

INNOVATION
TECHNOLOGY
ENVIRONMENT



hybrid

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AIR COOLED LIQUID CHILLERS FOR
INDUSTRIAL APPLICATIONS

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rps



hybrid

2275

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AIR COOLED LIQUID CHILLERS FOR INDUSTRIAL
APPLICATIONS

4400

4725

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310



LOW
Environmental
Impact

**ECOLOGICAL
CHILLERS**
R410A-R134a

HYBRID condensati ad aria *air cooled*

con compressori multiscroll e gas refrigerante R410A oppure con compressori semiermetici a vite e gas refrigerante R134, resa frigorifera da 100 to 900kW.

With multiscroll and R410A refrigerant gas or equipped with semi-hermetic twin screw compressors and R134a refrigerant gas. Cooling capacity from 100 to 900kW.



Valvole termostatiche elettroniche
Electronic Expansion thermostatic valve.



Vano compressori chiuso da pannelli coibentati per un riduzione del rumore
Separated compressor compartment with removable panels with big noise reduction.



Manometri gas refrigerante, alta e bassa pressione manometrica
Refrigerant manometers, high and low pressure gauges.

FREECOOLING and COMP INVERTER DRIVEN versions



Refrigeratori d'acqua con controllo preciso della temperatura di uscita del liquido per qualsiasi tipo di applicazione industriale

State of the art liquid chillers with precise temperature control for any industrial applications.

CARATTERISTICHE PRINCIPALI - STANDARD FEATURES

Valvole compressore, antivibranti sui compressori, vano chiuso compressori, filtri metallici, rete metallica per il vano ventilatori

Compressor valves, compressors dampers, closed comp cabinet, air metal filters, metal mesh closure for the hydraulic cabinet.

ACCESSORI - ACCESSORIES

Evaporatore a fascio tubiero, pompe e serbatoi, regolazione elettronica ventilatori, bassa temperatura acqua -20°C, trattamento batterie condensanti, antivibranti, controllo remoto, Modbus.

Shell & tube evaporator, tanks and pumps with different sizes, EC fans, low water and ambient temperature, condensing coil treatment, antivibration mounts, remote control, Modbus

SOLUZIONI GREEN - GREEN SOLUTION

I gas refrigeranti R410 e R134a sono tra i più efficienti e con basso impatto ambientale

R410 refrigerant with significant environmental benefits or R134a, a chlorine-free gas, zero ozone depletion potential (ODP). R134a's reduced operating pressure temperatures ensuring high compression levels with reduced electrical power consumption

EFFICIENZA - EFFICIENCY

I refrigeratori HYBRID sono stati disegnati per offrire le più alte performance del mercato grazie ad una accurata progettazione e selezione meticolosa dei componenti.

Hybrid have been designed to provide machines with the highest performance of the market thanks to meticulous design and components selection

VERSIONI - VERSIONS

Condensazione ad acqua, con compressori a vite, tropicalizzata per alte temp ambiente +55°C, pompe di calore, compressori ad inverter, freecooling.

Water cooled, with screw comp, tropicalized for high amb, Tropicalised for high environment +55°C, heat pump, freecooling, inverter driven compressor

PROCESSORE - ADVANCED MICROPROCESSOR CONTROL

Microprocessore programmabile avanzato compatibile con la maggior parte dei sistemi di supervisione.

The 32-byte powerful programmable microprocessor allows energy efficiency levels to be maximized in every load conditions. User friendly remote interface ability is assured by means of a GSM modem and full compatibility with the most widely used Building Management System (BMS) communications protocols: Bac-net, Lonworks and ModBus.

