

ENRF SERIES

*Free-Cooling liquid Chillers
 AC axial fans with RV
 IP54 protection rating
 Suitable for OUTDOOR installation*



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Free-cooling liquid chillers ENRF series, scroll compressors, R410A / R32 / R454B refrigerant, coaxial / shell and tube evaporator, thermostatic expansion valve, condenser and free-cooling coil with copper tubes and aluminium finned fins, AC axial fans regulated with cut phase fan speed regulator. Electrical feed 400V/3ph/50Hz (60Hz version as option). IP54 protection rating, chillers suitable for outdoor installation. Inbuilt water storage tank and single pump P3 as standard.

Type of available evaporators:
CX = HITEMA coaxial evaporator, convoluted tube in tube exchanger installed inside the water storage tank
ST = shell and tube evaporator, with high thickness copper tubes (0,41mm)
B-ES = stainless steel brazed plate evaporator

Type of available expansion elements
VTS = Thermostatic expansion valve
ETS = Electronic expansion valve (available as option)

TECHNICAL DATA										
PERFORMANCES		Model	010	012	016	022	030	038	045	055
NOMINAL COOLING CAPACITY	W 12°C/7°C @ 35°C (1)	kW	9,5	12,0	14,4	23,4	29,8	38,6	45,2	57,7
TOTAL NOMINAL ABSORBED POWER		kW	4,9	6,1	7,6	9,7	11,3	16,5	18,4	22,2
EER		kW/kW	2,41	2,33	2,19	2,77	2,97	2,70	2,80	2,89
SEPR (HT) (4)		-	5,01	5,05	5,04	5,07	5,03	5,07	5,05	5,04
AIR TEMPERATURE FOR 100% FREE COOLING CAPACITY		°C	-0,3	-2,2	-3,6	0,7	0,1	2,0	1,0	0,5
NOMINAL WATER FLOW		m3/h	1,6	2,1	2,5	4,0	5,1	6,6	7,8	9,9
MECHANICAL MODE PRESSURE DROPS (5) (7) (8)		kPa	27	28	35	49	47	56	58	60
FREE COOLING MODE PRESSURE DROPS (6) (7) (8)		kPa	47	57	76	75	76	74	82	107
NOMINAL COOLING CAPACITY	30%EG 15°C/10°C @ 30°C (2)	kW	10,6	13,3	16,0	26,0	33,1	42,9	50,2	64,1
TOTAL NOMINAL ABSORBED POWER		kW	4,7	5,8	7,1	9,2	10,7	15,7	17,4	20,9
EER		kW/kW	2,87	2,77	2,61	3,28	3,53	3,18	3,30	3,43
AIR TEMPERATURE FOR 100% FREE COOLING CAPACITY		°C	1,0	-1,3	-3,1	1,8	1,0	3,5	2,1	1,5
NOMINAL WATER FLOW		m3/h	2,0	2,5	3,0	4,9	6,3	8,1	9,5	12,1
MECHANICAL MODE PRESSURE DROPS (5) (7) (8)		kPa	45	46	58	82	78	93	96	99
FREE COOLING MODE PRESSURE DROPS (6) (7) (8)		kPa	78	94	126	124	126	123	136	177
FRIGORIFIC SECTION										
COMPRESSORS / REFRIGERATING CIRCUITS / PARTITION STEP	nr.	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	
KIND OF EVAPORATOR	-	CX	CX	CX	CX	CX	CX	CX	CX	
HYDRAULIC SECTION										
WATER FLOW RANGE (8)		m3/h	1,2÷2,9	1,2÷2,9	1,2÷2,9	3,5÷8,0	4,0÷8,0	5,5÷12,0	6,0÷12,0	6,0÷12,0
MAXIMUM PUMP ABSORBED POWER (WP OR OPTION DP)	P3 (3)	kW	0,98	0,98	0,98	1,28	1,28	2,20	2,20	2,20
MAXIMUM PUMP ABSORBED CURRENT (WP OR OPTION DP)		A	1,78	1,78	1,78	2,37	2,37	4,24	4,24	4,24
MAXIMUM PUMP ABSORBED POWER (OPTION PH OR DPH)	P5 (3)	kW	2,17	1,10	1,10	1,47	2,94	2,94	2,94	2,94
MAXIMUM PUMP ABSORBED CURRENT (OPTION PH OR DPH)		A	2,17	2,17	2,17	2,86	5,83	5,83	5,83	5,83
HYDRAULIC CONNECTIONS (THREADED / FLANGED)	BSP / DN	3/4"	3/4"	3/4"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	
TANK VOLUME (7) (10)	dm³	50	50	50	270	270	270	270	270	
EXPANSION VESSEL VOLUME (OPTION XV) (11)	liters	5	5	5	12	12	12	12	12	
FAN SECTION (AXIAL)										
FANS	nr.	1	1	1	2	2	2	2	2	
MAXIMUM FANS ABSORBED POWER	AC	kW	0,72	0,72	0,81	1,62	1,62	3,88	3,88	3,88
MAXIMUM FANS ABSORBED CURRENT		A	1,41	1,41	1,54	3,08	3,08	7,80	7,80	7,80
TOTAL AIR FLOW		m3/h	6115	6115	6800	13800	13000	30000	30000	28000
TOTAL ELECTRIC DATA										
MAXIMUM ABSORBED CURRENT (F.L.A) (8)	A	11,1	12,9	15,2	21,4	25,6	36,5	42,0	48,5	
MAXIMUM PEAK CURRENT (L.R.A) (8)	A	49,8	64,8	67,8	104,4	141,4	144,2	178,2	229,2	
MAXIMUM PEAK CURRENT WITH SOFT START (OPTION SF) (L.R.A) (8)	A	NA	NA	NA	NA	NA	116,2	143,4	184,2	
NOISE DATA										
SOUND PRESSURE FOR STANDARD CONFIGURATION (8) (9)	dB(A)	49,7	49,7	53,2	56,6	56,5	58,5	58,6	59,6	
SOUND PRESSURE FOR LOW NOISE CONFIGURTION (OPTION LNJ) (8) (9)	dB(A)	NA	NA	NA	56,4	56,3	58,3	58,3	58,6	
DIMENSIONS AND WEIGHT										
LENGTH	mm	1360	1360	1360	1610	1610	2220	2220	2220	
WIDTH	mm	720	720	720	860	860	1100	1100	1100	
HEIGHT	mm	1585	1585	1585	1550	1550	2120	2120	2120	
WEIGHT EMPTY FOR STANDARD CONFIGURATION (7) (8)	kg	260	265	275	460	470	635	650	740	
WEIGHT OPERATIVE FOR STANDARD CONFIGURATION (7) (8)	kg	315	320	330	745	755	930	950	1035	

