



CORE & MASTER SERIES

R410A & R454B
R134A & R513A



AIR-COOLED WATER CHILLER UNITS

Scroll Series Cooling Capacity 3 - 600 kW

Screw Series Cooling Capacity 360 - 1000 kW



Technological innovation, absolute reliability, and customer satisfaction are the cornerstones of CEMS CHILLER & LIFT's more than 40 years of manufacturing expertise. CEMS air-cooled process chillers are specifically designed for demanding industrial applications. Each chiller unit is a compact, fully integrated solution, equipped as standard with an internal storage tank and pump, delivering proven and globally trusted performance. By utilizing premium-quality components sourced from leading manufacturers and conducting comprehensive factory testing on every unit, CEMS ensures maximum reliability, minimizes the risk of unplanned downtime, and enhances overall production efficiency. A wide range of accessories allows full customization of chiller units to meet the unique requirements of diverse industrial processes.



**CEMS
CHILLER**

CORE SERIES

STANDARD FEATURES

- Wide range of refrigerants: R410A, R454B
- Hermetic Scroll Compressors
- Stainless steel plate evaporator and Shell & Tube evaporator
- Axial fans with galvanized steel or cast aluminum blades
- Air-cooled condenser
- Stainless steel water tank complete with pump, filling/drainage, and pressure gauges
- Internal hydraulic by-pass between the inlet and outlet connections
- High and low refrigerant pressure switches
- Refrigerant pressure gauges
- Eliwell ST542 parametric microprocessor control
- Protection rating: IP54 / IP44
- Dynamic setpoint temperature function
- Phase monitoring against phase loss and phase sequence errors
- Compressor crankcase heater
- Chassis-mounted wheels with brakes

The CEMS CORE Series is an air-cooled water chiller designed for industrial use, suitable for both indoor and outdoor installation. Its product configuration, integrated hydraulic kit, and a wide range of available accessories—combined with comprehensive standard equipment—enable the unit to meet the requirements of most industrial applications. As such, the CEMS CORE Series represents the ideal solution for applications that demand high performance, reliability, continuous operation, and low operating costs.

Thanks to its energy-efficient scroll compressors, high-capacity evaporator, and R410A refrigerant, the CEMS CORE achieves high levels of energy efficiency. Coupled with low maintenance requirements, this ensures that CEMS provides a highly economical solution over the long term.

The environmentally friendly R410A refrigerant (ODP = 0), with its high thermal conductivity, combined with the low power consumption of scroll compressors, minimizes energy waste and reduces environmental impact. The use of recyclable, high-quality materials further contributes to lowering the carbon footprint.

All CEMS models are equipped with advanced microprocessor control technology, featuring Eliwell by Schneider digital control. A comprehensive digital display provides the user with precise information regarding unit operation, warnings, and alarms, ensuring reliable and accurate system management.



APPLICATIONS

Plastics & Rubber: Presses, injection molding, extrusion, blow molding, thermoforming, PET.

Lasers: Cutting, welding, profiling, optics, medical applications, engraving.

Food & Beverages: Confectionery, bakeries, breweries, wineries, dairies, packaging.

Chemicals & Pharmaceuticals: Jacketed vessels, polyurethane foam mixers, industrial cleaning, laboratories, healthcare, solvents, paints.

Metalworking: Processing and transformation of precious metals, and aluminum processing.

Mechanical & Engineering: Machine tools, welding machines, presses, cutting systems, hydraulic power unit oil cooling.

