

AIR COOLED WATER CHILLERS, HEATPUMPS— SCROLL

STANDARD



OPTIONAL

- Low flow rate protection on evaporator and condenser water side
- Remote control via PC or building automation system
- Copper/copper condenser coil
- Copper/aluminium condenser coil with epoxy coated
- Protection mesh for air-cooled condenser
- Control of evaporator and condenser circulation pumps with hydronic module and microprocessor
- Models for low sound level and low vibration
- Air cooled models with radial fan designed for indoor conditions
- Heat recovery and free cooling models
- Chiller with sea water condenser
- Chiller with remote condenser
- Models with digital and DC inverter scroll compressor
- Models with radial, AC or EC condenser fans
- Custom designs for special projects and flexible production
- Models designed for low water temperatures up to -15°C
- Models designed for high outside temperatures up to + 55°C



WHAT MAKES **IMBAT** DIFFERENT

RELIABILITY, LONG LIFE and EASE OF OPERATING

imbat water chiller group has single or multiple gas circuits, single water inlet and outlet. Plate type evaporators are reliable and protected against partial freezing; water chamber is detachable and the pipes can be cleaned mechanically. Compressors are engaged in automated order and ages equally.

HIGH EFFICIENCY

imbat water chiller group developed for providing maximum energy efficiency with 26 years of engineering repertoire and experience. Electronic expansion valve, improved microprocessor control, high efficient compressors, enlarged heat transfer surfaces on evaporator and condenser, over-cooling and over-heating circuits are applied as standard for high efficiency.

ASYMMETRIC COOLING

It is the technology of using multiple compressors with different capacities as tandem type. In asymmetric compressor application, the efficiency of the unit working under partial load is increased. With the operation of compressors at different capacity one by one, the number of engagement for each compressor is reduced, which in turn leads to longer life span. With the capacity control steps exceeding the number of capacitors, the most suitable and effective operation type is guaranteed under variable loads.



AIR-COOLED WITH SCROLL COMPRESSOR

MODEL H.N.G.		46	56	72	78	90	100	110
Cooling capacity	kW	112,9	142,0	173,4	199,7	230,3	261,4	291,2
Total power input	kW	41,4	52,2	69,4	72,9	84,6	100,2	107,7
EER		2,7	2,7	2,5	2,8	2,7	2,6	2,7
Heating capacity	kW	116,2	146,0	178,5	205,6	237,2	269,0	299,9
Total power input	kW	38,5	49,2	64,9	68,4	80,2	95,2	101,6
COP		3,0	3,0	2,8	3,0	3,0	2,8	3,0
Refrigerant		R-410a						
Compressor type		Scroll						
Compressor quantity	pcs	4	4	6	6	6	4	4
Capacity step	step	6	6	6	6	6	6	6
Compressor connection type		Asymmetric	Asymmetric	Standard	Asymmetric	Asymmetric	Standard	Asymmetric
Evaporator type		Plate						
Evaporator quantity	pcs	1	1	1	1	1	1	1
Min. water flow	kg/s	3,76	4,45	6,17	6,52	7,13	8,17	9,07
Max. water flow	kg/s	7,27	9,35	11,00	12,98	15,41	16,82	18,78
Nominal water flow	kg/s	5,6	7,1	8,7	9,9	11,6	13,0	14,6
Nominal pressure drop	Pa	26,1	28,6	19,3	34,0	34,4	24,9	31,5
Condenser type		Copper tube aluminium fins						
Nominal air flow (Cooling/Heating)	m ³ /h	54200/17000	52000/21600	50800/22400	80400/31800	77400/35400	77400/40200	106800/46000
Fan type		Axial						
Fan diameter	mm	910	910	910	910	910	910	910
Fan quantity		2	2	2	3	3	3	4
Fan power input (Cooling/Heating)	kW	4,46/1,058	4,58/1,632	4,66/1,828	6,75/2,127	6,99/2,826	6,93/3,36	9/3,292
Water inlet / outlet	mm	48	48	52	52	52	52	52
Width	mm	1651	1651	1651	1651	1651	1651	1651
Length	mm	2943	2943	2943	4044	4044	4044	5138
Height	mm	2477	2477	2477	2477	2477	2477	2477
Unit weight	kg	1177	1288	1455	1688	1827	1951	1951
Unit operating weight	kg	1183	1295	1464	1698	1838	1964	2185
Sound pressure level (1 m.)	dBA	76	76	76	77	77	83	85
Sound pressure level (10 m.)	dBA	58	58	58	59	59	65	66

