

Close approach temperatures minimize cooling water usage

Hankison® water-cooled aftercoolers cool the high temperature compressed air exiting a compressor to safe, usable levels. They can be sized as a single source cooler or as a trim cooler for use with an air-cooled aftercooler during hotter weather.

By lowering the temperature of the compressed air in downstream air lines, the risk of fires is reduced and the need to insulate piping is eliminated. Also, it is typically necessary to cool the air to a maximum of 120°F (49°C) before introducing it into a dryer or filter for further treatment.

Hankison water-cooled aftercoolers consist of a shell-and-tube heat exchanger in which compressed air in the tubes is cooled to within 10 to 20 F° (6 to 11 C°) of the temperature of the cooling water in the shell. As the air cools, up to 70% of the water vapor present condenses to a liquid which can then be removed by a separator.

Features

Single pass, counter-flow, shell-and-tube design provides close approach temperatures...gains maximum heat removal benefit from expensive cooling water

- Counter-flow design maximizes air to water temperature difference for high heat exchange efficiency
- Copper heat exchange surfaces provide excellent heat transfer rate
- Single pass design and smooth surface copper tubes minimize fouling and allow low pressure drops.

Long service life ensured by premium materials and careful construction

Heat exchanger made from nonferrous materials ... eliminates rust and galvanic corrosion...reduces stress due to different rates of thermal expansion

- Seamless shells have maximum rupture strength and corrosion resistance
- Tubes rolled into tube sheet...eliminates thermal stresses of brazing

Ease of service

- Removable end bonnets facilitate cleaning and servicing
- Models WC580 and larger include shell side drain ports

Easy to Install

- Compact package
- Mounting brackets supplied as standard
- Can be mounted in vertical or horizontal positions

Options

- Automatic water regulating valves
- Other materials of construction
- Separators



WATER-COOLED

AFTERCoolERS

Specifications

Models	Rated Capacity (1)		MWP Tube Air	MWP Shell Water	Max. Operating Temperature	Pressure Drop	Water Flow Rate
	scfm	m ³ /min					
WC40	40	1.1	250 psig 17.6 kgf/cm ²	250 psig 17.6 kgf/cm ²	350°F 177°C	3 psid 0.21 kgf/cm ²	3 gpm per 100 scfm 10 L per 2.5m ³ /min
WC150	150	4.3					
WC240	240	6.8					
WC580	580	16					
WC940	940	27					
WC1500	1500	43	200 psig 14 kgf/cm ²				
WC2700	2700	77					

(1) Based on inlet air temperature of 250°F (121°C) and a 15°F (8°C) approach temperature.