CORE			1.1	1.5	1.7	1.11	1.15	2.7	2.12	2.13	2.15
Technical Specs	Coolin Capacity @25	Kcal/h kW	2.580 3	14.000 16,2	23.000 26,7	33.100 38,5	52.950 61,5	45.000 52,3	80.000 93	88.000 102,3	98.000 114
	Coolin Capacity @35	Kcal/h kW	1.806 2,1	10.750 12,5	20.700 24	30.100 35	45.700 53,1	39.560 46	72.000 83,7	77.400 90	86.000 100
	Compressor Power Input	kW	1	2,85	5,25	8,3	12,5	9,2	17,2	17,5	19,8
	Total Power Input	kW	1,5	5	7	10,4	15,5	12,7	23,2	23,9	32,1
	COP		3	5,6	5	4,6	4,9	5,6	5,4	5,8	5,7
Compressor	Compressor Type		Rotary Hermetic Scroll R410A								
	Cooling Circuit	Nº	1	1	1	1	1	1	1	1	1
	Compressor Qty	Nº	1	1	1	1	1	2	2	2	2
	Capacity Control	%	0 -100 50 -100								
Electrical Specs	Power	V / phz / Hz	220 / 3 / 50 380 - 400 / 3 / 50								
	Protection Class		IP54								
Fan	Fan Type		Axial Fan								
	Fan	Nº	1	1	1	2	2	2	3	2	2
	Air Flow	m3/h	1,750	4,000	20,000	20,000	28,000	28,000	42,000	50,0000	50,000
Hydronic Group	Evaporator Type		Stainless Steel Plate								
	Water Flow	m3/h	0,5	2,5	5	6	10,6	9,6	14,6	18	19,6
	Water Pump Power	Hp	0,5	0,75	1	1½	2	2	3	3	7½
	Tank Volume	L	40	60	150	160	210	210	350	350	350
Sound	Maximum Pressure	Bar	3	3	3	3	3	3	3	3	3
	Sound Level	dB(A)	47	52	53	54	54	55	57	57	58
Dimensions & Weight	Width	mm	630	800	800	800	800	800	1000	1300	1300
	Length	mm	900	1125	1600	1570	2000	2000	2500	2500	2500
	Height	mm	790	850	1150	1475	1500	1500	1250	2100	2100
	Weight	mm	95	170	280	390	500	530	850	1150	1225

CORE											2.20	2.25	2.30	4.13	4.15	4.20	4.25	4.30	4.40
Technical Specs	Coolin Capacity @25	Kcal/h kW	133.300 155	163.400 190	206.400 240	175.956 204,6	196.080 228	266.600 310	311.320 362	412.800 480	516.000 600								
	Coolin Capacity @35	Kcal/h kW	116.960 136	142.760 166	180.600 210	154.800 180	172.000 200	233.920 272	271.760 316	285.520 420	464.400 540								
	Compressor Power Input	kW	26,6	32,2	40,9	34,6	39,6	53,2	64,4	82	130,4								
	Total Power Input	kW	43,2	49,4	58,1	49,3	54,3	70,4	75,2	96,4	104								
	COP		5,8	5,9	5,8	5,9	5,7	5,8	5,8	5,8	5,8								
Compressor	Compressor Type		Hermetic Scroll R410A																
	Cooling Circuit	Nº	1	1	1	2	2	2	2	2	2								
	Compressor Qty	Nº	2	2	2	4	4	4	4	4	4								
	Capacity Control	%	50 - 100			25 - 50 - 75 - 100													
	Power	V / phz / Hz	380 - 400 / 3 / 50																
Electrical Specs	Protection Class		IP54																
Fan	Fan Type		Axial Fan																
	Fan	Nº	2	4	4	4	4	4	6	8	10								
	Air Flow	m3/h	100.000	100.000	100.000	100.000	100.000	100.000	150.000	200.000	250.000								
	Evaporator Type		Shell & Tube																
	Water Flow	m3/h	26,7	32,7	41,3	35,2	39,2	53,3	62,2	82,56	103,2								
Hydronic Group	Water Pump Power	Hp	10	10	10	10	10	10	-	-	-								
	Tank Volume	L	550	550	550	550	550	550	-	-	-								
	Maximum Pressure	Bar	3	3	3	3	3	3	3	3	3								
	Sound	Sound Level	dB(A)	60	62	63	66	68	69	70	72	77							
	Width	mm	1300	2266	2266	2266	2266	2266	2266	2266	2266								
Dimensions & Weight	Length	mm	2500	2706	2706	2706	2706	2706	3830	3830	4954								
	Height	mm	2100	2580	2580	2580	2580	2580	2580	2580	2580								
	Weight	mm	1400	1950	2100	2700	2700	2700	3400	3650	4700								

MASTER SERIES

STANDARD FEATURES

- Wide range of refrigerants: R134a, R513A
- Semi-hermetic screw compressors
- Shell & Tube evaporator
- Axial fans with galvanized steel or cast aluminum blades
- Air-cooled condenser
- Filling/drain valves and pressure gauges
- High and low refrigerant pressure transmitters
- Refrigerant pressure indicators
- PLC control system
- Protection rating: IP54
- Dynamic setpoint temperature function
- Phase monitoring against phase loss and phase sequence reversal
- Compressor crankcase heater
- Electronic expansion valve
- Audible and visual alarm system

CEMS MASTER Series is engineered for excellence, delivering maximum performance, superior energy efficiency, and long-lasting reliability in demanding, high-capacity cooling applications.

With state-of-the-art control technologies, an optimized heat exchanger design, and the use of eco-friendly R134a refrigerant, the MASTER Series provides a trusted and sustainable cooling solution for a wide range of industrial and commercial environments.

