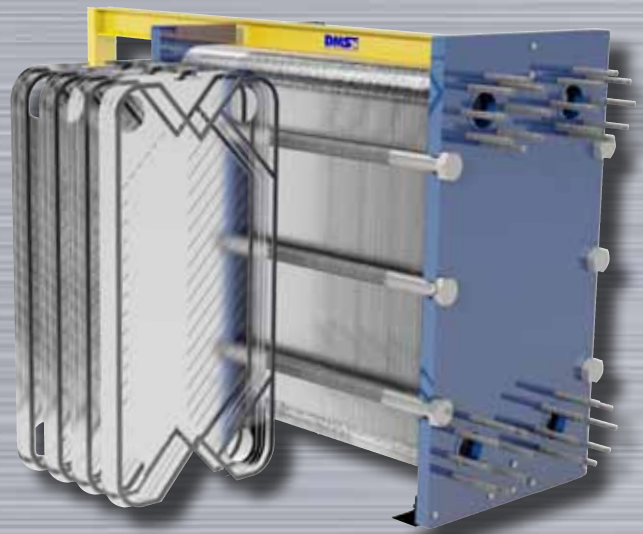




DMS plate heat exchanger - brazed and gasketed design - a comprehensive programme to solve any heat exchanger problem in an optimal way



### **DMS Coil and Shell Heat Exchanger**

#### **Heat Exchanger**

- 1.) water/water
- 2.) steam/water

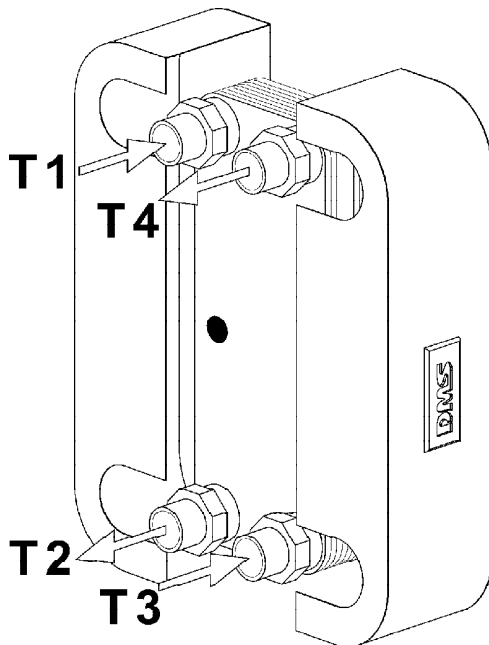
#### **Drinking water heating**

- 1.) hot water/ drinking water
- 2.) steam / drinking water

heat exchangers - hot water systems - district heating stations

## *DMS-Brazed Plate Heat Exchanger Series PS-L-G*

### Connection example



### Application:

Brazed plate heat exchangers can be utilized for heating and cooling of clean liquids which must not contain particles and dirt larger than one millimeter in size which would result in blockage. Furthermore the DMS brazed plate heat exchangers are suitable as evaporator and condenser units.

### Typical applications are:

District heating, heating, and ventilation solar heating and air-conditioning units heating pumps and heating recovering units hydraulic and fuel oil units

### Construction and mode for operation:

DMS brazed plate heat exchangers consist of: a number of thin, acid-resistant plates, precision stamped and assembled as a unit, each alternate plate being rotated 180°.

Material: copper brazed stainless steel ANSI 316 (1.4401)  
The plate pack, assembled with two end plates and connections, is vacuum brazed at extremely high temperatures providing a permanently sealed heat exchange. The final result is a strong and compact plate heat exchanger with extremely high heat transmissions. The high heat transmission comes from the main pattern which is designed to create a turbulence prevents or minimizes blockages in the heat exchanger. Should the liquid or steam used cause restrictions the plate heat exchanger can be rinsed with cleaning agents according to the specifications in our installation, operating, and maintenance manual.

### Accessories:

Insulating jackets, 4 three-part connections on request temperature adjustment sensor

	IN	OUT
primary	T1	T2
secondary	T3	T4

### To design the right type we have to know:

Kind of liquid  
primary and secondary temperatures and head losses

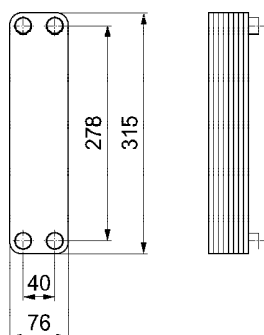
## heat exchangers - hot water systems - district heating stations

### *DMS-Brazed Plate Heat Exchanger Series PS-LG 23/*

**Compact-heat exchanger with fixed number of plates**

**Material:** copper braced stainless steel ANSI 316 (1.4401)  
**max. operating pressure:** 25 bar  
**max. operating temperature:** 185°C/365 ° F

**Connections:** 4 x ¾" outside thread, stainless steel  
 3-part-connection, flat packing  
 laid in part, bronze or steel  
 insulating jacket



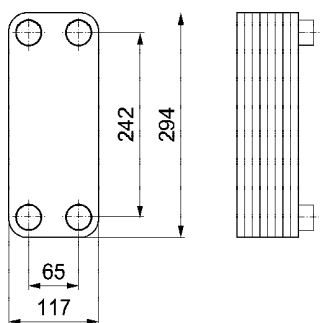
DMS - type	measures in mm			weight in kg
	longitude	width	height	
PS - LG 23/ 10 TL	32	76	315	1,7
PS - LG 23/ 14 TL	38	76	315	2,1
PS - LG 23/ 18 TL	47	76	315	2,5
PS - LG 23/ 24 TL	59	76	315	3,0
PS - LG 23/ 32 TL	76	76	315	3,8
PS - LG 23/ 40 TL	93	76	315	4,5
PS - LG 23/ 48 TL	110	76	315	5,3

### *DMS-Brazed Plate Heat Exchanger Series PS-LG 34/*

**Compact-heat exchanger with fixed number of plates**

**Material:** copper braced stainless steel ANSI 316 (1.4401)  
**max. operating pressure:** 25 bar  
**max. operating temperature:** 185°C/365 ° F

**Connections:** 4 x 1" outside thread, stainless steel  
 from 64 plates 1½"  
 3-part-connection, flat packing  
 laid in part, bronze or steel  
 insulating jacket



DMS - type	measures in mm			weight in kg
	longitude	width	height	
PS - LG 34/ 10 TL	32	117	294	2,1
PS - LG 34/ 14 TL	41	117	294	2,6
PS - LG 34/ 20 TL	50	117	294	3,0
PS - LG 34/ 30 TL	81	117	294	4,6
PS - LG 34/ 40 TL	99	117	294	5,6
PS - LG 34/ 50 TL	117	117	294	6,5
PS - LG 34/ 60 TL	154	117	294	8,3
PS - LG 34/ 70 TL	170	117	294	9,2
PS - LG 34/ 80 TL	188	117	294	10,1
PS - LG 34/ 90 TL	210	117	294	11,2

## heat exchangers - hot water systems - district heating stations

### *DMS-Brazed Plate Heat Exchanger Series PS-LG, PS-LG 70/*

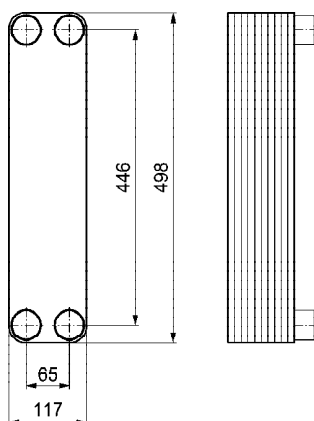
**Compact-heat exchanger with fixed number of plates**

**Material:** copper braced stainless steel ANSI 316 (1.4401)

**max. operating pressure:** 25 bar

**max. operating temperature:** 185°C/365 ° F

**Connections:** 4 x 1½" outside thread, stainless steel  
3-part-connection, flat packing  
laid in part, bronze or steel  
insulating jacket



DMS - type	measures in mm					weight in kg
	longitude			width	height	
	TL	TM	TK			
PS - LG 70/ 10	32	35	36	117	498	4,2
PS - LG 70/ 14	41	46	48	117	498	5,0
PS - LG 70/ 20	50	57	60	117	498	5,8
PS - LG 70/ 30	81	97	100	117	498	8,8
PS - LG 70/ 40	99	119	123	117	498	10,5
PS - LG 70/ 50	134	164	170	117	498	14,0
PS - LG 70/ 60	154	186	193	117	498	15,7
PS - LG 70/ 70	170	209	216	117	498	17,4
PS - LG 70/ 80	188	231	239	117	498	19,1
PS - LG 70/ 90	210	259	268	117	498	21,2
PS - LG 70/ 100	232	287	297	117	498	23,4
PS - LG 70/ 110	255	315	326	117	498	25,5
PS - LG 70/ 120	277	343	355	117	498	27,7
PS - LG 70/ 130	299	371	384	117	498	29,8
PS - LG 70/ 140	322	399	413	117	498	32,0
PS - LG 70/ 150	344	427	442	117	498	34,1

### *DMS-Brazed Plate Heat Exchanger Series PS-LG, PS-LG 140/*

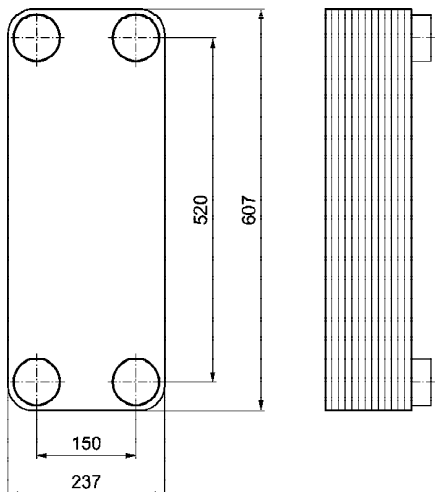
**Compact-heat exchanger with fixed number of plates**

