ENGINEERING
TOMORROW

Data sheet

Micro plate heat exchanger (MPHE): XB12

Description

Micro Plate Heat Exchangers - a revolutionary technology from Danfoss.
Characterized by their unique plate pattern, MPHEs enable heat to be transferred more efficient than any previous model of heat exchangers.

Benefits:
- Energy and cost savings
- Better heat transfer
- Lower pressure loss
- More flexible design
- Longer life time

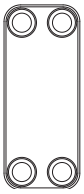
more on:
districtenergy.danfoss.com (MPHE)

XB12 is copper brazed heat exchanger, designed and configured for District Heating, District Cooling and other Heating applications.Heat exchanger XB12 will be available in plate corrugation H, M and L. It will be available in 1-pass (with 4 connections) and 2-pass version (with 6 connections). Heat exchangers can be dimensioned in Danfoss calculation software "Hexact" which can be downloaded from hexact.danfoss.com.

Approval:
Pressure Equipment Directive (PED) 97/23/EC.

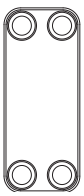
Ordering

1-pass heat exchanger **XB12** with G 1 ¼" connection size [1)]

Picture	No. of plates, n	Connection	XB12H-1	XB12M-1	XB12L-1
			Code No.		
	10	Thread G 1 ¼"	004H7555	004H7540	004H7525
	16		004H7556	004H7541	004H7526
	20		004H7557	004H7542	004H7527
	26		004H7558	004H7543	004H7528
	30		004H7559	004H7544	004H7529
	36		004H7560	004H7545	004H7530
	40		004H7561	004H7546	004H7531
	50		004H7562	004H7547	004H7532
	60		004H7563	004H7548	004H7533
	70		004H7564	004H7549	004H7534
	80		004H7565	004H7550	004H7535
	90		004H7566	004H7551	004H7536
	100		004H7567	004H7552	004H7537
	110		004H7568	004H7553	004H7538
	120		004H7569	-	-
	140		004H7570	-	-

[1)] Available also with 1 inch connection size. Please contact your Danfoss representative.

2-pass heat exchanger **XB12** with G 1 ¼" connection size [1)]

Picture	No. of plates[2)], n	Connection	XB12H-1	XB12M-1	XB12L-1
			Code No.		
	20/20	Thread G 1 ¼"	004H7596	004H7584	004H7572
	26/26		004H7597	004H7585	004H7573
	30/30		004H7598	004H7586	004H7574
	36/36		004H7599	004H7587	004H7575
	40/40		004H7600	004H7588	004H7576
	46/46		004H7601	004H7589	004H7577
	50/50		004H7602	004H7590	004H7578
	56/56		004H7603	004H7591	004H7579
	60/60		004H7604	004H7592	004H7580
	66/66		004H7605	004H7593	004H7581
	70/70		004H7606	004H7594	004H7582

[1)] Available also with 1 inch connection size. Please contact your Danfoss representative.
[2)] First pass/second pass

Ordering *(continued)*

Accessories:
Insulation for 1-pass

EPP (Expanded Polypropylene) insulation

No. of plates	Type coverage (plate number)		
	H	M	L
10	004H4201	004H4201	004H4201
16			
20			
26			
30			
36			004H4202
40			
50	004H4202	004H4202	
60			
70			004H4203
80		004H4203	
90	004H4203		
100			[1]
110			
120		-	-
140	[1]	-	-

PU (Polyurethane) insulation

No. of plates	Type coverage (plate number)		
	H	M	L
10	004H4210	004H4210	004H4210
16			
20			
26			
30			
36			
40			004H4211
50		004H4211	
60	004H4211		
70			
80			004H4212
90			
100		004H4212	
110	004H4212		004H4213
120		-	-
140		-	-

[1] *EPP insulation is not available please order PU insulation for this size.*

Accessories:
Insulation for 2-pass

EPP (Expanded Polypropylene) insulation

No. of plates	Type coverage (plate number)		
	H	M	L
20/20	004H4201	004H4201	004H4202
26/26	004H4202	004H4202	
30/30			
36/36			004H4203
40/40		004H4203	
46/46	004H4203		
50/50			[1]
56/56			
60/60		[1]	
66/66	[1]		
70/70			

PU (Polyurethane) insulation

No. of plates	Type coverage (plate number)		
	H	M	L
20/20	004H4210	004H4210	004H4211
26/26		004H4211	
30/30	004H4211		
36/36			004H4212
40/40			
46/46			
50/50		004H4212	004H4213
56/56	004H4212		
60/60			004H4214
66/66			
70/70		004H4213	

