A-AV Water-Cooled Aftercoolers

omi-italy.it

High reliability

Versatility

Water-Cooled Aftercoolers A-AV Overview

A-AV aftercoolers are efficient heat exchangers designed to reduce the temperature of compressed air using a water circuit. This cooling process improves air quality, protects downstream equipment, and enhances overall system performance. Our water-air aftercoolers feature a compact design, high thermal efficiency, and reliable operation, making them a strategic choice for energy-conscious air treatment systems.

Aftercoolers are often paired with our CHW chillers, which supply the cooling circuit with stable, low-temperature water. This combination ensures consistent thermal performance, even under demanding conditions, and increases the overall efficiency of the air treatment system. The synergy between A-AV and CHW guarantees optimal cooling and reliable operation, especially in installations where water is not readily available.

Several options are available upon request, including versions with a fully stainless-steel heat exchanger and models designed for vertical installation, to better suit specific layout or process requirements.

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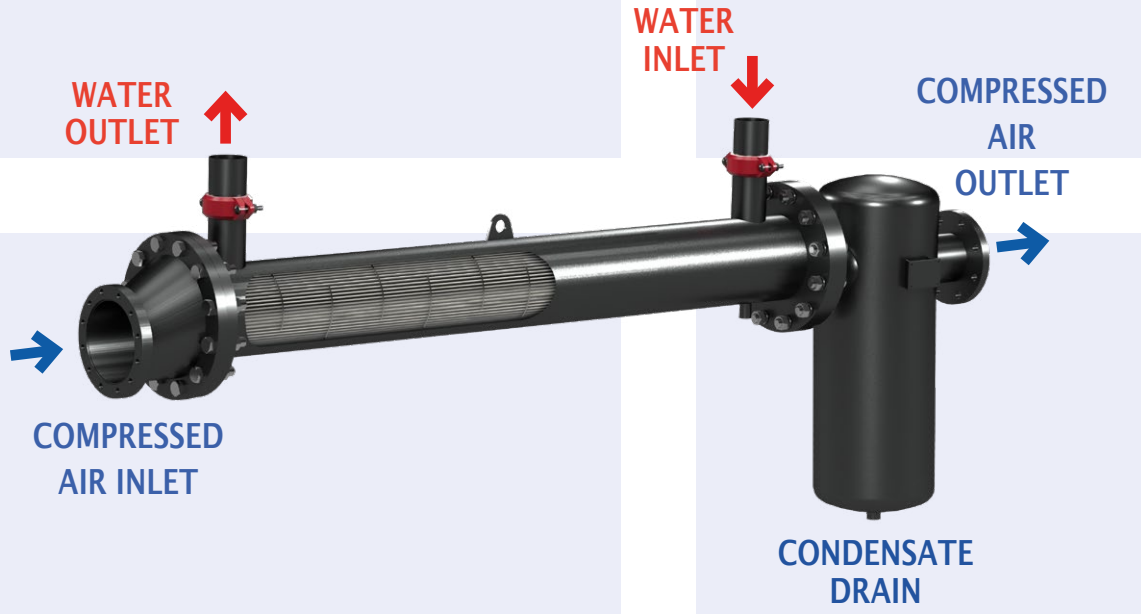
Water-Cooled Aftercoolers
A-AV Principle of Operation

The A-AV aftercooler cools compressed air by transferring heat to a water-cooled surface, ensuring efficient heat exchange and minimal pressure drop. As compressed air flows through the heat exchanger, the cooling water absorbs thermal energy in a counterflow configuration, causing a rapid drop in air temperature and generating moisture.

To ensure system efficiency and protect downstream components, each unit is supplied with a condensate separator; thanks to its vortex action, the separator spins the air at high speed, forcing water droplets outward and separating them from the airflow.

The condensate generated by the heat exchanger is efficiently removed via a condensate drain supplied with the separator.



