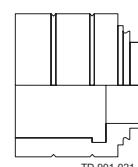
External thread connection



Sweat connection

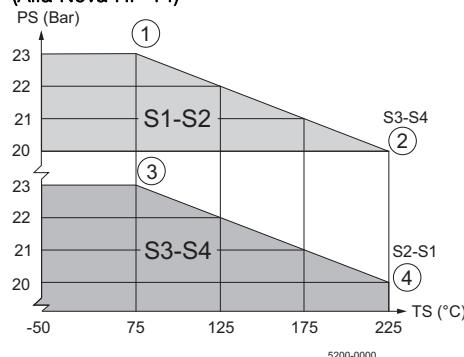


Internal thread connection



CE approval pressure/temperature graph

(Alfa Nova HP 14)

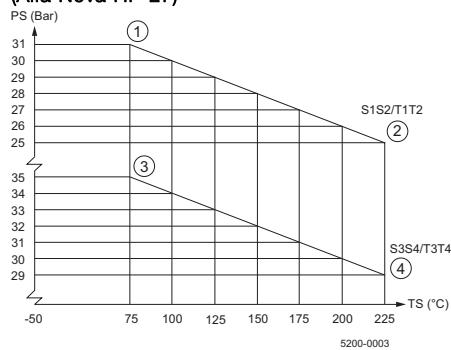


CE approval pressure/temperature graph

(Alfa Nova HP 27)

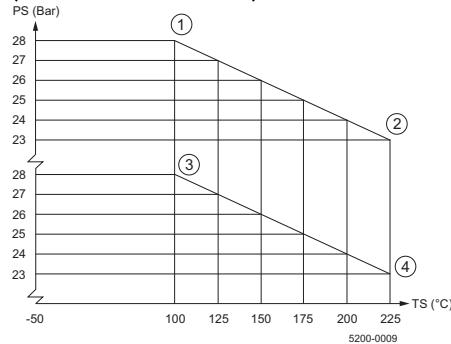
CE approval pressure/temperature graph

(Alfa Nova HP 27)



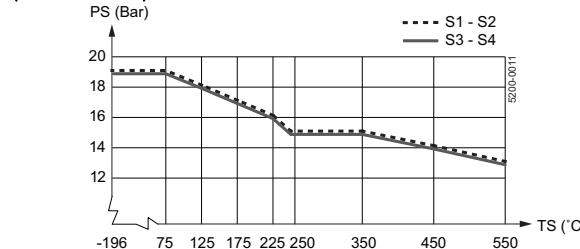
CE approval pressure/temperature graph

(Alfa Nova HP 52 - HP 76)



PED approval pressure/temperature graph

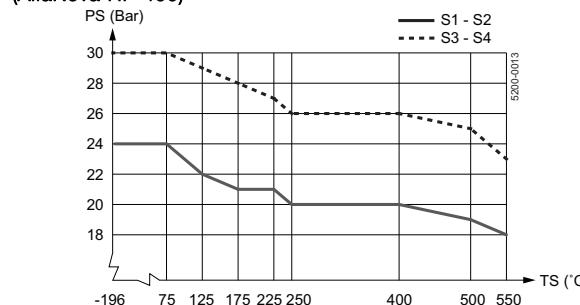
(AlfaNova 400)



Min. temperature -50°C (-58°F) with connection tubes made of carbon steel.

PED approval pressure/temperature graph

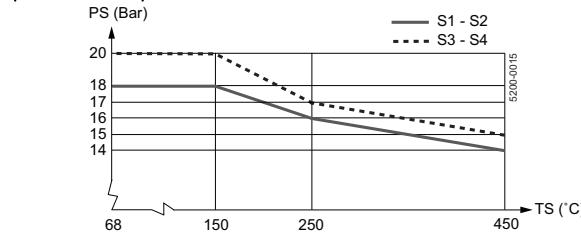
(AlfaNova HP 400)



Min. temperature -50°C (-58°F) with connection tubes made of carbon steel.

ASME approval pressure/temperature graph

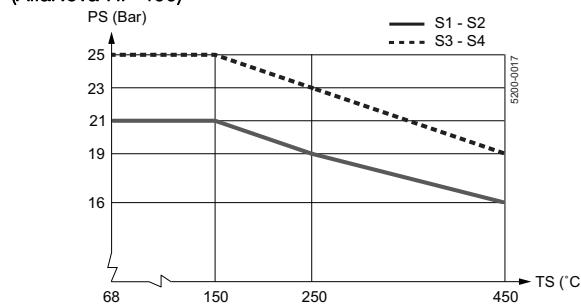
(AlfaNova 400)



Min. temperature -49°C (-45°F) with connection tubes made of carbon steel.

PED approval pressure/temperature graph

(AlfaNova HP 400)



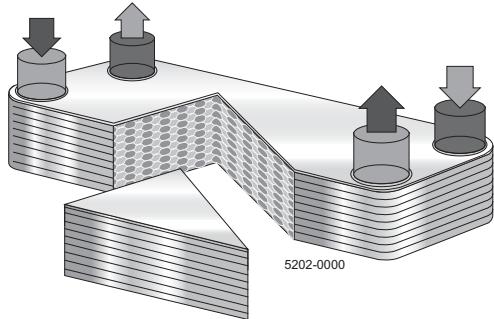
Min. temperature -49°C (-45°F) with connection tubes made of carbon steel.

CBH16-CB300

CB14-300 - Brazed Plate Heat Exchanger

Working principles

The heating surface consists of thin corrugated metal plates stacked on top of each other. Channels are formed between the plates and corner ports are arranged so that the two media flow through alternate channels, always in counter-current flow. The media are kept in the unit by a brazed seal around the edge of the plates. The contact points of the plates are also brazed to withstand the pressure of the media handled



Flow principle of an AlfaNova plate heat exchanger



Standard materials

Cover plates

Stainless steel AISI 316

Connections

Stainless steel AISI 316

Plates

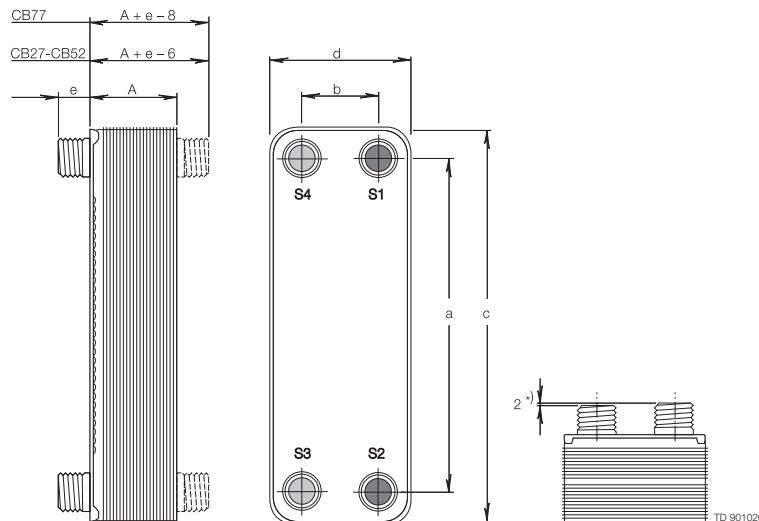
Stainless steel AISI 316

Brazing material

Copper

Technical data

5.2



Not valid for CB77

(n = number of plates)

	CB14	CB20	CB30	CB52/CB60	CB76	CB77	CB200	CB300
Max./min. working temperature [°C]**)	175/-160	225/-160	175/-160	175/-160	175/-160	175/-160	-160/175	-160/175
Max. working pressure S3-S4/S1-S2 [bar] **)	32	16	32	32	A,E,H: 32 L,M: 25	25/16	16	S1/S2: 16 S3/S4: 27 (CBR300: 33)
Volume/channel [litres]	0.02	0.028	0.05	0.095	A: 0.18/0.25 E: 0.18/0.18 C,M,H: 0.25/0.25 39	0.25	0.5	0.65
Max. flowrate S3S4/S1S2. [m³/h] *)	3.6	7.3	8.1/12.7	8.1/12.7		39/63	102	S1/S2: 140 S3/S4: 60
Height c [mm]	208	208	310	526	618	618	740	990
Width d [mm]	78	78	112	112	191	191	323	365
Vertical connection distance, a [mm]	172	172	250	466	519	519	622	861
Horizontal connection distance, b [mm]	42	42	50	50	92	92	205	213.5
Weight empty [kg]	0.7 + n x 0.06	0.4 + n x 0.07	1.2 + n x 0.13	1.9 + n x 0.23	7.0 + n x 0.44	7.0 + n x 0.44	29 + n x 0.6	40 + n x 1.26
Plate material	Stainless steel AISI 316							
Connection material	Stainless steel AISI 316							
Bounding material	Copper							

*) = Water at 5 m/s (connection velocity)

**) = According to European pressure vessel Directive (PED) (CE-Approval)

n = number of plates

Brazed Heat Exchangers

AlfaNova 14, 27, 52 & 76

Product code: 4650 (AlfaNova 14)
 Product code: 4655 (AlfaNova 27)
 Product code: 4660 (AlfaNova 52)
 Product code: 4665 (AlfaNova 76)
 PED approved

Design temperature °C, min./max. (S3/S4, S1/S2): -50/+175
 AlfaNova 14: Design pressure (S3/S4, S1/S2): 20/20
 AlfaNova 27: Design pressure (S3/S4, S1/S2): 27/22
 AlfaNova 52: Design pressure (S3/S4, S1/S2): 27/22
 AlfaNova 76: Design pressure (S3/S4, S1/S2): 27/27