MODEL H.N.G.		120	140	155	170	180	210	210'	240
Cooling capacity	kW	317,3	348,6	399,8	430,4	478,1	526,3	543,8	598,5
Total power input	kW	117,4	136,6	147,6	166,3	172,4	201,3	197,2	224,6
EER		2,7	2,6	2,7	2,6	2,8	2,6	2,8	2,7
Heating capacity	kW	326,5	358,2	411,1	442,6	491,9	541,4	559,7	616,1
Total power input	kW	111,0	130,1	140,0	158,2	162,7	191,5	186,2	212,8
COP		3,0	2,8	2,9	2,8	3,0	2,8	3,0	2,9
Refrigerant		R-410a							
Compressor type		Scroll							
Compressor quantity	pcs	4	4	4	6	6	6	6	6
Capacity step	step	4	6	4	15	6	6	15	6
Compressor connection type		Standard	Standard	Asymmetric	Asymmetric	Asymmetric	Asymmetric	Asymmetric	Asymmetric
Evaporator type		Plate							
Evaporator quantity	pcs	1	1	2	2	2	2	2	2
Min. water flow	kg/s	9,89	11,06	12,56	13,60	14,87	16,77	17,05	18,80
Max. water flow	kg/s	20,43	22,32	25,70	27,43	30,23	33,35	34,36	37,91
Nominal water flow	kg/s	15,9	17,4	20,0	21,4	23,7	26,1	27,0	29,7
Nominal pressure drop	Pa	32,8	42,7	29,9	35,0	42,7	42,7	42,0	40,8
Condenser type		Copper tube aluminium fins							
Nominal air flow (Cooling/Heating)	m ³ /h	103600/46000	103600/46000	129500/54500	129000/59000	159200/72800	159200/79200	203000/84800	203000/85600
Fan type		Axial							
Fan diameter	mm	910	910	910	910	800	800	800	800
Fan quantity		4	4	5	5	8	8	10	10
Fan power input (Cooling/Heating)	kW	9,2/3,66	9,2/3,66	11,5/4,235	11,55/4,775	13,36/5,256	13,36/5,92	16,3/5,65	16,3/5,7
Water inlet / outlet	mm	52	52	52	52	52	52	52	52
Width	mm	1651	1651	1651	1651	2493	2493	2493	2493
Length	mm	5138	5138	6247	6247	4593	4593	5600	5600
Height	mm	2477	2477	2477	2477	2663	2663	2663	2663
Unit weight	kg	2514	2541	2843	3007	3922	4002	4288	4362
Unit operating weight	kg	2530	2558	2863	3028	3946	4028	4315	4391
Sound pressure level (1 m.)	dBA	85	85	86	86	86	85	88	88
Sound pressure level(10 m.)	dBA	66	66	68	68	67	67	70	70

Capacities are for 7/12°C water out/in temperature and 35°C ambient air temperature conditions.

AIR COOLED WATER CHILLERS – SCREW

STANDARD



Capacity Range



Refrigerant Fluid



Screw Compressor



Low Water Temperature



Microprocessor Control



Shell&Tube



Cooling



Electronic Expansion Valve



Easy Service & Maintenance

OPTIONAL

- Low flow rate protection on evaporator and condenser water side
- Remote control via PC or building automation system
- Copper/copper condenser coil
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HIGH EFFICIENCY

It is the technology of using multiple compressors with different capacities as tandem type. In asymmetric compressor application, the efficiency of the unit working under partial load is increased. With the operation of compressors at different capacity one by one, the number of engagement for each compressor is reduced, which in turn leads to longer life span. With the capacity control steps exceeding the number of capacitors, the most suitable and effective operation type is guaranteed under variable loads.

The semi-closed compact, helisoidal double screw cooling compressors proportionally control the cooling capacity. Three-phase bipolar motor is suction gas cooled and no-load at start-up mechanism. The unit has at least two compressors and an independent cooling circuit for each compressor.