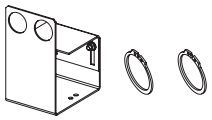
[1] *EPP insulation is not available please order PU insulation for this size.*

Accessories-**Tailpieces**

Picture	Description	Connection	Code No.[1]
	Solder tailpieces	G 1 ¼" / 28 mm	004B1358
		G 1" / 22 mm	004B2906
		G 1" / 18 mm	004B2905
		G 1" / 15 mm	004B2904
	Weld-on tailpieces	G 1" / DN 20	003H6909
		G 1 ¼" / DN 25	003H6910
	Threaded tailpieces	G 1 ¼" / G 1"	004H4205
		G 1 ¼" / G 1 ½"	004H4206
		G 1" / G ¾"	004B2913

[1] *One set contains 2 tailpieces with union nuts and gaskets*

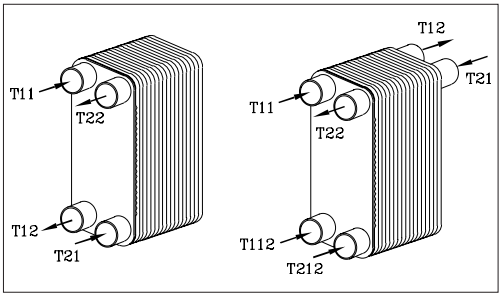
Accessories-**Bracket** [1]

Picture	Connection	Code No.
	Thread G 1 ¼"	004H4200
	Thread G 1"	004B2919

[1] *Bracket set consist of bracket and 2 seeger rings*

Design and function

T11 - Primary side in
T12 - Primary side out
T112 - Primary side second inlet (2-pass)
T21 - Secondary side in
T22 - Secondary side out
T212 - Secondary side second inlet (2- pass)



Danfoss 2 pass heat exchangers are made with 6 connections, as they are primarily used to heat tap water.
There is one additional connection to allow circulation of hot water and one connection to connect and extract heat from return water from heating heat exchanger.
Connections T112 and T212 can be blocked if they are not used.

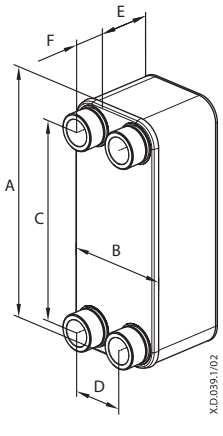
Technical data

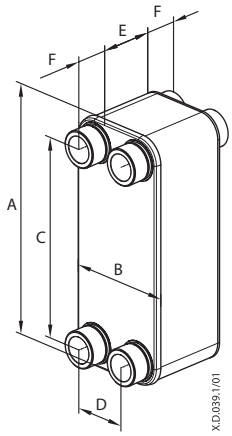
Type		XB12L-1	XB12M-1	XB12H-1
Max. working pressure	bar	25		
Min. / Max. temperature	°C	-10 / 180		
Flow medium		DH: Circulation water / glycolic water up to 50% DC: ethylene-, propylene-glycolic water, ethanol-water solutions and other suitable heat transfer media. (Please contact your Danfoss representative).		
Volume/channel	Ltr	0,045	0,035	0,029
Connection type		Cylindrical external thread acc. to DIN ISO 228/1		
Connection size		G 1 ¼" or G 1"		
Weight	kg	1-pass: G 1 ¼" / G 1" connection: 1,53+0,076*n / 1,36+0,076*n		
		2-pass: G 1 ¼" / G 1" connection: 1,77+0,076*n / 1,52+0,076*n		
Materials				
Plate		Stainless steel, EN 1.4404 (AISI 316L)		
Brazing		Copper		

Insulation

Type			PU (Polyurethane)	EPP (Expanded Polypropylene)
Heatconductivity, λ		W/mK	0,035	0,038
Max temperature	Permanent	°C	130	110
	Short term peak		160	
Wall thickness		mm	20	30

Dimensions [1]