Equipped with semi-hermetic screw compressor technology, the system ensures continuous, stable, and efficient operation.

Its precision-engineered rotor profile minimizes vibration and noise, offering exceptionally smooth and quiet performance while extending equipment life and reducing maintenance requirements. The advanced PLC control system intelligently adjusts compressor speed and capacity according to load conditions, maximizing energy efficiency and ensuring high COP values even under partial load operation.

The intelligent control panel features fully automatic operation, self-diagnostics, remote monitoring, and seamless integration with Building Management Systems (BMS) via Modbus, BACnet, or LonWorks protocols. By continuously recording real-time performance data and alarm history, it simplifies both maintenance management and operational efficiency.



APPLICATIONS

Plastics & Rubber: Presses, injection molding, extrusion, blow molding, thermoforming, PET.

Lasers: Cutting, welding, profiling, optics, medical applications, engraving.

Food & Beverages: Confectionery, bakeries, breweries, wineries, dairies, packaging.

Chemicals & Pharmaceuticals: Jacketed vessels, polyurethane foam mixers, industrial cleaning, laboratories, healthcare, solvents, paints.

Metalworking: Processing and transformation of precious metals, and aluminum processing.

Mechanical & Engineering: Machine tools, welding machines, presses, cutting systems, hydraulic power unit oil cooling.

MASTER			2.60	2.70	2.80	2.90	2.110	2.125	2.140	2.160
Technical Specs	Coolin Capacity @25	Kcal/h kW	309.600 360	354.320 412	423.120 492	486.760 566	576.200 670	632.960 736	720.680 838	848.840 994
	Coolin Capacity @35	Kcal/h kW	267.460 311	306.160 356	374.960 436	431.720 502	503.960 586	557.280 648	632.960 736	749.920 872
	Compressor Power Input	kW	67,6	77,1	91,8	105,8	120,2	135,2	184,6	198,8
	Total Power Input	kW	82	91,5	109,8	123,8	141,8	160,4	213,4	231,2
	COP		5,3	5,3	5,3	5,3	5,5	5,4	4,5	5
Compressor	Compressor Type		Semi-Hermetic Screw R134a							
	Cooling Circuit	Nº	2	2	2	2	2	2	2	2
	Compressor Qty	Nº	2	2	2	2	2	2	2	2
	Capacity Control	%	8 Steps / 25-50-75-100 & 25-50-75-100							
Electrical Specs	Power	V / phz / Hz	380 - 400 / 3 / 50							
	Protection Class		IP54							
Fan	Fan Type		Axial Fan							
	Fan	Nº	8	8	10	10	12	14	16	18
	Air Flow	m3/h	200.000	200.000	250.000	250.000	300.000	350.000	400.000	450.000
	Evaporator Type		Shell & Tube							
Hydronic Group	Water Flow	m3/h	61,9	70,9	84,6	97,4	115,240	126,6	144,1	171
	Water Pump Power	Hp	-	-	-	-	-	-	-	-
	Tank Volume	L	-	-	-	-	-	-	-	-
	Maximum Pressure	Bar	3	3	3	3	3	3	3	3
Sound	Sound Level	dB(A)	71	71	72	73	75	76	78	79
Dimensions & Weight	Width	mm	2266	2266	2266	2266	2266	2266	2266	2266
	Length	mm	5450	5450	6570	6570	8806	9950	11000	13070
	Height	mm	2580	2580	2580	2580	2580	2580	2580	2580
	Weight	mm	3600	3700	4200	4300	4980	5470	5980	6830

OPTIONAL ACCESSORY LIST

- Spring vibration dampers
- Rubber vibration dampers
- Condenser filter
 - Dual-circuit configuration instead of tandem connection (for 2-compressor circuits)
- Fan inverter control
- Compressor soft starter
- Remote condenser
- BACnet & Profibus connectivity
- High-pressure water pump
- Economizer
- Compressor inverter
- Mechanical by-pass
- Compressor sound jacket insulation
- Upgrade from Eliwell microprocessor to PLC
- Modbus TCP
- RS485 (Modbus RS485)
- Remote control with external display
- 60 Hz operation
- Dry-cooler option
- Electronic expansion valve
- Immersion-type heater
- Fan speed control
- Low-temperature kit (down to -20 °C)
- Electrical panel cooling
- Heat recovery system
 - Additional evaporator for chillers with 2 or more circuits
- Extended warranty option
- Wooden packaging
- Water pump inverter control
 - Audible and visual alarm
 - Y-strainer





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