- 19 MODELS 4 SIZES
- COOLING CAPACITY FROM 100 kW UP TO 830 kW
- EER>3,2

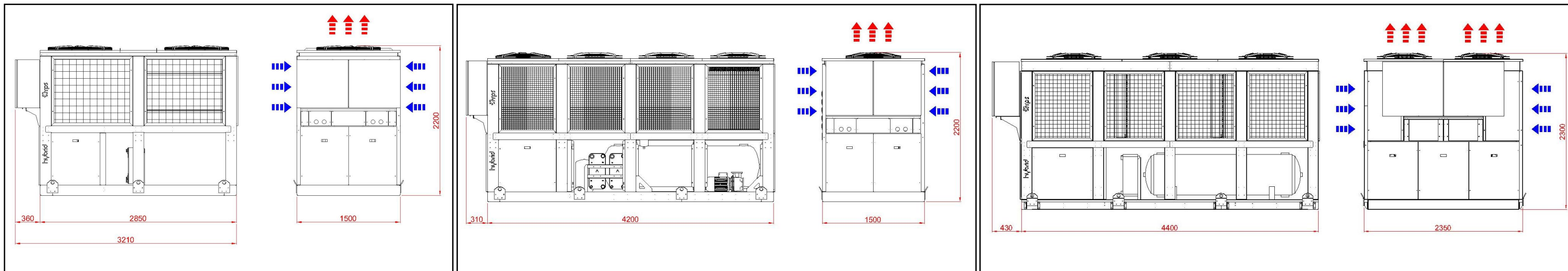
		HYBRID 1						HYBRID 2				HYBRID 3				HYBRID 4					
CODICE - CODE		HA 100	HA 115	HA 128	HA 145	HA 162	HA 210	HA 225	HA 255	HA 310	HA 340	HA 380	HA 420	HA 460	HA 500	HA 550	HA 620	HA 660	HA 770	HA 830	
TAGLIA - SIZE																					
(1)	potenza di raffreddamento W15A32 - cooling capacity W15A32	kW	100.4	114	128.1	143.2	163.2	208	224.8	255.1	318.0	356.0	375.0	420.0	460.0	495.0	558.0	615.0	640.0	760.0	830.0
(3)	efficienza energetica - energy efficiency ratio	EER	3.94	3.74	4.03	3.81	4.12	4.25	4.12	4.23	4.26	4.31	4.23	4.20	4.26	4.24	4.16	4.26	4.24	4.29	4.36
COMPRESSORE - COMPRESSOR																					
tipo - type		Scrool - Scroll						Scrool - Scroll				Scrool - Scroll				Scrool - Scroll					
q.tà comp/ circuiti frigoriferi - q.ty comp / cooling circuits		nr	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	2/2	2/2	1/3	2/3	2/3	2/3	2/4	2/4	2/4	2/4	2/4
parzializzazione - partializations			50-100%	50-100%	50-100%	50-100%	50-100%	50-100%	50-100%	50-100%	50-100%	50-100%	33-33-33%	33-33-33%	33-33-33%	33-33-33%	25-50-75-100%	25-50-75-100%	25-50-75-100%	25-50-75-100%	25-50-75-100%
cilindrata - displacement		cc	342.40	416.4	432.2	527.6	555.2	710.4	777.0	887.4	1,110.3	1,265.5	1,331.0	1,554.0	1,665.5	1,731.0	1,997.7	2,220.6	2,308.0	2,664.3	2,841.4
(4)FLI	potenza assorbita - power absorbed	kW	34.0	44.0	48.0	55.6	64.0	78.0	88.0	98.0	128.0	142.0	147.0	180.0	192.0	195.0	232.0	256.0	260.0	304.0	312.0
(5)FLA	corrente assorbita - current absorbed	A	60.0	73.2	79.8	89.6	106.0	132.0	152.0	162.0	212.0	238.0	243.0	300.0	318.0	330.0	388.0	424.0	440.0	516.0	528.0
(6)ICF	corrente di spunto - start-up current	A	240	293	319	358	424	528	608	648	848	952	972	1,200	1,272	1,320	1,552	1,696	1,760	2,064	2,112
VENTILATORE - CONDENSER FAN																					
tipo - type		Axial - Axial						Axial - Axial				Axial - Axial				Axial - Axial					
q.tà / diametro - q.ty / diameter		nr/ mm	2/900			2/900			4/800		4/800		6/800		6/800		8/800			8/800	
portata aria - air flow		m³/h	28,000			26,000			85,500		84,000		128,300		112,000		171,000			150,000	
(4)FLI	potenza assorbita - power absorbed	kW	3.98			3.98			5.33		5.33		8.0		8.0		10.70			10.70	
(5)FLA	corrente assorbita - current absorbed	A	9.4			9.4			8.4		8.4		12.6		12.6		16.8			16.8	
(6)ICF	corrente di spunto - start-up current	A	38.0			38.0			35.0		35.0		50.0		50.0		68.0			68.0	
VENTILATORE CENTRIFUGO (opzionale) - CENTRIFUGAL FAN (optional)																					
tipo - type		Centrifugo - Centrifugal						Centrifugo - Centrifugal				Centrifugo - Centrifugal				Centrifugo - Centrifugal					
q.tà / diametro - q.ty / diameter		nr/ mm	2/900			2/900			2/900		2/900		6/800		6/800		8/800			8/800	
portata aria - air flow		m³/h	28,000			26,000			85,500		84,000		128,300		112,000		171,000			150,000	
pressione statica disponibile - available static pressure		kPa	160			150			170		155		165.00		150.00		160.00			150.00	
(4)FLI	potenza assorbita - power absorbed	kW	3.0			3.0			8.5		8.5		12.8		12.8		17.0			17.0	
(5)FLA	corrente assorbita - current absorbed	A	8.2			8.2			24.2		24.2		36.3		36.3		48.4			48.4	