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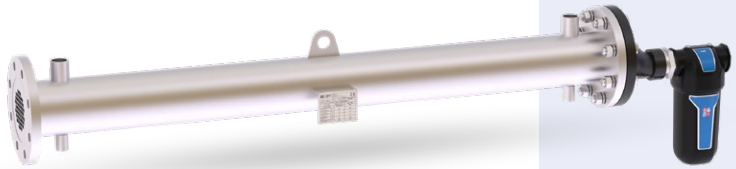
Options



OPTION SS

Aftercooler equipped with
stainless steel exchanger

Inlet adaptor

OPTION IA

Inlet adaptor
Simplifies connection to the plant piping

OPTION WS

Cooler only
Without separator & adaptors

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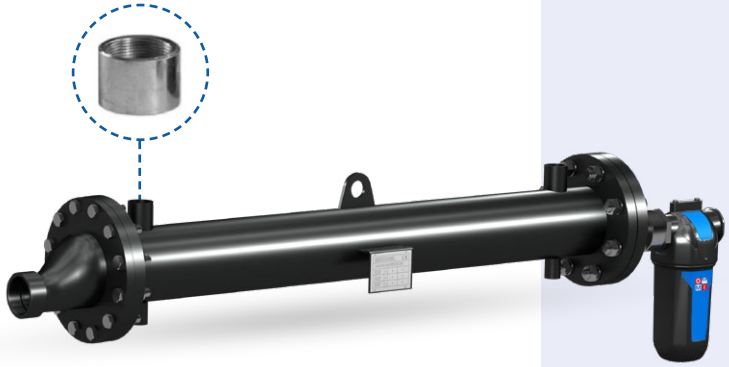
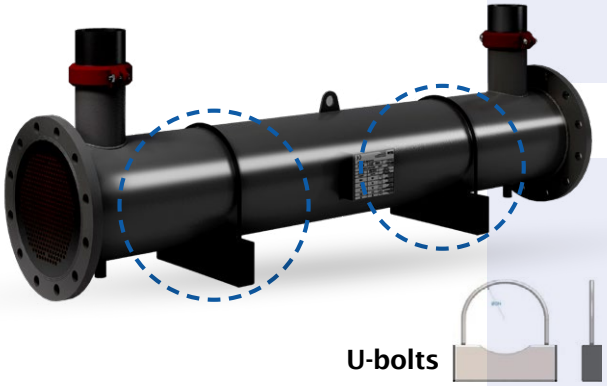
Options



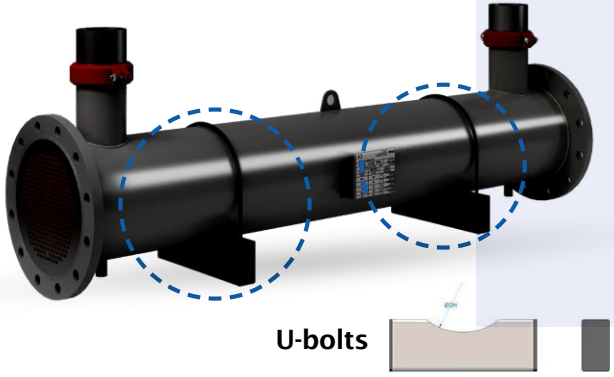
OPTION BS

Additional BSP connection for water



OPTION UB

U-bolt: to safely hold cooler to the ground



OPTION UW

Welded U-bolt: to safely hold cooler to the ground

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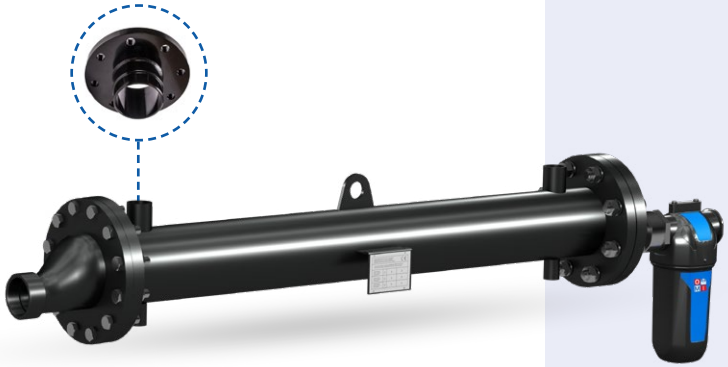
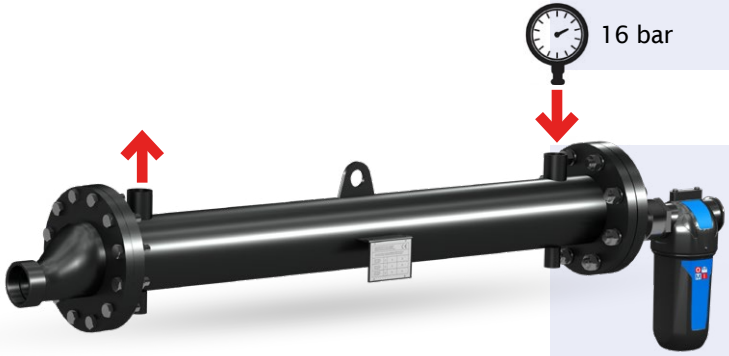
Options