5.2

Heat Exchanger						Insulation Type	
Model		Item No.	RCPL EUR	Dim. (mm) L x W x H	Weight kg/unit	Item No.	RCPL EUR
AlfaNova 14 - Connections: ISO G 3/4" Externally threaded							
AlfaNova 14-10H (A21,A21)	O	3287050661		32 X 77 X 207	1.6	3456119701	
AlfaNova 14-20H (A21,A21)		3287050662		55 X 77 X 207	2.7	3456119702	
AlfaNova 14-30H (A21,A21)	O	3287050663		79 X 77 X 207	3.7	3456119702	
AlfaNova 14-40H (A21,A21)		3287050664		102 X 77 X 207	4.7	3456119702	
AlfaNova 14-50H (A21,A21)	O	3287050665		126 X 77 X 207	5.8		
For extras see CB14							
AlfaNova 27 - Connections: S1/S2 ISO G 1½" Externally threaded, length 45 mm - S3/S4 ISO G 1" Externally threaded, length 45 mm							
AlfaNova 27-10H (V22,V24)		3288001188		80 X 111 X 310	3.6	3236000881	
AlfaNova 27-18H (V22,V24)		3288000763		100 X 111 X 310	4.6	3236000881	
AlfaNova 27-24H (V22,V24)		3288000901		114 X 111 X 310	5.4	3236000882	
AlfaNova 27-34H (V22,V24)		3288000764		138 X 111 X 310	6.7	3236000882	
AlfaNova 27-50H (V22,V24)		3288000970		177 X 111 X 310	8.8	3236000883	
AlfaNova 27-70H (V22,V24)		3288000999		225 X 111 X 310	11.4	3236000884	
AlfaNova 27-100H (V22,V24)		3287050287		298 X 111 X 310	15.4	3236000886	
AlfaNova 52 - Connections: S1/S2 ISO G 1½" Externally threaded, length 45 mm - S3/S4 ISO G 1" Externally threaded, length 45 mm							
AlfaNova 52-10H (V22,V24)	O	3288001442		81 X 111 X 526	5.4	3236000892	
AlfaNova 52-20H (V22,V24)		3288001139		106 X 111 X 526	7.5	3236000892	
AlfaNova 52-30H (V22,V24)		3288001047		130 X 111 X 526	9.7	3236000892	
AlfaNova 52-40H (V22,V24)		3288001265		155 X 111 X 526	11.9	3236000893	
AlfaNova 52-50H (V22,V24)		3287050288		180 X 111 X 526	14	3236000893	
AlfaNova 52-60H (V22,V24)		3288001266		205 X 111 X 526	16.2	3236000894	
AlfaNova 52-80H (V22,V24)		3287050289		254 X 111 X 526	20.5	3236000895	
AlfaNova 52-100H (V22,V24)	O	3287050290		304 X 111 X 526	25.1	3236000896	
AlfaNova 76 - Connections: ISO G 2" externally threaded, length 48 mm, stud bolts for feet included							
AlfaNova 76-20H (B23,B23)		3287050291		116 X 191 X 618	19.2	3236000901	
AlfaNova 76-30H (B23,B23)		3287050292		145 X 191 X 618	24.1	3236000901	
AlfaNova 76-40H (B23,B23)	O	3288000893		173 X 191 X 618	29.2	3236000902	
AlfaNova 76-50H (B23,B23)		3287050293		202 X 191 X 618	34.1	3236000902	
AlfaNova 76-60H (B23,B23)	O	3288001138		230 X 191 X 618	38.9	3236000902	
AlfaNova 76-70H (B23,B23)		3287050294		259 X 191 X 618	43.8	3236000903	
AlfaNova 76-80H (B23,B23)		3287050295		287 X 191 X 618	48.6	3236000903	
AlfaNova 76-90H (B23,B23)	O	3287050296		316 X 191 X 618	53.5	3236000903	
AlfaNova 76-100H (B23,B23)	O	3288001052		344 X 191 X 618	58.3	3236000904	
AlfaNova 76-110H (B23,B23)	O	3287050297		373 X 191 X 618	63.6	3236000904	
AlfaNova 76-120H (B23,B23)	O	3287050298		401 X 191 X 618	68.4	3236000904	
AlfaNova 76-130H (B23,B23)	O	3287050299		430 X 191 X 618	73.3	3236000905	
AlfaNova 76-140H (B23,B23)	O	3287050300		458 X 191 X 618	78.1	3236000905	
AlfaNova 76-150H (B23,B23)	O	3287050301		487 X 191 X 618	83.0	3236000905	

O = not in stock

Heat Exchanger					Insulation Type B	
Model	Item No.	RCPL EUR	Plate pack dim. (mm) L x W x H	Weight kg/unit	Item No.	RCPL EUR
Connections: ISO G 3/4" externally threaded, length 24 mm (drawing 1640116)						
CB14-10 (A21, A21)	3287050460		32 X 77 X 207	1.2	3456119701	
CB14-14 (A21, A21)	3236110141		41 X 78 X 208	1.4	3456119701	
CB14-20 (A21, A21)	3236110201		55 X 78 X 208	1.7	3456119702	
CB14-30 (A21, A21)	3236110301		78 X 78 X 208	2.3	3456119702	
CB14-40 (A21, A21)	3236110401		102 X 78 X 208	2.9	3456119702	
Economy Pack'						
Connections: ISO G 3/4" externally threaded, length 24 mm (drawing 1640116)						
CB14-14 (A21,A21) - (64 units per economy pack)	3287000654		800 X 600 X 320	100		
CB14-20 (A21,A21) - (56 units per economy pack)	3287000655		800 X 600 X 320	100		
CB14-30 (A21,A21) - (38 units per economy pack)	3287000656		800 X 600 X 320	84		
CB14-40 (A21,A21) - (30 units per economy pack)	3287000657		800 X 600 X 320	79		
Connections: ISO G 3/4" externally threaded carbon steel 10.5 mm (S1/S2), 1/2" stainless 10.5 mm (S3/S4) (drawing 34561321)						
CB14-12 (162 units per economy pack)	3287000009		800 X 600 X 420	151		
CB14-14 (135 units per economy pack)	3287000010		800 X 600 X 420	151		
CB14-20 (100 units per economy pack)	3287000011		800 X 600 X 420	151		
*NB! Only full boxes can be ordered. The economy pack heat exchangers have NO individual packing or insulation.						
Insulations have to be ordered separately.						
One installation manual is available in each economy pack.						

Extras				Insulation Type B	
Model	Item No.	RCPL EUR	Plate pack dim. (mm) L x W x H	Weight kg/unit	Comment
Screw Fittings					
DN15 3/4"; Pipe: CS; Nut: CS, gasket included	162623509		Fits to A21	0.1	Welding type
15 mm 3/4"; Pipe: Brass; Nut: CS, gasket included	3456105403		Fits to A21	0.1	Soldering type
Extra gasket fitting for 3/4" couplings	162635005		Fits to A21		
Insulation Type B: Black, Polypropylene (EPP) without blue ABS cover. Max. temperature 110 degrees					
Max. 14 plates	3456119701		81 X 120 X 248	0.2	
Max. 40 plates	3456119702		142 X 120 X 248	0.3	
Wall mounting bracket	3236020425				Rubber coated clamp, to be assembled around the plate package. Not suitable together with insulation.

Brazed Heat Exchangers

CB20

Product code: 3462

PED approved
Design temperature (°C): 175
Design pressure (S3/S4, S1/S2): 16/16
Max. no. of plates with CE Mark (fluid group 2): 222

5.2

Heat Exchanger					Insulation Type A	
Model	Item No.	RCPL EUR	Plate pack dim. (mm) L x W x H	Weight kg/unit	Item No.	RCPL EUR
Connections: ISO G 1" Externally threaded, length 24 mm						
CB20-12H (B21,B21)	3287000012		49 X 94 X 324	2.1	164394701	
CB20-18H (B21,B21)	3287000013		58 X 94 X 324	2.6	164394701	
CB20-24H (B21,B21)	3287000014		67 X 94 X 324	3.1	164394701	
CB20-30H (B21,B21)	3287000015		76 X 94 X 324	3.6	164394701	
CB20-40H (B21,B21)	3287000016		91 X 94 X 324	4.4	164394702	
CB20-50H (B21,B21)	3287000017		106 X 94 X 324	5.2	164394702	
CB20-60H (B21,B21)	3287000018		121 X 94 X 324	6.0	164394702	
CB20-80H (B21,B21)	3287000019		151 X 94 X 324	7.6	164394703	
CB20-90H (B21,B21)	O 3287000020		166 X 94 X 324	8.4	164394703	
CB20-110H (B21,B21)	3287000021		196 X 94 X 324	10.0	164394704	

O = not in stock

Extras						
Screw Fittings	Item No.	RCPL EUR	Plate pack dim. (mm) L x W x H	Weight kg/unit	Comment	
DN20 1"; Pipe: CS; Nut: CS. Gasket included	162623507		Fits B21, V22	0.2	Welding type	
DN25 1"; Pipe: CS; Nut: CS. Gasket Included	162623512		Fits B21, V22	0.2	Welding type	
22 mm 1"; Pipe: Brass; Nut: CS, Nut: CS. Gasket Included	3456105402		Fits B21, V22	0.1	Soldering type	
28 mm & 35 mm 1"; Pipe: Brass; Nut: CS, Nut: CS. Gasket Included	3456156701		Fits B21, V22	0.3	Soldering type	
Extra gasket fitting for 1" couplings	162635002		Fits B21, V22			
Insulation Type A: Polyurethane with blue ABS cover. Max. temperature 130 degrees						
Max. 30 plates	164394701		113 X 157 X 384	0.8		
Max. 60 plates	164394702		158 X 157 X 384	0.9		
Max. 90 plates	164394703		203 X 157 X 384	1.0		
Max. 120 plates	164394704		248 X 157 X 384	1.1		
Floor stand	164428901			0.7		