(6)ICF	corrente di spunto - start-up current	A	32.0			32.0			98.0		98.0		145.0		145.0		195.0			195.0	
DATI IMPIANTO IDRAULICO - HYDRAULIC DATA																					
(7)	versione idraulica standard - standard hydraulic form		D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
pressione max ammissibile - maximum allowable pressure		bar	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
POMPA - PUMP																					
tipo - type(P3 , P5, P7)		Centrifuga - Centrifugal						Centrifuga - Centrifugal				Centrifuga - Centrifugal				Centrifuga - Centrifugal					
(8)	portata (nom/max) - flow rate (nom/max)	l / min	287/483	326/483	366/483	409/483	466/933	594/933	642/933	729/933	908/1017	1683/1017	1071/1850	1200/1850	1314/1850	1414/2617	1594/2617	1757/2617	1829/2617	2171/4400	2171/4400
(9)	pressione disponibile (nom/min)-available head press	bar	3,5/2,1	3,5/2,1	3,5/2,8	3,5/2,8	3,5/2,6	3,5/2,6	3,5/2,6	3,5/3,2	3,5/2,1	3,5/2,1	3,5/2,3	3,5/2,3	3,5/2,3	3,5/2,7	3,5/2,7	3,5/2,7	3,5/2,7	3,5/2,1	3,5/2,1
(4)FLI	potenza assorbita - power absorbed	kW	3.40	3.40	4.40	4.40	6.20	6.20	6.15	8.28	10.13	10.13	12.5	12.5	12.5	16.22	16.22	16.22	16.22	23.66	23.66
(5)FLA	corrente assorbita - current absorbed	A	6.3	6.3	7.6	7.6	10.4	10.4	10.4	14.1	17.5	17.5	20.2	20.2	20.2	26.6	26.6	26.6	26.6	42.2	42.2
(6)ICF	corrente di spunto - start-up current	A	25.2	25.2	30.4	30.4	41.6	41.6	41.6	56.4	70.0	70.0	80.8	80.8	80.8	106.4	106.4	106.4	106.4	168.8	168.8
(8)	portata (nom/max) - flow rate (nom/max)	l / min	287/483	326/483	366/483	409/483	466/933	594/933	642/933	729/933	908/1017	1683/1017	1071/1850	1200/1850	1314/1850	1414/2617	1594/2617	1757/2617	1829/2617	2171/4400	2171/4400
(9)	pressione disponibile (nom/min)-available head press	bar	5,5/3,5	5,5/3,5	5,5/3,5	5,5/5,0	5,5/5,1	5,5/3,9	5,5/3,9	5,5/3,9	5,5/4,8	5,5/4,8	5,5/4,8	5,5/4,8	5,5/4,8	5,5/4,8	5,5/4,3	5,5/4,3	5,5/4,3	5,5/4,3	5,5/4,3
(4)FLI	potenza assorbita - power absorbed	kW	5.60	5.60	5.60	8.30	8.30	12.10	12.05	12.05	19.98	19.98	19.98	19.98	19.98	19.98	31.9	31.9	31.9	31.9	31.9
(5)FLA	corrente assorbita - current absorbed	A	10.0	10.0	10.0	14.1	14.1	20.2	20.2	20.2	32.7	32.7	32.7	32.7	32.7	32.7	53.5	53.5	53.5	53.5	53.5
(6)ICF	corrente di spunto - start-up current	A	40.0	40.0	40.0	56.4	56.4	80.8	80.8	80.8	130.8	130.8	130.8	130.8	130.8	130.8	214.0	214.0	214.0	214.0	214.0
(8)	portata (nom/max) - flow rate (nom/max)	l / min	287/483	326/483	366/483	409/483	466/933	594/933	642/933	729/933	908/1017	1683/1017	1071/1850	1200/1850	1314/1850	1414/2617	1594/2617	1757/2617	1829/2617	2171/4400	2171/4400
(9)	pressione disponibile (nom/min)-available head press	bar	7,5/4,1	7,5/4,1	7,5/6,2	7,5/6,2	7,5/6,2	7,5/7,3	7,5/7,3	7,5/7,3	7,5/4,3	7,5/4,3	7,5/4,3	7,5/4,3	7,5/4,3	7,5/4,3	7,5/4,6	7,5/4,6	7,5/4,6	7,5/4,6	7,5/4,6
(4)FLI	potenza assorbita - power absorbed	kW	8.28	8.28	16.22	16.22	16.22	19.98	19.98	19.98	39.1	39.1	39.1	39.1	39.1	39.1	47.32	47.32	47.32	47.32	47.32
(5)FLA	corrente assorbita - current absorbed	A	14.1	14.1	26.6	26.6	26.6	32.7	32.7	32.7	65.6	65.6	65.6	65.6	65.6	65.6	77.6	77.6	77.6	77.6	77.6
(6)ICF	corrente di spunto - start-up current	A	56.4	56.4	106.4	106.4	106.4	130.8	130.8	130.8	262.4	262.4	262.4	262.4	262.4	262.4	310.4	310.4	310.4	310.4	310.4