**Material:** copper braced stainless steel ANSI 316 (1.4401)

**max. operating pressure:** 16 bar

**max. operating temperature:** 185°C/365 ° F

**Connections:** 4 x 2½" outside thread, stainless steel  
3-part-connection, flat packing  
laid in part, bronze or steel  
insulating jacket



DMS - type	measures in mm					weight in kg
	longitude			width	height	
	TL	TM	TK			
PS - LG 140/ 10	37	41	45	237	607	9,3
PS - LG 140/ 14	47	50	54	237	607	11,0
PS - LG 140/ 20	58	62	66	237	607	12,7
PS - LG 140/ 30	96	113	120	237	607	18,7
PS - LG 140/ 40	118	125	132	237	607	22,1
PS - LG 140/ 50	140	147	156	237	607	25,5
PS - LG 140/ 60	183	190	198	237	607	32,4
PS - LG 140/ 70	205	212	221	237	607	35,8
PS - LG 140/ 80	226	234	246	237	607	39,2
PS - LG 140/ 90	253	262	270	237	607	43,5
PS - LG 140/ 100	280	289	297	237	607	47,8
PS - LG 140/ 110	308	317	325	237	607	52,0
PS - LG 140/ 120	335	344	355	237	607	56,3
PS - LG 140/ 130	362	372	383	237	607	60,6
PS - LG 140/ 140	389	400	412	237	607	65,0
PS - LG 140/ 150	416	425	436	237	607	69,2
PS - LG 140/ 160	443	455	467	237	607	73,5
PS - LG 140/ 170	470	482	493	237	607	77,7
PS - LG 140/ 180	497	510	522	237	607	82,0
PS - LG 140/ 190	524	535	548	237	607	86,3
PS - LG 140/ 200	551	563	575	237	607	90,6

heat exchangers - hot water systems - district heating stations

## DMS-Brazed Plate Heat Exchanger Series PS-LG, PS-LG 333/

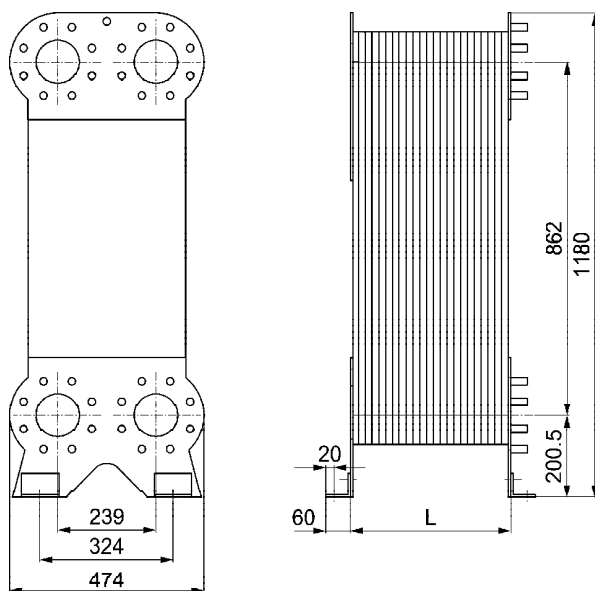
Compact-heat exchanger with fixed number of plates

**Material:** copper braced stainless steel ANSI 316 (1.4401)

**max. operating pressure:** 25 bar

**max. operating temperature:** 185°C/365 ° F

**Connections:** stainless steel flange DN 100/PN 16 or PN 25



DMS - type	measures in mm					weight in kg
	longitude (L)			width	height	
	TL	TM	TK			
PS - LG 333/40	126	133	140	474	1180	102
PS - LG 333/50	150	157	164	474	1180	115
PS - LG 333/60	174	181	188	474	1180	128
PS - LG 333/70	198	205	212	474	1180	141
PS - LG 333/80	222	229	236	474	1180	154
PS - LG 333/90	246	253	260	474	1180	167
PS - LG 333/100	270	277	284	474	1180	180
PS - LG 333/110	294	301	308	474	1180	193
PS - LG 333/120	318	325	332	474	1180	206
PS - LG 333/130	342	249	256	474	1180	219
PS - LG 333/140	366	373	380	474	1180	232
PS - LG 333/150	390	397	404	474	1180	245
PS - LG 333/160	414	421	428	474	1180	258
PS - LG 333/170	438	445	452	474	1180	271
PS - LG 333/180	462	469	476	474	1180	284
PS - LG 333/190	486	493	500	474	1180	297
PS - LG 333/200	510	517	524	474	1180	310

## heat exchangers - hot water systems - district heating stations

Position	Quantity		single price Euro	total price Euro
		<p><b>DMS-Brazed Plate Heat Exchanger</b></p> <p>Type: PS-LG _____ / _____</p> <p>A number of thin, acid-resistant plates, precision stamped and assembled as a unit, each alternate plate being rotated 180 degrees plate pack assembled with two end plates and connections, vacuum brazed. Plate material stainless steel ANSI 316 (1.4401)</p> <p>capacity: _____ kW</p> <p>temperatures: primary _____ °C</p> <p>secondary _____ °C</p> <p>headlosses: primary _____ kPa</p> <p>secondary _____ kPa</p> <p>max. working pressure 16* / 25* bar</p> <p>max. working temperature 185 °C</p> <p>connections: primary / secondary _____ outside thread*</p> <p>longitude _____ mm</p> <p>width _____ mm</p> <p>height _____ mm</p> <p>weight _____ kg</p> <p>inclusive 4 screwed connections and insulating jackets*</p> <p>(Pipework has to be mounted <b>stress-free</b> to the connections of the heat exchanger)</p> <p><b>Price</b></p> <p>*paint out not applicable details</p>		

01/2013 DMS/DINOX reserves the right to make changes without notice.



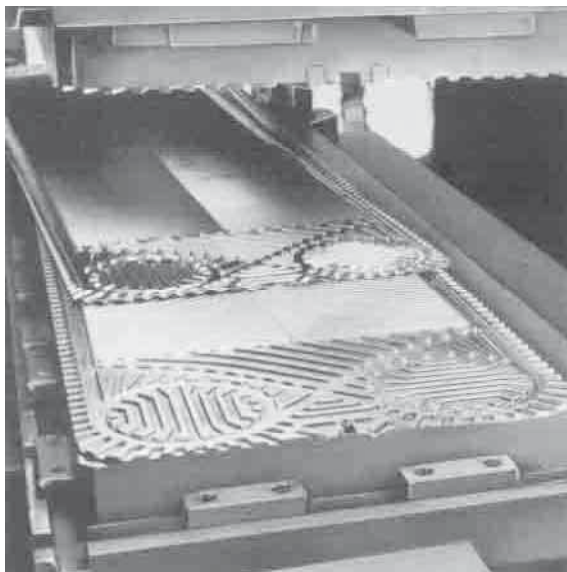
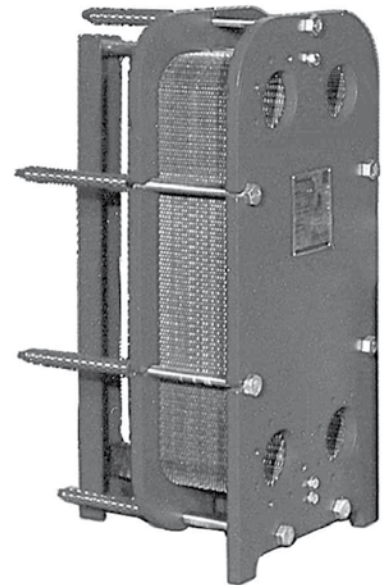
heat exchangers - hot water systems - district heating stations

## DMS Gasceted Plate Heat Exchanger

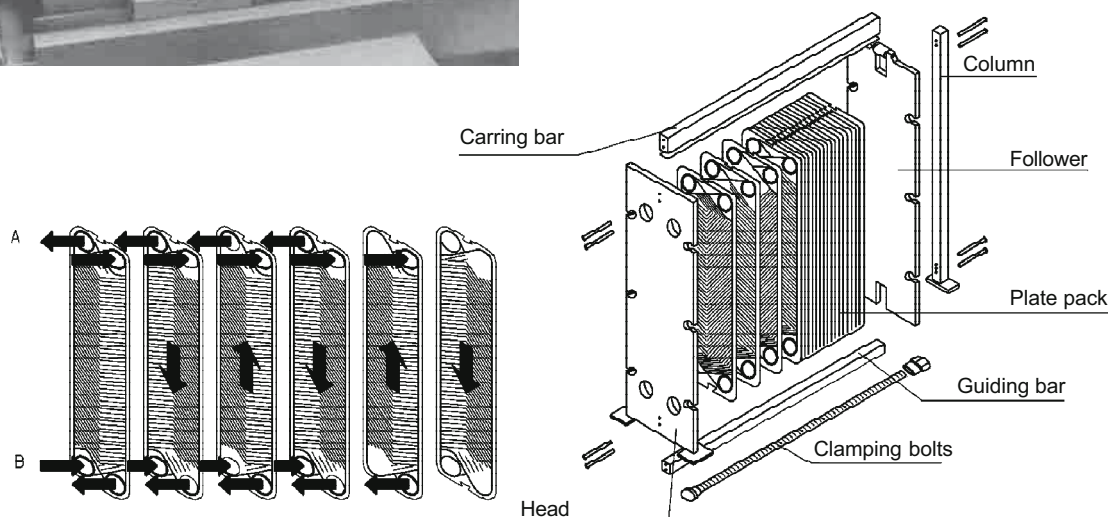
### The design and function

The plate heat exchanger consists of a frame, which in turn consists of a head, a follower, a column, a carrying bar, a guiding bar and a number of clamping bolts. In between the head and the follower a varying number of pressed plates are clamped together.