Heat Exchanger						Insulation Type A	
Model		Item No.	RCPL EUR	Plate pack dim. (mm) L x W x H	Weight kg/unit	Item No.	RCPL EUR
Connections: S1/S2 ISO G 1¼" Externally threaded, length 45 mm - S3/S4 ISO G 1" Externally threaded, length 45 mm							
H-Channels							
CB30-10H (V22,V24)		3287083361		81 X 113 X 313	3.5	3236000881	
CB30-18H (V22,V24)		3287083287		100 X 113 X 313	4.4	3236000881	
CB30-24H (V22,V24)		3287083286		113 X 113 X 313	5.1	3236000882	
CB30-34H (V22,V24)		3287083363		137 X 113 X 313	6.2	3236000882	
CB30-50H (V22,V24)		3287083364		174 X 113 X 313	8.0	3236000883	
CB30-70H (V22,V24)		3287083365		220 X 113 X 313	10.2	3236000884	
CB30-100H (V22,V24)		3287083366		289 X 113 X 313	13.7	3236000885	
CB30-120H (V22,V24)		3287083367		335 X 113 X 313	15.9	3236000886	
M-Channels							
CB30-10M (V22,V24)		3287083368		81 X 113 X 313	35.	3236000881	
CB30-18M (V22,V24)		3287083369		100 X 113 X 313	4.4	3236000881	
CB30-24M (V22,V24)		3287083370		113 X 113 X 313	5.1	3236000882	
CB30-34M (V22,V24)		3287083371		137 X 113 X 313	6.2	3236000882	
CB30-50M (V22,V24)		3287083372		174 X 113 X 313	8.0	3236000883	
CB30-70M (V22,V24)		3287083373		220 X 113 X 313	10.2	3236000884	
CB30-100M (V22,V24)		3287083374		289 X 113 X 313	13.7	3236000885	
CB30-120M (V22,V24)	O	3287083375		335 X 113 X 313	15.9	3236000886	
L-Channels							
CB30-10L (V22,V24)		3287083377		81 X 113 X 313	3.5	3236000881	
CB30-18L (V22,V24)		3287083378		100 X 113 X 313	4.4	3236000881	
CB30-24L (V22,V24)		3287083379		113 X 113 X 313	5.1	3236000882	
CB30-34L (V22,V24)		3287083380		137 X 113 X 313	6.2	3236000882	
CB30-50L (V22,V24)		3287083381		174 X 113 X 313	8.0	3236000883	
CB30-70L (V22,V24)	O	3287083382		220 X 113 X 313	10.2	3236000884	
CB30-100L (V22,V24)	O	3287083383		289 X 113 X 313	13.7	3236000885	
CB30-120L (V22,V24)	O	3287083384		335 X 113 X 313	15.9	3236000886	
Connections: ISO G 1" Externally threaded, length 45 mm							
CB30-10H (V22,V22)		3287082389		81 X 113 X 313	3.4	3236000881	
CB30-18H (V22,V22)		3287083385		100 X 113 X 313	4.3	3236000881	
CB30-24H (V22,V22)		3287083386		113 X 113 X 313	5.0	3236000882	
CB30-34H (V22,V22)		3287083387		137 X 113 X 313	6.1	3236000882	
CB30-50H (V22,V22)		3287083388		174 X 113 X 313	7.8	3236000883	
CB30-60H (V22,V22)		3287083294		197 X 113 X 313	8.9	3236000883	
Two pass							
CB30-24H (V22,V24) (2,2)	O	3287084071		150 X 113 X 313	4.5	3236000882	
CB30-50H (V22,V24) (2,2)	O	3287084072		211 X 113 X 313	7.3	3236000883	
Two pass -Six connections pre/post heater design							
CB30-50H (V22,V24)		3287084064		211 X 113 X 313	8.3	3236000883	
CB30-70H (V22,V24)		3287084065		257 X 113 X 313	10.5	3236000884	
CB30-100H (V22,V24)		3287084066		326 X 113 X 313	14.0	3236000885	
CB30-120H (V22,V24)		3287084067		372 X 113 X 313	16.2	3236000886	

O = not in stock

Extras						
Model		Item No.	RCPL EUR	Dim. (mm) L x W x H	Weight kg/unit	Comment
Screw Fittings						
DN20 1"; Pipe: CS; Nut: CS. Gasket included		162623507		Fits V22	0.2	Welding type
DN25 1"; Pipe: CS; Nut: CS. Gasket Included		162623512			0.2	Welding type
22 mm 1"; Pipe: Brass, Nut: CS. Gasket included		3456105402		Fits V22	0.1	Soldering type
28 mm & 35 mm 1"; Pipe: Brass; Nut: CS, Nut: CS. Gasket Included		3456156701			0.3	Soldering type
DN25 1 ¼"; Pipe & Nut: CS; Gasket included		162623504		Fits V24	0.2	Welding type
28 mm 1 ¼"; Pipe: Brass, Nut: CS. Gasket included		162623506		Fits V24	0.2	Soldering type
DN32 1 ¼"; Pipe & Nut: CS; Gasket included		162623511		Fits V24	0.2	Welding type
Extra gasket fitting for 1" couplings		162635002		Fits B21, V22		
Extra gasket fitting for 1 ¼" couplings		162635001		Fits V24		
Couplings						
ADITEG 1" / DN25 coupling		3456361501			0.2	
ADITEG 1 ¼" / DN32 coupling		345636210				
Insulation Type A: Polyurethane with blue ABS cover. Max. temperature 130 degrees						
Max. 20 plates		3236000881		112 X 182 X 360	0.7	
Max. 40 plates		3236000882		160 X 182 X 360	0.8	
Max. 60 plates		3236000883		209 X 182 X 360	0.9	
Max. 80 plates		3236000884		257 X 182 X 360	1.0	
Max. 100 plates		3236000885		304 X 182 X 360	1.2	
Max. 120 plates		3236000886		352 X 182 X 360	1.3	
Insulation Type B: Black, Polypropylene (EPP) without blue ABS cover. Max. temperature 110 degrees						
Max. 25 plates		3456104601		113 X 156 X 354	0.2	
Max. 50 plates		3456104602		173 X 156 X 354	0.2	
Max. 100 plates		3456104603		293 X 156 X 354	0.3	
Insulation type P: Min. temperature -45°C						
Max. Temperature 110°C. Min. temperature -45°C						
Max. 14 plates		3456213901			0.1	
Max. 24 plates		3456213902			0.2	
Max. 34 plates		3456213903			0.2	
Max. 50 plates		3456213905			0.2	
Max. 70 plates		3456213907			0.3	
Max. 100 plates		3456213908			0.4	
Adjustable foot						
Max. 60 plates		3456089801			4.3	Fits all Connections
Max. 100 plates		3456089802			4.3	Height adjustable from 400
Max. 150 plates		3456089803			4.3	mm to 600 mm.

* Have to be ordered together with 162965401.

O = not in stock

Extras						
Model		Item No.	RCPL EUR	Dim. (mm) L x W x H	Weight kg/unit	Comment
Wall mounting bracket		3236020426				Not suitable together with insulation.
Floor support kit. Max. 30 plates.		162965401			0.6	Includes 2 feet and 2 nuts. The nuts are mounted on the thread on the connections, and fixes the feet. Fits ONLY V22, V22 connections
Floor support kit. Max. 150 plates*		162965402			0.6	Includes 2 feet. The feet are assembled together in a U-shape. Mounted on the plate package. Fits ONLY V22, V22 connections

* Have to be ordered together with 162965401.

O = not in stock

Brazed Heat Exchangers

CB52

Product code: 3531

PED approved
Design temperature (°C): 175
Design pressure (S3/S4, S1/S2): 32/32
Max. no. of plates with CE Mark: 20