AIR-COOLED WITH SCREW COMPRESSOR

MODEL H.N.I.6.....V.B		00802	01002	01202	01402	01602	01802	02002	02102	02202	02402
Cooling capacity	kW	198,9	249,0	281,1	334,9	377,8	408,9	445,2	491,3	554,2	592,5
Compressor power input	kW	60,50	77,0	86,6	104,4	117,4	125,8	137,4	155,1	174,6	180,1
Refrigerant		R-134a									
Compressor type		Screw									
Number of compressor	pcs	2	2	2	2	2	2	2	2	2	2
Cooling circuit	pcs	2	2	2	2	2	2	2	2	2	2
Capacity control	step	%12,5...%100									
Sound pressure level	dB(A)	58	58,0	60,0	60,0	61,0	61,0	61,0	61,0	62,0	62,0
Length	mm	2.860	2.860	4.030	4.030	5.210	5.210	5.210	5.210	5.210	6.390
Width	mm	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400
Height	mm	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400

MODEL H.N.I.6.....V.B		02802	03202	03602	04202	04402	04802	05402	06002	07203	
Cooling capacity	kW	680,5	806,0	904,3	925,5	1.012,0	1.108,3	1.241,1	1.414,2	1662,4	
Compressor power input	kW	213,4	256,9	285,4	294,9	320,6	354,3	391,4	446,7	533,1	
Refrigerant		R-134a									
Compressor type		Screw									
Number of compressor	pcs	2	2	2	2	2	2	2	2	3	
Cooling circuit	pcs	2	2	2	2	2	2	2	2	3	
Capacity control	step	%12,5...%100									
Sound pressure level	dB(A)	63,0	64,0	64,0	64,0	64,0	65,0	65,0	60,0	73,0	
Length	mm	6.390	7.570	9.925	8.750	8.750	9.925	11.100	12.280	14.640	
Width	mm	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400	
Height	mm	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400	

MODEL H.N.I.6.....V.A		00802	01002	01202	01402	01602	01802	02002	02202	02402	
Cooling capacity	kW	210,2	257,5	286,7	348,8	387,3	442,4	460,5	558,4	631,1	
Compressor power input	kW	59,1	73,5	82,9	99,5	112,9	129,4	132,5	163,1	185,3	
Refrigerant		R-134a									
Compressor type		Screw									
Number of compressor	pcs	2	2	2	2	2	2	2	2	2	
Cooling circuit	pcs	2	2	2	2	2	2	2	2	2	
Capacity control	step	%12,5...%100									
Sound pressure level	dB(A)	60,0	60,0	61,0	61,0	62,0	62,0	62,0	62,0	63,0	
Length	mm	4.030	4.030	4.030	5.210	5.210	6.390	6.390	6.390	6.390	
Width	mm	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400	
Height	mm	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400	

MODEL H.N.I.6.....V.A		02802	03202	03602	04202	04402	04802	05402	06002	07203	
Cooling capacity	kW	702,6	854,8	930,4	978,8	1.038,10	1.170,8	1.307,2	1.447,2	1.756,3	
Compressor power input	kW	203,5	250,4	271,0	288,3	307,4	349,3	386,1	432,1	525,8	
Refrigerant		R-134a									
Compressor type		Screw									
Number of compressor	pcs	2	2	2	2	2	2	2	2	3	
Cooling circuit	pcs	2	2	2	2	2	2	2	2	3	
Capacity control	step	%12,5...%100									
Sound pressure level	dB(A)	64,0	64,0	64,0	64,0	65,0	65,0	66,0	65,0	76,2	
Length	mm	7.570	8.750	9.925	9.925	9.925	11.160	12.280	13.460	16.990	
Width	mm	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400	
Height	mm	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400	

Rated at; Water Fluctuation: 7/12°C, Outside Temperature: 35°C

Water Chillers with Screw Compressors (R-134a)

Cold water operation temperature range: +5/+20°C

Outside temperature: Up to +55°C

WATER-COOLED WITH SCREW COMPRESSOR

MODEL S.N.I.6.....V.B		00802	01002	01202	01402	01602	01802	02002	02102	02402
Cooling capacity	kW	224,1	272,6	324,4	383,7	433,4	481,3	511,2	625,3	695,5
Compressor power input	kW	48,2	58,6	69,5	82,2	93,2	101,5	108,3	132,6	144,4
Refrigerant		R-134a								
Number of compressor	pcs	2	2	2	2	2	2	2	2	2
Compressor type		Screw								
Cooling circuit	pcs	2	2	2	2	2	2	2	2	2
Capacity control	step	%12,5...%100								
Sound pressure level	dB(A)	62,0	62,0	62,0	64,9	65,4	65,4	65,4	65,9	69,0
Length	mm	2.210	2.010	2.210	1.810	1.910	2.210	3.210	2.610	2.910
Width	mm	610	670	670	720	720	720	670	720	720
Height	mm	1.030	2.010	1.150	1.230	1.190	1.190	1.110	1.230	1.310

