



ORIGINAL
MANUFACTURED EQUIPMENT

SEMI-HERMETIC

SCREW COMPRESSORS

MULTIPLE SCREW COMPRESSOR UNIT

ORIGINAL MANUFACTURED EQUIPMENT

HyperPAC



Version 50Hz

Watch BITZER video



NOVUS

PRODUCTS SPECIFICATIONS

Multiple Semi-hermetic or Open drive screw compressors.

The proven series of HS and OS screw compressors from BITZER with displacement ranging from 168 to 2140 m³/h (50 Hz) and of Horse Power (HP) from 40 to 640 HP. Customized versions are available on request.

The multiple compressor packages are available with several options.

Standard HyperPAC units

- with 2..4 compressors
- HSK(N)5343..HSK(N)8591
- OSK(N)5341..OSK(N)8571


Important features

- Robust construction with compact dimensions
- High energy efficient compressors
- Optimum economiser operation for both medium and low temperature application using high quality heat exchanger
- High flexibility with capacity control
- Fully piped oil system complete with safety devices
- High efficiency oil separator with level control, oil heaters, thermostat, sight glasses and pressure relief valve
- Insulated sub cooled liquid line with isolation valve
- Intelligent motor protection devices, thermal monitoring, phase sequence and restart time delay
- Integrated individual suction gas filters for each compressor
- Liquid receiver with pressure relief valve
- Generously sized liquid filter drier
- Liquid line sight glass
- Maximum allowable pressure 28 bar on discharge
- High and low pressure switches
- Oil charge for start up supplied
- BITZER original pressure vessels where applicable
- Shipped with a Nitrogen protective holding charge

Comprehensive application range

- Refrigerants: R134a, R404A, R507A, R407C and others on request
- High, medium and low temperature

Options

- Water cooled condenser to suit the application
- Water cooled or air cooled oil coolers (if required) with oil temperature regulating valve
- Pressure gauges: High and Low pressure gauges fitted. Liquid filled gauges with isolation valves
- Electrical control board complete with PLC controller, run lights and individual fault lights. (Multiple options available)
- Varipack frequency inverter for lead compressor 
- IQ Module SE-i1 for Enhanced Protection and Monitoring

Performance data

All given values of the cooling capacity (kW) are based on 50 Hz. The liquid temperature is defined as 5 K above saturated temperature according to EN 12900 at economiser inlet (t_{cu} = t_{ms} + 5 K).



ASERCOM certified compressor data see BITZER Software.

