



Project: MXP11Á
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Document Title: OFCI Chiller Data Sheet #000Á

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Revision History

Date	Revision	Status	Revision Details / Comments
01/06/2023	P01	S4 - For review / approval	First issue
09/06/2023	P02	S4 - For review / approval	Modifications required by Fabio Sbacches DBA
03/07/2023	P03Á	S4 - For review / approval	Just printed in pdf format
01/01/2024	P04	S4 - For review / approval	Revised glycol type
22/01/2024	P05	S4 - For review / approval	Revised glycol type

Equipment Data Sheet

Project
 Project Number
 Subject
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Equipment Data Sheet

MXP11 Chiller Specification
 BH5888
 CHILLER SPECIFICATION
 MXP11-CAR-WS4-RP-SP-Q-0002
 01/08/2023
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A	Unit Reference	CHIL01	Vendor CDE	Comment if D or E
A.1	Location	Roof chiller platform	C	
A.2	System	Critical cooling system	C	
A.3	No. of Units phase 1 (8MW)	7	C	
A.4	Units configuration phase 1 (8MW)	N+2	C	
A.5	No. of Units phase 2 (16MW)	12 (7+5=12)	C	
A.6	Units configuration phase 2 (16MW)	N+2	C	
Climate Data				
Ref 2021 ASHRAE Handbook - Fundamentals (SI) - Linato (MI) weather station				
A.7	Location	Melegnano (MI), Italy	C	
A.8		Lat: 45.352 N Long: 9.309 E Elev: 88m	C	
A.9	Ambient temperatures based on n=20 years extreme temperatures			
A.10	Min	-10.1°C DB / -10.8°C WB	C	
A.11	Max	37.9°C DB / 28.7°C WB	C	
B Related documents				
		Revision		
B.1	Mechanical - Block Diagram - Cooling Critical - Phase 1	P02	MXP21-RHD-DC-ZZ-DR-M-0700 (to be used as reference for MXP11)	C
B.1	Mechanical - Block Diagram - Cooling Critical - Phase 2	P02	MXP21-RHD-DC-ZZ-DR-M-0701 (to be used as reference for MXP11)	C
B.2	Mechanical - Schematic - Cooling Critical Generation - Phase 1	P02	MXP21-RHD-DC-ZZ-DR-M-0702 (to be used as reference for MXP11)	C
B.3	Mechanical - Schematic - Cooling Critical Generation - Phase 2	P02	MXP21-RHD-DC-ZZ-DR-M-0703 (to be used as reference for MXP11)	C
B.4	Mechanical - Cooling Installations - Roof - Below Chiller Platform	P02	MXP21-RHD-DC-02-DR-M-0100 (to be used as reference for MXP11)	C
B.5	Mechanical - Cooling Installations - Roof - Above Chiller Platform	P02	MXP21-RHD-DC-M2-DR-M-0100 (to be used as reference for MXP11)	C
B.6	Detail Chiller Setup	P02	MXP21-RHD-DC-ZZ-DR-M-0502 (to be used as reference for MXP11)	C
B.7	Chiller Sequence of Operation	P02	MXP21-RHD-DC-XX-RP-TC-0000 (to be used as reference for MXP11)	C
B.8	Chiller Master Specification	P03	VDC document	C
B.9	Chiller FWT VDC Requirements	P02	VDC document	C
B.10	Responsibility Matrix	P03	MXP21-RHD-XX-XX-RP-Z-0018 (to be used as reference for MXP11)	C
B.11	Noise Study	P01	MXP11-RAMBOLL-XX-XX-RP-Z-0101	C
C Mechanical Specifications				
Chiller Compressor				
C.1	Compressor type	Turbo Core or Screw Compressor (Efficiency and power requirements need to be met)	C	Frequency controlled Variable-Speed Screw compressor
C.2	No. of compressors	TBD by supplier	C	2
C.3	Capacity control	Variable Frequency Drive	C	
Chiller Condenser				
C.4	Configuration	Dual	C	
C.5	Air flow	[m ³ /s] TBD by supplier	C	146
Refrigerant				
C.6	Refrigerant	[GWP] <=150	C	<1
C.7	Refrigerant (Preferred Type)	R1234ZE	C	1234ze
Insulation				
C.8	Pipework Insulation	Thermal insulation	C	On water side
Seismic Considerations				
C.9		The building is located within seismic zone Class 3 with a maximum acceleration value of 0.73 m/s ² at ground level per DECRETO 1701/2018 (Strategic buildings class IV, ground ground category C-11). The supplier shall ensure that all equipment mountings are capable of withstanding additional dynamic loads that may be encountered as a result of this acceleration, at the level of +15,70 m bgl	C	
C.10	Corrosion Considerations	The building is located near the urban area. The supplier shall ensure that all equipment and materials are able to withstand the corrosive forces associated with corrosivity category C3 as classified in UNI EN ISO 12944-9.	C	E-coat coils provided
Chiller Evaporator				
C.11	Type	Shell and tube	C	
C.12	Configuration	Dual	C	
C.13	Fluid	Water	C	
C.14	Material	Galvanized Steel / Copper	C	
