UniPACK-P EXP

TXAEP 251÷4160

Cooling capacity 47÷158,8 kW
Heating capacity 49,1÷161,1 kW

Features

Efficient and eco-friendly range in R290

Temperature of the produced water up to 72°C

TER up to 7,74

Extended operating limits

Integrated MASTER/SLAVE control

Tax incentives*

EXPsystems – Air cooled multi-purpose ecological system with axial fans. Range with scroll hermetic compressors and R290 refrigerant gas.

Construction features

• Compressor: hermetic rotary, scroll type, complete with thermal protection and casing heater.

• 2-4 capacity steps with high efficiency at part loads.

• Main and secondary heat exchangers: crossed flow stainless steel plate exchangers, complete with antifreeze heater, closed cell polyurethane foam rubber insulation and water flow differential pressure switch.

• Air side heat exchanger: finned coil with copper pipes and aluminium fins.

• Fan: external rotor axial type electric fans equipped with internal thermal protection and accident protection grilles. The electric fans, based on the sizes, are EC fans or fitted with a proportional electronic device for continuous adjustment of the rotation speed.

• Control: microprocessor electronic control with Adaptive Function Plus logic.

• Structure: made of galvanised and painted steel plate with polyester powder coating.

• Refrigerant leak detector.

• Coil protection nets.

• The unit is also complete with:

– compressor and fan circuit breaker switches;

– electronic expansion valve;

– display of cooling circuit high/low pressure;

– master/slave control up to 4 units in parallel;

– clock board;

– control of Variable Primary Flow (VPF_R).

Versions

• T - High efficiency version.
• Q - Super silenced version complete with compressor technical compartment soundproofing and reduced speed fans.

Models

• TXAETP: EXPsystems unit.

• TXAEQP: super silenced EXPsystems unit.

Factory fitted accessories

• PUMP with single or double electric pump, one of which automatic in standby. The electric pumps are available in the low or high head versions.

• Inverter pump control for unit start-up.

• Recovery side VPF_R control.

• Desuperheater.

• Condensing control with fans with EC motor (standard in sizes 251-280).

• Condensing control with over-pressure fans (T version only)

• Power factor correction capacitors ($\cos\phi > 0.94$).

• Forced limit of power consumption.

• Forced noise limit.

• Energy parameter measuring device.

• Soft starter.

• Compressor technical compartment soundproofing.

• Compressor soundproof enclosures.

• Double safety valves.

• Buffer panels.

• Copper/copper, pre-painted copper/aluminium or with hydrophilic treatment coils.

• Control of min/max power supply voltage and backup battery.

• Digital input for double set-point.

• 4-20 mA analogue signal for shifting set-point.

• Contacts for Smart Grid integration and photovoltaic system.

• Electrical panel resistance, base, electric pumps and heat exchangers for heat recovery, if any.

• Interfaces for serial communication with other devices.

• Colour touch user keypad (fitted on the machine or remotely) with 7" display.

• Anti-vibration mounts.

Separately supplied accessories

• Remote keypad with display.

• Thermostat with display.

• Rhoss supervisors for unit monitoring and remote management.

• Rhoss sequencer for integrated management of multiple chillers.