Each plate is supplied with a gasket, so that the plates form a closed system of parallel flow channels, through which the medias flow alternately at every second interval.



The pipe work has to be mounted **stress-free** to the connections of the plate heat exchanger



## heat exchangers - hot water systems - district heating stations

### *Feature of the DMS plates*

The construction is based on many years of experience. The demand made DMS plates has been that of high efficiency and flexibility together with the demand for suitability in high differential pressures.

#### **The inlet part**

The design of the inlet parts is provided with sloping lead grooves which guarantee the even distribution of liquids across the plate pattern. The result is a maximum utilization of the whole plate. Furthermore, this inlet design guarantees that the so-called "dead spots", which could cause the growth of bacteria in the plate heat exchanger, are completely avoid.

#### **The plate pattern**

The plate pattern chosen is the fishbone pattern. Even at low liquid speeds this pattern gives maximum turbulence and thereby an extremely effective heat transmission. DMS plates can be obtained in two different designs, respectively thermally short and thermally long. The two different designs have their own special thermal characteristics with regards to pressure drop and thermal efficiency.

#### **Edges enforcement**

In order to reinforce the gasket groove the DMS plate is designed with an edge on both sides of the gasket groove. On the inside with a straight edge and on the outside with corrugated edge. This design ensures that the plate is solidly supported, and it gives at the same time a good hold on the gasket.

#### **The Gasket**

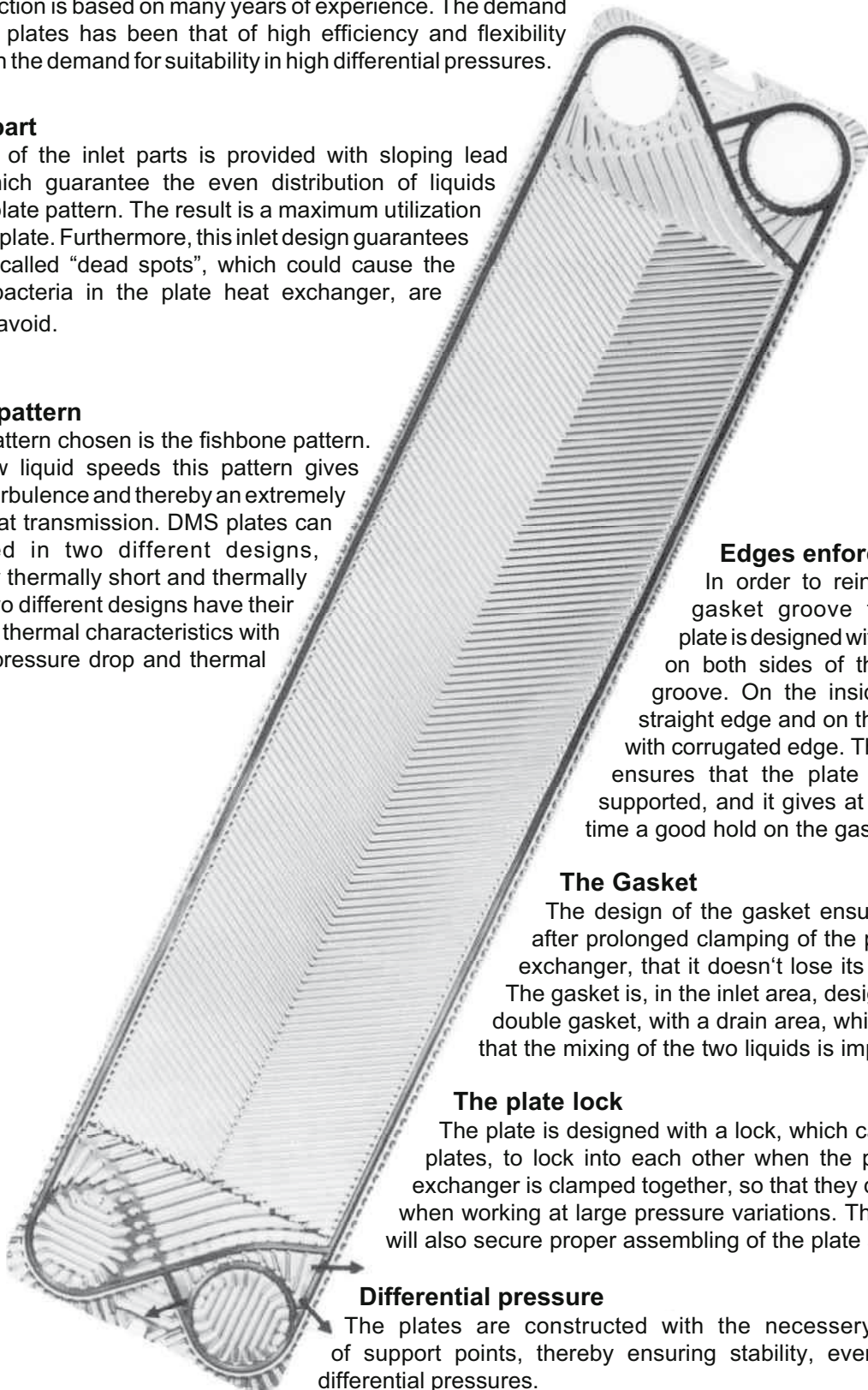
The design of the gasket ensures, even after prolonged clamping of the plate heat exchanger, that it doesn't lose its elasticity. The gasket is, in the inlet area, designed as a double gasket, with a drain area, which means that the mixing of the two liquids is impossible.

#### **The plate lock**

The plate is designed with a lock, which causes the plates, to lock into each other when the plate heat exchanger is clamped together, so that they don't slide when working at large pressure variations. This feature will also secure proper assembling of the plate stack.

#### **Differential pressure**

The plates are constructed with the necessary number of support points, thereby ensuring stability, even at high differential pressures.

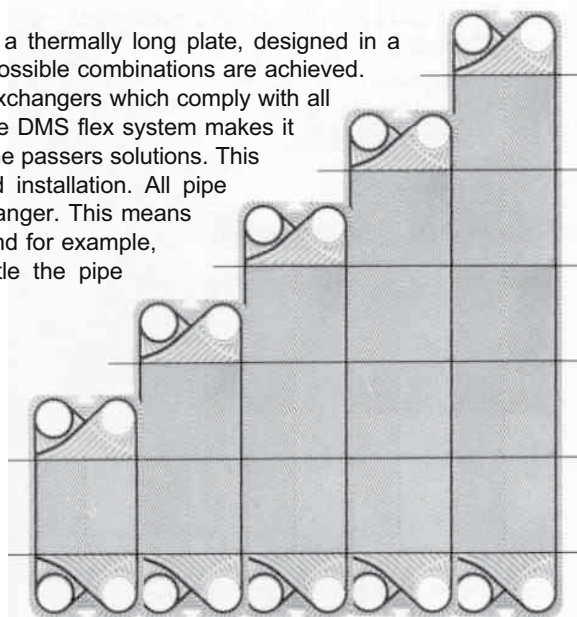
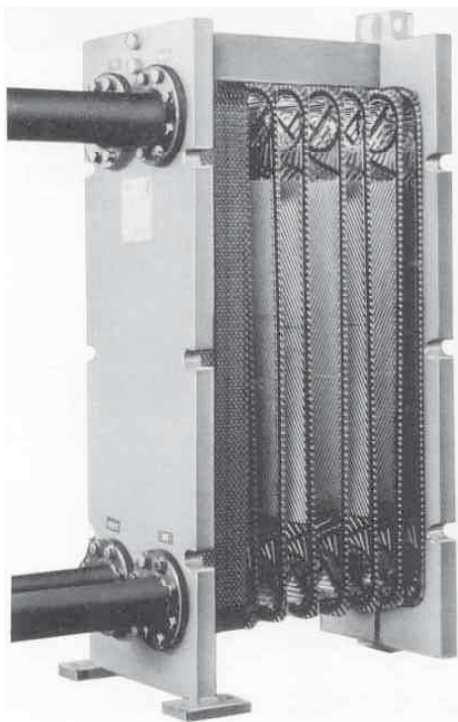




## heat exchangers - hot water systems - district heating stations

### The DMS Flex system

The DMS Flex system is based on a thermally short and a thermally long plate, designed in a number of different lengths. In this way a large number of possible combinations are achieved. DMS as a result of this flex system, can supply plate heat exchangers which comply with all demands for both pressure drop and heat transmission. The DMS flex system makes it possible to supply most of the plate heat exchangers with one passers solutions. This has a number of advantages with regards to service and installation. All pipe connections are placed on the head of the plate heat exchanger. This means that the plate heat exchanger can be opened and closed and for example, extended to greater capacities without having to dismantle the pipe installation.