Explanation of type designation

Example

HP 504 - HSN7471 - 300

HP - HyperPAC

HP 504 - HSN7471 - 300

Code for frame size: 4, 5 or 6

HP 504 - HSN7471 - 300

Number of compressors 2..4

HP 504 - **HSN7471** - 300

Compressor model

HP 504 - HSN7471 - **300**

Package total nominal motor horse power

PERFORMANCE DATA

R134a

Performance data, based on 10k suction gas superheat, economizer operation; 50Hz

Unit Model	Cond. Temp. °C		Cooling Capacity Q_o [kW]				Total Heat Rejection		THR [kW]		
			Evaporating Temperature °C								
			10	5	0	-5	-10	-15	-20		
HP402-HSK5343-60	30	Q			114.08	95.84	79.69	65.46	52.99		
		THR			138.20	119.28	102.59	87.90	75.05		
	40	Q	151.34	129.22	109.45	91.84	76.23	62.47	50.40		
		THR	181.18	158.44	138.27	120.40	104.57	90.61	78.28		
	50	Q	144.42	123.13	104.08	87.10	72.04	58.74	47.07		
		THR	181.80	160.03	140.62	123.40	108.18	94.84	83.25		
60	Q	136.34	115.95	97.69	81.40	66.94					
	THR	184.14	163.35	144.69	128.20	113.94					
HP403-HSK5343-90	30	Q			171.12	143.76	119.53	98.18	79.48		
		THR			207.30	178.92	153.88	131.84	112.57		
	40	Q	227.02	193.84	164.17	137.76	114.35	93.71	75.60		
		THR	271.78	237.67	207.40	180.60	156.86	135.92	117.42		
	50	Q	216.63	184.70	156.12	130.65	108.06	88.11	70.60		
		THR	272.70	240.05	210.93	185.10	162.27	142.26	124.87		
60	Q	204.50	173.92	146.53	122.10	100.41					
	THR	276.20	245.02	217.03	192.30	170.91					
HP404-HSK5343-120	30	Q			228.16	191.68	159.37	130.91	105.97		
		THR			276.40	238.56	205.17	175.79	150.09		
	40	Q	302.69	258.45	218.89	183.68	152.47	124.94	100.80		
		THR	362.37	316.89	276.53	240.80	209.15	181.22	156.56		
	50	Q	288.84	246.26	208.16	174.20	144.08	117.48	94.13		
		THR	363.60	320.06	281.24	246.80	216.36	189.68	166.49		
60	Q	272.67	231.89	195.37	162.80	133.88					
	THR	368.27	326.69	289.37	256.40	227.88					
HP402-HSK5353-70	30	Q			136.22	114.49	95.25	78.32	63.50		
		THR			163.68	141.33	121.57	104.16	88.84		
	40	Q	180.64	154.25	130.66	109.67	91.09	74.71	60.36		
		THR	215.36	188.25	164.14	142.77	123.91	107.29	92.70		
	50	Q	171.87	146.67	124.11	104.02	86.19	70.45	56.62		
		THR	214.87	189.07	166.11	145.82	127.79	112.25	98.82		
60	Q	161.78	137.97	116.61	97.53	80.55					
	THR	216.18	191.97	170.21	151.13	134.35					
HP403-HSK5353-105	30	Q			204.34	171.73	142.88	117.48	95.26		
		THR			245.53	211.99	182.36	156.24	133.27		
	40	Q	270.96	231.37	195.99	164.51	136.63	112.07	90.54		