OPTION WF

Welded flanges for water connections



OPTION WH

Water circuit High Pressure

Max. Water pressure: 16 bar

OPTION UH

Cooler High Pressure

Max. Air Pressure: 30 bar

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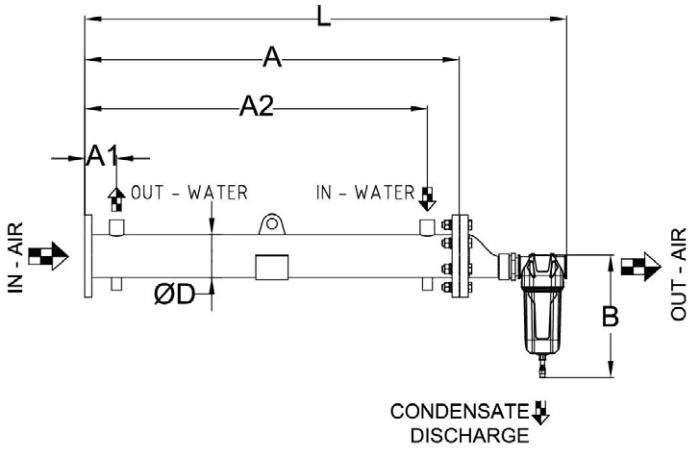
Water-Cooled Aftercoolers
A-AV Specifications



Working reference parameters	
Parameter	Value
Pressure	A-AV 27-350 7 bar (max 16 bar)
Compressed air inlet temperature	120 °C (min 1°C - max +200 °C)
Inlet temperature	15 °C (min 1 °C - max. 90 °C)
Maximum water inlet pressure	10 bar
Ambient temperature	1 - 65 °C

Model	Max air flow		AIR connection		Water	Drain connection (BSP)	Dimensions [mm]								Weight			
	[m³/h]	[lt/min]	IN	OUT	IN/OUT		A	A1	A2	B	D	E	L	H	A [kg]	AV [kg]	A_S [kg]	AV_S [kg]
27	160	2.667	DN 100	1-1/2" BSP	1" BSP	1/2" BSP	85	915	1000	356	114.3	548	1278	1555	52	52	34	52
42	250	4.167	DN 100	1-1/2" BSP	1" BSP	1/2" BSP	85	1065	1150	356	114.3	548	1433	1715	40	55	40	55
75	450	7.500	DN 100	1-1/2" BSP	1" BSP	1/2" BSP	85	1215	1300	357	114.3	548	1583	1865	45	58	45	58
125	750	12.500	DN 100	2" BSP	DN 40	1/2" BSP	92	1300	1500	474	114.3	595	1831	2164	47	60	47	60
160	1.000	16.667	DN 125	3" BSP	DN 40	1/2" BSP	100	1400	1500	700	139.7	730	1929	2413	65	85	65	85
270	1.600	26.667	DN 125	3" BSP	DN 50	1/2" BSP	105	1445	1550	700	139.7	730	1979	2463	71	88	71	88
350	2.100	35.000	DN 150	3" BSP	DN 65	1/2" BSP	112	1488	1600	700	168.3	816	2044	2571	120	120	95	120

A : standard - carbon steel exchanger (horizontal installation) / AV : carbon steel exchanger (vertical installation)
A_S : stainless steel exchanger (horizontal installation) / AV_S : stainless steel exchanger (vertical installation)

* Product specifications may be subject to change without prior notice.
Contact us to obtain the newest datasheets, more technical drawings and more information about options, correction factors and suggested filtration.