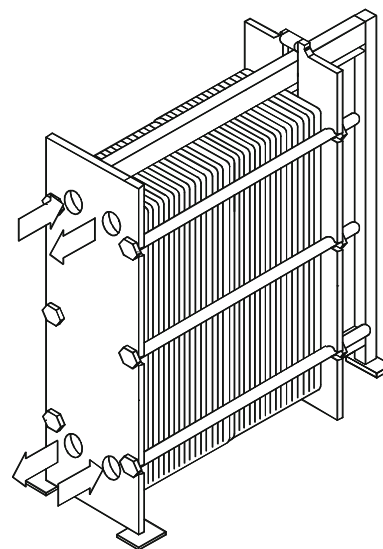


### Heat exchanger in the industrial sector and distant heating

The heat exchanger have been directly included both in the primary processes of production and in the secondary processes, such as cooling and recovery of heat from surplus heating. The greatest part of heat exchangers used are shell and tube and spiral heat exchangers. It is in fact a tradition, that the industrial sector uses this type of heat exchanger. We can supply plate heat exchangers for most of the applications for which traditional heat exchangers are normally supplied, only on a more efficient and economical basis. We can supply plate heat exchangers with differential pressures of up to 30kp/cm<sup>2</sup>, and temperatures ranging from -30°C / -86°F to 220°C / 428°F. DMS uses a pressing technique, which makes it possible to press plates in all pressable material such as stainless steel, Titanium, Hastelloy, Inconel etc. DMS plates can be supplied with gaskets, which can even cope with extremely harsh liquids. In comparison to shell and tube and spiral heat exchangers the plate heat exchanger has a number of advantages, as follows:

### Thermal efficiency

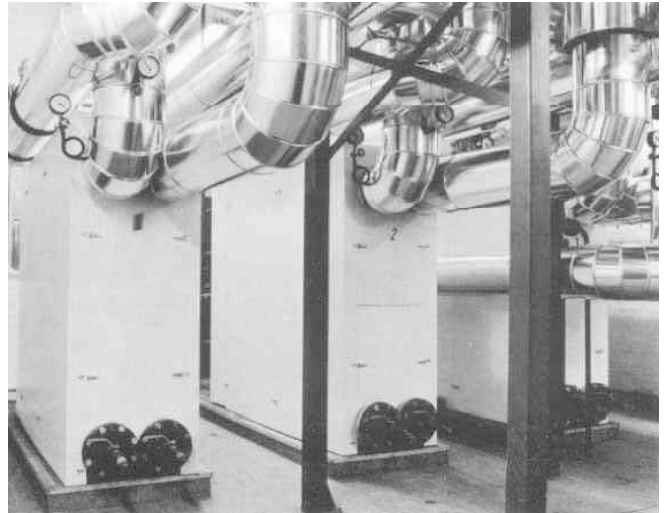
The thermal efficiency of plate heat exchangers is considerably better, than that of both shell and tube and spiral heat exchangers. The reason being primarily, that a plate heat exchanger constitutes a plate stack, consisting of corrugated plates. The plate pattern creates a high turbulence, which in turn gives a high heat transmission. In the development of these plate heat exchangers, we have aimed for high thermal efficiency in all heat exchanger applications. This is achieved with the help of a plate programme, which can fully utilize a specified pressure drop, i.e. by using the pressure drop to create turbulence and thereby heat transmission across the whole plate pattern. An effective turbulence in the plate heat exchanger will give a minimum of fouling on the transmission area in comparison to traditional heat exchangers. The DMS flex system is based on a varying plate length and two different plate patterns, thermally short and thermally long, for each plate length. That is why DMS can make most of the heat exchanger applications with one pass plate heat exchangers, simply because they offer optimal utilization of the plates by using the pressure drop to create turbulence, thereby giving an effective heat transmission. In the case where the plate heat exchanger is in more than one pass the result will be, that a part of the pressure drop will be used in the corner holes and inlet area of the plate. In other words as wasted pressure drop. Furthermore, it would create difficulties with regards to installation and service of the plate heat exchanger.



## heat exchangers - hot water systems - district heating stations

### Installation and service

The DMS flex system can as mentioned, cope with the majority of industrial applications with one pass solutions, meaning that all pipe connections will be placed on the head of the plate heat exchanger. This gives great advantages with regards to both service inspection and possible repairs. This means that the plate heat exchanger can be opened and closed without having to dismantle the pipe installations. DMS plate heat exchanger frames are designed so that they easily can be opened and closed. A minimum of clamping bolts are used and the follower is equipped with an easy running roller.



### Flexibility

DMS plate heat exchangers consist of standard components, which offer great flexibility. Plates and gaskets are designed, so they can be used as both right hand and left hand plates. This is done by simply turning the plate 180°. A possible increase or reduction in capacity would normally be a simple modification. The traditional shell and tube and spiral heat exchangers can not be adjusted to accomodate other capacities.

### Space requirement

The thermal efficiency of DMS plate heat exchangers results in a much smaller space requirement than for traditional heat exchangers. This is especially of great importance when opening or closing the heat exchanger, and for example in service inspection.

### Surplus heat

A waste of energy is a waste of money. This saying is, at the moment extremely relevant because of the energy situation which is completely incalculable. That is why all energy sources must be utilized as effectively as possible, and this of course also applies to areas which include surplus heating. DMS plate heat exchangers are extremely suitable for use for heat recovery, as they, with their working areas in the field of pressure and temperature, can be included in a series of processes, where it is possible to utilize surplus heat. Surplus heat can for example, be used in the district heating nets, or for international heating in industry. From an economical point of view, it would be an advantage, to utilize even small quantities of energy.

### DMS – Plates and Gaskets are available in following qualities:

#### Standard – Plates:

Stainless steel ANSI 304, ANSI 316, 1.4401, Titanium

#### Special – Plates:

Hastelloyed, Inconel and other pressable materials

#### Standard – Gaskets:

EPDM and Nitril

#### Special – Gaskets:

Viton, Hypalon, Klingerith and others

#### Special Designs:

Free-Flow, Semi-welded

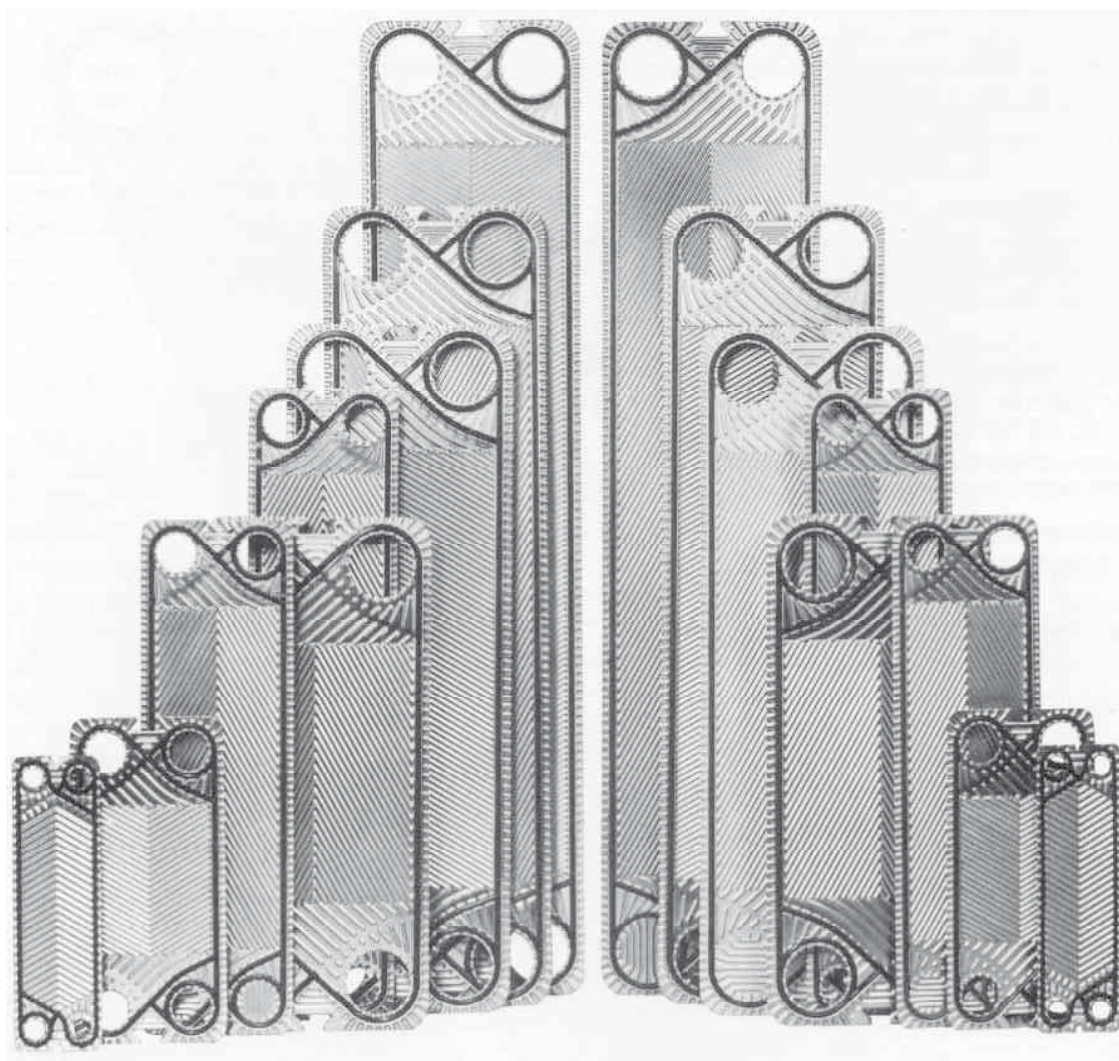
#### The Possibilities:

- more than 40 different sizes of plates
- various pattern with individual collection of plates
- Dimensions of connections R 1" to DN 500
- amount of volume up to 3000 cbm/h

heat exchangers - hot water systems - district heating stations

### *A part of the DMS plate programme*

The plate programme of DMS is today so comprehensive, that any exchanger problem can be solved in an optimal way.