		THR	323.04	282.37	246.21	214.16	185.86	160.94	139.05		
	50	Q	257.81	220.00	186.17	156.03	129.29	105.67	84.93		
		THR	322.31	283.60	249.17	218.73	191.69	168.37	148.23		
60	Q	242.67	206.95	174.92	146.30	120.82					
	THR	324.27	287.95	255.32	226.70	201.52					
HP404-HSK5353-140	30	Q			272.45	228.97	190.50	156.64	127.01		
		THR			327.37	282.65	243.14	208.32	177.69		
	40	Q	361.28	308.49	261.32	219.34	182.17	149.42	120.72		
		THR	430.72	376.49	328.28	285.54	247.81	214.58	185.40		
	50	Q	343.75	293.33	248.23	208.04	172.38	140.90	113.24		
		THR	429.75	378.13	332.23	291.64	255.58	224.50	197.64		
60	Q	323.56	275.93	233.22	195.06	161.10					
	THR	432.36	383.93	340.42	302.26	268.70					
HP402-HSK5363-80	30	Q			154.73	131.02	109.99	91.45	75.21		
		THR			185.47	161.18	139.69	120.67	103.87		
	40	Q	204.94	175.86	149.79	126.51	105.84	87.58	71.53		
		THR	244.24	214.36	187.79	164.19	143.34	124.98	108.83		
	50	Q	196.17	168.03	142.76	120.16	100.03	82.18	66.43		
		THR	245.17	216.43	190.76	167.96	147.83	130.58	115.63		
60	Q	184.80	157.95	133.78	112.09	92.69					
	THR	246.60	219.15	194.58	172.89	154.09					
HP403-HSK5363-120	30	Q			232.10	196.53	164.99	137.18	112.81		
		THR			278.21	241.77	209.54	181.01	155.80		
	40	Q	307.40	263.79	224.68	189.77	158.77	131.37	107.30		
		THR	366.35	321.54	281.68	246.29	215.02	187.47	163.25		
	50	Q	294.25	252.05	214.14	180.24	150.05	123.28	99.65		
		THR	367.75	324.65	286.14	251.94	221.75	195.88	173.45		
60	Q	277.20	236.93	200.67	168.14	139.03					
	THR	369.90	328.73	291.87	259.34	231.13					
HP404-HSK5363-160	30	Q			309.46	262.04	219.98	182.90	150.42		
		THR			370.94	322.36	279.38	241.34	207.74		
	40	Q	409.87	351.72	299.58	253.03	211.69	175.16	143.07		
		THR	488.47	428.72	375.58	328.39	286.69	249.96	217.67		
	50	Q	392.34	336.06	285.52	240.32	200.06	164.37	132.86		
		THR	490.34	432.86	381.52	335.92	295.66	261.17	231.26		
60	Q	369.60	315.90	267.56	224.18	185.37					
	THR	493.20	438.30	389.16	345.78	308.17					
HP502-HSK6451-80	30	Q			181.60	152.12	126.02	103.05	82.93		
		THR			214.66	185.06	158.90	135.83	115.49		
	40	Q	241.87	206.02	174.01	145.57	120.41	98.28	78.92		
		THR	284.27	248.22	216.41	187.97	162.81	140.68	120.92		
	50	Q	229.91	195.71	165.19	138.04	114.01	92.85	74.31		
		THR	284.11	250.11	219.79	192.64	168.61	147.05	127.71		
60	Q	215.89	183.67	154.84	129.14	106.30					
	THR	285.29	253.27	224.64	198.74	175.50					

