EcoDesign Manual

Air-to-water multiscroll chillers

HELVETIA KWZE

COMFORT

EN

KEYTER TECHNOLOGIES, S.L. – P.I. Los Santos, s/n – Post Office Apt. 650 – 14900 Lucena, Córdoba, Spain | Tel: +34 957 510 752 | www.keyter.com | info@keyter.com

EcoDesign Manual

Air-to-water multiscroll chillers

HELVETIA KWZE

COMFORT

Cooling Only

EN

KEYTER TECHNOLOGIES, S.L. – P.I. Los Santos, s/n – Post Office Apt. 650 – 14900 Lucena, Córdoba, Spain | Tel: +34 957 510 752 | www.keyter.com | info@keyter.com

HELVETIA CHILLER

Information requirements according to Regulation (EU) 2016/2281

Model:	**KWZE1120RNS3E**
Refrigerant fluid:	R1234ze(E)
Outdoor side heat exchanger chiller:	air
Indoor side heat exchanger chiller:	water
Type:	compressor driven vapour compression
Driver of compressor:	electric motor
Application temperatures:	12/7˚C

ONLY COOLING

Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	116.4	kW
Declared cooling capacity for part load at given outdoor temperatures T_j			
T_j = + 35 °C	**Pdc**	116.4	kW
T_j = + 30 °C	**Pdc**	85.8	kW
T_j = + 25 °C	**Pdc**	86.4	kW
T_j = + 20 °C	**Pdc**	94.8	kW
Degradation co-efficient	**Cdc**	0.9	---

Item	Symbol	Value	Unit
Seasonal space cooling energy efficiency	$\eta_{s,c}$	166.5	%
Declared energy efficiency ratio or gas utilisation efficiency/auxiliary energy factor for part load at given outdoor temperatures T_j			
T_j = + 35 °C	EER_d	2.7	%
T_j = + 30 °C	EER_d	3.7	%
T_j = + 25 °C	EER_d	5.3	%
T_j = + 20 °C	EER_d	6.3	%

Power consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW

Crankcase heater mode	P_{CK}	0.000	kW
Standby mode	P_{SB}	0.024	kW

Other items

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (outdoor)	L_{WA}	0,0/89,0	dB
Emissions of nitrogen oxides	NO_X	0	mg/kWh input *GCV*
GWP of the refrigerant	---	7	kg CO_2 eq (100 years)

For air-to-water comfort chillers: air flow rate, outdoor measured	---	44000	m^3/h
For water/brine-to-water chillers: rated brine or water flow rate, outdoor side heat exchanger	---	N/A	m^3/h

Contact details	Manufactured by KEYTER TECHNOLOGIES S.L. - P.I. Los Santos, C/ José Estrada Orellana, 2 - - Postcode/ZIP code: 14900 - Lucena, Córdoba (SPAIN) - Tel: +34 957 51 07 52

HELVETIA CHILLER

Information requirements according to Regulation (EU) 2016/2281

Model:	**KWZE2200RNS3E**
Refrigerant fluid:	R1234ze(E)
Outdoor side heat exchanger chiller:	air
Indoor side heat exchanger chiller:	water
Type:	compressor driven vapour compression
Driver of compressor:	electric motor
Application temperatures:	12/7˚C

ONLY COOLING

Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	186.8	kW
Declared cooling capacity for part load at given outdoor temperatures T_j			
T_j = + 35 °C	**Pdc**	186.8	kW
T_j = + 30 °C	**Pdc**	137.6	kW
T_j = + 25 °C	**Pdc**	129.0	kW
T_j = + 20 °C	**Pdc**	142.9	kW
Degradation co-efficient	**Cdc**	0.9	---

Item	Symbol	Value	Unit
Seasonal space cooling energy efficiency	$\eta_{s,c}$	169.4	%
Declared energy efficiency ratio or gas utilisation efficiency/auxiliary energy factor for part load at given outdoor temperatures T_j			
T_j = + 35 °C	EER_d	2.9	%
T_j = + 30 °C	EER_d	3.8	%
T_j = + 25 °C	EER_d	5.3	%
T_j = + 20 °C	EER_d	6.3	%

Power consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW

Crankcase heater mode	P_{CK}	0.000	kW
Standby mode	P_{SB}	0.024	kW

Other items

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (outdoor)	L_{WA}	0,0/93,0	dB
Emissions of nitrogen oxides	NO_X	0	mg/kWh input *GCV*
GWP of the refrigerant	---	7	kg CO_2 eq (100 years)