		HYBRID 1						HYBRID 2				HYBRID 3				HYBRID 4				
CODICE - CODE		HA 100	HA 115	HA 128	HA 145	HA 162	HA 210	HA 225	HA 255	HA 310	HA 340	HA 380	HA 420	HA 460	HA 500	HA 550	HA 620	HA 660	HA 770	HA 830
SERBATOIO (opzionale) - TANK (optional)																				
volume - capacity	l	500						750				750				1000				
scarico - discharge water connection	BSP	1"						1"				1"				1"				
PESI E DIMENSIONI - WEIGHT AND DIMENSIONS																				
larghezza - width	mm	1,500						1,500				2,100				2,350				
profondità - length	mm	3,000						4,510				4,725				6,000				
altezza - height	mm	2,200						2,200				2,275				2,275				
(10) peso - weight	kg	1,350	1,350	1,350	1,500	1,500	1,500	2,500	2,600	2,600	2,900	3,500	3,500	3,700	3,700	4,250	4,250	4,250	4,550	4,550
connessioni idrauliche IN/OUT - hydraulic connections	BSP	2" 1/2						2" 1/2				3"				3"				
RUMOROSITA' - NOISE																				
(11) pressione sonora con vent assiali a 10m - sound pressure	dB (A)	58	58	58	58	61	61	64	64	64	64	66	66	66	66	67	67	67	68	68

HYBRID 1

HYBRID 2

HYBRID 3



HYBRID 4

DATI GENERALI - GENERAL DATA

refrigerante- refrigerant gas		R410A
limiti funz. ambientale - working ambient limits	°C	-10 ÷ 45°C
limiti impostazione set-point - set-point limits	°C	5 ÷ 30°C
accuratezza - accuracy	K	+/-2
alimentazione elettrica - electrical power supply		400V (+/-10%) 3ph 50Hz
circuito ausiliario - auxiliary		24 Vac
classe di protezione IP - IP rating		IP 54

- (1) Potenza calcolata con Acqua a 15°C (ΔT in/out 5°C) & 32°C Temperatura ambiente - Cooling capacity calculated with water to 15°C (ΔT in/out 5°C) & 32°C ambient temperature
(2) Potenza calcolata con Acqua a 7°C (ΔT in/out 5°C) & 32°C Temperatura ambiente - Cooling capacity calculated with water to 7°C (ΔT in/out 5°C) & 32°C ambient temperature
(3) EER Energy efficiency ratio calcolata senza pompa - Without pump
(4) FLI = Potenza massima assorbita alle condizioni limite di funzionamento Max power absorbed in the working limits conditions
(5) FLA = Corrente massima assorbita alle condizioni limite di funzionamento Max current adsorbed in the working limits conditions
(6) ICF = Corrente di spunto alla partenza alle condizioni limite di funzionamento Start-up current at the start in the working limits condition
(7) "D": senza vasca e senza pompa - "D" without tank without pump
(8) Portata calcolata con ΔT in/out 5°C Calculated with ΔT in/out of 5°C
(9) Prevalenza disponibile agli attacchi idraulici alla portata della pompa nominale e massima Available head pressure at hydraulic connections at the nominal and maximum pump flow rate
(10) Peso a serbatoio vuoto - Weight with tank empty
(11) Livello di pressione sonora in campo libero a 10m a 1,5 mt dal suolo Sound pressure level at 10 m to 1,5 m above the ground