The manufacturer reserves the right to modify specifications without notice.

Last update: 22/07/2021
Revision: 03-2021

Data referred to:

- (1) Data referred to inlet/outlet water temperature = +12/+7 °C, ambient temperature = +35°C, fluid = Water
- (2) Data referred to inlet/outlet water temperature = +15/+10 °C, ambient temperature = +30°C, fluid = 70% Water + 30% Ethylene Glycol
- (3) Available pressure can be calculated from Hitema Online Selection Software
- (4) SEPR: data comply with the European Regulation (EU) 2016/2281, referring to high temperature process chillers in the configuration with brazed plate or shell and tube evaporator (coaxial evaporator excluded) and without pump. Any added option that modify cooling capacity or absorbed power of the chiller will not be considered in the SEPR value
- (5) Pressure drops taken in account: evaporator, valves, piping ; (6) Pressure drops taken in account: evaporator, valves, piping, free-cooling coil
- (7) Data referred to standard chiller configuration as indicated in frigorific section, with different evaporator this data can change
- (8) Data referred to standard chiller configuration WP (single pump P3) and AC fans
- (9) Sound pressure level referred to measures according to normative ISO3744, pressure level at distance of 10 m, referred to free field on reflecting surface
- (10) To avoid excessive start/stop of the compressors a minimum water volume for the entire plant must be guarantee, the tank supplied by Hitema can be not enough
- (11) The expansion vessel volume is calculated considering 40°C of deltaT between water temperature with chiller stopped and chiller active, 1/2bar of hydraulic circuit pre-charge and considering only the water volume of the unit