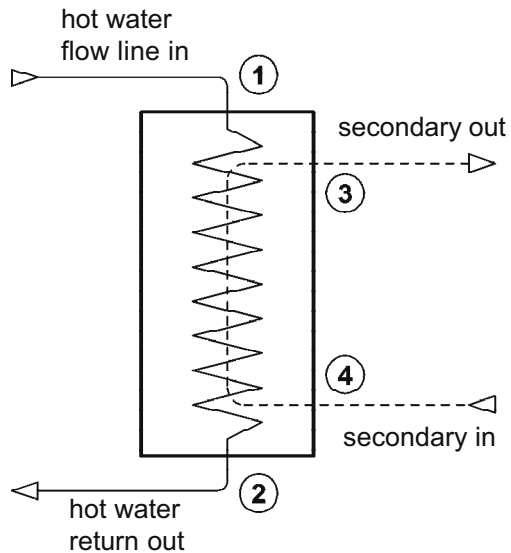
DMS places it's many years of experience concerning plate heat exchangers, at your disposal. You will get the right solution at a competitive price ...





**heat exchangers - hot water systems - district heating stations**

***DMS - Coil and Shell Heat Exchanger  
Copper or Stainless Steel***

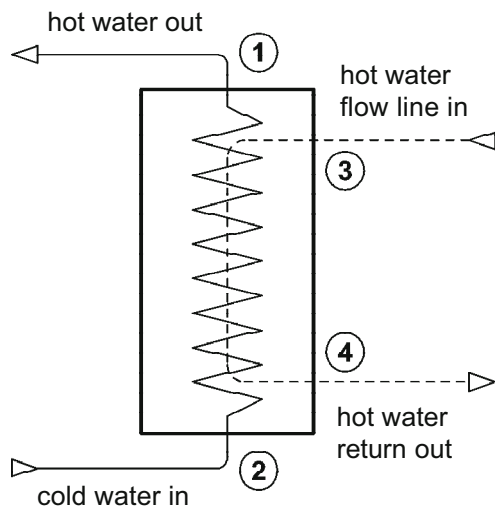


**Heat exchange**

- 1.) water / water
- 2.) steam / water

The primary side (lower amount of water/ steam) has to be mounted to the coil-connections IN 1 OUT 2 for heating the secondary side shell- connections: IN 4 OUT 3

Temperatur control according to technical rules.



**Drinking water heating**

- 1.) hot water / drinking water
- 2.) steam / drinking water

cold water is always running inside of the coil

- (1) hot water out
- (2) cold water in
- (3) flow line/steam in
- (4) hot water return/condensate out

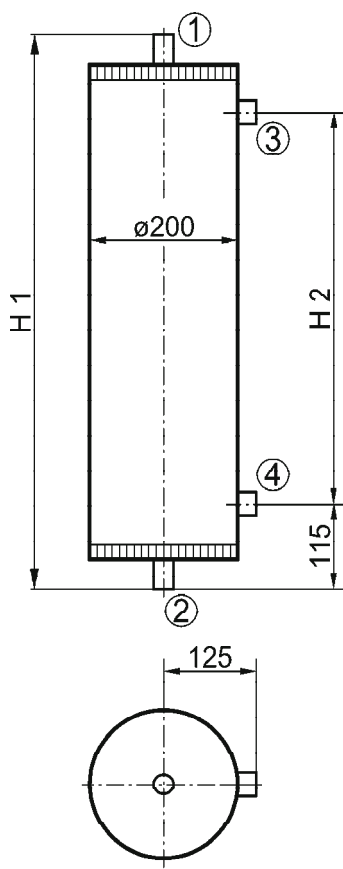
Temperatur control according to technical rules.

on request: shell manufactured complete out of stainless steel



heat exchangers - hot water systems - district heating stations

*DMS - Coil and Shell Heat Exchanger  
Type H - 1 - ...  
Water heater*



	shell			coil		
operating pressure bar	16	12	9	34	32	30
operating temperature °C	150	175	200	150	175	200
operating temperature °F	307	347	392	307	347	392

**Working as heat exchanger**

**connections:**

- (1) hot water flow line in
- (2) hot water return out
- (3) secondary out
- (4) secondary in
- (5) venting

**Working as water heater**

**connections:**

- (1) hot water out
- (2) cold water in
- (3) hot water flow line in
- (4) hot water return out
- (5) venting

Internal screwed thread

**Material:**

**shell:** steel ST 37-2

**coil:** SF-copper acc. to DIN 1787

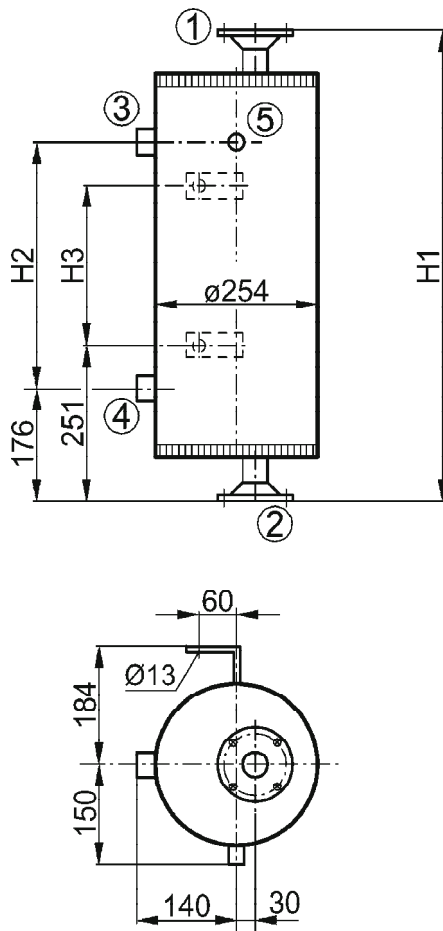
fixed insulation 80 mm mineral wool completely covered with structured aluminium-plates

Approval: TÜV-Type Approval, manufactured according to EU-Pressure Vessel regulations 97/ 23 EG Design C acc. to DIN 1988 T 2

Type	H1 mm	H2 mm	(1) (2) Rp "	(3) (4) Rp "	contents ltr.		weight kg
					shell	coil	
H-1-A	750	520	¾	1	1,2	0,4	11
H-1-B	1100	870			1,6	0,6	15
H-1-C	1370	1140			2,2	0,8	19

heat exchangers - hot water systems - district heating stations

*DMS - Coil and Shell Heat Exchanger  
Type H - 2 - ...  
Water heater*



		shell			coil		
operating pressure	bar	16	12	9	34	32	30
operating temperature	°C	150	175	200	150	175	200
operating temperature	°F	307	347	392	307	347	392

**Working as heat exchanger**

**connections:**

- (1) hot water flow line in
- (2) hot water return out
- (3) secondary out
- (4) secondary in
- (5) venting

**Working as water heater**

**connections:**

- (1) hot water out
- (2) cold water in
- (3) hot water flow line in
- (4) hot water return out
- (5) venting

Internal screwed thread

**Material:**

**shell:** steel ST 37-2

**coil:** SF-copper acc. to DIN 1787

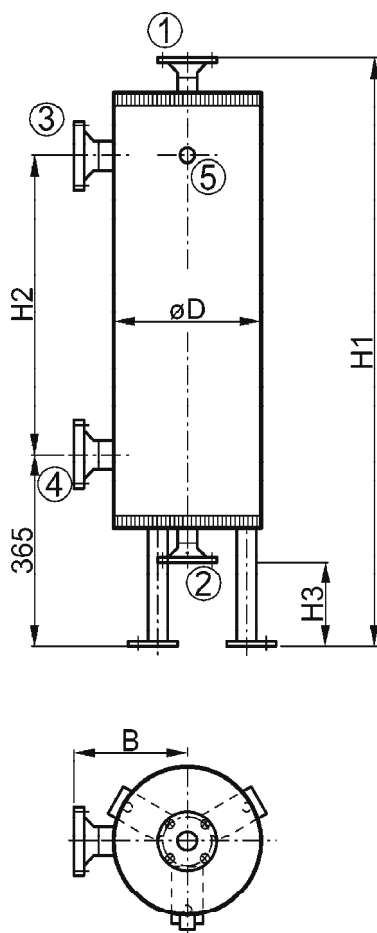
fixed insulation 80 mm mineral wool completely covered with structured aluminium-plates

Approval: TÜV-Type Approval, manufactured according to EU-Pressure Vessel regulations 97/ 23 EG Design C acc. to DIN 1988 T 2

Type	H1 mm	H2 mm	H3 mm	(1) (2) DN / PN	(3) (4) Rp "	contents ltr.		weight kg
						shell	coil	
H-2-A	752	580	250	25 / 40	1	3,0	0,7	16
H-2-B	1002	830	500			4,2	1,1	21
H-2-C	1582	1410	1080			8,3	1,6	33

## heat exchangers - hot water systems - district heating stations

### DMS - Coil and Shell Heat Exchanger Type H - 4 - ... and H - 6 - ... Water heater



		shell			coil		
operating pressure	bar	16	12	9	34	32	30
operating temperature	°C	150	175	200	150	175	200
operating temperature	°F	307	347	392	307	347	392

#### Working as heat exchanger

##### connections:

- (1) hot water flow line in
- (2) hot water return out
- (3) secondary out
- (4) secondary in
- (5) venting

#### Working as water heater

##### connections:

- (1) hot water out
- (2) cold water in
- (3) hot water flow line in
- (4) hot water return out
- (5) venting

Internal screwed thread

##### Material:

**shell:** steel ST 37-2

**coil:** SF-copper acc. to DIN 1787

fixed insulation 80 mm mineral wool completely covered with structured aluminium-plates

