

# Heat exchanger

## Type WL



### For the reheating of airflows in circular ducting

Circular hot water heat exchanger for the reheating of airflows, suitable for VAV terminal units Type TVR and mechanical self-powered CAV controllers Type RN or VFC

- For hot water up to 100 °C
- Copper tubes arranged in two rows, with aluminium fins
- Installation in horizontal or vertical ducts independent of airflow direction
- Suitable for circular ducts to EN 1506 or EN 13180
- With lip seal and inspection access
- Maximum water-side operating pressure is 8 bar
- Casing air leakage to EN 15727, class C



Heat exchanger with copper tubes and aluminium fins

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## Application

### Application

- Hot water heat exchanger Type WT for reheating the airflow in circular ducting
- For VAV terminal units Type TVR and for CAV controllers Type RN or VFC

- For hot water up to 100 °C

### Nominal sizes

- 100, 125, 160, 200, 250, 315, 400

## Description

### Parts and characteristics

- Ready-to-install heat exchanger
- Copper tubes arranged in two rows
- Lip seal
- Inspection access
- Tested for leakage

### Construction features

- Rectangular casing
- Spigot with lip seal, for circular connecting ducts to EN 1506 or EN 13180
- Maximum water-side operating pressure is 10 bar
- Horizontal water connection
- Plain copper tube ends for water connection

### Materials and surfaces

- Casing made of galvanised sheet steel
- Copper tubes
- Aluminium fins

### Standards and guidelines

- Casing air leakage to EN 15727, class C

### Maintenance

- Maintenance-free as construction and materials are not subject to wear

Nominal sizes	100 – 400 mm
Volume flow rate range	10 – 750 l/s or 36 – 2700 m <sup>3</sup> /h
Thermal output	0.25 – 18 kW
Maximum hot water temperature	100 °C
Maximum water-side operating pressure	10 bar
Water-side differential pressure	0.3 – 12 kPa
Static differential pressure	5 – 80 Pa

WL for TVR, RN and VFC

Nominal size	$\dot{V}$		$\Delta p_{st}$	PWW 50/40, $t_e = 16\text{ °C}$				PWW 70/55, $t_e = 16\text{ °C}$				
	l/s	m <sup>3</sup> /h		Pa	$\dot{Q}$	$t_a$	$\dot{m}_w$	$\Delta p_v$	$\dot{Q}$	$t_a$	$\dot{m}_w$	$\Delta p_v$
					kW	°C	kg/h	kPa	kW	°C	kg/h	kPa
100	10	36	5	0.25	36.1	21	0.3	0.40	48.5	23	0.5	
	20	72	10	0.38	31.3	33	0.4	0.62	41.2	36	0.6	
	30	108	15	0.47	28.8	41	0.5	0.79	37.5	46	0.7	
	40	144	25	0.55	27.2	48	0.6	0.95	35.2	55	0.8	
	45	162	30	0.58	26.5	51	0.7	1.02	34.4	59	1.0	
125	18	65	5	0.36	32.0	31	0.3	0.58	42.2	34	0.5	
	35	126	20	0.51	27.9	44	0.5	0.87	36.2	51	0.8	
	50	180	40	0.62	26.0	53	1.0	1.09	33.8	64	1.0	
	65	234	60	0.70	24.8	61	1.2	1.30	32.3	76	1.3	
	75	270	80	0.76	24.2	66	1.5	1.44	31.6	84	1.5	
160	28	101	5	0.69	36.1	60	1.0	1.17	49.9	68	1.0	
	50	180	10	1.05	33.1	91	2.0	1.83	45.8	107	3.0	
	70	252	15	1.35	31.7	117	4.0	2.32	43.0	135	4.0	
	95	342	25	1.70	30.6	147	5.0	2.85	40.4	166	6.0	
	115	414	35	1.94	29.7	168	7.0	3.23	38.8	188	7.0	
200	45	162	5	0.97	33.6	84	2.0	1.69	46.5	98	2.0	
	80	288	20	1.49	31.2	129	4.0	2.54	41.8	148	5.0	
	115	414	35	1.94	29.7	168	7.0	3.23	38.8	188	7.0	
	150	540	55	2.29	28.4	199	9.0	3.37	36.8	223	10.0	
	180	648	80	2.57	27.6	223	11.0	4.30	35.4	251	12.0	
250	70	252	5	1.53	33.8	133	1.0	2.67	47.0	155	1.0	
	125	450	15	2.35	31.3	203	2.0	4.14	43.0	242	3.0	
	180	648	25	3.10	30.0	269	3.0	5.29	39.9	308	4.0	
	235	846	40	3.76	29.0	326	5.0	6.29	37.8	367	5.0	
	290	1044	60	4.29	28.1	372	6.0	7.20	36.2	420	7.0	
315	115	414	5	2.50	33.7	217	1.0	4.41	47.2	257	1.0	
	200	720	15	3.82	31.5	331	2.0	6.66	43.1	388	3.0	
	285	1026	25	5.02	30.4	436	4.0	8.45	40.1	493	4.0	
	375	1350	40	6.05	29.1	525	5.0	10.11	37.9	589	6.0	
	460	1656	60	6.89	28.2	597	7.0	11.52	36.4	672	7.0	
400	185	666	5	4.02	33.7	348	2.0	7.08	47.2	413	2.0	
	325	1170	15	6.24	31.6	542	3.0	10.55	42.4	615	4.0	
	465	1674	30	8.06	30.1	699	5.0	13.40	39.5	781	6.0	
	605	2178	50	9.54	28.8	827	7.0	15.89	37.4	927	8.0	
	750	2700	75	10.92	27.9	947	9.0	18.22	35.8	1062	10.0	