PERFORMANCE DATA

R134a

Performance data, based on 10k suction gas superheat, economizer operation; 50Hz

Unit Model	Cond. Temp. °C		Cooling Capacity		Q _o [kW]		Total Heat Rejection		THR [kW]	
			10	5	Evaporating Temperature °C					
					10	5	0	-5	-10	-15
HP503-HSK6451-120	30	Q			272.39	228.17	189.04	154.57	124.39	
		THR			321.98	277.58	238.36	203.74	173.23	
	40	Q	362.81	309.03	261.02	218.35	180.61	147.41	118.38	
		THR	426.41	372.33	324.62	281.95	244.21	211.01	181.38	
	50	Q	344.87	293.57	247.78	207.06	171.02	139.27	111.46	
		THR	426.17	375.17	329.68	288.96	252.92	220.57	191.56	
60	Q	323.83	275.51	232.26	193.70	159.44				
	THR	427.93	379.91	336.96	298.10	263.24				
HP504-HSK6451-160	30	Q			363.19	304.23	252.05	206.10	165.86	
		THR			429.31	370.11	317.81	271.66	230.98	
	40	Q	483.75	412.04	348.02	291.13	240.82	196.55	157.84	
		THR	568.55	496.44	432.82	375.93	325.62	281.35	241.84	
	50	Q	459.82	391.43	330.37	276.08	228.02	185.69	148.62	
		THR	568.22	500.23	439.57	385.28	337.22	294.09	255.42	
60	Q	431.78	367.34	309.68	258.27	212.59				
	THR	570.58	506.54	449.28	397.47	350.99				
HP502-HSK6461-80	30	Q			217.07	182.76	152.46	125.85	102.58	
		THR			259.67	224.36	193.06	165.67	141.98	
	40	Q	286.71	244.80	207.44	174.27	144.95	119.14	96.52	
		THR	341.11	298.00	259.64	225.67	195.75	169.34	146.12	
	50	Q	271.49	231.41	195.67	163.90	135.76	110.93	89.10	
		THR	338.09	297.21	260.67	228.10	199.56	174.13	152.10	
60	Q	253.37	215.56	181.79	151.71	125.00				
	THR	335.77	297.16	262.79	232.11	205.20				
HP503-HSK6461-120	30	Q			325.61	274.14	228.70	188.77	153.87	
		THR			389.51	336.54	289.60	248.50	212.97	
	40	Q	430.06	367.20	311.16	261.41	217.43	178.71	144.78	
		THR	511.66	447.00	389.46	338.51	293.63	254.01	219.18	
	50	Q	407.24	347.12	293.51	245.85	203.64	166.39	133.65	
		THR	507.14	445.82	391.01	342.15	299.34	261.19	228.15	
60	Q	380.06	323.34	272.69	227.57	187.50				
	THR	503.66	445.74	394.19	348.17	307.80				
HP504-HSK6461-160	30	Q			434.14	365.52	304.93	251.69	205.16	
		THR			519.34	448.72	386.13	331.33	283.96	
	40	Q	573.42	489.60	414.88	348.55	289.91	238.28	193.04	
		THR	682.22	596.00	519.28	451.35	391.51	338.68	292.24	
	50	Q	542.98	462.82	391.34	327.80	271.52	221.85	178.20	
		THR	676.18	594.42	521.34	456.20	399.12	348.25	304.20	
60	Q	506.75	431.12	363.58	303.42	250.00				
	THR	671.55	594.32	525.58	464.22	410.40				
HP502-HSK7451-100	30	Q			265.15	220.90	182.04	148.04	118.41	
		THR			312.75	268.90	230.64	197.04	167.41	
	40	Q	354.82	300.51	252.49	210.18	173.04	140.57	112.30	
		THR	415.02	361.11	313.89	272.38	235.84	203.37	174.30	
	50	Q	333.01	282.14	237.15	197.49	162.63	132.11	105.51	
		THR	410.41	360.54	316.75	277.89	243.43	212.11	183.51	
60	Q	307.23	260.58	219.23	129.00	150.42				
	THR	408.03	362.58	321.83	223.40	252.62				
HP503-HSK7451-150	30	Q			397.72	331.35	273.06	222.06	177.62	
		THR			469.12	403.35	345.96	295.56	251.12	
	40	Q	532.23	450.77	378.74	315.27	259.56	210.85	168.45	
		THR	622.53	541.67	470.84	408.57	353.76	305.05	261.45	
	50	Q	499.52	423.21	355.73	296.23	243.94	198.16	158.26	
		THR	615.62	540.81	475.13	416.83	365.14	318.16	275.26	
60	Q	460.85	390.88	328.85	193.50	225.63				
	THR	612.05	543.88	482.75	335.10	378.93				
HP504-HSK7451-200	30	Q			530.30	441.80	364.08	296.08	236.82	
		THR			625.50	537.80	461.28	394.08	334.82	
	40	Q	709.64	601.02	504.98	420.36	346.08	281.13	224.60	
		THR	830.04	722.22	627.78	544.76	471.68	406.73	348.60	
	50	Q	666.02	564.28	474.31	394.97	325.25	264.21	211.01	
		THR	820.82	721.08	633.51	555.77	486.85	424.21	367.01	
60	Q	614.47	521.17	438.47	258.00	300.84				
	THR	816.07	725.17	643.67	446.80	505.24				
HP502-HSK7461-120	30	Q			298.93	249.71	206.45	168.61	135.66	
		THR			351.93	302.31	258.85	220.81	187.46	
	40	Q	397.36	337.18	283.91	236.96	195.73	159.68	128.30	
		THR	465.16	404.78	351.31	304.56	263.33	227.08	194.90	
	50	Q	373.60	316.95	266.83	222.62	183.75	149.71	120.02	
		THR	460.00	403.35	353.23	309.22	270.15	235.51	204.42	
60	Q	346.39	293.88	247.31	206.11	169.74				
	THR	455.79	403.28	356.71	315.31	278.14				
HP503-HSK7461-180	30	Q			448.40	374.56	309.68	252.92	203.49	
		THR			527.90	453.46	388.28	331.22	281.19	
	40	Q	596.04	505.77	425.87	355.44	293.60	239.52	192.45	
		THR	697.74	607.17	526.97	456.84	395.00	340.62	292.35	
	50	Q	560.39	475.43	400.24	333.93	275.63	224.56	180.02	
		THR	689.99	605.03	529.84	463.83	405.23	353.26	306.62	
60	Q	519.59	440.82	370.97	309.17	254.62				
	THR	683.69	604.92	535.07	472.97	417.22				