C.15	Design flow control	Variable flow, minimum flow 50% of the nominal flow (normal operation mode)	C	
C.16	Minimal load	15% of max. thermal capacity	D	16.70%
Free cooling				
C.17	Fluid (Only in Free Cooling System)	Water - glycol; glycol% TBD by supplier based on ASHRAE N = 20; filling by supplier (25% for reference)	C	ethylene glycol 30% wt Freezing point -15.4°C
C.18	Capacity	Max cooling with free cooling till an ambient temperature of 0 degC	C	with 0°C OAT cooling capacity is >2000 Kw
C.19	Free cooling mode	Free cooling and mix mode (free cooling and mechanical cooling)	C	
C.20	Free cooling pump	Required for free cooling optimization	C	
Chilled Water Pump				
Must be included in chiller supply				
C.21	Mounting	Internal to the chiller.	C	Integrated inside the chiller. 1 pump per module, 2 pumps total
C.22	Type	In-line centrifugal	C	2 pumps controlled simultaneously. Inventory Program provides 2 inlets, 1 for each of the 2 modules pumps, single inlet connection will be quoted and provided locally
C.23	Variable speed	Yes, VFD to be provided with HMI	C	HMI not provided in the Inventory Program, can be added locally on site, offer to follow
C.24	Pump duty	TBD by supplier t/s @ 300 kPa; Excluding chiller and strainer	D	52.74 l/s @ 200 kPa, but allowing single inlet header and flexible connections available pressure drops down to 285kPa
C.25	Rain cover required over motor	Yes	C	
C.26	System static pressure - make up system set point	1 Bar at platform level	C	
C.27	Hydro module should included	Strainer, flushing bypass, isolation valve, drain points, air vents	C	
Pipework				
C.28	Type	Carbon Steel	C	
C.29	Pressure rating	PN16	D	PN10. [As] [N/A] [A] dard design A
C.30	Max operating temperature fluid	[°C] 45	C	
C.31	Max. system operating pressure	[Bar] 10	C	
C.32	Insulation	Required	C	
C.33	Heat Tracing	Required	C	Heat tracing on the optional single inlet header to be installed by OFCI supplier, furnished and fed by GC. OFCI Matrix will be consequently updated
C.34	Pipework connections type	Flanged	D	Victaulic
C.35	Pipework connections - Evaporator side (inlet / outlet)	DN200	D	Inlet 2x DN100, Outlet 1x DN200. Optional single inlet DN200 header will be quoted, supplied and installed by OFCI Supplier. Interface OFCI/GC connections Victaulic DN200. No flexible joints provided DN200, but 2 flexible joints DN100 provided at each pump connection when supplying the single inlet connection header. Header is solid with steelworks, not with chiller.
C.36	Pipework connections positions	To be coordinated with acoustic package	C	
Dimensions excluding sound attenuator				
C.37	Max length Chiller	[mm] 16500	D	16724
C.38	Max width Chiller	[mm] 2500	C	2258
C.39	Max height Chiller	[mm] 2800	C	2325
C.40	Max empty weight Chiller	[kg] 20000	C	17250 operating weight, including DN 200 outlet ping extension
Noise production and acoustical package				
C.41	Acoustical package included	Yes	C	Not included in Inventory Program, will be quoted, supplied and installed locally by OFCI supplier
C.42	Antivibration supports	Antivibration supports capable of prolonged water exposure to accommodate chiller standing in glycol drip tray (drip tray is supplied by GC)	C	Not part of Inventory Program, will be quoted supplied and installed locally by OFCI Supplier, with due antiseismic calculation. The system includes anti-seismic calculated hot galvanized IPE360 pillars to raise the chiller above roof level and allow inlet header to be fitted below the unit.
C.43	Max sound power level normal operation	[dB(A)] 85	C	
C.44	Max sound power level failure operation	[dB(A)] 85	C	
C.45	Max sound power level night operation	[dB(A)] 85	C	
C.46	Acoustical package	Each chiller with an acoustical package at the side and top to maintain noise constraints - attenuator section easy removable to allow for chiller maintenance* - attenuator section easy removable to allow for chiller maintenance	C	AA303SX and header design below chiller will allow fully sliding attenuators in both sides of the chiller.
C.47	Max weight acoustical package	[kg] 8500	D	AA303SX: 8775 ; AVM mounts: 700 ; Drip Trays: 1200 ; Additional inlet piping/header : 850
C.48	Max width chiller and acoustical package	[mm] 3800	D	3943

