



# HP90

Nominal thermal capacity 15 ÷ 130 kW

High efficiency air/water and water/water heat pumps  
with CO<sub>2</sub> refrigerant



# HP90

## AIR-WATER

Technical brochure

HP90

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**The ranges operate with refrigerant R744 and ensure a water production temperature up to 90° with an external temperature of -20°**

## Technical specifications of AIR/WATER unit

UNIT SIZE			18	26	48	70	100	150
<b>Heating (EN 14511 values) (A7;W80)</b>								
Nominal heating capacity	(1), (6)	kW	14,5	25,1	44,6	56,8	85,3	124,9
Total Power input	(1), (2), (6)	kW	4,6	8,1	13,0	17,6	26,7	39,5
COP	(1), (6)		3,15	3,10	3,42	3,23	3,19	3,16
<b>Compressor</b>								
Type			Reciprocating					
Quantity/Refrigerant circuits		n° / n°	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1
Capacity steps		n°	-	-	-	-	-	-
Kind of oil			ZEROL RFL 68 EP					
Tipology			PAG (PoliAlchilenGlicole)					
Total oil charge		kg	1,3	2,5	2,5	2,5	2,5	2,5
Circuit refrigerant charge		kg	9	11	19	20	20	25
<b>Axial Fans</b>								
Quantity		n°	1	1	3	3	2	2
Air flow		m³/h	9.280	22.000	28.100	30.135	48.000	47.400
<b>User Side exchanger</b>								
Type			Plate exchanger					
Water flow rate	(1)	l/h	208	360	639	814	1.223	1.790
Pressure drop	(1)	kPa	10	14	20	20	14	13
<b>Hydraulic module user side</b>								
Type			EC motor circulation pump					
Nominal Power input of pump		W	72	90,0	90,0	90,0	90,0	90,0
Available pump pressure	(1)	kPa	56	75	71	71	75	74
Connection			1"	1"	1"	1"1/2"	1"1/2"	1"1/2"
<b>Sound level STD version</b>								
Sound power value	(3), (5)	dB(A)	77	82	87	88	94	97
Sound pressure value	(4), (5)	dB(A)	45	50	55	56	62	65
<b>Sound level LN version</b>								
Sound power value	(3), (5)	dB(A)	75	80	85	86	92	95
Sound pressure value	(4), (5)	dB(A)	43	48	53	54	60	63
<b>Basic unit size and weights</b>								
Width		mm	1.600	1.408	1.200	1.200	3.510	3.510
Depth		mm	850	1.268	1.040	1.040	1.260	1.260
Height		mm	1.780	2.015	1.819	1.819	1.916	1.916
Delivery weight		kg	644	554	752	848	1.185	1.270
Operating weight		kg	649	557	757	852	1.193	1.281

(1) External air temperature, 7°C U.R. 87%, User side inlet-outlet water 20-80 °C  
 (2) Total power input is sum of compressors and fans power input and pump, according with EN 14511  
 (3) Sound power level calculate in compliance with ISO 3744  
 (4) Sound pressure level at 10 m calculate in compliance with ISO 3744  
 (5) Sound level at the follow conditions: External Air temperature 7°C, usere side water 20-80°C .  
 (6) Values calculate in compliance with EN 14511

