Data sheet

Micro plate heat exchanger (MPHE): XGM032

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:
MPHE.danfoss.com

XGM032 is gasketed plate heat exchanger, designed and configured for District Heating and other Heating applications.

Heat exchanger XGM032 will be available in plate corrugation H, M and L. It will be available in 1-pass version (with 4 connections) and 2-pass version (with 6 connections). Heat exchanger can be dimensioned in Danfoss calculation software "Hexact" which can be downloaded from hexact.danfoss.com.

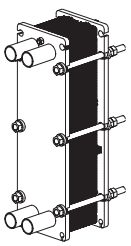
Approvals:
- Pressure Equipment Directive (PED) 97/23/EC
- GOST/Russia

Ordering

XGM 032 H – 1 – 10

- 10 — Number of plates
- 1 — Number of Passes (1 = 1-pass)
- H — Channel type (L-M-H)
- 032 — Connection size (DN 32)
- XGM — Micro plate™ plates
- Gasketed heat exchanger

1-pass gasketed heat exchangers type **XGM032 (PN 16)**

Picture	No. of plates (n)	Connection	XGM032L	XGM032M	XGM032H
			Code No.		
	20	Thread G 1¼	004H7096	004H7087	004H7078
	30		004H7097	004H7088	004H7079
	40		004H7098	004H7089	004H7080
	50		004H7099	004H7090	004H7081
	60		004H7100	004H7091	004H7082
	70		004H7101	004H7092	004H7083
	80		004H7102	004H7093	004H7084
	90		004H7103	004H7094	004H7085
	100		004H7104	004H7095	004H7086

Note: *Brackets has to be ordered separately.*

Ordering - continuous

Accessories - **Insulations**

Type coverage (plate nos)	Code No.
20-40	**004H7117**
41-70	**004H7118**
71-100	**004H7119**

Accessories - **Bracket**

Type	Code No.
Brackets	**004H7222**

Accessories - **EPDM Gasket**

Type	Code No.
Gasket for XGM032, I-pack 10 pcs	**004H7128**
Gasket for XGM032, I-pack 250 pcs	**004H7129**

Accessories for gasketed heat exchanger type XGM

Type	Code No.
Plates for XGM032H PN 16/25, I-pack 10 pcs	**004H7186**
Plates for XGM032M PN 16/25, I-pack 10 pcs	**004H7187**
Plates for XGM032L PN 16/25, I-pack 10 pcs	**004H7188**
Plates for XGM032H PN 16/25, I-pack 250 pcs	**004H7189**
Plates for XGM032M PN 16/25, I-pack 250 pcs	**004H7190**
Plates for XGM032L PN 16/25, I-pack 250 pcs	**004H7191**
XGM032H: spec. plates 1-pass versions, including gaskets. PN 16/25	**004H7204**
XGM032M: spec. plates 1-pass versions, including gaskets. PN 16/25	**004H7205**
XGM032L: spec. plates 1-pass versions, including gaskets. PN 16/25	**004H7206**
XGM032H: spec. plates 2-pass version, including gaskets PN 16/25	**004H7219**
XGM032M: spec. plates 2-pass version, including gaskets PN 16/25	**004H7220**
XGM032L: spec. plates 2-pass version, including gaskets PN 16/25	**004H7221**

Tailpieces for gasketed heat exchanger type XG

Picture	Description	Connection	Code No.[1)]
	Solder tailpieces	G 1¼ A/22 mm, 28 mm	**004B1358**
	Weld-on tailpieces	G 1¼ A/DN 25	**003H6910**
		G 1¼ A/DN 32	**004B1343**

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

Technical data

Max. working pressure	PN (bar)	16 & 25
Max. operating temperature	°C	150
Min. operating temperature [1)]	°C	–10
Flow medium		Circulation water / glycolic water up to 50 %
Volume / Channel	Ltr	0,097
Primary side volume:	Ltr	(n/2) -1 x volume/channel
Secondary side volume:	Ltr	(n/2) x volume/channel
Connection type		Cylindrical external thread acc. to DIN ISO 228/1
Connection size		G 1¼
Plate material		Stainless steel, mat. no. EN 1.4404
Plate thickness	mm	0,3
Gasket type		Glue free
Gasket material, rubber		EPDM

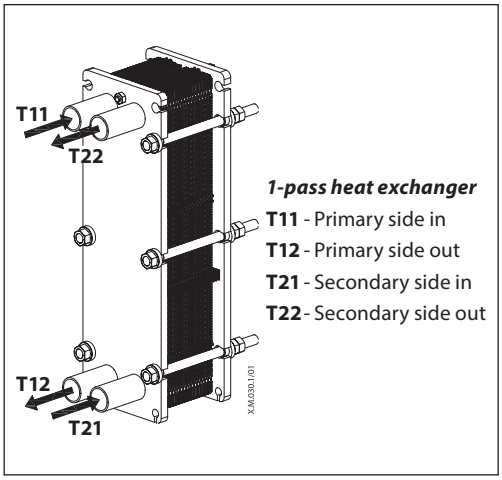
[1)] At flow temp. below 2 °C glycolic water must be used

Insulation properties

Type			Aluminium stucco and mineral wool
Heat conductivity, λ		W/mK	0,042
Max temperature	Permanent	°C	150
	Short term peak	°C	180
Wall thickness		mm	40

Note:
For more details about insulation please contact your Danfoss sales representative.