5.2

Heat Exchanger						Insulation Type A	
Model		Item No.	RCPL EUR	Plate pack dim. (mm) L x W x H	Weight kg/unit	Item No.	RCPL EUR
CB52 - Connections: S1/S2 ISO G 1½" Externally threaded, length 45 mm - S3/S4 ISO G 1" Externally threaded, length 45 mm							
M-Channels							
CB52-10M (V22,V24)	O	3236188101		79 x 111 x 526	5.4	3236000892	
CB52-20M (V22,V24)		3236188201		102 x 111 x 526	7.6	3236000892	
CB52-30M (V22,V24)		3236188301		126 x 111 x 526	9.8	3236000892	
CB52-40M (V22,V24)		3236188401		150 x 111 x 526	12.0	3236000892	
CB52-50M (V22,V24)		3236188501		174 x 111 x 526	14.3	3236000894	
CB52-60M (V22,V24)		3236188601		197 x 111 x 526	16.5	3236000894	
CB52-80M (V22,V24)		3236188801		245 x 111 x 526	20.9	3236000894	
CB52-100M (V22,V24)		3236189001		292 x 111 x 526	25.6	3236000895	
L-Channels							
CB52-10L (V22,V24)	O	3236192101		79 x 111 x 526	5.4	3236000892	
CB52-20 L(V22,V24)		3236192201		102 x 111 x 526	7.6	3236000892	
CB52-30L (V22,V24)		3236192301		126 x 111 x 526	9.8	3236000892	
CB52-40L (V22,V24)		3236192401		150 x 111 x 526	12.0	3236000892	
CB52-50L (V22,V24)		3236192501		174 x 111 x 526	14.3	3236000894	
CB52-60L (V22,V24)		3236192601		197 x 111 x 526	16.5	3236000894	
CB52-80L (V22,V24)		3236192801		245 x 111 x 526	20.9	3236000894	
CB52-100L (V22,V24)		3236193001		292 x 111 x 526	25.6	3236000895	
Two pass- Six connections pre/post heater design							
CB52-40L (6 connections)		3287000117		189 X 111 X 526	12.4	3236000892	
CB52-60L (6 connections)		3287000118		236 X 111 X 526	16.8	3236000894	
CB52-80L (6 connections)		3287000119		284 X 111 X 526	21.5	3236000894	
CB52-100L (6 connections)		3287000120		331 X 111 X 526	26.0	3236000895	
CB52-120L (6 connections)		3287000961		378 X 111 X 526	30.4	3236000896	
CB52-140L (6 connections)	O	3287000962		426 X 111 X 526	34.8	3236000897	
Connections: ISO G 1" Externally threaded, length 45 mm							
M-Channels							
CB52-20M (V22,V22)	O	3287055656		102 X 111 X 526	7.5	3236000892	
CB52-30M (V22,V22)		3287055657		126 X 111 X 526	9.7	3236000892	
CB52-40M (V22,V22)		3287055658		150 X 111 X 526	11.9	3236000892	
L-Channels							
CB52-20L (V22,V22)		3287055659		102 X 111 X 526	7.5	3236000892	
CB52-30L (V22,V22)		3287052147		126 X 111 X 526	9.7	3236000892	
CB52-40L (V22,V22)		3287055660		150 X 111 X 526	11.9	3236000892	

O = not in stock

Extras					
Model	Item No.	RCPL EUR	Dim. (mm) L x W x H	Weight kg/unit	Comment
Screw Fittings					
DN20 1"; Pipe: CS; Nut: CS. Gasket included	162623507		Fits V22	0.2	Welding type
DN25 1"; Pipe: CS; Nut: CS. Gasket Included	162623512			0.2	Welding type
22 mm 1"; Pipe: Brass, Nut: CS. Gasket included	3456105402		Fits V22	0.1	Soldering type
28 mm & 35 mm 1"; Pipe: Brass; Nut: CS, Nut: CS. Gasket Included	3456156701			0.3	Soldering type
DN25 1 1/4"; Pipe & Nut: CS; Gasket included	162623504		Fits V24	0.2	Welding type
28 mm 1 1/4"; Pipe: Brass, Nut: CS. Gasket included	162623506		Fits V24	0.2	Soldering type
DN32 1 1/4"; Pipe & Nut: CS; Gasket included	162623511		Fits V24	0.2	Welding type
Extra gasket fitting for 1" couplings	162635002		Fits B21, V22		
Extra gasket fitting for 1 1/4" couplings	162635001		Fits V24		
Couplings					
ADITEG 1" / DN25 coupling	3456361501			0.2	
ADITEG 1 1/4" / DN32 coupling	3456362101			0.3	
Insulation Type A: Polyurethane with blue ABS cover. Max. temperature 130 degrees					
Max. 40 plates	3236000892		160 X 182 X 588	1.0	
Max. 60 plates	3236000893		210 X 182 X 588	1.3	
Max. 80 plates	3236000894		257 X 182 X 588	1.5	
Max. 100 plates	3236000895		304 X 182 X 588	1.7	
Max. 120 plates	3236000896		352 X 182 X 588	2.0	
Max. 150 plates	3236000897		424 X 182 X 588	2.3	
Insulation Type B: Black, Polypropylene (EPP) without blue ABS Cover. Max. temperature 110 degrees					
Max. 30 plates	3456104701		125 x 256 x 570	0.3	
Max. 60 plates	3456104702		197 x 256 x 570	0.5	
Adjustable foot					
Max. 60 plates	3456089801			4.3	Fits all Connections
Max. 100 plates	3456089802			4.3	Height adjustable from 400 mm to 600 mm.
Max. 150 plates	3456089803			4.3	
Insulation type P: Min. temperature -45°C					
Max. Temperature 100°C. Min. temperature -45°C					
Max. 20 plates	3456214101			0.3	
Max. 34 plates	3456214102			0.3	
Max. 40 plates	3456214103			0.4	
Max. 50 plates	3456214104			0.4	
Max. 60 plates	3456214105			0.4	
Max. 80 plates	3456214107			0.5	

*Have to be ordered together with 162965401

Extras					
Model	Item No.	RCPL EUR	Dim. (mm) L x W x H	Weight kg/unit	Comment
Wall mounting bracket	3236020427				Rubber coated clamp, to be assembled around the plate package. Not suitable together with insulation.
Floor support kit. Max. 30 plates.	162965401			0.6	Includes 2 feet and 2 nuts. The nuts are mounted on the thread on the connections, and fixes the feet. Fits ONLY V22, V22 connections
Floor support kit. Max. 150 plates*	162965402			0.6	Includes 2 feet. The feet are assembled together in a U-shape. Mounted on the plate package. Fits ONLY V22, V22 connections

*Have to be ordered together with 162965401

Heat Exchanger						Insulation Type A	
Model		Item No.	RCPL EUR	Plate pack dim. (mm) L x W x H	Weight kg/unit	Item No.	RCPL EUR
CB52 - Connections: S1/S2 ISO G 1 1/4" Externally threaded, length 45 mm - S3/S4 ISO G 1" Externally threaded, length 45 mm							
H-Channels							
CB60-10H (V22, V24)		3287079641		82 X 113 X 527	4.5	3236000892	
CB60-20H (V22, V24)		3287079642		105 X 113 X 527	6.2	3236000892	
CB60-30H (V22, V24)		3287079643		129 X 113 X 527	8.0	3236000892	
CB60-40H (V22, V24)		3287079644		152 X 113 X 527	9.7	3236000892	
CB60-50H (V22, V24)		3287079645		176 X 113 X 527	11.5	3236000894	
CB60-60H (V22, V24)		3287079646		199 X 113 X 527	13.3	3236000894	
CB60-80H (V22, V24)		3287079647		246 X 113 X 527	16.8	3236000894	
CB60-100H (V22, V24)		3287079648		293 X 113 X 527	20.3	3236000895	
Connections: ISO G 1" Externally threaded, length 45 mm							
Two pass							
CB60-30H (V22, V22) (2,2)		3287079665		166 X 113 X 527	7.9	3236000892	
CB60-430H (V22, V22) (2,2)		3287079666		189 X 113 X 527	9.6	3236000892	
CB60-60H (V22, V22) (2,2)		3287079667		236 X 113 X 527	13.1	3236000893	
H-Channels							
CB60-20H (V22, V22)		3287079650		105 X 113 X 527	6.1	3236000892	
CB60-30H (V22, V22)		3287079651		129 X 113 X 527	7.9	3236000892	
CB60-40H (V22, V22)		3287079652		152 X 113 X 527	9.6	3236000892	

O = not in stock

Extras					
Model	Item No.	RCPL EUR	Dim. (mm) L x W x H	Weight kg/unit	Comment
Screw Fittings					
DN20 1"; Pipe: CS; Nut: CS. Gasket included	162623507		Fits V22	0.2	Welding type
DN25 1"; Pipe: CS; Nut: CS. Gasket Included	162623512			0.2	Welding type
22 mm 1"; Pipe: Brass, Nut: CS. Gasket included	3456105402		Fits V22 V22	0.1	Soldering type
28 mm & 35 mm 1"; Pipe: Brass; Nut: CS, Nut: CS. Gasket Included	3456156701			0.3	Soldering type
DN25 1 1/4"; Pipe & Nut: CS; Gasket included	162623504		Fits V24	0.2	Welding type
28 mm 1 1/4"; Pipe: Brass, Nut: CS. Gasket included	162623506		Fits V24	0.2	Soldering type
DN32 1 1/4"; Pipe & Nut: CS; Gasket included	162623511		Fits V24	0.2	Welding type
Extra gasket fitting for 1" couplings	162635002		Fits B21, V22		
Extra gasket fitting for 1 1/4" couplings	162635001		Fits V24		
Couplings					
ADITEG 3/4" / DN20 coupling	3456361901			0.1	
ADITEG 1" / DN25 coupling	3456361501			0.2	
ADITEG 1 1/4" / DN32 coupling	3456362101			0.3	
Insulation Type A: Polyurethane with blue ABS cover. Max. temperature 130 degrees					
Max. 40 plates	3236000892		160 X 182 X 588	1.0	
Max. 60 plates	3236000893		210 X 182 X 588	1.3	
Max. 80 plates	3236000894		257 X 182 X 588	1.5	
Max. 100 plates	3236000895		304 X 182 X 588	1.7	
Max. 120 plates	3236000896		352 X 182 X 588	2.0	
Max. 150 plates	3236000897		424 X 182 X 588	2.3	
Insulation Type B: Black, Polypropylene (EPP) without blue ABS Cover. Max. temperature 110 degrees					
Max. 30 plates	3456104701		125 x 156 x 570	0.3	
Max. 60 plates	3456104702		245 x 156 x 570	0.5	
Adjustable foot					
Max. 60 plates	3456089801			4.3	Fits all Connections
Max. 100 plates	3456089802			4.3	Height adjustable from 400
Max. 150 plates	3456089803			4.3	mm to 600 mm.
Insulation type P: Min. temperature -45°C					
Max. Temperature 110°C. Min. temperature -45°C					
Max. 20 plates	3456214101			0.3	
Max. 34 plates	3456214102			0.3	
Max. 40 plates	3456214103			0.4	
Max. 50 plates	3456214104			0.4	
Max. 60 plates	3456214105			0.4	
Max. 80 plates	3456214107			0.5	