MODEL S.N.I.6.....V.B		02802	03202	03602	04202	04402	04802	05402	06002	07203
Cooling capacity	kW	792,9	936,7	1.046,7	1.110,2	1.129,8	1.307,5	1.458,4	1.609,1	1.961,3
Compressor power input	kW	162,6	196,0	216,0	226,6	232,5	269,2	296,6	333,2	403,8
Refrigerant		R-134a								
Number of compressor	pcs	2	2	2	2	2	2	2	2	3
Compressor type		Screw								
Cooling circuit	pcs	2	2	2	2	2	2	2	2	3
Capacity control	step	%12,5...%100								
Sound pressure level	dB(A)	69,0	71,0	71,0	72,0	73,0	74,0	75,0	76,0	77,0
Length	mm	3.210	3.510	3.510	3.510	3.510	3.510	3.510	3.510	3.510
Width	mm	720	720	720	720	720	720	720	720	720
Height	mm	1.310	1.310	1.310	1.310	1.310	1.310	1.310	1.310	1.310

MODEL S.N.I.6.....V.A		00802	01002	01202	01402	01602	01802	02002	02202	02402
Cooling capacity	kW	235,3	286,3	340,6	402,9	455,0	505,4	536,8	656,6	730,3
Compressor power input	kW	46,6	56,7	67,3	79,5	89,7	99,5	105,5	130,0	144,3
Refrigerant		R-134a								
Number of compressor	pcs	2	2	2	2	2	2	2	2	2
Compressor type		Screw								
Cooling circuit	pcs	2	2	2	2	2	2	2	2	2
Capacity control	step	%12,5... %100								
Sound pressure level	dB(A)	62,0	62,0	62,0	64,9	65,4	65,4	65,4	65,9	69,0
Length	mm	2.210	2.010	2.210	2.010	2.060	2.310	3.210	2.610	3.210
Width	mm	610	670	670	720	720	720	670	720	720
Height	mm	1.030	1.110	1.150	1.230	1.190	1.190	1.110	1.230	1.310

MODEL S.N.I.6.....V.A		02802	03202	03602	04202	04402	04802	05402	06002	07203
Cooling capacity	kW	832,5	983,5	1.099,0	1.165,7	1.196,1	1.372,9	1.531,3	1.689,5	2.059,4
Compressor power input	kW	162,6	194,8	216,0	226,6	236,2	269,2	296,6	333,2	403,8
Refrigerant		R-134a								
Number of compressor	pcs	2	2	2	2	2	2	2	2	3
Compressor type		Screw								
Cooling circuit	pcs	2	2	2	2	2	2	2	2	3
Capacity control	step	%12,5... %100								
Sound pressure level	dB(A)	69,0	71,0	71,0	72,0	73,0	74,0	75,0	76,0	77,0
Length	mm	3.210	3.510	3.510	3.510	3.510	3.510	3.510	3.510	3.510
Width	mm	720	720	720	720	720	720	720	720	720
Height	mm	1.310	1.310	1.310	1.310	1.310	1.310	1.310	1.310	1.310

Rated at; Water Fluctuation: 7/12°C, Outside Temperature: 35°C

Water Chillers with Screw Compressors (R-134a)

Cold water outlet temperature range: -5/+20°C

Condenser water outlet temperature range: +20/+50°C

AIR-COOLED WITH PISTON COMPRESSOR

MODEL H.N.K.5.....Y		00202	00302	00402	00502	00602	00642	00702	00802	01002	01202	01402	01502	01602
Cooling capacity	kW	60,7	76,9	85,5	102,7	128,9	136,3	147,2	177,9	216,2	273,3	302,3	336,9	356,1
Power input	kW	21,3	26,5	29,5	35,9	44,8	49,0	56,7	65,3	81,7	97,2	108,3	119,0	127,3
Refrigerant		R-407c												
Compressor type		Piston												
Number of compressor	pcs	2	2	2	2	2	2	2	2	2	2	2	2	2
Cooling circuit	pcs	2	2	2	2	2	2	2	2	2	2	2	2	2
Sound pressure level	dB(A)	64,0	64,0	64,0	64,0	66,0	66,0	66,0	66,0	66,0	68,0	68,0	69,0	70,0
Length	mm	1840	1840	3080	3080	3080	3080	3080	4320	4320	5560	5560	5560	6800
Width	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
Height	mm	2230	2230	2230	2230	2230	2230	2230	2230	2230	2230	2230	2230	2230