## Electrical data

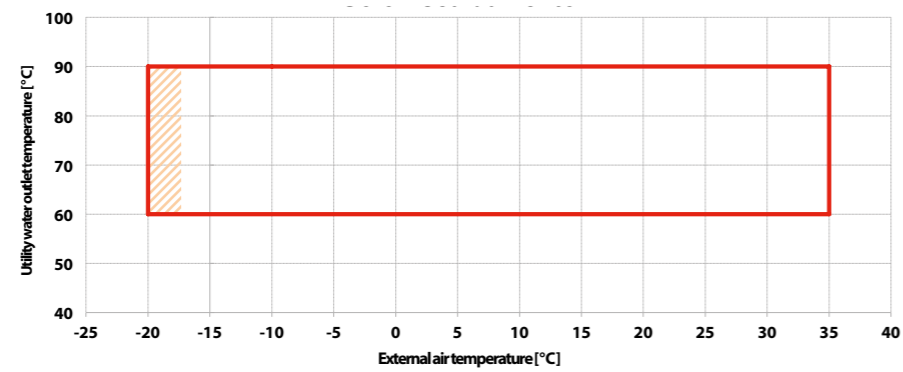
UNIT SIZE			18	26	48	70	100	150
Maximum absorbed power	(1)	kW	5,2	9,7	16,4	18,8	28,2	46,7
Maximum starting current	(2)	A	10,0	26,7	37,4	47,4	56,7	79,5
Full load current	(3)	A	44,1	113,8	144,1	186,4	245,7	299,5
Fan motor nominal power		n° x kW	1 x 0,6	1 x 1,6	3 x 0,6	3 x 0,6	2 x 1,6	2 x 1,6
Fan motor nominal absorbed current		n° x A	1 x 2,62	1 x 3,9	3 x 2,62	3 x 2,62	2 x 3,9	2 x 3,9
User side pump nominal absorbed power		W	72	90	90	90	90	90
User side pump nominal absorbed current		A	0,7	0,7	0,7	0,7	0,7	0,7
Power supply		V/ph/Hz	400/3N~/50 ±5%					
Auxiliary power supply		V/ph/Hz	230/1~/50 ±5%					


(1) Mains power supply to allow unit operation  
 (2) Maximum current before safety cut-outs stop the unit. This value is never exceeded and must be used to size the electrical supply cables and relevant safety devices (refer to electrical wiring diagram supplied with the unit).  
 (3) Maximum starting current calculated considering the bigger size compressor starting current plus the maximum absorbed power of the other electrical devices (pumps, fans)

## AIR/WATER unit operating limits

Operating limits for the sole production of water at high temperature

### HEATING ONLY



- > The water inlet temperature must range between +5°C and +30°C.
- > Unit operation beyond the limits described above may cause malfunctioning and breakage of the unit itself.
- >  For continuous operation in this area, contact the sales department

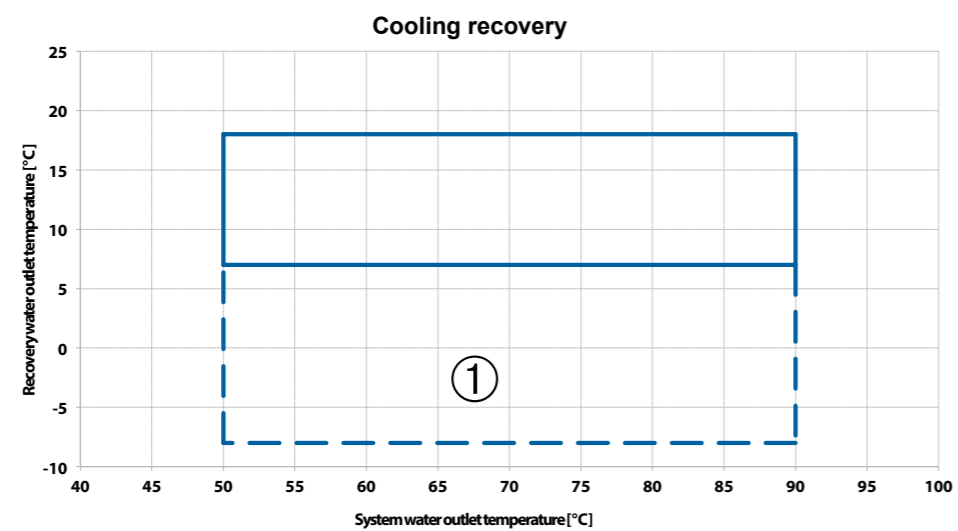
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OPERATING LIMITS

### COOLING RECOVERY



- > The water inlet temperature must range between +5°C and +30°C
- > ① **Operating** limits with glycoled water
- > Unit operation beyond the limits described above may cause malfunctioning and breakage of the unit itself