*Have to be ordered together with 162965401

Model	Extras				
	Item No.	RCPL EUR	Dim. (mm) L x W x H	Weight kg/unit	Comment
Wall mounting bracket	3236020427				Rubber coated clamp, to be assembled around the plate package. Not suitable together with insulation.
Floor support kit. Max. 30 plates.	162965401			0.6	Includes 2 feet and 2 nuts. The nuts are mounted on the thread on the connections, and fixes the feet. Fits ONLY V22, V22 connections
Floor support kit. Max. 150 plates*	162965402			0.6	Includes 2 feet. The feet are assembled together in a U-shape. Mounted on the plate package. Fits ONLY V22, V22 connections

*Have to be ordered together with 162965401

Brazed Heat Exchangers

CB76 H

Product code: 3551

PED approved
 Design temperature (°C): 175
 Design pressure (S3/S4, S1/S2): 32/32
 Max. no. of plates without CE Mark: 8

5.2

Heat Exchanger					Insulation Type A		
Model		Item No.	RCPL EUR	Plate pack dim. (mm) L x W x H	Weight kg/unit	Item No.	RCPL EUR
Connections: ISO G 2" Externally threaded, length 48 mm							
H-Channels							
CB76-20H (B23,B23)		3236170201		115 X 191 X 618	18.3	3236000901	
CB76-30H (B23,B23)		3236170301		144 X 191 X 618	22.7	3236000901	
CB76-40H (B23,B23)		3236170401		172 X 191 X 618	27.3	3236000902	
CB76-50H (B23,B23)		3236170501		201 X 191 X 618	31.7	3236000902	
CB76-60H (B23,B23)		3236170601		229 X 191 X 618	36.1	3236000902	
CB76-70H (B23,B23)		3236170701		258 X 191 X 618	40.5	3236000903	
CB76-80H (B23,B23)		3236170801		286 X 191 X 618	44.9	3236000903	
CB76-90H (B23,B23)		3236170901		315 X 191 X 618	49.3	3236000903	
CB76-100H (B23,B23)		3236171001		343 X 191 X 618	53.7	3236000904	
CB76-110H (B23,B23)		3236171101		372 X 191 X 618	58.5	3236000904	
CB76-120H (B23,B23)		3236171201		400 X 191 X 618	62.9	3236000904	
CB76-130H (B23,B23)		3236171301		429 X 191 X 618	67.3	3236000905	
CB76-140H (B23,B23)		3236171401		457 X 191 X 618	71.7	3236000905	
CB76-150H (B23,B23)		3236171501		486 X 191 X 618	76.1	3236000905	

O = not in stock

CB76 M and L

Brazed Heat Exchangers

Product code: 3551

PED approved

Design temperature (°C): 175

Design pressure (S3/S4, S1/S2): 27/27

Max. no. of plates without CE Mark: 8

5.2

Heat Exchanger					Insulation Type A		
Model		Item No.	RCPL EUR	Plate pack dim. (mm) L x W x H	Weight kg/unit	Item No.	RCPL EUR
M-Channels							
CB76-20M (B23,B23)		3236176201		115 X 191 X 618	18.3	3236000901	
CB76-30M (B23,B23)		3236176301		144 X 191 X 618	22.7	3236000901	
CB76-40M (B23,B23)		3236176401		172 X 191 X 618	27.3	3236000902	
CB76-50M (B23,B23)		3236176501		201 X 191 X 618	31.7	3236000902	
CB76-60M (B23,B23)		3236176601		229 X 191 X 618	36.1	3236000902	
CB76-70M (B23,B23)		3236176701		258 X 191 X 618	40.5	3236000903	
CB76-80M (B23,B23)		3236176801		286 X 191 X 618	44.9	3236000903	
CB76-90M (B23,B23)		3236176901		315 X 191 X 618	49.3	3236000903	
CB76-100M (B23,B23)	O	3236177001		343 X 191 X 618	53.7	3236000904	
CB76-110M (B23,B23)	O	3236177101		372 X 191 X 618	58.5	3236000904	
CB76-120M (B23,B23)	O	3236177201		400 X 191 X 618	62.9	3236000904	
CB76-130M (B23,B23)	O	3236177301		429 X 191 X 618	67.3	3236000905	
CB76-140M (B23,B23)	O	3236177401		457 X 191 X 618	71.7	3236000905	
CB76-150M (B23,B23)	O	3236177501		486 X 191 X 618	76.1	3236000905	
L-Channels							
CB76-20L (B23,B23)		3236172201		115 X 191 X 618	18.3	3236000901	
CB76-30L (B23,B23)		3236172301		144 X 191 X 618	22.7	3236000901	
CB76-40L (B23,B23)		3236172401		172 X 191 X 618	27.3	3236000902	
CB76-50L (B23,B23)		3236172501		201 X 191 X 618	31.7	3236000902	
CB76-60L (B23,B23)	O	3236172601		229 X 191 X 618	36.1	3236000902	
CB76-70L (B23,B23)	O	3236172701		258 X 191 X 618	40.5	3236000903	
CB76-80L (B23,B23)	O	3236172801		286 X 191 X 618	44.9	3236000903	
CB76-90L (B23,B23)	O	3236172901		315 X 191 X 618	49.3	3236000903	
CB76-100L (B23,B23)	O	3236173001		343 X 191 X 618	53.7	3236000904	
CB76-110L (B23,B23)	O	3236173101		372 X 191 X 618	57.5	3236000904	
CB76-120L (B23,B23)	O	3236173201		400 X 191 X 618	62.9	3236000904	
CB76-130L (B23,B23)	O	3236173301		429 X 191 X 618	67.3	3236000905	
CB76-140L (B23,B23)	O	3236173401		457 X 191 X 618	71.7	3236000905	
CB76-150L (B23,B23)	O	3236173501		486 X 191 X 618	76.1	3236000905	

O = not in stock

Product code: 3552

PED approved
 Design temperature (°C): 175
 Design pressure (S3/S4, S1/S2): 25/16
 Max. no. of plates without CE Mark: 8

5.2

Heat Exchanger					Insulation Type A		
Model		Item No.	RCPL EUR	Plate pack dim. (mm) L x W x H	Weight kg/unit	Item No.	RCPL EUR
Connections: S1/S2 ISO G 2½" externally threaded Connections, length 48 mm. S3/S4 ISO G 2" externally threaded Connections, length 48 mm							
H-Channels							
CB77-90H (B23,B25)	O	3287052393		266 X 191 X 618	49.9	3236000903	
CB77-100H (B23,B25)	O	3287052394		294 X 191 X 618	54.3	3236000904	
CB77-110H (B23,B25)	O	3287052395		323 X 191 X 618	58.7	3236000904	
CB77-120H (B23,B25)	O	3287052396		351 X 191 X 618	63.1	3236000904	
CB77-130H (B23,B25)	O	3287052397		380 X 191 X 618	67.5	3236000905	
CB77-140H (B23,B25)	O	3287052398		408 X 191 X 618	71.9	3236000905	
CB77-150H (B23,B25)	O	3287052399		437 X 191 X 618	76.3	3236000905	
M-Channels							
CB77-90M (B23,B25)	O	3287052404		266 X 191 X 618	49.9	3236000903	
CB77-100M (B23,B25)	O	3287052405		294 X 191 X 618	54.3	3236000904	
CB77-110M (B23,B25)	O	3287052406		323 X 191 X 618	58.7	3236000904	
CB77-120M (B23,B25)	O	3287052407		351 X 191 X 618	63.1	3236000904	
CB77-130M (B23,B25)	O	3287052408		380 X 191 X 618	67.5	3236000905	
CB77-140M (B23,B25)	O	3287052409		408 X 191 X 618	71.9	3236000905	
CB77-150M (B23,B25)	O	3287052410		437 X 191 X 618	76.3	3236000905	