Technical data

TXAETP MODEL		251	260	270	280	4100	4110	4120	4130
COOLING OPERATIONS (AUTOMATIC 1 MODE)									
❶ Nominal cooling capacity	kW	48,5	58,4	68,4	79,4	95,9	104,9	117,9	126,9
❶ Absorbed power	kW	16,3	19,8	22,9	26,7	32,7	36,3	40,9	43
❶ E.E.R.		2,98	2,95	2,99	2,97	2,93	2,89	2,88	2,95
COOLING OPERATIONS + TOTAL RECOVERY (AUTOMATIC 2 MODE)									
❸ Nominal cooling capacity	kW	48,9	59,2	69,7	81	97,9	107	120,9	128,7
❸ Recovery heating capacity	kW	63,2	76,3	90,3	104,4	126,5	138,5	155,7	166,6
❸ T.E.R.		7,57	7,67	7,5	7,67	7,57	7,52	7,7	7,53
HEATING OPERATIONS (MODE SELECT 1-2 AUTOMATIC 3)									
❷ Nominal heating capacity	kW	50,1	59,1	71,1	80,1	102,1	110,1	120,1	134,1
❷ Absorbed power	kW	15,6	18,3	21,8	24,5	31,8	34,4	37,4	41,8
❷ C.O.P.		3,21	3,23	3,26	3,27	3,21	3,2	3,21	3,21
TXAEQP MODEL		**251**	**260**	**270**	**280**	**4100**	**4110**	**4120**	**4130**
COOLING OPERATIONS (AUTOMATIC 1 MODE)									
❶ Nominal cooling capacity	kW	47	56,4	66,4	76,9	92,9	101,9	112,9	123,9
❶ Absorbed power	kW	16,4	19,9	23	26,9	33,5	37,2	42,1	43,6
❶ E.E.R.		2,87	2,83	2,89	2,86	2,77	2,74	2,68	2,84
COOLING OPERATIONS + TOTAL RECOVERY (AUTOMATIC 2 MODE)									
❸ Nominal cooling capacity	kW	49,1	59,4	69,9	81,3	98,2	107,3	121,4	129
❸ Recovery heating capacity	kW	63,4	76,4	90,5	104,7	126,8	138,8	156,1	166,9
❸ T.E.R.		7,61	7,7	7,52	7,7	7,6	7,55	7,74	7,55
HEATING OPERATIONS (MODE SELECT 1-2 AUTOMATIC 3)									
❷ Nominal heating capacity	kW	49	58,1	70,1	79,1	100,1	108,1	118,1	132,1
❷ Absorbed power	kW	15,1	17,7	21	23,8	31,2	33,8	36,8	41
❷ C.O.P.		3,25	3,28	3,34	3,33	3,21	3,2	3,21	3,22
TXAETP-TXAEQP MODEL		**251**	**260**	**270**	**280**	**4100**	**4110**	**4120**	**4130**
❹ TXAETP sound pressure	dB(A)	49	49	51	52	53	53	54	55
❹ TXAEQP sound pressure	dB(A)	44	45	46	47	48	48	49	50
❺ TXAETP sound power	dB(A)	81	81	83	84	85	85	86	87
❺ TXAEQP sound power	dB(A)	76	76	78	79	80	80	81	82
Scroll compressors/steps	no.	2/2	2/2	2/2	2/2	4/4	4/4	4/4	4/4
Circuits	no.	2	2	2	2	2	2	2	2
Electrical supply	V-ph-Hz	400-3+N-50	400-3+N-50	400-3+N-50	400-3+N-50	400-3-50	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		**251**	**260**	**270**	**280**	**4100**	**4110**	**4120**	**4130**
L – Width	mm	2550	2550	3250	3250	3250	3250	3250	3930
H – Height	mm	2210	2210	2210	2210	2260	2260	2260	2260
P – Depth	mm	1570	1570	1570	1570	1970	1970	1970	1970
❻ TXAETP weight	kg	1335	1345	1600	1625	2000	2005	2040	2305
❻ TXAEQP weight	kg	1390	1400	1685	1710	2075	2080	2115	2385

SEASONAL ENERGY PERFORMANCE		251	260	270	280	4100	4110	4120	4130
TXAETP MODEL SEASONAL ENERGY PERFORMANCE IN HEATING MODE – Low temperature application 35°C									
① Pdesignh (EN 14825)	kW	41	48	58	65	83	90	98	109
① SCOP (EN 14825)		3,74	3,7	3,73	3,73	3,8	3,77	3,75	3,78
② ηs	%	147	145	146	146	149	148	147	148
② Energy class		A+	A+	A+	A+	-	-	-	-
TXAEQP MODEL SEASONAL ENERGY PERFORMANCE IN HEATING MODE – Low temperature application 35°C									
① Pdesignh (EN 14825)	kW	40	47	57	64	82	88	96	108
① SCOP (EN 14825)		3,73	3,71	3,77	3,76	3,73	3,74	3,71	3,71
② ηs	%	146	145	148	147	146	147	146	145
② Energy class		A+	A+	A+	A+	-	-	-	-
TXAETP MODEL SEASONAL PERFORMANCE IN HEATING MODE – Medium temperature application 55°C									
① Pdesignh (EN 14825)	kW	40	47	56	63	82	88	96	106

① SCOP (EN 14825)		3,15	3,11	3,12	3,14	3,22	3,19	3,16	3,23
② ηs	%	123	121	122	123	126	125	123	126
② Energy class		A+	A+	A+	A+	-	-	-	-
TXAEQP MODEL SEASONAL PERFORMANCE IN HEATING MODE – Medium temperature application 55°C									
① Pdesignh (EN 14825)	kW	39	46	55	62	81	87	95	105
① SCOP (EN 14825)		3,15	3,11	3,15	3,17	3,17	3,15	3,12	3,16
② ηs	%	123	122	123	124	124	123	122	124
② Energy class		A+	A+	A+	A+	-	-	-	-