For air-to-water comfort chillers: air flow rate, outdoor measured	---	78000	m^3/h
For water/brine-to-water chillers: rated brine or water flow rate, outdoor side heat exchanger	---	N/A	m^3/h

Contact details	Manufactured by KEYTER TECHNOLOGIES S.L. - P.I. Los Santos, C/ José Estrada Orellana, 2 - - Postcode/ZIP code: 14900 - Lucena, Córdoba (SPAIN) - Tel: +34 957 51 07 52

HELVETIA CHILLER

Information requirements according to Regulation (EU) 2016/2281

Model:	**KWZE4400RNS3E**
Refrigerant fluid:	R1234ze(E)
Outdoor side heat exchanger chiller:	air
Indoor side heat exchanger chiller:	water
Type:	compressor driven vapour compression
Driver of compressor:	electric motor
Application temperatures:	12/7˚C

ONLY COOLING

Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	373.6	kW
Declared cooling capacity for part load at given outdoor temperatures T_j			
T_j = + 35 °C	**Pdc**	373.6	kW
T_j = + 30 °C	**Pdc**	275.3	kW
T_j = + 25 °C	**Pdc**	176.9	kW
T_j = + 20 °C	**Pdc**	130.4	kW
Degradation co-efficient	**Cdc**	0.9	---

Item	Symbol	Value	Unit
Seasonal space cooling energy efficiency	$\eta_{s,c}$	178.4	%
Declared energy efficiency ratio or gas utilisation efficiency/auxiliary energy factor for part load at given outdoor temperatures T_j			
T_j = + 35 °C	EER_d	2.9	%
T_j = + 30 °C	EER_d	3.8	%
T_j = + 25 °C	EER_d	4.9	%
T_j = + 20 °C	EER_d	5.8	%

Power consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW

Crankcase heater mode	P_{CK}	0.000	kW
Standby mode	P_{SB}	0.024	kW

Other items

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (outdoor)	L_{WA}	0,0/96,0	dB
Emissions of nitrogen oxides	NO_X	0	mg/kWh input *GCV*
GWP of the refrigerant	---	7	kg CO_2 eq (100 years)

For air-to-water comfort chillers: air flow rate, outdoor measured	---	156000	m^3/h
For water/brine-to-water chillers: rated brine or water flow rate, outdoor side heat exchanger	---	N/A	m^3/h

Contact details	Manufactured by KEYTER TECHNOLOGIES S.L. - P.I. Los Santos, C/ José Estrada Orellana, 2 - - Postcode/ZIP code: 14900 - Lucena, Córdoba (SPAIN) - Tel: +34 957 51 07 52

HELVETIA CHILLER

Information requirements according to Regulation (EU) 2016/2281

Model:	**KWZE6600RNS3E**
Refrigerant fluid:	R1234ze(E)
Outdoor side heat exchanger chiller:	air
Indoor side heat exchanger chiller:	water
Type:	compressor driven vapour compression
Driver of compressor:	electric motor
Application temperatures:	12/7˚C

ONLY COOLING

Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	560.3	kW
Declared cooling capacity for part load at given outdoor temperatures T_j			
T_j = + 35 °C	**Pdc**	560.3	kW
T_j = + 30 °C	**Pdc**	429.5	kW
T_j = + 25 °C	**Pdc**	243.4	kW
T_j = + 20 °C	**Pdc**	127.3	kW
Degradation co-efficient	**Cdc**	0.9	---

Item	Symbol	Value	Unit
Seasonal space cooling energy efficiency	$\eta_{s,c}$	182.4	%
Declared energy efficiency ratio or gas utilisation efficiency/auxiliary energy factor for part load at given outdoor temperatures T_j			
T_j = + 35 °C	EER_d	2.9	%
T_j = + 30 °C	EER_d	4.0	%
T_j = + 25 °C	EER_d	5.0	%
T_j = + 20 °C	EER_d	5.6	%

Power consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW

Crankcase heater mode	P_{CK}	0.000	kW
Standby mode	P_{SB}	0.024	kW

Other items

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (outdoor)	L_{WA}	0,0/99,0	dB
Emissions of nitrogen oxides	NO_X	0	mg/kWh input *GCV*
GWP of the refrigerant	---	7	kg CO_2 eq (100 years)

For air-to-water comfort chillers: air flow rate, outdoor measured	---	234000	m^3/h
For water/brine-to-water chillers: rated brine or water flow rate, outdoor side heat exchanger	---	N/A	m^3/h