O = not in stock

Heat Exchanger						Insulation Type A	
Model		Item No.	RCPL EUR	Plate pack dim. (mm) L x W x H	Weight kg/unit	Item No.	RCPL EUR
Connections: S1/S2 76.1 mm stainless steel welding connections, length 48 mm - S3/S4 ISO G 2" Externally threaded connections, length 48 mm							
H-Channels							
CB77-20H (B23,J25)	O	3236196201		66 X 191 X 618	19.2	3236000901	
CB77-30H (B23,J25)	O	3236196301		95 X 191 X 618	23.6	3236000901	
CB77-40H (B23,J25)	O	3236196401		124 X 191 X 618	28.0	3236000902	
CB77-50H (B23,J25)	O	3236196501		152 X 191 X 618	32.4	3236000902	
CB77-60H (B23,J25)	O	3236196601		181 X 191 X 618	36.8	3236000902	
CB77-70H (B23,J25)	O	3236196701		210 X 191 X 618	41.2	3236000903	
CB77-80H (B23,J25)		3236196801		237 X 191 X 618	45.6	3236000903	
CB77-90H (B23,J25)	O	3236196901		266 X 191 X 618	50.0	3236000903	
CB77-100H (B23,J25)		3236197001		294 X 191 X 618	54.4	3236000904	
CB77-110H (B23,J25)	O	3236197101		323 X 191 X 618	58.8	3236000904	
CB77-120H (B23,J25)	O	3236197201		351 X 191 X 618	63.2	3236000904	
CB77-130H (B23,J25)	O	3236197301		380 X 191 X 618	67.6	3236000905	
CB77-140H (B23,J25)		3236197401		408 X 191 X 618	72.0	3236000905	
CB77-150H (B23,J25)	O	3236197501		437 X 191 X 618	76.4	3236000905	
M-Channels							
CB77-20M (B23,J25)	O	3236194201		66 X 191 X 618	20.1	3236000901	
CB77-30M (B23,J25)	O	3236194301		95 X 191 X 618	24.5	3236000901	
CB77-40M (B23,J25)		3236194401		123 X 191 X 618	28.9	3236000902	
CB77-50M (B23,J25)		3236194501		152 X 191 X 618	33.3	3236000902	
CB77-60M (B23,J25)	O	3236194601		180 X 191 X 618	37.7	3236000902	
CB77-70M (B23,J25)	O	3236194701		209 X 191 X 618	42.1	3236000903	
CB77-80M (B23,J25)		3236194801		237 X 191 X 618	46.5	3236000903	
CB77-90M (B23,J25)	O	3236194901		266 X 191 X 618	50.9	3236000903	
CB77-100M (B23,J25)		3236195001		294 X 191 X 618	55.3	3236000904	
CB77-110M (B23,J25)	O	3236195101		323 X 191 X 618	59.7	3236000904	
CB77-120M (B23,J25)		3236195201		351 X 191 X 618	64.1	3236000904	
CB77-130M (B23,J25)	O	3236195301		380 X 191 X 618	68.5	3236000905	
CB77-140M (B23,J25)		3236195401		408 X 191 X 618	72.9	3236000905	
CB77-150M (B23,J25)		3236195501		438 X 191 X 618	77.3	3236000905	

O = not in stock

Brazed Heat Exchangers

CB77

Product code: 3552

PED approved
 Design temperature (°C): 175
 Design pressure (S3/S4, S1/S2): 25/16
 Max. no. of plates without CE Mark: 8

5.2

Heat Exchanger					Insulation Type A		
Model		Item No.	RCPL EUR	Plate pack dim. (mm) L x W x H	Weight kg/unit	Item No.	RCPL EUR
Connections: S1/S2 76.1 mm stainless steel welding connections, length 48 mm - S3/S4 ISO G 2" Externally threaded connections, length 48 mm							
L-Channels							
CB77-20L (B23,J25)	O	3236186201		66 X 191 X 618	20.1	3236000901	
CB77-30L (B23,J25)		3236186301		95 X 191 X 618	24.5	3236000901	
CB77-40L (B23,J25)	O	3236186401		123 X 191 X 618	28.9	3236000902	
CB77-50L (B23,J25)	O	3236186501		152 X 191 X 618	33.3	3236000902	
CB77-60L (B23,J25)	O	3236186601		180 X 191 X 618	37.7	3236000902	
CB77-70L (B23,J25)	O	3236186701		209 X 191 X 618	42.1	3236000903	
CB77-80L (B23,J25)		3236186801		237 X 191 X 618	46.5	3236000903	
CB77-90L (B23,J25)	O	3236186901		266 X 191 X 618	50.9	3236000903	
CB77-100L (B23,J25)		3236187001		294 X 191 X 618	55.3	3236000904	
CB77-110L (B23,J25)	O	3236187101		323 X 191 X 618	59.7	3236000904	
CB77-120L (B23,J25)	O	3236187201		351 X 191 X 618	64.1	3236000904	
CB77-130L (B23,J25)	O	3236187301		380 X 191 X 618	68.5	3236000905	
CB77-140L (B23,J25)		3236187401		408 X 191 X 618	72.9	3236000905	
CB77-150L (B23,J25)	O	3236187501		437 X 191 X 618	77.3	3236000905	

O = not in stock

Heat Exchanger						Insulation Type A	
Model		Item No.	RCPL EUR	Plate pack dim. (mm) L x W x H	Weight kg/unit	Item No.	RCPL EUR
Connections: S1/S2 76.1 mm carbon steel welding Connections, length 48 mm, S3/S4 ISO G 2" externally threaded Connections, length 48 mm							
H-Channels							
CB77-20 (B23,J15)	O	3287050200		66 X 191 X 618	19.3	3236000901	
CB77-30H (B23,J15)	O	3287050203		95 X 191 X 618	23.7	3236000901	
CB77-50H (B23,J15)	O	3287050208		152 X 191 X 618	32.5	3236000902	
CB77-60H (B23,J15)	O	3287050211		180 X 191 X 618	36.9	3236000902	
CB77-70H (B23,J15)	O	3287050213		209 X 191 X 618	41.3	3236000903	
CB77-80H (B23,J15)	O	3287050216		237 X 191 X 618	45.7	3236000903	
CB77-90H (B23,J15)	O	3287050219		266 X 191 X 618	50.1	3236000903	
CB77-100H (B23,J15)	O	3287050222		294 X 191 X 618	54.5	3236000904	
CB77-110H (B23,J15)	O	3287050225		323 X 191 X 618	58.9	3236000904	
CB77-120H (B23,J15)	O	3287050228		351 X 191 X 618	63.3	3236000904	
CB77-130H (B23,J15)	O	3287050231		380 X 191 X 618	67.7	3236000905	
CB77-140H (B23,J15)		3287050234		408 X 191 X 618	72.1	3236000905	
CB77-150H (B23,J15)	O	3287050237		437 X 191 X 618	76.5	3236000905	
M-Channels							
CB77-20M (B23,J15)	O	3287050201		66 X 191 X 618	19.3	3236000901	
CB77-30M (B23,J15)	O	3287050204		95 X 191 X 618	23.7	3236000901	
CB77-40M (B23,J15)	O	3287050206		123 X 191 X 618	28.1	3236000902	
CB77-50M (B23,J15)	O	3287050209		152 X 191 X 618	32.5	3236000902	
CB77-60M (B23,J15)	O	3287050240		180 X 191 X 618	36.9	3236000902	
CB77-70M (B23,J15)	O	3287050214		209 X 191 X 618	41.3	3236000903	
CB77-80M (B23,J15)	O	3287050217		237 X 191 X 618	45.7	3236000903	
CB77-90M (B23,J15)	O	3287050220		266 X 191 X 618	50.1	3236000903	
CB77-100M (B23,J15)	O	3287050223		294 X 191 X 618	54.5	3236000904	
CB77-110M (B23,J15)	O	3287050226		323 X 191 X 618	58.9	3236000904	
CB77-120M (B23,J15)	O	3287050229		351 X 191 X 618	63.3	3236000904	
CB77-130M (B23,J15)	O	3287050232		380 X 191 X 618	67.7	3236000905	
CB77-140M (B23,J15)	O	3287050235		408 X 191 X 618	72.1	3236000905	
CB77-150M (B23,J15)	O	3287050238		437 X 191 X 618	76.5	3236000905	

O = not in stock

Brazed Heat Exchangers

CB77

Product code: 3552

PED approved
 Design temperature (°C): 175
 Design pressure (S3/S4, S1/S2): 25/16
 Max. no. of plates without CE Mark: 8

5.2

Heat Exchanger						Insulation Type A	
Model		Item No.	RCPL EUR	Plate pack dim. (mm) L x W x H	Weight kg/unit	Item No.	RCPL EUR
Connections: S1/S2 76.1 mm carbon steel welding Connections, length 48 mm, S3/S4 ISO G 2" externally threaded Connections, length 48 mm							
L-Channels							
CB77-20L (B23,J15)	O	3287050202		66 X 191 X 618	19.3	3236000901	
CB77-30L (B23,J15)	O	3287050205		95 X 191 X 618	23.7	3236000901	
CB77-40L (B23,J15)	O	3287050207		123 X 191 X 618	28.1	3236000902	
CB77-50L (B23,J15)	O	3287050210		152 X 191 X 618	32.5	3236000902	
CB77-60L (B23,J15)	O	3287050212		180 X 191 X 618	36.9	3236000902	
CB77-70L (B23,J15)	O	3287050215		209 X 191 X 618	41.3	3236000903	
CB77-80L (B23,J15)		3287050218		237 X 191 X 618	45.7	3236000903	
CB77-90L (B23,J15)	O	3287050221		266 X 191 X 618	50.1	3236000903	
CB77-100 L(B23,J15)	O	3287050224		294 X 191 X 618	54.5	3236000904	
CB77-110L (B23,J15)	O	3287050227		323 X 191 X 618	58.9	3236000904	
CB77-120L (B23,J15)	O	3287050230		351 X 191 X 618	63.3	3236000904	
CB77-130L (B23,J15)	O	3287050233		380 X 191 X 618	67.7	3236000905	
CB77-140L (B23,J15)	O	3287050236		408 X 191 X 618	72.1	3236000905	
CB77-150L (B23,J15)	O	3287050239		437 X 191 X 618	76.5	3236000905	