$\dot{Q}$ : Thermal capacity

PWW: Pumped warm water heating system, flow temperature/return temperature

$t_e$ : Inlet airflow temperature

$t_a$ : Outlet airflow temperature

$\dot{m}_w$ : Water flow rate

$\Delta p_v$ : Water-side differential pressure

$\Delta p_{st}$ : Static differential pressure

This specification text describes the general properties of the product. Texts for variants can be generated with our Easy Product Finder design programme.

Circular hot water heat exchangers for reheating the airflow in air conditioning systems  
Dimensions fit VAV terminal units TVR as well as CAV controllers RN and VFC.  
Spigot with lip seal, for circular connecting ducts to EN 1506 or EN 13180.  
Casing air leakage to EN 15727, class C.

#### Materials and surfaces

- Casing made of galvanised sheet steel
- Copper tubes
- Aluminium fins

#### Technical data

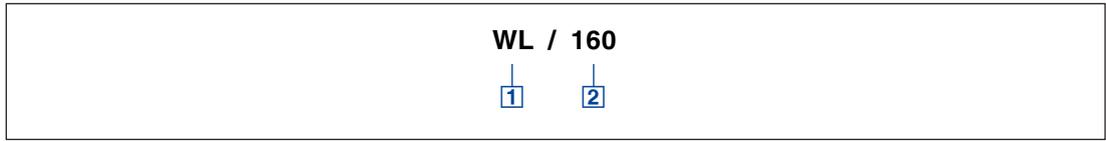
- Volume flow rate range: 10 to 750 l/s or 36 to 2700 m<sup>3</sup>/h
- Thermal capacity: 0.25 – 18 kW

- Maximum water temperature: 100 °C
- Maximum water-side operating pressure: 10 bar
- Water-side differential pressure: 0.3 – 12 kPa
- Static differential pressure: 5 – 80 Pa

#### Sizing data

- $\dot{V}$  \_\_\_\_\_  
[m<sup>3</sup>/h]
- $t_e$  \_\_\_\_\_  
[°C]
- PWW \_\_\_\_\_  
[°C]
- $\dot{Q}$  \_\_\_\_\_  
[kW]