Contact details	Manufactured by KEYTER TECHNOLOGIES S.L. - P.I. Los Santos, C/ José Estrada Orellana, 2 - - Postcode/ZIP code: 14900 - Lucena, Córdoba (SPAIN) - Tel: +34 957 51 07 52

HELVETIA CHILLER

Information requirements according to Regulation (EU) 2016/2281

Model:	**KWZE1120RNS3E**
Refrigerant fluid:	R1234ze(E)
Outdoor side heat exchanger chiller:	air
Indoor side heat exchanger chiller:	water
Type:	compressor driven vapour compression
Driver of compressor:	electric motor
Application temperatures:	12/7˚C

ONLY COOLING

Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	118.0	kW
Declared cooling capacity for part load at given outdoor temperatures T_j			
T_j = + 35 °C	**Pdc**	118.0	kW
T_j = + 30 °C	**Pdc**	87.0	kW
T_j = + 25 °C	**Pdc**	87.3	kW
T_j = + 20 °C	**Pdc**	95.7	kW
Degradation co-efficient	**Cdc**	0.9	---

Item	Symbol	Value	Unit
Seasonal space cooling energy efficiency	$\eta_{s,c}$	174.5	%
Declared energy efficiency ratio or gas utilisation efficiency/auxiliary energy factor for part load at given outdoor temperatures T_j			
T_j = + 35 °C	EER_d	2.7	%
T_j = + 30 °C	EER_d	4.2	%
T_j = + 25 °C	EER_d	5.4	%
T_j = + 20 °C	EER_d	6.4	%

Power consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW

Crankcase heater mode	P_{CK}	0.000	kW
Standby mode	P_{SB}	0.024	kW

Other items

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (outdoor)	L_{WA}	0,0/89,0	dB
Emissions of nitrogen oxides	NO_X	0	mg/kWh input *GCV*
GWP of the refrigerant	---	7	kg CO_2 eq (100 years)

For air-to-water comfort chillers: air flow rate, outdoor measured	---	44000	m^3/h
For water/brine-to-water chillers: rated brine or water flow rate, outdoor side heat exchanger	---	N/A	m^3/h

Contact details	Manufactured by KEYTER TECHNOLOGIES S.L. - P.I. Los Santos, C/ José Estrada Orellana, 2 - - Postcode/ZIP code: 14900 - Lucena, Córdoba (SPAIN) - Tel: +34 957 51 07 52

HELVETIA CHILLER

Information requirements according to Regulation (EU) 2016/2281

Model:	**KWZE2200RNS3E**
Refrigerant fluid:	R1234ze(E)
Outdoor side heat exchanger chiller:	air
Indoor side heat exchanger chiller:	water
Type:	compressor driven vapour compression
Driver of compressor:	electric motor
Application temperatures:	12/7˚C

ONLY COOLING

Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	186.3	kW
Declared cooling capacity for part load at given outdoor temperatures T_j			
T_j = + 35 °C	**Pdc**	186.3	kW
T_j = + 30 °C	**Pdc**	137.3	kW
T_j = + 25 °C	**Pdc**	134.5	kW
T_j = + 20 °C	**Pdc**	148.7	kW
Degradation co-efficient	**Cdc**	0.9	---

Item	Symbol	Value	Unit
Seasonal space cooling energy efficiency	$\eta_{s,c}$	178.7	%
Declared energy efficiency ratio or gas utilisation efficiency/auxiliary energy factor for part load at given outdoor temperatures T_j			
T_j = + 35 °C	EER_d	3.0	%
T_j = + 30 °C	EER_d	4.1	%
T_j = + 25 °C	EER_d	5.6	%
T_j = + 20 °C	EER_d	6.7	%

Power consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW

Crankcase heater mode	P_{CK}	0.000	kW
Standby mode	P_{SB}	0.024	kW

Other items

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (outdoor)	L_{WA}	0,0/93,0	dB
Emissions of nitrogen oxides	NO_X	0	mg/kWh input *GCV*
GWP of the refrigerant	---	7	kg CO_2 eq (100 years)

For air-to-water comfort chillers: air flow rate, outdoor measured	---	78000	m^3/h
For water/brine-to-water chillers: rated brine or water flow rate, outdoor side heat exchanger	---	N/A	m^3/h

Contact details	Manufactured by KEYTER TECHNOLOGIES S.L. - P.I. Los Santos, C/ José Estrada Orellana, 2 - - Postcode/ZIP code: 14900 - Lucena, Córdoba (SPAIN) - Tel: +34 957 51 07 52

