TROX® TECHNIK
The art of handling air

HEAT EXCHANGER
TYPE WL

HEAT EXCHANGER WITH COPPER TUBES AND ALUMINIUM FINS

Heat exchanger with copper tubes and aluminium fins

WL

FOR THE REHEATING OF AIRFLOWS IN CIRCULAR DUCTING

Circular hot water heat exchanger for the reheating of airflows, suitable for VAV terminal units TVR and mechanical self-powered CAV terminal units 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 air ducts according to EN 1506 or EN 13180
- With lip seal and inspection access
- Maximum water-side operating pressure is 8 bar
- Casing air leakage according to EN 15727, class D

General information

Application

- Hot water heat exchanger for reheating the airflow in circular ducts
- For VAV terminal units Type TVR and for CAV controllers Type RN or VFC
- For hot water up to 100 °C
- Construction not designed for and performance data not applicable to cold water operation

Nominal sizes

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

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

Material and surfaces

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

Standards and guidelines

- Casing air leakage according to EN 15727, class D

Maintenance

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

TECHNICAL INFORMATION

Technical data, Quick sizing, Specification text, Order code

Nominal sizes	100 – 400 mm
Volume flow rate range	10 – 750 l/s or 36 – 2700 m³/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
Air-side static differential pressure	5 – 80 Pa

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Technical data of the heat exchanger

Basic units: TVR, RN and VFC (TEST)

NS	q_v		Δp_{st}	PWW 50/40, t_e = 16 °C				PWW 70/55, t_e = 16 °C			
	l/s	m³/h	Pa	Φ [kW]	t_a [°C]	q_m [kg/h]	Δp_v [kPa]	Φ [kW]	t_a [°C]	q_m [kg/h]	Δp_v [kPa]
100	10	36	5	0.25	36.1	21	0.3	0.40	48.5	23	0.5
100	20	72	10	0.38	31.3	33	0.4	0.62	41.2	36	0.6
100	30	108	15	0.47	28.8	41	0.5	0.79	37.5	46	0.7
100	40	144	25	0.55	27.2	48	0.6	0.95	35.2	55	0.8
100	45	162	30	0.58	26.5	51	0.7	1.02	34.4	59	1
125	18	65	5	0.36	32	31	0.3	0.58	42.2	34	0.5
125	35	126	20	0.51	27.9	44	0.5	0.87	36.2	51	0.8
125	50	180	40	0.62	26	53	1	1.09	33.8	64	1
125	65	234	60	0.7	24.8	61	1.2	1.3	32.3	76	1.3
125	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	1.17	49.9	68	1
160	50	180	10	1.05	33.1	91	2	1.83	45.8	107	3
160	70	252	15	1.35	31.7	117	4	2.32	43	135	4
160	95	342	25	1.7	30.6	147	5	2.85	40.4	166	6
160	115	414	35	1.94	29.7	168	7	3.23	38.8	188	7
200	45	162	5	0.97	33.6	84	2	1.69	46.5	98	2
200	80	288	20	1.49	31.2	129	4	2.54	41.8	148	5
200	115	414	35	1.94	29.7	168	7	3.23	38.8	188	7
200	150	540	55	2.29	28.4	199	9	3.37	36.8	223	10
200	180	648	80	2.57	27.6	223	11	4.3	35.4	251	12
250	70	252	5	1.53	33.8	133	1	2.67	47	155	1
250	125	450	15	2.35	31.3	203	2	4.14	43	242	3
250	180	648	25	3.1	30	269	3	5.29	39.9	308	4
250	235	846	40	3.76	29	326	5	6.29	37.8	367	5
250	290	1044	60	4.29	28.1	372	6	7.2	36.2	420	7
315	115	414	5	2.5	33.7	217	1	4.41	47.2	257	1
315	200	720	15	3.82	31.5	331	2	6.66	43.1	388	3
315	285	1026	25	5.02	30.4	436	4	8.45	40.1	493	4
315	375	1350	40	6.05	29.1	525	5	10.11	37.9	589	6
315	460	1656	60	6.89	28.2	597	7	11.52	36.4	672	7
400	185	666	5	4.02	33.7	348	2	7.08	47.2	413	2
400	325	1170	15	6.24	31.6	542	3	10.55	42.4	615	4
400	465	1674	30	8.06	30.1	699	5	13.4	39.5	781	6
400	605	2178	50	9.54	28.8	827	7	15.89	37.4	927	8
400	750	2700	75	10.92	27.9	947	9	18.22	35.8	1062	10

Φ: Thermal output
PWW: Pumped hot water heating system, flow temperature/return temperature
t_e: Inlet airflow temperature
t_a: Outlet airflow temperature

q_v: Volume flow rate
q_m: Mass flow rate
Δp_v: Water-side differential pressure
Δp_{st}: Static differential pressure

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

Materials and surfaces

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

Technical data

- Volume flow rate range: 10 to 750 l/s or 36 to 2700 m³/h
- Thermal output: 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

- q_v (m³/h)
- t_e [°C]
- PWW [°C]
- Φ [kW]

WL	/	160
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1 Type
WL Hot water heat exchanger for air terminal units TVE, TVR and CAV terminal units RN and VFC

2 Nominal size [mm]
100, 125, 160, 200, 250, 315, 400Order example: WL/160

Type	WL – Hot water heat exchanger
Nominal size [mm]	160

Installation details

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