Capacity Selection Chart

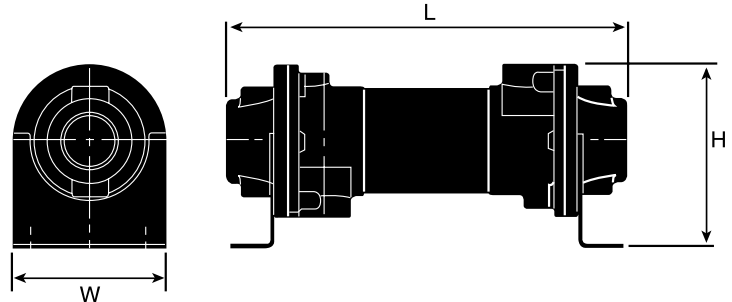
INLET AIR TEMPERATURE	APPROACH TEMPERATURE	WC40		WC150		WC240		WC580		WC940		WC1500		WC2700	
		scfm	m ³ /min	scfm	m ³ /min	scfm	m ³ /min	scfm	m ³ /min	scfm	m ³ /min	scfm	m ³ /min	scfm	m ³ /min
200°F 93°C	10°F (6°C)	32	0.91	125	3.54	240	6.80	580	16.42	880	24.92	1350	38.23	2500	70.79
	15°F (8°C)	68	1.93	225	6.37	240	6.80	580	16.42	1800	50.97	3000	84.95	3800	107.60
	20°F (11°C)	120	3.40	240	6.80	240	6.80	580	16.42	2010	56.92	3800	107.60	3800	107.60
250°F 121°C	10°F (6°C)	16	0.45	64	1.81	160	4.53	384	10.87	450	12.74	700	19.82	1300	36.81
	15°F (8°C)	40	1.13	150	4.25	240	6.80	580	16.42	940	26.62	1500	42.48	2700	76.46
	20°F (11°C)	60	1.70	240	6.80	240	6.80	580	16.42	1600	45.31	2600	73.62	3700	104.77
300°F 149°C	10°F (6°C)	9	0.25	38	1.08	104	2.94	260	7.36	270	7.65	420	11.89	860	24.35
	15°F (8°C)	20	0.57	86	2.44	200	5.66	480	13.59	580	16.42	900	25.49	1700	48.14
	20°F (11°C)	34	0.96	148	4.19	240	6.80	580	16.42	960	27.18	1550	43.89	2800	79.29
350°F 177°C	10°F (6°C)	6	0.17	24	0.68	75	2.12	188	5.32	190	5.38	270	7.65	580	16.42
	15°F (8°C)	14	0.40	53	1.50	144	4.08	350	9.91	390	11.04	600	16.99	1150	32.56
	20°F (11°C)	23	0.65	90	2.55	240	6.80	544	15.40	660	18.69	1050	29.73	1900	53.80

Models, Connections, Dimensions, Weights

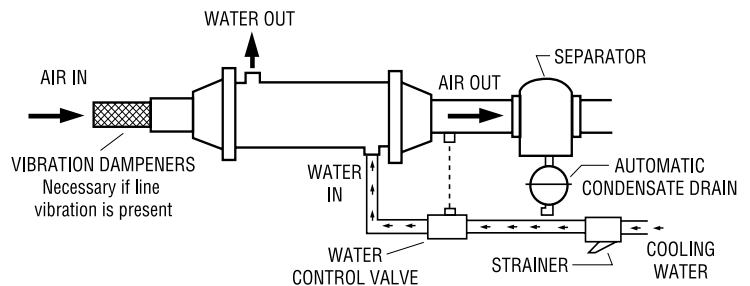
Models	Connections		Dimensions in (mm)			Weight lb (kg)
	Water In/Out	Air In/Out	H	W	L	
WC40	1/2" NPT	1-1/2" NPT or BSP	3.50 (89)	2.62 (67)	33.36 (847)	13 (5.9)
WC150	1/2" NPT	1-1/2" NPT or BSP	3.50 (89)	2.62 (67)	42.36 (1076)	16 (7.3)
WC240	1/2" NPT	1-1/2" NPT or BSP	3.50 (89)	2.62 (67)	51.36 (1305)	18 (8.2)
WC580	1" NPT	2-1/2" NPT or BSP	6.25 (159)	5.25 (133)	50.40 (1280)	40 (18)
WC940	2" NPT	3" NPT or BSP	8.81 (224)	7.50 (191)	69.25 (1759)	150 (68)
WC1500	3" NPT	4" ANSI Flange	12.13 (308)	8.62 (219)	71.62 (1819)	270 (122)
WC2700	3" NPT	6" ANSI Flange	12.13 (308)	8.62 (219)	86.62 (2048)	315 (143)

Automatic Water Regulating Valves

Water regulating valves maintain a desired exiting compressed air temperature by regulating the flow of water to the heat exchanger. No external power source is needed as the valves open automatically in response to a temperature increase at the sensing bulb. Not to be used with salt water.



VALVE	FOR USE WITH MODELS:
WCV-1	WC40, WC150, WC240
WCV-2	WC580
WCV-3	WC940
WCV-4	WC1500
WCV-4(2)	WC2700



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