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C.49	Max height chiller and acoustical package	[mm] 4150	C	3970
C.50	Max extension on each side for maintenance	[mm] 0 (attenuators to slide to the side)	D	300 mm (both sides) + 900 mm (one one side)
C.51	Reference type	Alloway AA303S	C	AA303SX

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A	Unit Reference	CHIL01	Vendor CDE	Comment if D or E
D Electrical Data				
D.1	Main chiller isolator	-	C	Local isolator provided at accessible area of chiller, with front access only
D.2	Control panel chiller Location	-	C	The control panel is provided at an accessible area of chiller skid, with front access only. Preferably as close as possible to the isolation points
D.3	Safety switches	-	C	Safety switches integrated on switch board with fail safe alarm contact to controller / external alarm contact
D.4	Surge protection device	-	D	SPD type 1+2 in an external switch board next to the chiller, in the scope of GC Integrated type 1 + 2 on main electrical feed as requested by Vantage with specific order. OFCI Matrix will be consequently updated
D.5	Electrical feeds	-	C	2 separate feeds: 1 for main chiller and 1 for pump, control panel and trace heating
D.6	Cable size, Main chiller feed	[mm2]	C	4x1x240, 4x Al parallel cables + PE 95 mm2
D.7	Cable size, Separate pump and control panel feed	[mm2]	D	4x1x35, 4x Cu parallel cables + PE 16 mm2 Max 1x1x25, PE 16mm2 OK. Considering load power consumption, no need to have bigger cables. CARRIER confirms suitability of 1x25 sqmm cable with real load; in fact with 27kW and 25mm ² a cable of 350m will generate 5% voltage drop so 120m about 2% which is good enough for pump operation.
D.8	Chiller - Main electrical feed (Generator back-up feed)	-	D	400V/3P&N +E,50Hz
D.9	Unit max. current	[A]	C	<1000
D.10	Max. current pump & control panel	[A]	C	<80
D.11	Unit max. electrical power consumption (incl. pump)	[kW]	C	<560 with power limitation
D.12	Max. electrical power consumption chiller	[kW]	C	TBD by supplier
D.13	Max. electrical power consumption pump	[kW]	C	TBD by supplier
D.14	Pump VFD minimum input voltage range	[V]	C	360-415 at 50Hz
D.15	Unit nominal electrical input	[kW]	C	TBD by supplier
D.16	Power factor denoted by PF	-	C	> 0.90
D.17	Short circuit fault level	[kA]	C	>36 for at least one second
D.18	Chiller trace heating and cranc heating	-	C	Internal from pump/control supply behind separate breaker
D.19	Chiller control panel - Electrical power feed	-	C	TBD by supplier. Separated feed without UPS supply. Supplier should supply internal UPS or Ultracap
D.20	Control panel chiller - Electrical power input	[kW]	C	TBD by supplier
D.21	Total harmonic distortion	[%]	C	<5; If not possible by providing low harmonic VFDs to motor, active filter should be provided. Unit mounted active harmonic filter integrated inside electrical boxes (front and lateral between 2 modules).
Active harmonic filter				
D.22	Active harmonic filter included	-	C	TBD by supplier
D.23	Active filter location (if filter is needed)	-	C	Onboard of the chiller
D.24	Active filter size (if filter is needed)	[mm]	C	TBD by supplier
D.25	Active filter IP rating (if filter is needed)	-	C	54 included in electrical boxes of the chiller
E Controls				
E.1	Individual control strategy	-	C	Required. According to control strategy described in the functional description document.
E.2	Chiller individual control:	-	C	Supply cooling water temperature control to maintain the chilled water temperature setpoint [16.6°C]. Each chiller shall be controlled (stand-alone) only based on own temperature measurements.