operation at this conditions allowed only without Economizer

PERFORMANCE DATA

R134a

Performance data, based on 10k suction gas superheat, economizer operation; 50Hz

Unit Model	Cond. Temp. °C		Cooling Capacity Q_o [kW]			Total Heat Rejection THR [kW]			
			Evaporating Temperature °C						
			10	5	0	-5	-10	-15	-20
HP504-HSK7461-240	30	Q			597.86	499.41	412.90	337.22	271.32
		THR			703.86	604.61	517.70	441.62	374.92
	40	Q	794.72	674.36	567.83	473.92	391.46	319.36	256.60
		THR	930.32	809.56	702.63	609.12	526.66	454.16	389.80
	50	Q	747.19	633.90	533.66	445.24	367.50	299.42	240.03
		THR	919.99	806.70	706.46	618.44	540.30	471.02	408.83
60	Q	692.79	587.76	494.63	412.22	339.49			
	THR	911.59	806.56	713.43	630.62	556.29			
HP502-HSK7471-140	30	Q			325.86	273.64	227.81	187.76	152.93
		THR			388.26	334.24	287.01	245.76	210.33
	40	Q	429.81	365.74	309.05	259.07	215.16	176.71	143.17
		THR	509.41	443.34	385.05	333.67	288.76	249.51	215.17
	50	Q	403.26	342.69	289.08	241.76	200.10	163.53	131.52
		THR	500.26	437.89	383.08	334.56	292.10	254.93	222.52
60	Q	372.40	316.03	266.08	221.89	182.89			
	THR	491.20	433.43	382.48	337.49	298.09			
HP503-HSK7471-210	30	Q			488.79	410.45	341.71	281.65	229.40
		THR			582.39	501.35	430.51	368.65	315.50
	40	Q	644.71	548.61	463.57	388.60	322.73	265.07	214.76
		THR	764.11	665.01	577.57	500.50	433.13	374.27	322.76
	50	Q	604.89	514.03	433.61	362.64	300.16	245.30	197.28
		THR	750.39	656.83	574.61	501.84	438.16	382.40	333.78
60	Q	558.61	474.04	399.12	332.84	274.33			
	THR	736.81	650.14	573.72	506.24	447.13			
HP504-HSK7471-280	30	Q			651.72	547.27	455.61	375.53	305.86
		THR			776.52	668.47	574.01	491.53	420.66
	40	Q	859.61	731.48	618.10	518.14	430.31	353.42	286.35
		THR	1018.81	886.68	770.10	667.34	577.51	499.02	430.35
	50	Q	806.52	685.37	578.15	483.52	400.21	327.07	263.04
		THR	1000.52	875.77	766.15	669.12	584.21	509.87	445.04
60	Q	744.81	632.06	532.16	443.78	365.77			
	THR	982.41	866.86	764.96	674.98	596.17			
HP602-HSK8551-160	30	Q			421.04	353.17	293.63	241.65	196.49
		THR			495.44	429.37	371.43	320.45	275.69
	40	Q	557.59	473.59	399.24	333.69	276.12	225.77	181.92
		THR	652.79	570.39	498.24	434.89	378.92	328.97	283.92
	50	Q	523.59	443.11	371.81	308.86	253.47	204.92	162.50
		THR	650.19	572.71	504.21	443.26	388.67	338.92	292.70
60	Q	482.18	405.70	337.85	277.84	224.95			
	THR	653.18	579.70	513.65	454.04	399.35			
HP603-HSK8551-240	30	Q			631.55	529.76	440.45	362.48	294.73
		THR			743.15	644.06	557.15	480.68	413.53
	40	Q	836.39	710.39	598.86	500.53	414.18	338.65	272.88
		THR	979.19	855.59	747.36	652.33	568.38	493.45	425.88
	50	Q	785.39	664.66	557.72	463.29	380.21	307.38	243.76
		THR	975.29	859.06	756.32	664.89	583.01	508.38	439.06
60	Q	723.28	608.55	506.77	416.77	337.42			
	THR	979.78	869.55	770.47	681.07	599.02			
HP604-HSK8551-320	30	Q			842.07	706.34	587.27	483.30	392.98
		THR			990.87	858.74	742.87	640.90	551.38
	40	Q	1115.19	947.18	798.48	667.38	552.24	451.53	363.84
		THR	1305.59	1140.78	996.48	869.78	757.84	657.93	567.84
	50	Q	1047.18	886.22	743.62	617.72	506.95	409.84	325.01
		THR	1300.38	1145.42	1008.42	886.52	777.35	677.84	585.41
60	Q	964.37	811.40	675.70	555.69	449.89			
	THR	1306.37	1159.40	1027.30	908.09	798.69			
HP602-HSK8561-180	30	Q			469.91	394.09	327.67	269.75	219.45
		THR			554.31	478.89	412.67	355.15	304.65
	40	Q	624.04	529.81	446.70	373.67	309.73	253.95	205.48
		THR	733.04	639.41	557.30	485.47	422.33	366.55	317.28
	50	Q	583.41	494.48	416.09	347.16	286.72	233.87	187.81
		THR	728.01	640.48	563.49	495.56	435.32	381.47	333.01
60	Q	427.89	348.26	280.32	222.71	174.17			
	THR	598.69	517.06	447.32	387.71	336.57			
HP603-HSK8561-270	30	Q			704.86	591.13	491.50	404.62	329.18
		THR			831.46	718.33	619.00	532.72	456.98
	40	Q	936.07	794.71	670.05	560.51	464.59	380.92	308.21
		THR	1099.57	959.11	835.95	728.21	633.49	549.82	475.91
	50	Q	875.11	741.72	624.13	520.74	430.08	350.81	281.71
		THR	1092.01	960.72	845.23	743.34	652.98	572.21	499.51
60	Q	641.83	522.39	420.48	334.06	261.26			
	THR	898.03	775.59	670.98	581.56	504.86			
HP604-HSK8561-360	30	Q			939.82	788.17	655.34	539.49	438.91
		THR			1108.62	957.77	825.34	710.29	609.31
	40	Q	1248.09	1059.62	893.40	747.34	619.46	507.90	410.95
		THR	1466.09	1278.82	1114.60	970.94	844.66	733.10	634.55
	50	Q	1166.82	988.96	832.18	694.32	573.44	467.74	375.62
		THR	1456.02	1280.96	1126.98	991.12	870.64	762.94	666.02
60	Q	855.78	696.52	560.64	445.41	348.34			
	THR	1197.38	1034.12	894.64	775.41	673.14			