MODEL H.D.E.5.....Y		0202	0302	0402	0502	0602	0642	0702	0802	1002	1202	1402	1502	1602
Cooling capacity	kW	43,9	54,1	61,4	73,8	91,7	100,4	113,1	134,9	154,1	195,4	210,8	230,1	239,5
Power input	kW	18,8	24,4	26,9	33,2	39,5	42	48,3	56,1	71,9	84,1	94	102,6	107,8
Refrigerant		R-404a												
Compressor type		Piston												
Number of compressor	pcs	2	2	2	2	2	2	2	2	2	2	2	2	2
Cooling circuit	pcs	2	2	2	2	2	2	2	2	2	2	2	2	2
Sound pressure level	dB(A)	64,0	64,0	66,0	66,0	66,0	66,0	66,0	68,0	68,0	69,0	69,0	69,0	70,0
Length	mm	1840	1840	1840	1840	3080	3080	3080	3080	3080	4320	4320	5560	5560
Width	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
Height	mm	2230	2230	2230	2230	2230	2230	2230	2230	2230	2230	2230	2230	2230

WATER-COOLED WITH PISTON COMPRESSOR

MODEL S.N.K.5.....Y		00202	00302	00402	00502	00602	00642	00702	00802	01002	01202	01402	01502	01602
Cooling capacity	kW	70,7	89,5	101,7	126,5	150,6	164,6	185,3	219,9	268,1	334,3	366,8	393,8	428,2
Power input	kW	17,6	22,1	24,1	29,7	35,3	38,9	43,2	51,2	65,5	75,7	86,8	93,7	100,1
Refrigerant		R-407c												
Compressor type		Piston												
Number of compressor	pcs	2	2	2	2	2	2	2	2	2	2	2	2	2
Cooling circuit	pcs	2	2	2	2	2	2	2	2	2	2	2	2	2
Sound pressure level (10m)	dB(A)	64,0	64,0	64,0	64,0	66,0	66,0	66,0	66,0	66,0	68,0	68,0	69,0	70,0
Length	mm	1410	1410	1410	1710	1710	1710	1910	1910	1910	2210	2210	2210	720
Width	mm	610	610	610	610	610	610	610	670	670	670	720	720	2210
Height	mm	1070	1070	1070	1070	1070	1070	1150	1150	1150	1150	1230	1230	1230

MODEL S.D.E.5.....Y		0202	0302	0402	0502	0602	0642	0702	0802	1002	1202	1402	1502	1602
Cooling capacity	kW	33,8	43,3	49,9	58,4	71,0	75,1	89,7	104,3	127,9	158,4	174,4	186,3	193,7
Power input	kW	17,0	21,6	23,8	29,6	35,4	37,6	42,7	50,1	62,6	74,2	82,2	90,1	94,4
Refrigerant		R-404a												
Compressor type		Piston												
Number of compressor	pcs	2	2	2	2	2	2	2	2	2	2	2	2	2
Cooling circuit	pcs	2	2	2	2	2	2	2	2	2	2	2	2	2
Sound pressure level	dB(A)	64,0	64,0	66,0	66,0	66,0	66,0	66,0	68,0	68,0	69,0	69,0	69,0	70,0
Length	mm	1410	1410	1410	1710	1710	1910	1910	1910	2210	2010	2210	2210	2210
Width	mm	610	610	610	610	610	610	610	610	670	670	720	720	720
Height	mm	1070	1070	1070	1070	1070	1070	1150	1150	1150	1150	1230	1230	1230

Rated at; Water Fluctuation: -10/+5°C, Outside Temperature: 35/40°C

Water Chillers with Piston Compressors (R-407c, R-404a)

Capacity Range: 20-550 kW

Cold water outlet temperature range: -25/+15°C

Condenser water outlet temperature range: +20/+50°C

Water Chillers with Piston Compressors (R-407c, R-404a)

Capacity Range: 20-450 kW

Cold water operation temperature range: -25/+15°C

Outside temperature: Up to +55°C

Having a wide usage range, the waterchiller group with piston offers high performans especially at low water temperatures.