E.3	Programmable microprocessor with local interface	-	C	Required
E.4	Multilanguage display	-	C	Required
E.5	Supply temperature sensors (internal)	-	C	A minimum of 1 supply cooling water temperature sensor per unit
E.6	Return temperature sensors (internal)	-	C	A minimum of 1 return cooling water temperature sensor per unit
E.7	Flow switch	-	C	Flow switch required
E.8	Temperature sensors accuracy class sensing element	-	C	PT-1000 class A element, according to DIN EN 60751
E.9	Temperature sensors measuring range	[°C]	C	-50°C to 100°C
E.10	Protection tube	-	C	Welded stainless steel pockets
E.11	Insertion length	-	C	The measuring sensor tip must be in the middle of the CHW pipe
E.12	Enclosure	-	C	IP54 and IP2X (doors open) according to IEC60529
E.13	Auto restart after power failure	-	C	Required
E.14	External reset from BMS	-	C	Required
E.15	Manual switch selector OFF-AUTO-HAND	-	C	Required. According to control strategy described in the functional description document
E.16	Temperature control setpoint correction	-	C	External setpoint correction required [+4K]
E.17	Hardwired I/O connections to the BMS	-	C	Required according to the BMS I/O list
E.18	Communication with HDAC units (with controllers) via IP/Ethernet (Modbus/TCP)	-	C	Required according to the BMS I/O list
E.19	Evaporator pump flow controls	-	C	Variable flow, with VFD. Pressure controlled. 2 main chiller water pumps fully controlled as 1 single pump by Vantage BMS via hardwired signal & Modbus.
E.20	Differential pressure transmitter	-	C	Required
E.21	Start sequence and staging according to SOO	-	C	Required
E.22	Chiller failure detection according to SOO	-	C	Required
E.23	Chiller staging and rotation according to SOO	-	C	Required
E.24	Chiller plant failure lockout auto-recovery according to SOO	-	C	Required
E.25	Chilled water setpoint control according to SOO	-	C	Required
E.26	Chilled water pumps sequence of operation according to SOO	-	C	Required
E.27	Automatic control by BMS according to SOO	-	C	Required
E.28	Chilled water differential pressure control according to SOO	-	C	Required
E.29	Control of chilled water integral economizer, chilled water pump and chiller according to SOO	-	C	Required
E.30	Enabling chilled water integral economizer according to SOO	-	C	Required
E.31	Chiller and pump package freeze protection/avoidance according to SOO	-	C	Required
E.32	BMS initiated freeze protection according to SOO	-	C	Required
E.33	Chiller initiated freeze avoidance according to SOO	-	C	Required
E.34	Power failure recovery according to SOO	-	C	Required
E.35	Planned power transition from generators according to SOO	-	C	Required
E.36	Pre-shutdown sequence according to SOO	-	C	Required
E.37	Start-up after power loss according to SOO	-	C	Required
E.38	Critical sensor failure modes according to SOO	-	C	Required
E.39	Critical controller failure according to SOO	-	C	Required
E.40	Chiller module points list according to SOO	-	C	Required
E.41	Chiller pump feedback signal to SOO	-	C	Required
F Restart Performance from Power Failure				
F.1	Fast re-start configuration required	-	C	Yes
F.2	Compressor Start:	[sec]	C	TBC by supplier. Refer to detail below for breakdown of starting procedure < 20 150sec after the power back, the compressors will be at full load = 100% chiller capacity
F.3	100% Cooling Capacity:	[sec]	C	180 seconds maximum from restoration of power NOTE: Cooling capacity can't be measured by accuracy during transient conditions. Cooling capacity can only be measured and validated according to EN14511.
F.4	Break time: power failure → generator start	[sec]	C	20 Chiller controls to remain active during this time