HELVETIA CHILLER

Information requirements according to Regulation (EU) 2016/2281

Model:	**KWZE4400RNS3E**
Refrigerant fluid:	R1234ze(E)
Outdoor side heat exchanger chiller:	air
Indoor side heat exchanger chiller:	water
Type:	compressor driven vapour compression
Driver of compressor:	electric motor
Application temperatures:	12/7˚C

ONLY COOLING

Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	373.7	kW
Declared cooling capacity for part load at given outdoor temperatures T_j			
T_j = + 35 °C	**Pdc**	373.7	kW
T_j = + 30 °C	**Pdc**	275.3	kW
T_j = + 25 °C	**Pdc**	177.0	kW
T_j = + 20 °C	**Pdc**	136.1	kW
Degradation co-efficient	**Cdc**	0.9	---

Item	Symbol	Value	Unit
Seasonal space cooling energy efficiency	$\eta_{s,c}$	187.5	%
Declared energy efficiency ratio or gas utilisation efficiency/auxiliary energy factor for part load at given outdoor temperatures T_j			
T_j = + 35 °C	EER_d	3.0	%
T_j = + 30 °C	EER_d	4.1	%
T_j = + 25 °C	EER_d	5.3	%
T_j = + 20 °C	EER_d	6.1	%

Power consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW

Crankcase heater mode	P_{CK}	0.000	kW
Standby mode	P_{SB}	0.024	kW

Other items

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (outdoor)	L_{WA}	0,0/96,0	dB
Emissions of nitrogen oxides	NO_X	0	mg/kWh input *GCV*
GWP of the refrigerant	---	7	kg CO_2 eq (100 years)

For air-to-water comfort chillers: air flow rate, outdoor measured	---	156000	m^3/h
For water/brine-to-water chillers: rated brine or water flow rate, outdoor side heat exchanger	---	N/A	m^3/h

Contact details	Manufactured by KEYTER TECHNOLOGIES S.L. - P.I. Los Santos, C/ José Estrada Orellana, 2 - - Postcode/ZIP code: 14900 - Lucena, Córdoba (SPAIN) - Tel: +34 957 51 07 52

HELVETIA CHILLER

Information requirements according to Regulation (EU) 2016/2281

Model:	**KWZE6600RNS3E**
Refrigerant fluid:	R1234ze(E)
Outdoor side heat exchanger chiller:	air
Indoor side heat exchanger chiller:	water
Type:	compressor driven vapour compression
Driver of compressor:	electric motor
Application temperatures:	12/7˚C

ONLY COOLING

Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	559.6	kW
Declared cooling capacity for part load at given outdoor temperatures T_j			
T_j = + 35 °C	**Pdc**	559.6	kW
T_j = + 30 °C	**Pdc**	449.3	kW
T_j = + 25 °C	**Pdc**	254.0	kW
T_j = + 20 °C	**Pdc**	132.7	kW
Degradation co-efficient	**Cdc**	0.9	---

Item	Symbol	Value	Unit
Seasonal space cooling energy efficiency	$\eta_{s,c}$	193.0	%
Declared energy efficiency ratio or gas utilisation efficiency/auxiliary energy factor for part load at given outdoor temperatures T_j			
T_j = + 35 °C	EER_d	3.0	%
T_j = + 30 °C	EER_d	4.3	%
T_j = + 25 °C	EER_d	5.3	%
T_j = + 20 °C	EER_d	6.0	%

Power consumption in modes other than active mode

Off mode	P_{OFF}	0.000	kW
Thermostat-off mode	P_{TO}	0.024	kW

Crankcase heater mode	P_{CK}	0.000	kW
Standby mode	P_{SB}	0.024	kW

Other items

Capacity control	Variable		
Water flow rate capacity control	Fixed		
Sound power level (outdoor)	L_{WA}	0,0/99,0	dB
Emissions of nitrogen oxides	NO_X	0	mg/kWh input *GCV*
GWP of the refrigerant	---	7	kg CO_2 eq (100 years)

For air-to-water comfort chillers: air flow rate, outdoor measured	---	234000	m^3/h
For water/brine-to-water chillers: rated brine or water flow rate, outdoor side heat exchanger	---	N/A	m^3/h

Contact details	Manufactured by KEYTER TECHNOLOGIES S.L. - P.I. Los Santos, C/ José Estrada Orellana, 2 - - Postcode/ZIP code: 14900 - Lucena, Córdoba (SPAIN) - Tel: +34 957 51 07 52