operation at this conditions allowed only without Economizer

PERFORMANCE DATA

R134a

Performance data, based on 10k suction gas superheat, economizer operation; 50Hz

Unit Model	Cond. Temp. °C		Cooling Capacity		Q _o [kW]		Total Heat Rejection		THR [kW]	
			10	5	Evaporating Temperature °C					
					10	5	0	-5	-10	-15
HP602-HSK8571-220	30	Q			528.22	445.27	372.54	309.10	254.07	
		THR			624.02	539.87	465.94	401.50	345.67	
	40	Q	695.10	592.62	502.01	422.30	352.46	291.52	238.55	
		THR	821.70	717.42	625.41	544.70	474.26	412.92	359.55	
	50	Q	652.03	554.80	469.02	393.59	327.46	269.64	219.23	
		THR	810.43	712.40	626.42	551.19	485.26	427.84	377.83	
60	Q	600.02	509.67	429.98	359.82	298.17				
	THR	799.82	709.87	631.18	562.22	501.77				
HP603-HSK8571-330	30	Q			792.33	667.91	558.81	463.66	381.10	
		THR			936.03	809.81	698.91	602.26	518.50	
	40	Q	1042.65	888.93	753.02	633.44	528.69	437.27	357.83	
		THR	1232.55	1076.13	938.12	817.04	711.39	619.37	539.33	
	50	Q	978.05	832.19	703.53	590.39	491.19	404.45	328.85	
		THR	1215.65	1068.59	939.63	826.79	727.89	641.75	566.75	
60	Q	900.02	764.50	644.97	539.73	447.26				
	THR	1199.72	1064.80	946.77	843.33	752.66				
HP603-HSK8571-440	30	Q			1056.44	890.55	745.08	618.21	508.13	
		THR			1248.04	1079.75	931.88	803.01	691.33	
	40	Q	1390.20	1185.24	1004.02	844.59	704.92	583.03	477.11	
		THR	1643.40	1434.84	1250.82	1089.39	948.52	825.83	719.11	
	50	Q	1304.06	1109.59	938.04	787.18	654.92	539.27	438.47	
		THR	1620.86	1424.79	1252.84	1102.38	970.52	855.67	755.67	
60	Q	1200.03	1019.34	859.96	719.64	596.34				
	THR	1599.63	1419.74	1262.36	1124.44	1003.54				