TXAETP MODEL		**4140**	**4150**	**4160**
COOLING OPERATIONS (AUTOMATIC 1 MODE)				
❶ Nominal cooling capacity	kW	135,9	147,9	158,8
❶ Absorbed power	kW	46,4	51	54,4
❶ E.E.R.		2,93	2,9	2,92
COOLING OPERATIONS + TOTAL RECOVERY (AUTOMATIC 2 MODE)				
❸ Nominal cooling capacity	kW	137,8	150,6	162,1
❸ Recovery heating capacity	kW	178,6	194,8	208,9
❸ T.E.R.		7,49	7,56	7,67
HEATING OPERATIONS (MODE SELECT 1-2 AUTOMATIC 3)				
❷ Nominal heating capacity	kW	143,2	153,1	161,1
❷ Absorbed power	kW	44,6	47,7	50,2
❷ C.O.P.		3,21	3,21	3,21
TXAEQP MODEL		**4140**	**4150**	**4160**
COOLING OPERATIONS (AUTOMATIC 1 MODE)				
❶ Nominal cooling capacity	kW	131,9	143,9	152,9
❶ Absorbed power	kW	47,1	51,9	55,8
❶ E.E.R.		2,8	2,77	2,74
COOLING OPERATIONS + TOTAL RECOVERY (AUTOMATIC 2 MODE)				
❸ Nominal cooling capacity	kW	138,2	151,1	162,7
❸ Recovery heating capacity	kW	178,9	195,2	209,5
❸ T.E.R.		7,52	7,6	7,7
HEATING OPERATIONS (MODE SELECT 1-2 AUTOMATIC 3)				
❷ Nominal heating capacity	kW	140,1	149,1	158,1
❷ Absorbed power	kW	43,5	46,6	49,3
❷ C.O.P.		3,22	3,2	3,21
TXAETP-TXAEQP MODEL		**4140**	**4150**	**4160**
❹ TXAETP sound pressure	dB(A)	55	55	56
❹ TXAEQP sound pressure	dB(A)	50	50	51
❺ TXAETP sound power	dB(A)	87	87	88
❺ TXAEQP sound power	dB(A)	82	82	83
Scroll compressors/steps	no.	4/4	4/4	4/4
Circuits	no.	2	2	2
Electrical supply	V-ph-Hz	400-3-50	400-3-50	400-3-50
DIMENSIONS AND WEIGHTS		**4140**	**4150**	**4160**
L – Width	mm	3930	3930	3930
H – Height	mm	2260	2260	2260
P – Depth	mm	1970	1970	1970
❻ TXAETP weight	kg	2310	2360	2365
❻ TXAEQP weight	kg	2390	2440	2445

SEASONAL ENERGY PERFORMANCE		**4140**	**4150**	**4160**
TXAETP MODEL SEASONAL ENERGY PERFORMANCE IN HEATING MODE – Low temperature application 35°C				
① Pdesignh (EN 14825)	kW	116	124	131
① SCOP (EN 14825)		3,75	3,74	3,72
② ηs	%	147	147	146
② Energy class		-	-	-
TXAEQP MODEL SEASONAL ENERGY PERFORMANCE IN HEATING MODE – Low temperature application 35°C				
① Pdesignh (EN 14825)	kW	114	121	128
① SCOP (EN 14825)		3,7	3,69	3,68
② ηs	%	145	144	144
② Energy class		-	-	-

	TXAETP MODEL SEASONAL PERFORMANCE IN HEATING MODE – Medium temperature application 55°C				
①	Pdesignh (EN 14825)	kW	113	120	127
①	SCOP (EN 14825)		3,2	3,18	3,18
②	ηs	%	125	124	124
②	Energy class		-	-	-
	TXAEQP MODEL SEASONAL PERFORMANCE IN HEATING MODE – Medium temperature application 55°C				
①	Pdesignh (EN 14825)	kW	111	118	125
①	SCOP (EN 14825)		3,14	3,13	3,14
②	ηs	%	123	122	122
②	Energy class		-	-	-

Data at the following conditions:

❶ Air: 35°C – Water: 12/7°C.
❷ Air: 7°C D.B. – 6°C W.B. – Water: 40/45°C.
❸ Evaporator output water: 7°C, nominal flow rate. Recovery output water: 45°C, nominal flow rate.
❹ In open field (Q = 2) at 10 m from the unit.
❺ Total sound power level in dB(A) based on measurements carried out in accordance with regulation UNI EN-ISO 9614.
❻ Weight referred to the unit without load and not accessorised.

Performance according to EN 14511.
T.E.R.: Total efficiency ratio

① In Average climatic conditions
② Seasonal energy efficiency: heating in Average climate (EU Regulations No.811/2013 and No.813/2013)

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