* For the configurations NT.NP (no tank, no pump), NT.WP (no tank, single pump P3), and NT.PH (no tank, single pump P5) the chiller width will be 1105mm

Free-cooling liquid chillers ENRF series, scroll compressors, R410A / R32 / R454B refrigerant, coaxial / shell and tube evaporator, thermostatic expansion valve, condenser and free-cooling coil with copper tubes and aluminium finned fins, AC axial fans regulated with cut phase fan speed regulator. Electrical feed 400V/3ph/50Hz (60Hz version as option). IP54 protection rating, chillers suitable for outdoor installation. Inbuilt water storage tank and single pump P3 as standard.

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 B-ES = stainless steel brazed plate evaporator

Type of available expansion elements
 CP = Capillary tube
 VTS = Thermostatic expansion valve
 ETS = Electronic expansion valve (available as option)

TECHNICAL DATA

PERFORMANCES		Model	061	075	090	100	130	160	185	200
NOMINAL COOLING CAPACITY	W 12°C/7°C @ 35°C (1)	kW	61,8	74,7	87,4	101,7	118,0	150,0	174,0	200,0
TOTAL NOMINAL ABSORBED POWER		kW	24,1	28,7	34,3	37,3	47,6	59,1	67,3	77,5
EER		kW/kW	2,99	2,95	2,84	3,01	2,84	2,83	2,85	2,97
SEPR (HT) (4)		-	5,06	5,02	5,07	5,03	5,03	5,06	5,03	5,05
AIR TEMPERATURE FOR 100% FREE COOLING CAPACITY		°C	1,7	1,7	2,0	1,5	1,5	1,2	1,5	0,7
NOMINAL WATER FLOW		m3/h	10,6	12,8	15,0	17,5	20,3	25,8	29,9	34,4
MECHANICAL MODE PRESSURE DROPS (5) (7) (8)		kPa	33	26	42	58	66	78	88	64
FREE COOLING MODE PRESSURE DROPS (6) (7) (8)		kPa	58	60	85	112	121	120	128	102
NOMINAL COOLING CAPACITY	30%EG 15°C/10°C @ 30°C (2)	kW	67,2	83,9	97,0	112,9	131,0	166,5	193,1	222,0
TOTAL NOMINAL ABSORBED POWER		kW	22,1	27,0	32,3	35,0	44,9	55,6	63,1	72,9
EER		kW/kW	3,61	3,52	3,37	3,57	3,38	3,35	3,40	3,54
AIR TEMPERATURE FOR 100% FREE COOLING CAPACITY		°C	4,1	3,1	3,5	2,8	2,8	2,4	2,8	1,8
NOMINAL WATER FLOW		m3/h	12,7	15,9	18,4	21,4	24,8	31,5	36,6	42,1
MECHANICAL MODE PRESSURE DROPS (5) (7) (8)		kPa	52	44	69	96	109	129	145	106
FREE COOLING MODE PRESSURE DROPS (6) (7) (8)		kPa	92	102	140	185	200	199	212	169
FRIGORIFIC SECTION										