Design and function



1-pass heat exchanger

T11 - Primary side in
T12 - Primary side out
T21 - Secondary side in
T22 - Secondary side out

The heat exchangers are made of shape-pressed heat plates between which the flow channels are created. Gaskets between the plates separate the flow channels from each other so that the flows do not mix. The heavy turbulence and counter-flow principle enables efficient heat transfer. The task of the heat exchanger is to transfer heat from the primary to secondary flow through a heat transfer plate thus preventing the flows from mixing with each other. The plate heat exchanger with gaskets can be opened for cleaning and for replacement of plates and gaskets. A steeples output adjustment can be carried out by changing the number of plates.

The choice of heat exchanger is determined by the desired heat output, required temperatures and the permitted pressure losses.

Sizing

XGM032 will be available as standard and tailor made unit. It can be calculated in latest version of Danfoss calculation software "Hexact" ver. 2.1.3 which can be downloaded from hexact.danfoss.com.

Mounting

The heat exchanger must be mounted in vertical position. Prepare the foundation for the heat exchanger if necessary, always according to local regulations. It is recommended that all pipes connected to the heat exchanger are equipped with shut-off valves for maintenance purposes.

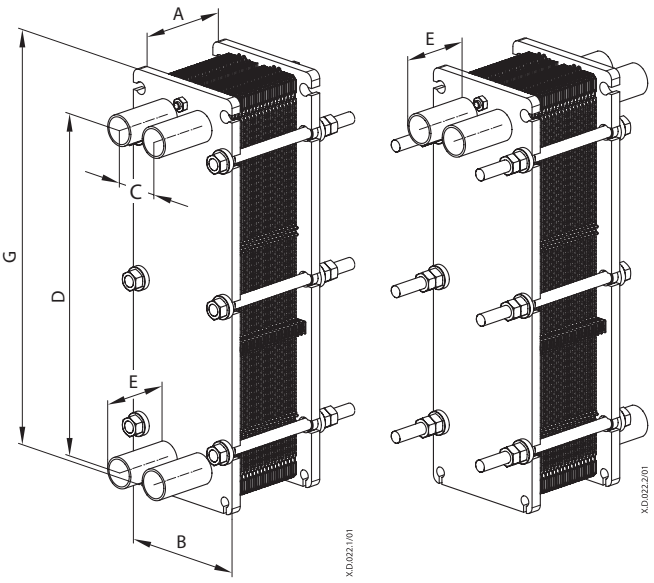
The pipes to be connected must be mounted so that the strain caused by the thermal expansion, for instance, does not harm the heat exchanger.

The pipes must be equipped with brackets to prevent any torsional stress concentration at the heat exchanger's pipe connections.

It is recommended that the heat exchanger is equipped with insulation.

A safety valve must be installed between the heat exchanger and the shut-off valves on the secondary side of the heat exchanger. If the safety valve is not installed, thermal expansion of fluid might destroy the heat exchanger when the shut-off valves are closed.

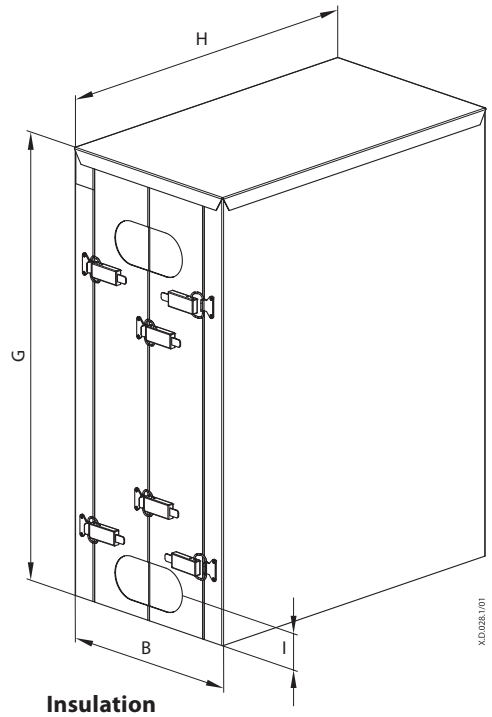
Dimensions[1)]



Heat exchanger

No. of plates	A	B	C	D	E	G	Weight (kg)
20-40	2,3 x n	180	63	470	65	570	0,21 x n + 36,14
41-70							0,21 x n + 43,51
71-100							0,21 x n + 50,88

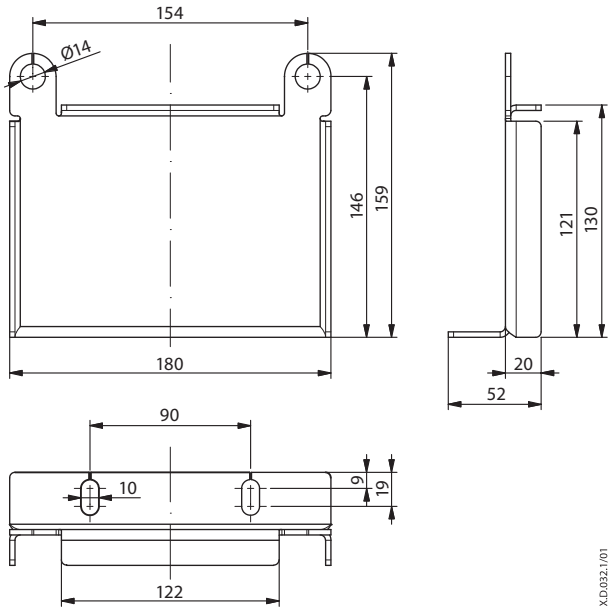
n = number of plates



Insulation

Code No.	G	B	I	H	Weight (kg)
004H7117	615	270	50	360	10
004H7118				460	12
004H7119				560	14

Bracket



[1)] Dimensions for 2-pass and PN25 version can be extract from calculating software "Hexact" in tab "Dimensional data".