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EQUIPMENT SELECTION CRITERIA

Mechanical Specifications

G Chiller Performance requirements

Performances according EN 14511

Selection point 1.1: Normal operation phase 1 (8MW)				
G.1	Scenario	-	N=20Y - Normal - N+2 units phase 1 (8 MW)	C
G.2	Max cooling capacity	[kWh]	1286	C
G.3	Evaporator fluid	-	Water	C
G.4	Evaporator fluid outlet temperature	[°C]	16.6	C
G.5	Evaporator fluid inlet temperature	[°C]	24.7	C
G.6	Condenser air inlet temperature	[°C]	37.9	C
G.7	External fan pressure (outside chiller acoustical package)	[Pa]	50	C
G.8	Maximum Electrical Consumption (incl. pump)	[kWe]	335.8	C
G.9	Maximum Electrical Consumption (incl. pump)	[kWe]	359.2	C
G.10	Maximum Sound power level	[dB(A)]	TBD by supplier (incl. sound attenuation package)	C

Selection point 1.2: Normal operation phase 2 (16MW)				
G.11	Scenario	-	N=20Y - Normal - N+2 units phase 2 (16 MW)	C
G.12	Max cooling capacity	[kWh]	1500	C
G.13	Evaporator fluid	-	Water	C
G.14	Evaporator fluid outlet temperature	[°C]	16.6	C
G.15	Evaporator fluid inlet temperature	[°C]	24.7	C
G.16	Condenser air inlet temperature	[°C]	37.9	C
G.17	External fan pressure (outside chiller acoustical package)	[Pa]	50	C
G.18	Maximum Electrical Consumption (incl. pump)	[kWe]	430.2	C
G.19	Maximum Electrical Consumption (incl. pump)	[kWe]	455.2	C
G.20	Maximum Sound power level	[dB(A)]	TBD by supplier (incl. sound attenuation package)	C

Selection point 2: Maximum cooling capacity				
G.21	Scenario	-	N=20Y - Failure mode - N units	C
G.22	Max cooling capacity	[kWh]	1300 (without power limitation) / 1732 (with power limitation)	D
G.23	Evaporator fluid	-	Water	C
G.24	Evaporator fluid outlet temperature	[°C]	16.6	C
G.25	Evaporator fluid inlet temperature	[°C]	24.7	C
G.26	Condenser air inlet temperature	[°C]	37.9	C
G.27	External fan pressure (outside chiller acoustical package)	[Pa]	50	C
G.28	Maximum Electrical Consumption (incl. pump)	[kWe]	574 / 533.0	C
G.29	Maximum Electrical Consumption (incl. pump)	[kWe]	581 / 560.0	D
G.30	Maximum Sound power level	[dB(A)]	TBD by supplier (incl. sound attenuation package)	C

Selection point 3: Night noise condition				
G.31	Scenario	-	N=yearly max- night noise mode - N+2 units phase 2 (16 MW)	C
G.32	Max cooling capacity	[kWh]	1500	C
G.33	Evaporator fluid	-	Water	C
G.34	Evaporator fluid outlet temperature	[°C]	16.6	C
G.35	Evaporator fluid inlet temperature	[°C]	24.7	C
G.36	Condenser air inlet temperature	[°C]	25 (max. night ambient conditions)	C
G.37	External fan pressure (outside chiller acoustical package)	[Pa]	50	C
G.38	Maximum Electrical Consumption (incl. pump)	[kWe]	319.3	C
G.39	Maximum Electrical Consumption (incl. pump)	[kWe]	344.2	C
G.40	Maximum Sound power level	[dB(A)]	TBD by supplier (incl. sound attenuation package)	C