O = not in stock

Extras					
Model	Item No.	RCPL EUR	Dim. (mm) L x W x H	Weight kg/unit	Comment
Screw Fittings					
DN50 2" Pipe & Nut: CS	162623501		Fits B23	0.5	Welding type
DN50 2½" , Pipe & Nut: CS	3456040603		Fits B25	0.6	Welding type
DN65 2½" , Pipe & Nut: CS	3456040601		Fits B25	0.6	
Gasket for 2" fitting	162635004		Fits B25		
DN40 2" Pipe & Nut: CS	162623510		Fits B23	0.5	Welding type
42 mm, Pipe: Brass; Nut: CS, Nut: CS. Gasket included	3456105401		Fits B23	0.4	Soldering type
54 mm. Pipe: Brass, Nut: CS. Gasket included	162623503		Fits B23	0.4	Soldering type
Gasket for 2" fitting	162635003		Fits B23		
Insulation Type A: Polyurethane with blue ABS cover. Max. temperature 130 degrees					
Max. 30 plates	3236000901		160 X 240 X 670	1.3	
Max. 60 plates	3236000902		247 X 240 X 670	1.7	
Max. 90 plates	3236000903		334 X 240 X 670	2.1	
Max. 120 plates	3236000904		421 X 240 X 670	2.6	
Max. 150 plates	3236000905		510 X 240 X 670	2.9	
Adjustable foot					
Max. 60 plates	3456090801				Fits all connections.
Max. 90 plates	3456090804				Height adjustable from 400 mm to 600 mm
Max. 120 plates	3456090802				
Max. 150 plates	3456090803				
Floor support kit. Max. 30 plates.	162965501			2.3	Fits ONLY B23,B23 Connections Includes 2 feet and 2 nuts. The nuts are mounted on the thread on the connections, and fixes the feet.
Floor support kit. Max. 150 plates	162965501			1.7	Fits ONLY B23,B23 ConnectionsIncludes 2 feet. The feet are assembled together in a U-shape. Mounted on the plate package.
Rigid foot	3456108301			1.4	Includes two feet. Note that the BHE must be ordered with stud bolts.

Brazed Heat Exchangers

CB200

Product code: 3482

PED approved
Design temperature (°C): 175
Design pressure (S3/S4, S1/S2): 26/26
Max. no. of plates without CE Mark: 6

5.2

Heat Exchanger					
Model		Item No.	RCPL EUR	Plate pack dim. (mm) L x W x H	Weight kg/unit
Connections:					
Primary side (S3/S4): LFS23 - Stainless steel flanges (loose type) - PN25, DN80, DIN 2635					
Secondary side (S1/S2): LFS23 - Stainless steel flanges (loose type) - PN25, DN80, DIN 2635					
High theta units					
CB200-30H (LFS23,LFS23)	O	3287000255		92 x 324 x 742	56.6
CB200-40H (LFS23,LFS23)	O	3287000256		118 x 324 x 742	62.6
CB200-50H (LFS23,LFS23)	O	3287000257		145 x 324 x 742	68.6
CB200-64H (LFS23,LFS23)	O	3287000258		182 x 324 x 742	77.0
CB200-64H (LFS23, LFS23) incl. mounted insulation		3287000765		182 x 324 x 742	83.3
CB200-80H (LFS23,LFS23)	O	3287000259		225 x 324 x 742	86.6
CB200-100H (LFS23,LFS23)	O	3287000260		278 x 324 x 742	98.6
CB200-100H (LFS23,LFS23) incl. mounted insulation		3287056283		278 x 324 x 742	103.9
CB200-124H (LFS23 ,LFS23)	O	3287000261		341 x 324 x 742	113.0
CB200-124H (LFS23, LFS23) incl. mounted insulation		3287000766		341 x 324 x 742	119.3
CB200-150H (LFS23, LFS23)	O	3287000262		410 x 324 x 742	128.6
CB200-174H (LFS23, LFS23)	O	3287000263		474 x 324 x 742	143.0
CB200-200H (LFS23 ,LFS23)	O	3287000264		542 x 324 x 742	158.6
Medium theta units					
CB200-30M (LFS23, LFS23)	O	3287000265		92 x 324 x 742	56.6
CB200-40M (LFS23, LFS23)	O	3287000266		118 x 324 x 742	62.6
CB200-50M (LFS23, LFS23)	O	3287000267		146 x 324 x 742	62.9
CB200-50M (LFS23,LFS23) incl. mounted insulation		3287050029		146 x 324 x 742	74.9
CB200-64M (LFS23, LFS23)	O	3287000268		182 x 324 x 742	77.0
CB200-64M (LFS23, LFS23) incl. mounted insulation		3287000762		182 x 324 x 742	83.3
CB200-80M (LFS23, LFS23)	O	3287000269		225 x 324 x 742	86.6
CB200-80M (LFS23, LFS23) incl. mounted insulation		3287000763		225 x 324 x 742	92.9
CB200-100M (LFS23, LFS23)	O	3287000270		278 x 324 x 742	98.6
CB200-100M (LFS23 ,LFS23) incl. mounted insulation		3287000764		278 x 324 x 742	104.9
CB200-124M (LFS23, LFS23)	O	3287000271		341 x 324 x 742	113.0
CB200-124M (LFS23, LFS23)		3287050006		341 x 324 x 742	119.3
CB200-150M (LFS23, LFS23)	O	3287000272		410 x 324 x 742	128.6
CB200-174M (LFS23, LFS23)	O	3287000273		474 x 324 x 742	143.0
CB200-200M (LFS23, LFS23)	O	3287000274		542 x 324 x 742	158.6
Low theta units					
CB200-30L (LFS23 ,LFS23)	O	3287000275		92 x 324 x 742	56.6
CB200-40L (LFS23, LFS23)	O	3287000276		118 x 324 x 742	62.6
CB200-50L (LFS23, LFS23)	O	3287000277		145 x 324 x 742	68.6
CB200-64L (LFS23, LFS23)	O	3287000278		182 x 324 x 742	77.0
CB200-80L (LFS23 ,LFS23)	O	3287000279		225 x 324 x 742	86.6
CB200-80L (LFS23,LFS23) incl. mounted insulation		3287050145		225 x 324 x 742	92.9
CB200-100L (LFS23, LFS23)	O	3287000280		278 x 324 x 742	98.6
CB200-124L (LFS23, LFS23)	O	3287000281		341 x 324 x 742	113.0
CB200-150L (LFS23, LFS23)	O	3287000282		410 x 324 x 742	128.6
CB200-174L (LFS23, LFS23)	O	3287000283		474 x 324 x 742	143.0
CB200-200L (LFS23, LFS23)	O	3287000284		542 x 324 x 742	158.6