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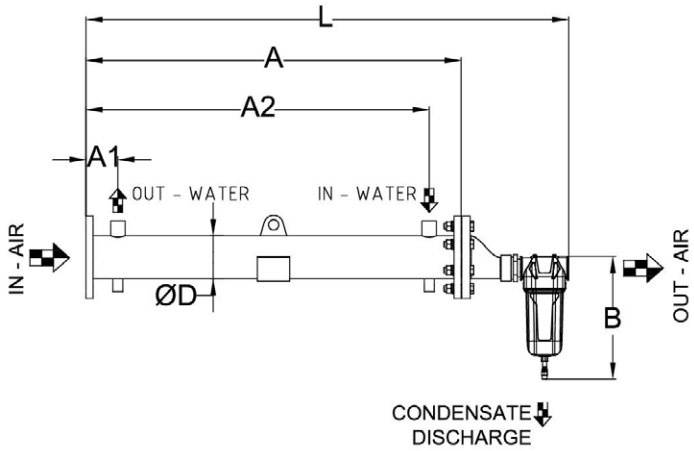
Water-Cooled Aftercoolers
A-AV Specifications



Working reference parameters	
Parameter	**Value**
Pressure	A-AV 450–1830: 7 bar (max 16 bar) A-AV 2500–6300: 7 bar (max 12 bar)
Compressed air inlet temperature	120 °C (min 1 °C – max +200 °C)
Inlet temperature	15 °C (min 1 °C – max. 90 °C)
Maximum water inlet pressure	10 bar
Ambient temperature	1 – 65 °C

Model	Max air flow		AIR connection		Water	Drain connection (BSP)	Dimensions [mm]								Weight			
	[m³/h]	[l/min]	IN	OUT	IN/OUT		A	A1	A2	B	D	E	L	H	A [kg]	AV [kg]	A_S [kg]	AV_S [kg]
450	2.700	45.000	DN 200	DN 100	DN65	3/4" BSP	112	1488	1600	840	193.7	1005	2120	2620	105	145	105	145
560	3.400	56.667	DN 200	DN 100	DN80	3/4" BSP	112	1475	1600	840	219.1	1005	2120	2620	170	210	170	210
800	4.800	80.000	DN 250	DN 150	DN100	3/4" BSP	137	1263	1400	995	273	1169	1975	2650	250	310	250	310
1000	6.200	103.333	DN 250	DN 150	DN100	3/4" BSP	137	1262	1400	1014	273	1239	2045	2665	270	330	270	330
1250	7.500	125.000	DN 250	DN 150	DN100	1" BSP	138	1513	1650	1049	273	1169	2365	2900	310	370	310	370
1830	11.000	183.333	DN 300	DN 200	DN125	1" BSP	150	1500	1650	1250	323.9	1462	2415	3175	445	535	445	535
2500	15.000	250.000	DN 400	DN 250	DN150	1-1/2" BSP	200	1350	1553	1463	403.4	1895	2540	3400	650	820	650	820
3800	23.000	383.333	DN 450	DN 250	DN200	1-1/2" BSP	250	1350	1600	1490	457.2	2131	2720	3725	875	1100	875	1100
5100	31.000	516.667	DN 500	DN 300	DN200	2" BSP	250	1550	1750	1900	508	2477	3100	4155	1510	1825	1510	1825
6300	38.000	633.333	DN 600	DN 350	DN200	2" BSP	250	1500	1750	2040	609.6	2834	3235	4415	1625	2120	1625	2120

A : standard - carbon steel exchanger (horizontal installation) / AV : carbon steel exchanger (vertical installation)
A_S : stainless steel exchanger (horizontal installation) / AV_S : stainless steel exchanger (vertical installation)