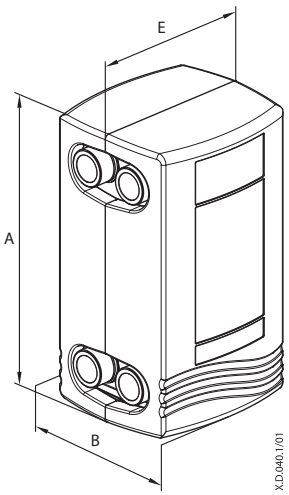


Type	Connection	
	G 1 ¼" [1]	G 1" [1]
A	289	
B	118	
C	234	235
D	63	65
F	25	20

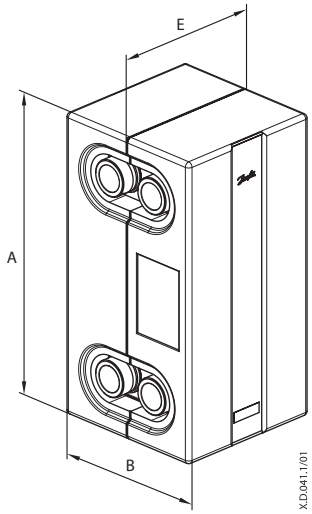
Type	E (mm)
XB12L	n × 1,75 + 10 (+0,5/-3%)
XB12M	n × 1,40 + 10 (+0,5/-3%)
XB12H	n × 1,2 + 10 (+0,5/-3%)

n = number of plates

[1] *Cylindrical external thread acc. to DIN ISO 228/1*



PU - insulation



EPP - insulation

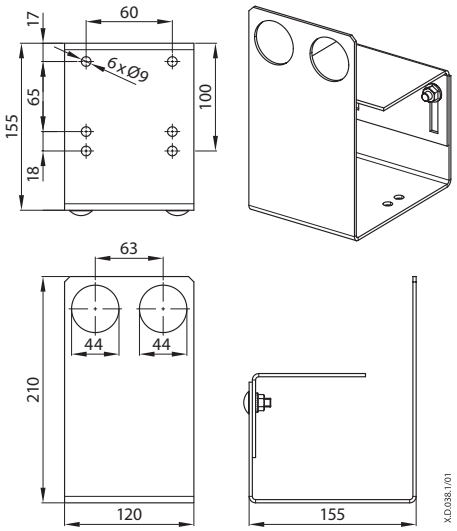
Insulation

Type	A	B	E	Code No.
	mm			
EPP	352	185	130	**004H4201**
			180	**004H4202**
			235	**004H4203**
PU	336	176	135	**004H4210**
		184	197	**004H4211**
		185	257	**004H4212**
		188	282	**004H4213**
		200	337	**004H4214**

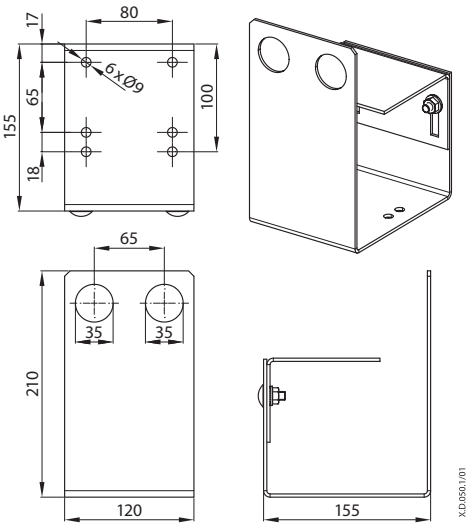
[1] *Dimensions can be as well extract from Danfoss calculation software "Hexact" which can be downloaded from hexact.danfoss.com.*

Dimensions *(continuous)*

Mounting bracket

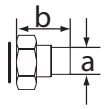
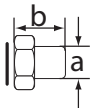
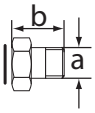


Thread G 1 ¼"	**004H4200**



Thread G 1"	**004B2919**

Tailpieces

Picture	Description	Connection	Code No.	a	b	SW [1]
				mm		
	Solder tailpieces	G 1 ¼" / 28 mm	**004B1358**	25,4 / 28	33	46
		G 1" / 22 mm	**004B2906**	25,6	35	37
		G 1" / 18 mm	**004B2905**	20	35	37
		G 1" / 15 mm	**004B2904**	20	35	37
	Weld-on tailpieces	G 1" / DN 20	**003H6909**	26	49,5	41
		G 1 ¼" / DN 25	**003H6910**	33	49,5	50
	Threaded tailpieces	G 1 ¼" / G 1"	**004H4205**	1"	40	46
		G 1 ¼" / G 1 ½"	**004H4206**	1 ½"	60	46
		G 1" / G ¾"	**004B2913**	¾"	35	37

[1] *Union nut, width across flats*

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