WL



**1** Type

**WL** Hot water heat exchanger for VAV terminal units TVR and CAV controllers RN and VFC

**2** Nominal size [mm]

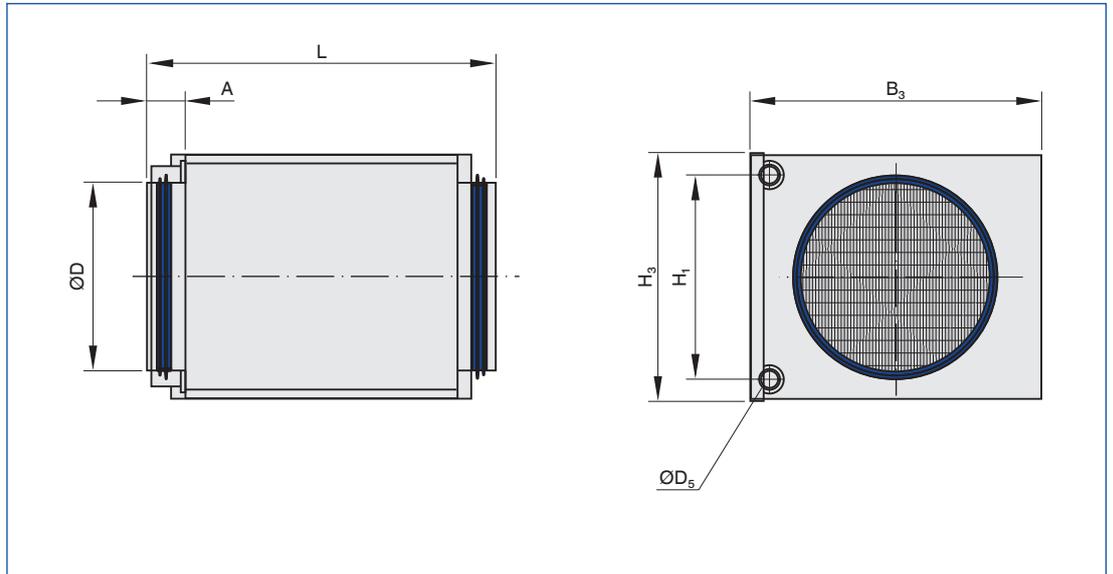
**100**  
**125**  
**160**  
**200**  
**250**  
**315**  
**400**

**Order example: WL/160**

**Nominal size**

160 mm

WL



WL

Nominal size	ØD	L	B <sub>3</sub>	H <sub>3</sub>	H <sub>1</sub>	A	ØD <sub>5</sub>	m
	mm	mm	mm	mm	mm	mm	mm	kg
100	99	336	251	188	137	30	10	3.7
125	124	346	251	188	137	35	10	3.5
160	159	386	326	263	212	40	10	5.4
200	199	386	326	263	212	40	10	5.3
250	249	386	411	338	250	40	22	7.7
315	314	386	486	413	325	40	22	9.9
400	399	386	557	489	400	55	22	13.1

- ① WL
- ② WL with secondary silencer TX

**Installation and commissioning**

- Installation in horizontal or vertical ducts independent of airflow direction
- Capacity control and supply connections to be provided by others
- Venting and draining by others

**Principal dimensions**

**ØD [mm]**

Outer diameter of the spigot

**L [mm]**

Length of unit including connecting spigot

**L<sub>1</sub> [mm]**

Length of casing or acoustic cladding

**B [mm]**

Duct width

**B<sub>1</sub> [mm]**

Screw hole pitch of flange (horizontal)

**B<sub>2</sub> [mm]**

Outside dimension of flange (width)

**B<sub>3</sub> [mm]**

Width of device

**H [mm]**

Duct height

**H<sub>1</sub> [mm]**

Screw hole pitch of flange (vertical)

**H<sub>2</sub> [mm]**

Outside dimension of flange (height)

**H<sub>3</sub> [mm]**

Unit height

**R ["]**

Diameter of connecting threaded pipes

**m [kg]**

Unit weight including the minimum required attachments (e.g. Compact controller)

**Nomenclature**

**$\dot{V}$  [m<sup>3</sup>/h] and [l/s]**

Volume flow rate

**$\Delta p_{st}$  [Pa]**

Static differential pressure

**$\Delta p_v$  [kPa]**

Water-side differential pressure

**$\dot{Q}$  [kW]**

Thermal output

**$\dot{m}_w$  [kg/h]**

Water flow rate

**PWW [°C]**

Pumped hot water heating system, flow temperature/return temperature

**t<sub>e</sub> [°C]**

Inlet airflow temperature

**t<sub>a</sub> [°C]**

Outlet airflow temperature