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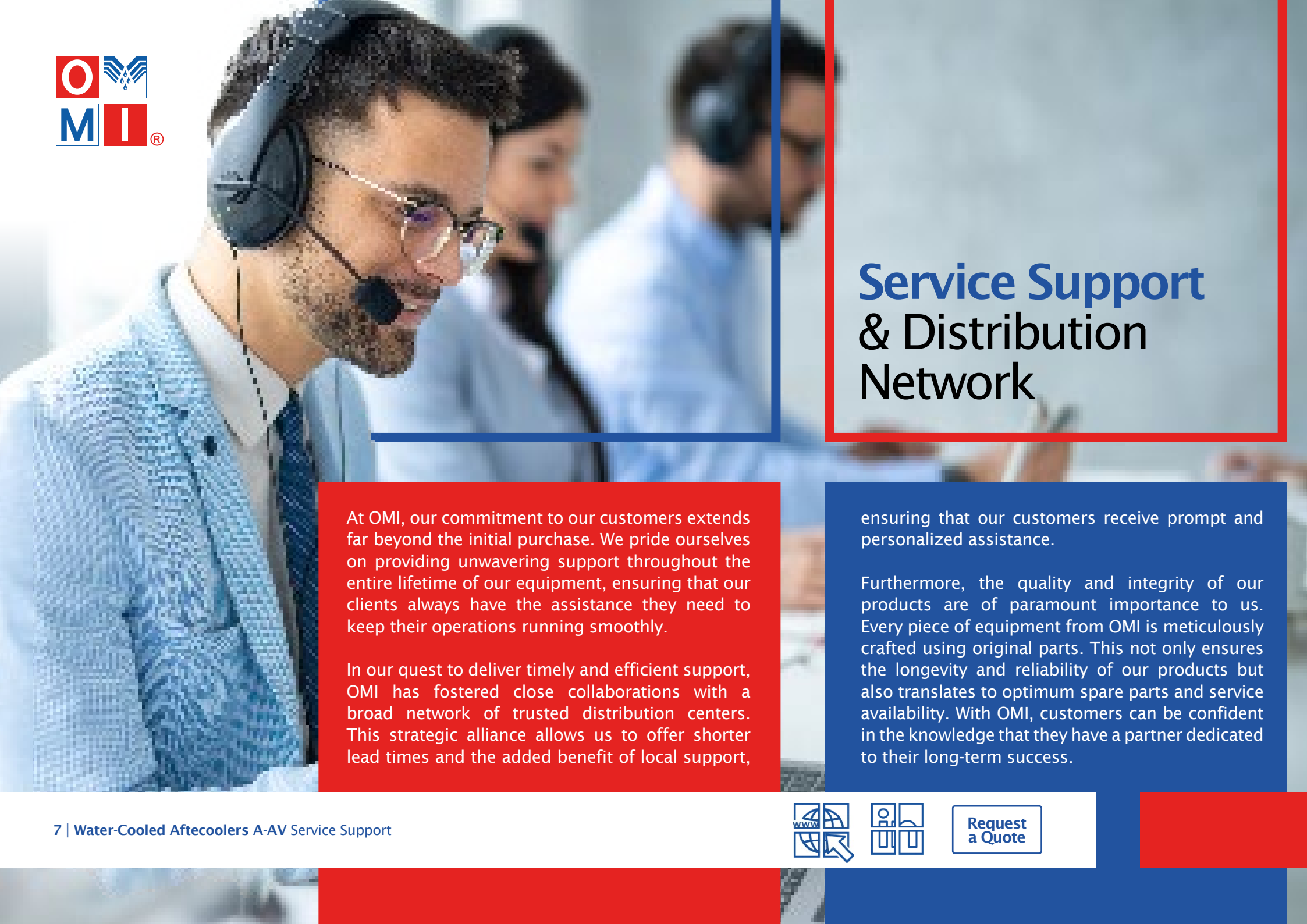

Service Support & Distribution Network

At OMI, our commitment to our customers extends far beyond the initial purchase. We pride ourselves on providing unwavering support throughout the entire lifetime of our equipment, ensuring that our clients always have the assistance they need to keep their operations running smoothly.

In our quest to deliver timely and efficient support, OMI has fostered close collaborations with a broad network of trusted distribution centers. This strategic alliance allows us to offer shorter lead times and the added benefit of local support, ensuring that our customers receive prompt and personalized assistance.

Furthermore, the quality and integrity of our products are of paramount importance to us. Every piece of equipment from OMI is meticulously crafted using original parts. This not only ensures the longevity and reliability of our products but also translates to optimum spare parts and service availability. With OMI, customers can be confident in the knowledge that they have a partner dedicated to their long-term success.

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Contact

With a global footprint spanning over 56 countries, OMI stands as a leader in compressed air treatment and industrial refrigeration. Our cutting-edge research center crafts tailored solutions, meeting diverse market demands. Our commitment to quality, safety, and environmental stewardship is unwavering. Producing over 25,000 machines annually, we're a testament to innovation and excellence.

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OMI/Product-Series 11/2025
Reference ID: 710.0232.01.00-00

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