COMPRESSORS / REFRIGERATING CIRCUITS / PARTITION STEP		nr.	2/1/2	2/1/2	2/1/2	2/1/2	4/2/4	4/2/4	4/2/4	4/2/4
KIND OF EVAPORATOR		-	CX	CX	CX	CX	ST	ST	ST	ST
HYDRAULIC SECTION										
WATER FLOW RANGE (8)		m3/h	8,6÷19	10÷22	10÷22	12÷23	14÷27	18÷31	26÷35	26÷46
MAXIMUM PUMP ABSORBED POWER (WP OR OPTION DP)	P3 (3)	kW	3,46	3,46	3,46	3,46	6,12	6,12	6,12	10,25
MAXIMUM PUMP ABSORBED CURRENT (WP OR OPTION DP)		A	6,33	6,33	6,33	6,33	10,40	10,40	10,40	17,40
MAXIMUM PUMP ABSORBED POWER (OPTION PH OR DPH)	P5 (3)	kW	6,12	8,30	8,30	8,30	12,04	12,04	12,04	19,94
MAXIMUM PUMP ABSORBED CURRENT (OPTION PH OR DPH)		A	10,40	14,10	14,10	14,10	20,20	20,20	20,20	32,70
HYDRAULIC CONNECTIONS (THREADED / FLANGED)		BSP / DN	2"	2"	2"	2"	DN65	DN65	DN65	DN80
TANK VOLUME (7) (10)		dm³	410	410	410	410	390	500	500	500
EXPANSION VESSEL VOLUME (OPTION XV) (11)		liters	19	19	19	19	19	19	19	40
FAN SECTION (AXIAL)										
FANS		nr.	2	2	3	3	4	5	5	5
MAXIMUM FANS ABSORBED POWER	AC	kW	3,88	3,88	5,82	5,82	7,76	9,70	9,70	9,70
MAXIMUM FANS ABSORBED CURRENT		A	7,80	7,80	11,70	11,70	15,60	19,50	19,50	19,50
TOTAL AIR FLOW		m3/h	36000	36000	49500	54000	66000	72000	71000	80000
TOTAL ELECTRIC DATA										
MAXIMUM ABSORBED CURRENT (F.L.A) (8)		A	54,4	63,1	78,0	84,5	106,5	127,9	149,9	169,8
MAXIMUM PEAK CURRENT (L.R.A) (8)		A	173,3	178,6	222,0	273,0	225,4	243,4	293,9	358,3
MAXIMUM PEAK CURRENT WITH SOFT START (OPTION SF) (L.R.A) (8)		A	145,5	150,6	187,2	228,0	197,6	215,4	259,1	313,3
NOISE DATA										
SOUND PRESSURE FOR STANDARD CONFIGURATION (8) (9)		dB(A)	58,9	59,3	60,8	61,4	61,7	62,9	63,0	63,7
SOUND PRESSURE FOR LOW NOISE CONFIGURTION (OPTION LNJ) (8) (9)		dB(A)	58,7	58,9	60,4	60,6	61,5	62,5	62,5	62,8
DIMENSIONS AND WEIGHT										
LENGTH		mm	3355	3355	3355	4355	4355	5350	5350	6350
WIDTH		mm	1105	1105	1105	1105	1105	1105	1105	1305*
HEIGHT		mm	2205	2205	2205	2205	2205	2205	2205	2180
WEIGHT EMPTY FOR STANDARD CONFIGURATION (7) (8)		kg	1120	1150	1180	1480	1675	1910	2000	2465
WEIGHT OPERATIVE FOR STANDARD CONFIGURATION (7) (8)		kq	1590	1620	1650	1970	2180	2515	2670	3130

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Last update: 22/07/2021
 Revision: 03-2021

Data referred to:

- (1) Data referred to inlet/outlet water temperature = +12/+7 °C, ambient temperature = +35°C, fluid = Water
- (2) Data referred to inlet/outlet water temperature = +15/+10 °C, ambient temperature = +30°C, fluid = 70% Water + 30% Ethylene Glycol
- (3) Available pressure can be calculated from Hitema Online Selection Software
- (4) SEPR: data comply with the European Regulation (EU) 2016/2281, referring to high temperature process chillers in the configuration with brazed plate or shell and tube evaporator (coaxial evaporator excluded) and without pump. Any added option that modify cooling capacity or absorbed power of the chiller will not be considered in the SEPR value
- (5) Pressure drops taken in account: evaporator, valves, piping ; (6) Pressure drops taken in account: evaporator, valves, piping, free-cooling coil
- (7) Data referred to standard chiller configuration as indicated in frigorific section, with different evaporator this data can change
- (8) Data referred to standard chiller configuration WP (single pump P3) and AC fans
- (9) Sound pressure level referred to measures according to normative ISO3744, pressure level at distance of 10 m, referred to free field on reflecting surface
- (10) To avoid excessive start/stop of the compressors a minimum water volume for the entire plant must be guarantee, the tank supplied by Hitema can be not enough
- (11) The expansion vessel volume is calculated considering 40°C of deltaT between water temperature with chiller stopped and chiller active, 1/2bar of hydraulic circuit pre-charge and considering only the water volume of the unit

* For the configurations NT.NP (no tank, no pump), NT.WP (no tank, single pump P3), and NT.PH (no tank, single pump P5) the chiller width will be 1105mm

Free-cooling liquid chillers ENRF series, scroll compressors, R410A / R32 / R454B refrigerant, coaxial / shell and tube evaporator, thermostatic expansion valve, condenser and free-cooling coil with copper tubes and aluminium finned fins, AC axial fans regulated with cut phase fan speed regulator. Electrical feed 400V/3ph/50Hz (60Hz version as option). IP54 protection rating, chillers suitable for outdoor installation. Inbuilt water storage tank and single pump P3 as standard.

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 ST = shell and tube evaporator, with high thickness copper tubes (0,41mm)
 B-ES = stainless steel brazed plate evaporator

Type of available expansion elements
 CP = Capillary tube
 VTS = Thermostatic expansion valve
 ETS = Electronic expansion valve (available as option)