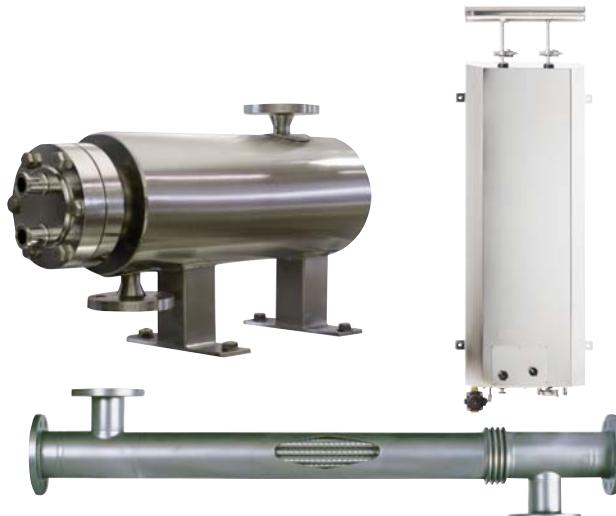
O = not in stock

Heat Exchanger					
Model		Item No.	RCPL EUR	Plate pack dim. (mm) L x W x H	Weight kg/unit
Connections:					
Primary side (S3/S4): LFS11 - Stainless steel flanges (loose type) - PN25, DN65, DIN 2635					
Secondary side (S1/S2): LFS12 - Stainless steel flanges (loose type) - PN16, DN100, DIN 2633					
High theta units					
CB300-30H (LFS11,LFS12)	O	3287000315		90 X 366 X 990	89.9
CB300-40H (LFS11,LFS12)	O	3287000316		116 X 366 X 990	102.5
CB300-50H (LFS11,LFS12)	O	3287000317		142 X 366 X 990	115.1
CB300-64H (LFS11,LFS12)	O	3287000318		179 X 366 X 990	132.7
CB300-80H (LFS11,LFS12)	O	3287000319		221 X 366 X 990	152.9
CB300-100H (LFS11,LFS12)	O	3287000320		273 X 366 X 990	178.1
CB300-124H (LFS11,LFS12)	O	3287000321		336 X 366 X 990	208.3
CB300-150H (LFS11,LFS12)	O	3287000322		404 X 366 X 990	241.1
CB300-150H (LFS11,LFS12) incl. mounted insulation		3287000769		404 X 366 X 990	241.1
CB300-180H (LFS11,LFS12)	O	3287000323		483 X 366 X 990	278.9
CB300-210H (LFS11,LFS12)	O	3287000324		561 X 366 X 990	316.7
CB300-250H (LFS11,LFS12)	O	3287000325		666 X 366 X 990	367.1
Medium theta units					
CB300-30M (LFS11,LFS12)	O	3287000326		90 X 366 X 990	89.9
CB300-40M (LFS11,LFS12)	O	3287000327		116 X 366 X 990	102.5
CB300-50M (LFS11,LFS12)	O	3287000328		142 X 366 X 990	115.1
CB300-64M (LFS11,LFS12)	O	3287000329		179 X 366 X 990	132.7
CB300-64M (LFS11,LFS12) incl. mounted insulation		3287000767		179 X 366 X 990	132.7
CB300-80M (LFS11,LFS12)	O	3287000330		221 X 366 X 990	152.9
CB300-100M (LFS11,LFS12)	O	3287000331		273 X 366 X 990	178.1
CB300-100M (LFS11,LFS12) incl. mounted insulation		3287000768		273 X 366 X 990	178.1
CB300-124M (LFS11,LFS12)	O	3287000332		336 X 366 X 990	208.3
CB300-150M (LFS11,LFS12)	O	3287000333		404 X 366 X 990	241.1
CB300-180M (LFS11,LFS12)	O	3287000334		483 X 366 X 990	278.9
CB300-210M (LFS11,LFS12)	O	3287000335		561 X 366 X 990	316.7
CB300-250M (LFS11,LFS12)	O	3287000336		666 X 366 X 990	367.1
Low theta units					
CB300-30L (LFS11,LFS12)	O	3287000337		90 X 366 X 990	89.9
CB300-40L (LFS11,LFS12)	O	3287000338		116 X 366 X 990	102.5
CB300-50L (LFS11,LFS12)	O	3287000339		142 X 366 X 990	115.1
CB300-64L (LFS11,LFS12)	O	3287000340		179 X 366 X 990	132.7
CB300-64L (LFS11,LFS12) incl. mounted insulation		3287050044		179 X 366 X 990	132.7
CB300-80L (LFS11,LFS12)	O	3287000341		221 X 366 X 990	152.9
CB300-100L (LFS11,LFS12)	O	3287000342		273 X 366 X 990	178.1
CB300-100L (LFS11,LFS12) incl. mounted insulation		3287050099		273 X 366 X 990	178.1
CB300-124L (LFS11,LFS12)	O	3287000343		336 X 366 X 990	208.3
CB300-150L (LFS11,LFS12)	O	3287000344		404 X 366 X 990	241.1
CB300-180L (LFS11,LFS12)	O	3287000345		483 X 366 X 990	278.9
CB300-210L (LFS11,LFS12)	O	3287000346		561 X 366 X 990	316.7
CB300-250L (LFS11,LFS12)	O	3287000347		666 X 366 X 990	367.1

O = not in stock

5.3 Tubular Heat Exchangers

Our PharmaLine and ViscoLine tubular heat exchangers are especially designed to meet the whole requirement range in hygienic heat exchange from standard CIP duties, viscous food processing to the highest hygienic demands in pharma applications.



Application Overview 5.3.1225

PD Sheets

Pharma-line Double Tube Sheet Shell & Tube Heat Exchanger	5.3.1226
Pharma-X Point-of-use Cooler for Pharmaceutical Water Systems	5.3.1228
ViscoLine™ Monotube Unit	5.3.1230
ViscoLine™ CIP Unit	5.3.1232
ViscoLine™ Multitube Unit	5.3.1234
ViscoLine™ Annular Unit	5.3.1236
Multitube Heat Exchangers	5.3.1239

Ordering Leaflets

Pharma-line	5.3.1240
Pharma-X	5.3.1241
Heat/Cooler Exchanger	5.3.1242

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	Tube in Tube	Shell & Tube
	Pharma-X	Pharma-line
Main duties		
Dairy		
Milk Cooling		
Milk/cream pasteurization		
Cultured milk cooling		
Whey pasteurization		
Ice cream pasteurization		
Brewery		
Wort cooling		
Beer cooling		
Beer pasteurization		
Beverages		
Clarified juices, drinks, wine		
Juice/drinks with pulp/fibres		
Clarified fruit & sugar conc.		
Clodly fruit concentrate		
Other food		
Low viscous products		
High viscous products		
Sticky/chunky/particles		
Vegetable oil		
Pharma		
Pre-heating in water purification		•
In-line heater WFI/PW		•
Point of use cooler WFI/PW	•	•
Heating of holding tank WFI/PW		
CIP heater		•
Product heating/cooling		•
Utilities		
CIP Heating		
Water heating/cooling		
Glycol cooling		
CO2 heating/cooling		
Refrigeration		

Pharma-line

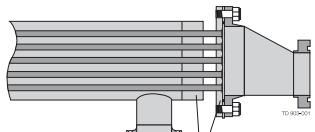
Pharma-line Double Tube Sheet Shell & Tube Heat Exchanger

Applications

The Pharma-line is used in pharmaceutical water systems; Water For Injection (WFI) and Purified Water (PW) and for heating or cooling of pharmaceutical products.

Working principles

The Pharma-line is designed in accordance with FDA guidelines. In the Pharma-line the risk of mixing between the product and the heating or cooling (service) medium is eliminated as a result of the double tube sheet design. The product flows in the tubes while the service medium flows in a cross flow around the tubes, inside the shell. The service medium is sealed in the shell by the first tube sheet and the second tube sheet seals the product. In the event of a leak, the leakage of either fluid is easily visually detected.



Tube sheets

Fig. 1. Double tube sheets prevent cross contamination between the product and the heating/cooling medium.

PHYSICAL DATA

Product wetted steel parts: . . . 316L (seamless tubes)
Gaskets: PTFE (FDA compliance & USP class VI certified)
Connections: Tri-clamp on tube side and flanges on service side (other options available)



TECHNICAL DATA

Heat transfer area: . . . 0.1 m² – 8.5 m²
Design temperature: . . . 150°C (available up to 200°C)
Design pressure: . . . FV/10 barg, higher pressures available
Pressure vessel codes: PED and ASME VIII (U-stamp as option), Chinese grade A2
Welding: according to ASME IX and EN-288-3, EN 287-1
Surface finish product
wetted parts: Electropolished with Ra<0.4 µm or Ra<0.5 µm or
Mechanically polished with Ra<0.8 µm.

Options:

- Passivation according to procedure
- Insulation Mineral wool (ASTM C795) with stainless steel 304 cladding
- Removable tube bundle

Custom made

Other design and documentation are available on request.

The Alfa Laval Pharma-line is a high quality double tube sheet shell & tube heat exchanger designed for use in the pharmaceutical and biotechnology industries. It is available in a number of standard sizes and meets the stringent hygiene standard imposed both by control authorities and industry.

Hygenic design

The Pharma-line has no dead legs and is fully drainable on the product side. All product wetted parts in the Pharma-line are either electropolished to Ra<0.5 µm, Ra<0.4 µm or mechanically polished to Ra<0.8 µm. The Pharma-line tubes are seamless and U-tubes are bent to a larger radius than required in ASME BPE. The Pharma-line is easy to clean and can be steam sterilized. Gaskets come with a USP class VI certificate and are in compliance with FDA.

Standard range

A standard range of U-tube designs that suit most applications are readily available. Custom design units are available on request.

Documentation

The Pharma-line is delivered along with a complete documentation package including:

- Approved drawings and calculations signed by Notified body
- List of welders, welding procedure and welder qualification
- 3.1 Material certificates, pressure and product wetted steel parts
- FDA compliance and USP class VI certificates, gaskets
- Liquid penetrant test report and procedure
- Surface roughness certificate
- Dimension control report
- Pressure test certificate, signed by Notified body
- Identification (technical sign)
- Quality system certificate
- CE-Documents

Other documentation/procedures on request.

Installation

The Pharma-line can be installed either horizontally or vertically, depending on the specific demands. For an easy installation, lifting lugs and mounting plates are welded on the unit.

Standard units, measurements (approximate) [mm]

Type	Shell OD	A	B	C
Pharma-line 1 [mm]				
Pharma-line 1 - 0.1	73	1200	180	860
Pharma-line 1 - 0.3	89	1200	190	860
Pharma-line 1 - 0.4	102	1200	190	860
Pharma-line 1 - 0.6	114	1200	200	860
Pharma-line 1 - 0.7	140	1200	210	860
Pharma-line 1 - 0.8	114	1200	200	860
Pharma-line 1 - 1.1	140	1200	210	860
Pharma-line 1 - 1.2	168	1200	220	860
Pharma-line 1 - 2.5	219	1200	253	860
Pharma-line 2 [mm]				
Pharma-line 2 - 0.3	73	2200	180	1860
Pharma-line 2 - 0.6	89	2200	190	1860
Pharma-line 2 - 1.0	102	2200	190	1860
Pharma-line 2 - 1.3	114	2200	200	1860
Pharma-line 2 - 1.4	140	2200	210	1860
Pharma-line 2 - 1.7	114	2200	200	1860
Pharma-line 2 - 2.4	140	2200	210	1860
Pharma-line 2 - 2.6	168	2200	220	1860
Pharma-line 2 - 5.5	219	2200	253	1860
Pharma-line 3 [mm]				
Pharma-line 3 - 0.4	73	3200	180	2860
Pharma-line 3 - 1.0	89	3200	190	2860
Pharma-line 3 - 1.6	102	3200	190	2860
Pharma-line 3 - 2.0	114	3200	200	2860
Pharma-line 3 - 2.2	140	3200	210	2860
Pharma-line 3 - 2.7	114	3200	200	2860
Pharma-line 3 - 3.7	140	3200	210	2860
Pharma-line 3 - 4.0	168	3200	220	2860
Pharma-line 3 - 8.5	219	3200	253	2860

Nozzle schedule

Item	Service	Facing	Standard & Dimension
T1	Tube inlet	Tri-Clamp	Free
T2	Tube outlet	Tri-Clamp	Free
M1	Shell inlet	Weld neck flange	Free
M2	Shell outlet	Weld neck flange	Free