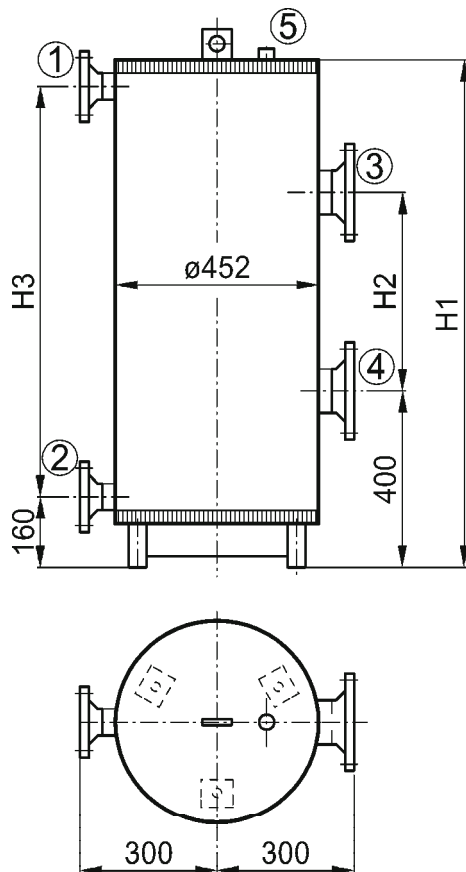
Erection on a rack with adjustable legs

Approval: TÜV-Type Approval, manufactured according to EU-Pressure Vessel regulations 97/ 23 EG Design C acc. to DIN 1988 T 2

Type	Ø D mm	H1 mm	H2 mm	H3 mm	B mm	(1) (2) DN / PN	(3) (4) DN / PN	contents ltr.		weight kg
								shell	coil	
H-4-A	306	975	425	180	215	25 / 40	40 / 16	5,3	2,2	29
H-6-A	340	930	345	170	240	32 / 40	50 / 16	7,3	2,8	38
H-4-B	306	1195	645	180	215	25 / 40	40 / 16	6,7	3,3	38
H-6-B	340	1210	625	170	240	32 / 40	50 / 16	9,3	3,8	49
H-4-C	306	1705	1150	180	215	25 / 40	40 / 16	12,3	4,2	52
H-6-C	340	1790	1230	170	240	32 / 40	50 / 16	22,3	6,8	75

## heat exchangers - hot water systems - district heating stations

### DMS - Coil and Shell Heat Exchanger Type H - 9 - ... and H - 24 - ... Water heater



		shell			coil		
operating pressure	bar	16	12	9	34	32	30
operating temperature	°C	150	175	200	150	175	200
operating temperature	°F	307	347	392	307	347	392

#### Working as heat exchanger

##### connections:

- (1) hot water flow line in
- (2) hot water return out
- (3) secondary out
- (4) secondary in
- (5) venting

#### Working as water heater

##### connections:

- (1) hot water out
- (2) cold water in
- (3) hot water flow line in
- (4) hot water return out
- (5) venting

Internal screwed thread

##### Material:

**shell:** steel ST 37-2  
**coil:** SF-copper acc. to DIN 1787

fixed insulation 80 mm mineral wool completely covered with structured aluminium-plates

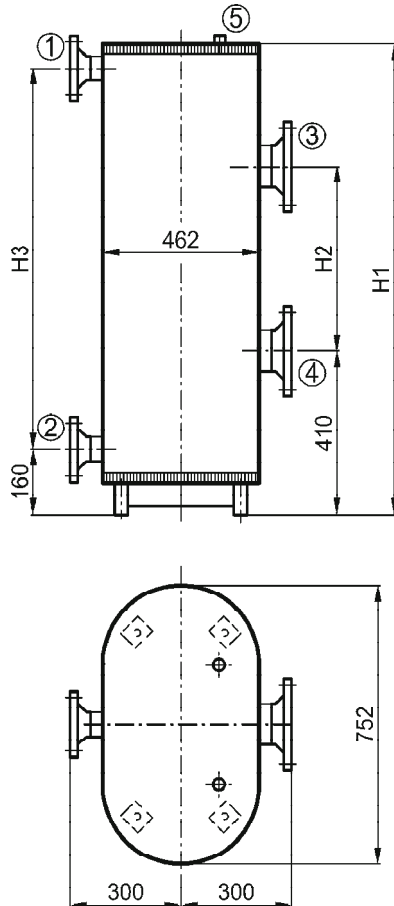
Erection on a rack with adjustable legs

Approval: TÜV-Type Approval, manufactured according to EU-Pressure Vessel regulations 97/ 23 EG Design C acc. to DIN 1988 T 2

Type	H1 mm	H2 mm	H3 mm	(1) (2) DN / PN	(3) (4) DN / PN	contents ltr.		weight kg
						shell	coil	
H- 9-A	1265	450	930	50 / 40	100 / 16	42	6	89
H-18-A						37	8	96
H-24-A						34	10	105
H- 9-B	1595	780	1260			57	9	117
H-18-B						50	12	129
H-24-B						45	16	147
H- 9-C	19500	1135	1615			73	12	146
H-18-C						61	17	163
H-24-C						56	22	189

## heat exchangers - hot water systems - district heating stations

### DMS - Coil and Shell Heat Exchanger Type H - 30 - ... and H - 48 - ... Water heater



		shell		coil	
operating pressure	bar	16	12	16	12
operating temperature	°C	205	300	205	300
operating temperature	°F	401	572	401	572

#### Working as heat exchanger

##### connections:

- (1) hot water flow line in
- (2) hot water return out
- (3) secondary out
- (4) secondary in
- (5) venting

#### Working as water heater

##### connections:

- (1) hot water out
- (2) cold water in
- (3) hot water flow line in
- (4) hot water return out
- (5) venting

Internal screwed thread

##### Material:

**shell:** steel ST 37-2

**coil:** SF-copper acc. to DIN 1787

fixed insulation 80 mm mineral wool completely covered with structured aluminium-plates

Erection on a rack with adjustable legs

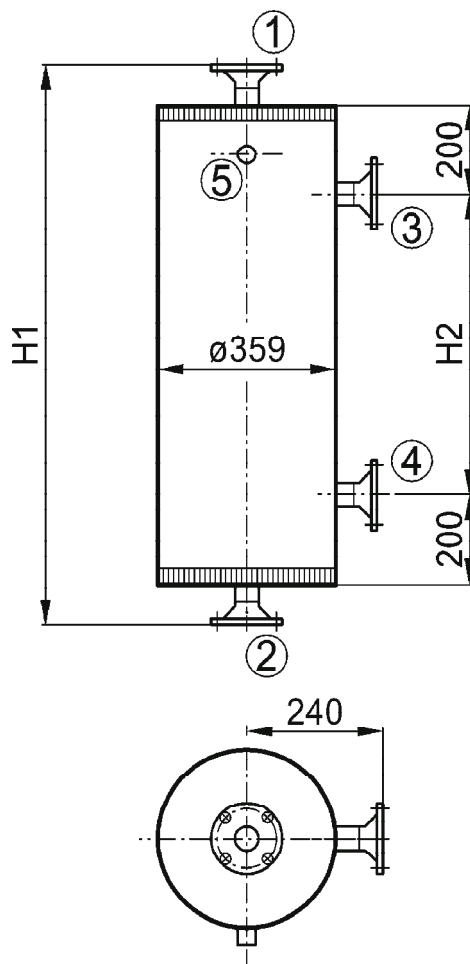
Approval: TÜV-Type Approval, manufactured according to EU-Pressure Vessel regulations 97/ 23 EG Design C acc. to DIN 1988 T 2

Type	H1 mm	H2 mm	H3 mm	(1) (2) DN / PN	(3) (4) DN / PN	contents ltr.		weight kg
						shell	coil	
H-30-A	1215	430	930	65 / 40	125 / 16	84	16	160
H-36-A						79	18	167
H-42-A						76	20	176
H-48-A						68	22	185
H-30-B	1545	760	1260			112	23	219
H-36-B						105	26	230
H-42-B						100	30	248
H-48-B						90	34	266
H-30-C	1900	1115	1615			139	31	279
H-36-C						127	36	296
H-42-C						122	41	322
H-48-C						112	46	347



## heat exchangers - hot water systems - district heating stations

### DMS - Coil and Shell Heat Exchanger Type ER - 2 - ... Water heater



		shell		coil	
operating pressure	bar	16	12	16	12
operating temperature	°C	205	300	205	300
operating temperature	°F	401	572	401	572

#### Working as heat exchanger

##### connections:

- (1) hot water flow line in
- (2) hot water return out
- (3) secondary out
- (4) secondary in
- (5) venting

#### Working as water heater

##### connections:

- (1) hot water out
- (2) cold water in
- (3) hot water flow line in
- (4) hot water return out
- (5) venting

Internal screwed thread

##### Material:

**shell:** steel ST 37-2  
pipe plate, bumed head and flanges of stainless steel 1.4404  
cross-gilled stainless steel coil 1.4404  
fixed insulation 80 mm mineral wool completely  
covered with structured aluminium-plates