Selection point 4: Maximum air inlet condition				
G.41	Scenario	-	N=20Y - max. ambient recirculation mode	C
G.42	Max cooling capacity	[kWh]	Fill in table below, max. achievable	C
G.43	Evaporator fluid	-	Water	C
G.44	Evaporator fluid outlet temperature	[°C]	16.6	C
G.45	Evaporator fluid inlet temperature	[°C]	24.7	C
G.46	Condenser air inlet temperature	[°C]	For temperatures see table below	C
G.47	External fan pressure (outside chiller acoustical package)	[Pa]	50	C
G.48	Maximum Electrical Consumption (incl. pump)	[kWe]	Fill in table below	C
G.49	Maximum Electrical Consumption (incl. pump)	[kWe]	Fill in table below, lower than max. power input as specified prior.	C
G.50	Maximum Sound power level	[dB(A)]	Lower than max. noise requirement during normal operation as specified prior.	C

Temp [C]	Output [kWh] TBC	Power Input incl pump < Max. power input [560 kWe]	Power Input excl. pump [kWe] TBC
35	1824	560	533
36	1792	560	533
37	1760	560	533
38	1729	560	533
39	1698	560	534
40	1667	560	534
41	1636	560	534
42	1606	560	534
43	1575	560	534
44	1543	560	535
45	1515	560	535
46	1489	560	535
47	1458	560	535
48	1428	560	536

Temp [C]	Output [kWh] TBC	Power Input incl pump < Max. power input [601 kWe]	Power Input excl. pump [kWe] TBC
37.9	1800	601	574
40	1736	601	574
42	1679	601	575
44	1623	601	575
46	1560	601	575
48	1481	601	568

Temp [C]	Output [kWh] TBC	Power Input incl pump < Max. power input [kWe] TBC	Power Input excl. pump [kWe] TBC
35	1895	602.6	574.9
36	1876	610.1	582.6
37	1858	617.9	590.5
38	1840	625.8	598.6
39	1822	633.9	606.8
40	1804	642.0	615
41	1785	649.8	622.9
42	1742	640.3	613.7
43	1695	629.8	603.7
44	1649	620.0	594.2
45	1612	615.2	589.6
46	1571	610.3	584.9
47	1532	605.2	580.1
48	1481	593.0	568.1

Selection point 5: Special emergency situation				
G.32	Max cooling capacity	[kWh]	1873	C
G.33	Evaporator fluid	-	Water	C
G.34	Evaporator fluid outlet temperature	[°C]	TBD by supplier	C
G.35	Evaporator fluid inlet temperature	[°C]	TBD by supplier	C
G.36	Condenser air inlet temperature	[°C]	37.9	C
G.39	Maximum Electrical Consumption (incl. pump)	[kWe]	TBD by supplier	C

Chiller Inrush current during start-up				
G.51	Chiller breaker type		1000A Curve C thermal magnetic protection -> Chiller Supplier shall ensure that this breaker will not trip during start-up or under extreme operation conditions	C
Temperature range				

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G.52	Condenser air inlet temperature range	[°C] -20 to 45- > Chiller Supplier shall ensure that the chiller will not trip during max ambient conditions	C	-20/52
G.53	Evaporator fluid outlet temperature range	[°C] 15 to 30		5 to 44
G.54	Evaporator fluid inlet temperature range	[°C] 20 to 40		20 to 54