TECHNICAL DATA

PERFORMANCES		Model	230	280	340	370	
NOMINAL COOLING CAPACITY	W 12°C/7°C @ 35°C (1)	kW	226,0	276,0	325,0	355,0	
TOTAL NOMINAL ABSORBED POWER		kW	86,7	107,1	117,3	133,9	
EER		kW/kW	2,96	2,85	3,04	2,87	
SEPR (HT) (4)		-	5,00	5,06	5,01	5,01	
AIR TEMPERATURE FOR 100% FREE COOLING CAPACITY		°C	0,5	-1,2	-7,0	-8,2	
NOMINAL WATER FLOW		m3/h	38,8	47,4	55,8	61,0	
MECHANICAL MODE PRESSURE DROPS (5) (7) (8)		kPa	53	60	68	77	
FREE COOLING MODE PRESSURE DROPS (6) (7) (8)		kPa	98	120	117	122	
NOMINAL COOLING CAPACITY	30%EG 15°C/10°C @ 30°C (2)	kW	250,9	306,4	360,8	394,1	
TOTAL NOMINAL ABSORBED POWER		kW	81,5	100,3	109,7	124,9	
EER		kW/kW	3,52	3,41	3,63	3,44	
AIR TEMPERATURE FOR 100% FREE COOLING CAPACITY		°C	1,5	-0,7	-8,3	-9,9	
NOMINAL WATER FLOW		m3/h	47,5	58,0	68,3	74,6	
MECHANICAL MODE PRESSURE DROPS (5) (7) (8)		kPa	79	90	102	116	
FREE COOLING MODE PRESSURE DROPS (6) (7) (8)		kPa	147	180	175	183	
FRIGORIFIC SECTION							
COMPRESSORS / REFRIGERATING CIRCUITS / PARTITION STEP		nr.	4/2/4	4/2/4	4/2/4	4/2/4	
KIND OF EVAPORATOR		-	ST	ST	ST	ST	
HYDRAULIC SECTION							
WATER FLOW RANGE (8)		m3/h	26÷46	31÷58	38÷72	42÷80	
MAXIMUM PUMP ABSORBED POWER (WP OR OPTION DP)		P3 (3)	kW	10,25	10,25	10,25	10,25
MAXIMUM PUMP ABSORBED CURRENT (WP OR OPTION DP)			A	17,40	17,40	17,40	17,40
MAXIMUM PUMP ABSORBED POWER (OPTION PH OR DPH)		P5 (3)	kW	19,94	19,94	19,94	19,94
MAXIMUM PUMP ABSORBED CURRENT (OPTION PH OR DPH)			A	32,70	32,70	32,70	32,70
HYDRAULIC CONNECTIONS (THREADED / FLANGED)		BSP / DN	DN80	DN100	DN100	DN100	
TANK VOLUME (7) (10)		dm³	500	500	500	500	
EXPANSION VESSEL VOLUME (OPTION XV) (11)		liters	40	40	40	40	
FAN SECTION (AXIAL)							
FANS		nr.	6	6	6	6	
MAXIMUM FANS ABSORBED POWER		AC	kW	11,64	11,64	11,64	11,64
MAXIMUM FANS ABSORBED CURRENT			A	23,40	23,40	23,40	23,40
TOTAL AIR FLOW			m3/h	84000	84000	84000	84000
TOTAL ELECTRIC DATA							
MAXIMUM ABSORBED CURRENT (F.L.A) (8)		A	186,6	219,2	248,6	278,0	
MAXIMUM PEAK CURRENT (L.R.A) (8)		A	375,1	446,6	499,3	528,7	
MAXIMUM PEAK CURRENT WITH SOFT START (OPTION SF) (L.R.A) (8)		A	330,1	392,2	437,3	466,7	
NOISE DATA							
SOUND PRESSURE FOR STANDARD CONFIGURATION (8) (9)		dB(A)	64,8	66,1	66,1	66,1	
SOUND PRESSURE FOR LOW NOISE CONFIGURTION (OPTION LNJ) (8) (9)		dB(A)	63,6	64,4	64,4	64,4	
DIMENSIONS AND WEIGHT							
LENGTH		mm	6350	6350	6350	6350	
WIDTH		mm	1305*	1305*	1305*	1305*	
HEIGHT		mm	2180	2180	2180	2180	
WEIGHT EMPTY FOR STANDARD CONFIGURATION (7) (8)		kg	2695	2820	2920	2980	
WEIGHT OPERATIVE FOR STANDARD CONFIGURATION (7) (8)		kg	3365	3510	3625	3700	

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 Revision: 03-2021

Data referred to:

- (1) Data referred to inlet/outlet water temperature = +12/+7 °C, ambient temperature = +35°C, fluid = Water
- (2) Data referred to inlet/outlet water temperature = +15/+10 °C, ambient temperature = +30°C, fluid = 70% Water + 30% Ethylene Glycol
- (3) Available pressure can be calculated from Hitema Online Selection Software
- (4) SEPR: data comply with the European Regulation (EU) 2016/2281, referring to high temperature process chillers in the configuration with brazed plate or shell and tube evaporator (coaxial evaporator excluded) and without pump. Any added option that modify cooling capacity or absorbed power of the chiller will not be considered in the SEPR value
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- (8) Data referred to standard chiller configuration WP (single pump P3) and AC fans
- (9) Sound pressure level referred to measures according to normative ISO3744, pressure level at distance of 10 m, referred to free field on reflecting surface
- (10) To avoid excessive start/stop of the compressors a minimum water volume for the entire plant must be guarantee, the tank supplied by Hitema can be not enough
- (11) The expansion vessel volume is calculated considering 40°C of deltaT between water temperature with chiller stopped and chiller active, 1/2bar of hydraulic circuit pre-charge and considering only the water volume of the unit

* For the configurations NT.NP (no tank, no pump), NT.WP (no tank, single pump P3), and NT.PH (no tank, single pump P5) the chiller width will be 1105mm