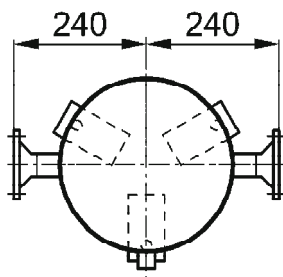
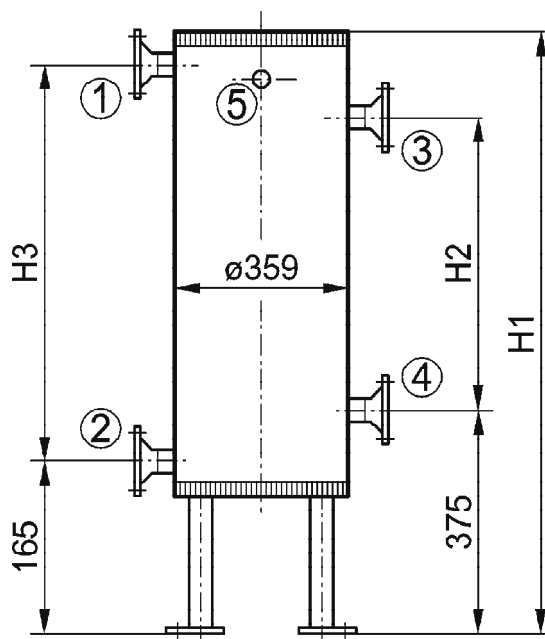
Approval: TÜV-Type Approval, manufactured according to  
EU-Pressure Vessel regulations 97/ 23 EG Design C  
acc. to DIN 1988 T 2

on request: shell manufactured complete out of stainless steel

Type	H1 mm	H2 mm	(1) (2) DN/PN	(3) (4) DN/PN	contents ltr.		weight kg
					shell	coil	
ER-2-A	590	190	40/16	40/16	5,5	1,5	32
ER-2-B	720	320			7,5	3	37
ER-2-C	850	450			9,5	4,5	42

heat exchangers - hot water systems - district heating stations

*DMS - Coil and Shell Heat Exchanger  
Type ER - 5 - and ER - 8 - ...  
Water heater*



		shell		coil	
operating pressure	bar	16	12	16	12
operating temperature	°C	205	300	205	300
operating temperature	°F	401	572	401	572

**Working as heat exchanger**

**connections:**

- (1) hot water flow line in
- (2) hot water return out
- (3) secondary out
- (4) secondary in
- (5) venting

**Working as water heater**

**connections:**

- (1) hot water out
- (2) cold water in
- (3) hot water flow line in
- (4) hot water return out
- (5) venting

Internal screwed thread

**Material:**

**shell:** steel ST 37-2  
pipe plate, bumed head and flanges of stainless steel 1.4404  
cross-gilled stainless steel coil 1.4404  
fixed insulation 80 mm mineral wool completely  
covered with structured aluminium-plates

Erection on a rack with adjustable legs

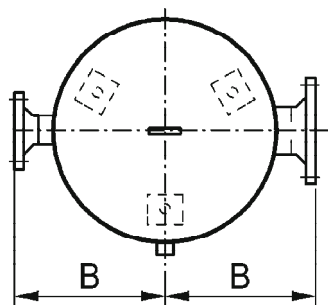
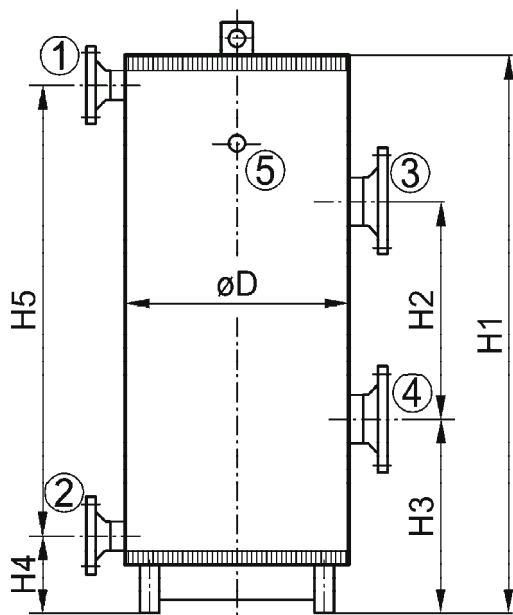
Approval: TÜV-Type Approval, manufactured according to  
EU-Pressure Vessel regulations 97/ 23 EG Design C  
acc. to DIN 1988 T 2

on request: shell manufactured complete out of stainless steel

Type	H1 mm	H2 mm	H3 mm	(1) (2) DN / PN	(3) (4) DN / PN	contents ltr.		weight kg
						shell	coil	
ER-5-A	970	330	750	40/16	40/16	11	3	41
ER-8-A	1100	460	880			12	4	47
ER-5-B	1220	580	1000			16	4	50
ER-8-B	1500	860	1280			20	6	62
ER-5-C	1470	830	1250			21	5	61
ER-8-C	1920	1280	1700			29	9	79

## heat exchangers - hot water systems - district heating stations

### DMS - Coil and Shell Heat Exchanger Type ER - 12 - ... and ER - 37 - ... Water heater



		shell		coil	
operating pressure	bar	16	12	16	12
operating temperature	°C	205	300	205	300
operating temperature	°F	401	572	401	572

#### Working as heat exchanger

##### connections:

- (1) hot water flow line in
- (2) hot water return out
- (3) secondary out
- (4) secondary in
- (5) venting

#### Working as water heater

##### connections:

- (1) hot water out
- (2) cold water in
- (3) hot water flow line in
- (4) hot water return out
- (5) venting

Internal screwed thread

##### Material:

**shell:** steel ST 37-2  
pipe plate, bumed head and flanges of stainless steel 1.4404  
cross-gilled stainless steel coil 1.4404  
fixed insulation 80 mm mineral wool completely covered with structured aluminium-plates

Erection on a rack with adjustable legs

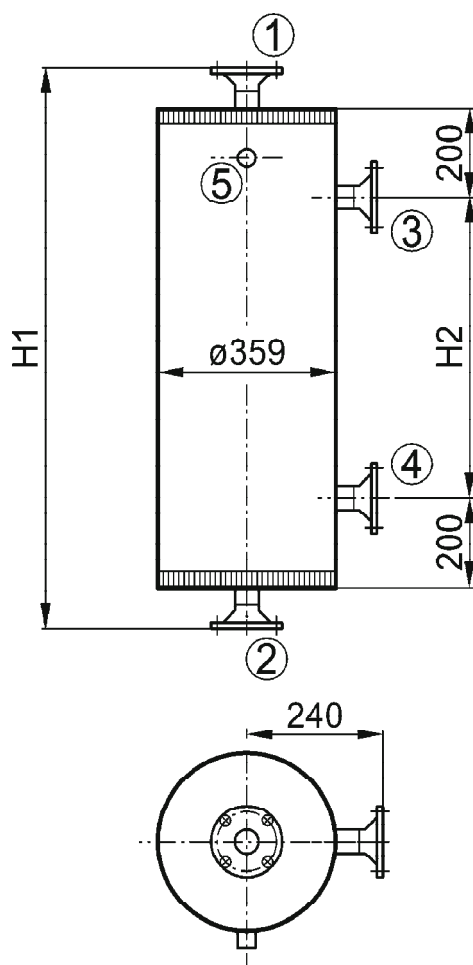
Approval: TÜV-Type Approval, manufactured according to EU-Pressure Vessel regulations 97/ 23 EG Design C acc. to DIN 1988 T 2

on request: shell manufactured complete out of stainless steel

Type	Ø D mm	H1 mm	H2 mm	H3 mm	H4 mm	H5 mm	(1) (2) DN / PN	(3) (4) DN / PN	contents ltr.		weight
									shell	coil	
ER-12-A	394	1265	450	400	160	930	50/16	100/16	16	9	65
ER-20-A	494								40	15	110
ER-30-A	494		430	410			65/16	125/16	35	19	125
ER-37-A	494								33	21	129
ER-12-B	394	1645	830	400		1310	50/16	100/16	25	12	84
ER-20-B	494								61	20	145
ER-30-B	494		810	410			65/16	125/16	54	27	167
ER-37-B	494								48	32	174
ER-12-C	394	2025	1210	400		1690	50/16	100/16	33	16	102
ER-20-C	494								84	26	177
ER-30-C	494		1190	410			65/16	125/16	72	36	205
ER-37-C	494								54	43	218

## heat exchangers - hot water systems - district heating stations

### DMS - Coil and Shell Heat Exchanger Type SR - 2 - ...



		shell	coil
operating pressure	bar	16	25
operating temperature	°C	205	205
operating temperature	°F	401	401

#### connections:

- (1) hot water flow line in
- (2) hot water return out
- (3) secondary out
- (4) secondary in
- (5) venting

Internal screwed thread

#### Material:

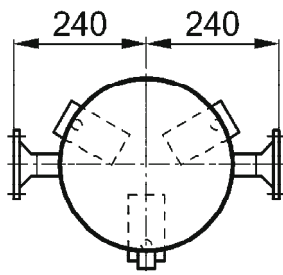
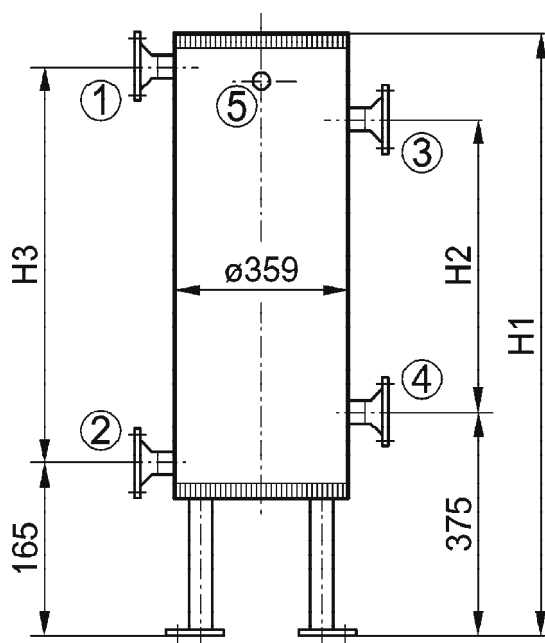
shell, pipe plate, bumed head and flanges of steel ST 37-2  
cross-gilled stainless steel coil 1.4404  
fixed insulation 80 mm mineral wool completely  
covered with structured aluminium-plates