Equipment Data Sheet

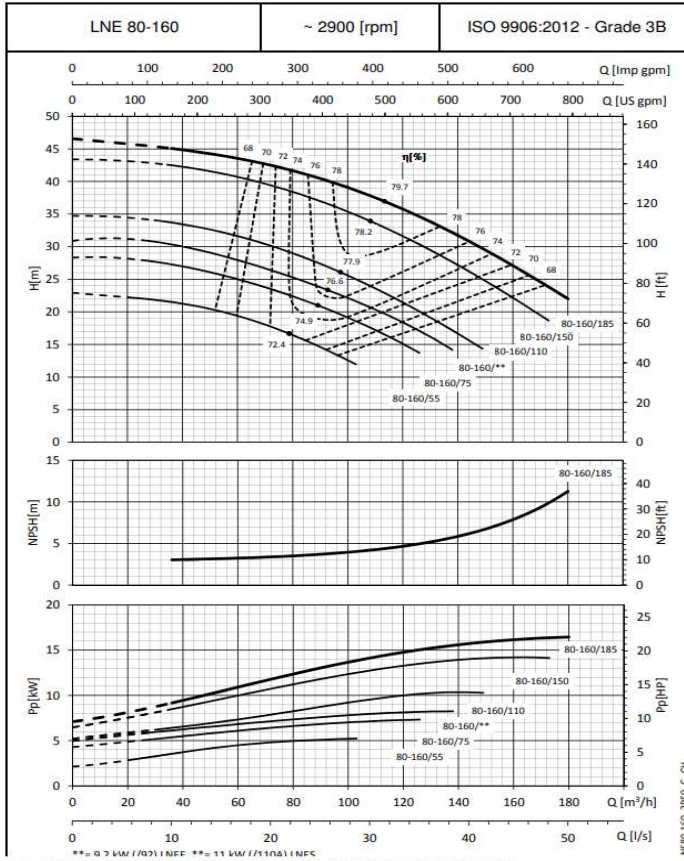
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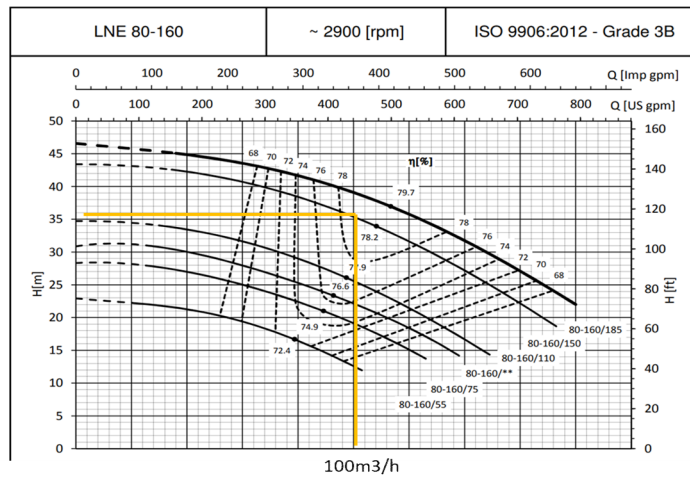
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**SÉRIES e-LNE
CARACTÉRISTIQUES DE FONCTIONNEMENT À 50 Hz, 2 PÔLES**



**SÉRIES e-LNE
CARACTÉRISTIQUES DE FONCTIONNEMENT À 50 Hz, 2 PÔLES**



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Project Number	BH5898	
Subject	CHILLER SPECIFICATION	
Document Code	MXP11-CAR-WS4-RF-SP-Q-0002	
Date	01/08/2023	
Author	AR	
Stage	WS4	
Purpose of Issue	Submittal	
Revision	P04	



Unit Reference	CHIL01	Vendor CDE	Comment D & E
Location	Roof chiller platform		

H Documents included in offer			
H.1	General documentation:	Terms and conditions	C
		General technical specification	C
H.2	Unit actual performances at specified operational points:	Unit actual performances at specified operational points: - cooling capacity - water temperatures and flow - compressor power - chiller power and current consumption - pump motor power - noise (sound power level)	C
		Unit efficiency performances for 25-50-75-100% for the nominal operation mode	C
H.3	Unit electrical connection requirements	Unit electrical connection requirements	C
H.4	Drawings	Drawing showing unit sizing, service requirements, pipe connections, drain connection, cable entry	C
		Hydraulic diagrams	C
		P&ID	C
H.5	Compliance:	VDC Specification compliance list (C-D-E)	C
		This data sheet with compliance list (C-D-E)	C
Documents included in Technical submittal			
H.6	Unit digital model:	3-D Revit or compatible model	D
H.7	Shop drawing:	Shop drawing showing all connection details and service areas	C
		Full acoustic spectrum	C
		General technical specification	C
		Unit actual performances at specified operational points	C
		Unit electrical connection requirements	C
		Hydraulic diagram	C
		Detailed controls specification and P&ID	C
		Wiring diagram	C
		Component specifications	C
		Harmonics data	C
H.9	Maintenance:	Plant replacement plan (section break-down strategy)	D
H.10	FWT witness statement	Including the test script and test report	D
H.11	Internal reports	Including all individual internal and in-process documentation per unit	C
H.12	Document language	All documents need to be delivered in English and local language.	C