Approval: TÜV-Type Approval, manufactured according to  
EU-Pressure Vessel regulations 97/ 23 EG Design C  
acc. to DIN 1988 T 2

Type	H1 mm	H2 mm	(1) (2) DN/PN	(3) (4) DN/PN	contents ltr.		weight kg
					shell	coil	
SR-2-A	590	190	40/40	40/16	5,5	1,5	33
SR-2-B	720	320			7,5	3	39
SR-2-C	850	450			9,5	4,5	43

heat exchangers - hot water systems - district heating stations

*DMS - Coil and Shell Heat Exchanger  
Type SR - 5 - ... and SR - 8 - ...*



		shell	coil
operating pressure	bar	16	25
operating temperature	°C	205	205
operating temperature	°F	401	401

**connections:**

- (1) hot water flow line in
- (2) hot water return out
- (3) secondary out
- (4) secondary in
- (5) venting

Internal screwed thread

**Material:**

shell, pipe plate, bumed head and flanges of steel ST 37-2  
cross-gilled stainless steel coil 1.4404  
fixed insulation 80 mm mineral wool completely  
covered with structured aluminium-plates

on request: shell manufactured complete out of stainless steel

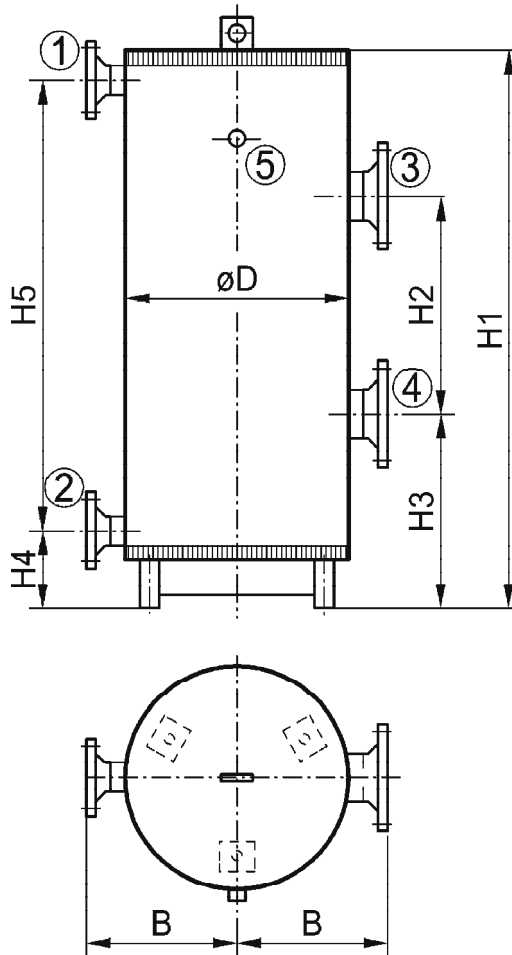
Approval: TÜV-Type Approval, manufactured according to  
EU-Pressure Vessel regulations 97/ 23 EG Design C  
acc. to DIN 1988 T 2

Type	H1 mm	H2 mm	H3 mm	(1) (2) DN / PN	(3) (4) DN / PN	contents ltr.		weight kg
						shell	coil	
SR-5-A	970	330	750	40/40	40/16	11	3	42
SR-8-A	1100	460	880			12	4	49
SR-5-B	1220	580	1000			16	4	52
SR-8-B	1500	860	1280			20	6	64
SR-5-C	1470	830	1250			21	5	62
SR-8-C	1920	1280	1700			29	9	80



## heat exchangers - hot water systems - district heating stations

### DMS - Coil and Shell Heat Exchanger Type SR - 12 - ... and SR - 37 - ...



		shell	coil
operating pressure	bar	16	25
operating temperature	°C	205	205
operating temperature	°F	401	401

#### connections:

- (1) hot water flow line in
- (2) hot water return out
- (3) secondary out
- (4) secondary in
- (5) venting

Internal screwed thread

#### Material:

shell, pipe plate, bumed head and flanges of steel ST 37-2  
cross-gilled stainless steel coil 1.4404  
fixed insulation 80 mm mineral wool completely  
covered with structured aluminium-plates

on request: shell manufactured complete out of stainless steel

Approval: TÜV-Type Approval, manufactured according to  
EU-Pressure Vessel regulations 97/ 23 EG Design C  
acc. to DIN 1988 T 2

Type	Ø D mm	H1 mm	H2 mm	H3 mm	H4 mm	H5 mm	(1) (2) DN / PN	(3) (4) DN / PN	contents ltr.		weight kg
									shell	coil	
SR-12-A	394	1265	450	400	160	930	50/40	100/16	16	9	66
SR-20-A	494								40	15	112
SR-30-A	494		430	410			65/40	125/16	35	19	128
SR-37-A	494								33	21	132
SR-12-B	394	1645	830	400		1310	50/40	100/16	25	12	85
SR-20-B	494								61	20	147
SR-30-B	494		810	410			65/40	125/16	54	27	169
SR-37-B	494								48	32	177
SR-12-C	394	2025	1210	400		1690	50/40	100/16	33	16	103
SR-20-C	494								84	26	179
SR-30-C	494		1190	410			65/40	125/16	72	36	208
SR-37-C	494								54	43	221



# heat exchangers - hot water systems - district heating stations

Position	Quantity		single price Euro	total price Euro																																							
		<p><b>DMS – Heat Exchanger</b></p> <p><b>Series ER* SR*</b></p> <p>Type: _____</p> <p>Shell made of steel St 37-2 with fixed cross-gilled pipes in spiral form out of stainless steel (1.4571) vertical designed on adjustable legs with all requested but no counter ends. Constructed to German DIN Standards and EU-Pressure-Vessel-Regulations with insulation consisting of 80 mm thick mineral wool, covered with structural aluminium-plates and PVC-cabs</p> <p>technical data:</p> <table border="0"> <tr> <td></td> <td>coil</td> <td>shell</td> </tr> <tr> <td>performance</td> <td>_____ kW</td> <td></td> </tr> <tr> <td>flow temperature</td> <td>_____ °C</td> <td>_____ °C</td> </tr> <tr> <td>return temperature</td> <td>_____ °C</td> <td>_____ °C</td> </tr> <tr> <td>pressure drop</td> <td>_____ kPa</td> <td>_____ kPa</td> </tr> <tr> <td>volume flow</td> <td>_____ m³/h</td> <td>_____ m³/h</td> </tr> <tr> <td>max. oper. temp.</td> <td>_____ °C</td> <td>_____ °C</td> </tr> <tr> <td>max. oper. pressure</td> <td>_____ MPa</td> <td>_____ MPa</td> </tr> </table> <p>dimensions and weights</p> <table border="0"> <tr> <td>connections</td> <td>_____ DN</td> <td>_____ DN</td> </tr> <tr> <td></td> <td>_____ PN</td> <td>_____ PN</td> </tr> <tr> <td>height</td> <td></td> <td>_____ mm</td> </tr> <tr> <td>diameter</td> <td></td> <td>_____ mm</td> </tr> <tr> <td>weight</td> <td></td> <td>_____ kg</td> </tr> </table> <p><b>Price:</b></p> <p>_____</p> <p>*paint out not applicable details</p>		coil	shell	performance	_____ kW		flow temperature	_____ °C	_____ °C	return temperature	_____ °C	_____ °C	pressure drop	_____ kPa	_____ kPa	volume flow	_____ m³/h	_____ m³/h	max. oper. temp.	_____ °C	_____ °C	max. oper. pressure	_____ MPa	_____ MPa	connections	_____ DN	_____ DN		_____ PN	_____ PN	height		_____ mm	diameter		_____ mm	weight		_____ kg		
	coil	shell																																									
performance	_____ kW																																										
flow temperature	_____ °C	_____ °C																																									
return temperature	_____ °C	_____ °C																																									
pressure drop	_____ kPa	_____ kPa																																									
volume flow	_____ m³/h	_____ m³/h																																									
max. oper. temp.	_____ °C	_____ °C																																									
max. oper. pressure	_____ MPa	_____ MPa																																									
connections	_____ DN	_____ DN																																									
	_____ PN	_____ PN																																									
height		_____ mm																																									
diameter		_____ mm																																									
weight		_____ kg																																									

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## heat exchangers - hot water systems - district heating stations

### Data sheet for selecting heat exchanger

#### ☐ Coil and Shell

shell /	coil	material	design
<input type="checkbox"/>	<input type="checkbox"/>	steel St 37	vertical/horizontal *
<input type="checkbox"/>	<input type="checkbox"/>	copper	
<input type="checkbox"/>	<input type="checkbox"/>	stainless steel	

#### ☐ Plate-Heat-Exchanger

		Material
<input type="checkbox"/>	with gasket	<input type="checkbox"/> 1.4301
<input type="checkbox"/>	copper brazed	<input type="checkbox"/> 1.4401
<input type="checkbox"/>	nickel brazed	<input type="checkbox"/> Titanium
<input type="checkbox"/>	welded (SPS)	

capacity

		_____	kW
primary	temperature	_____ / _____	°C
	max. headloss	_____	kPa
	medium	_____	
secondary	temperature	_____ / _____	°C
	max. headloss	_____	kPa
	medium	_____	
	max. operating pressure primary / secondary	_____ / _____	bar
	max. operating temperatures primary / secondary	_____ / _____	°C