PERFORMANCE DATA

R404A

Performance data, based on 10k suction gas superheat, economizer operation; 50Hz

Unit Model	Cond. Temp. °C		Cooling Capacity Q_o [kW]			Total Heat Rejection	THR [kW]		
			Evaporating Temperature °C						
			5	0	-5	-10	-15	-20	
HP402-HSK5343-60	30	Q	218.84	189.41	162.89	139.07	117.74	98.73	
		THR	260.24	230.41	203.29	179.07	157.46	138.03	
	40	Q	205.83	178.12	153.12	130.63	110.45	92.44	
		THR	256.83	228.92	203.52	180.83	160.25	141.84	
	50	Q	189.67	163.96	140.68	119.63	100.65	83.58	
		THR	253.67	227.96	204.48	183.03	163.65	145.78	
HP403-HSK5343-90	30	Q	328.25	284.12	244.34	208.60	176.61	148.10	
		THR	390.35	345.62	304.94	268.60	236.19	207.05	
	40	Q	308.74	267.18	229.68	195.94	165.68	138.65	
		THR	385.24	343.38	305.28	271.24	240.38	212.75	
	50	Q	284.51	245.95	211.02	179.45	150.98	125.38	
		THR	380.51	341.95	306.72	274.55	245.48	218.68	
HP404-HSK5343-120	30	Q	437.67	378.83	325.79	278.14	235.48	197.46	
		THR	520.47	460.83	406.59	358.14	314.92	276.06	
	40	Q	411.65	356.24	306.24	261.25	220.91	184.87	
		THR	513.65	457.84	407.04	361.65	320.51	283.67	
	50	Q	379.35	327.93	281.36	239.26	201.30	167.17	
		THR	507.35	455.93	408.96	366.06	327.30	291.57	
HP402-HSK5353-70	30	Q	254.61	220.71	190.11	162.57	137.86	115.78	
		THR	302.61	268.11	236.91	208.97	183.86	161.38	
	40	Q	238.86	207.13	178.48	152.69	129.53	108.80	
		THR	297.86	265.93	237.08	210.89	187.53	166.40	
	50	Q	220.09	190.84	164.38	140.47	118.91	99.54	
		THR	294.29	265.04	238.38	214.47	192.51	172.94	
HP403-HSK5353-105	30	Q	381.91	331.07	285.16	243.85	206.79	173.67	
		THR	453.91	402.17	355.36	313.45	275.79	242.07	
	40	Q	358.29	310.70	267.72	229.03	194.29	163.21	
		THR	446.79	398.90	355.62	316.33	281.29	249.61	
	50	Q	330.14	286.27	246.56	210.70	178.37	149.30	
		THR	441.44	397.57	357.56	321.70	288.77	259.40	
HP404-HSK5353-140	30	Q	509.22	441.42	380.22	325.13	275.72	231.56	
		THR	605.22	536.22	473.82	417.93	367.72	322.76	
	40	Q	477.72	414.26	356.96	305.38	259.06	217.61	
		THR	595.72	531.86	474.16	421.78	375.06	332.81	
	50	Q	440.18	381.69	328.75	280.93	237.82	199.07	
		THR	588.58	530.09	476.75	428.93	385.02	345.87	
HP402-HSK5363-80	30	Q	287.41	250.22	216.40	185.79	158.18	133.37	
		THR	341.41	303.42	269.00	237.79	209.58	184.37	
	40	Q	271.21	235.91	203.84	174.79	148.54	124.86	
		THR	337.61	301.91	269.44	239.99	213.34	189.26	
	50	Q	249.49	216.77	187.01	159.95	135.37	113.07	
		THR	332.49	299.57	269.61	242.35	217.37	194.47	
HP403-HSK5363-120	30	Q	431.12	375.32	324.60	278.69	237.27	200.06	
		THR	512.12	455.12	403.50	356.69	314.37	276.56	
	40	Q	406.81	353.87	305.77	262.19	222.81	187.29	
		THR	506.41	452.87	404.17	359.99	320.01	283.89	
	50	Q	374.23	325.16	280.51	239.92	203.06	169.61	
		THR	498.73	449.36	404.41	363.52	326.06	291.71	
HP404-HSK5363-160	30	Q	574.82	500.43	432.80	371.58	316.36	266.74	
		THR	682.82	606.83	538.00	475.58	419.16	368.74	
	40	Q	542.42	471.82	407.69	349.59	297.08	249.72	
		THR	675.22	603.82	538.89	479.99	426.68	378.52	
	50	Q	498.98	433.55	374.01	319.90	270.74	226.14	
		THR	664.98	599.15	539.21	484.70	434.74	388.94	
HP502-HSK6451-100	30	Q	348.43	301.61	259.35	221.38	187.38	157.05	
		THR	407.03	359.81	317.35	279.58	245.58	215.25	
	40	Q	323.44	280.02	240.92	205.82	174.39	146.33	
		THR	396.64	353.42	314.52	279.62	248.19	219.73	
	50	Q	292.38	253.13	217.74	185.88	157.23	131.53	
		THR	383.98	345.33	310.14	278.48	249.63	223.53	
HP503-HSK6451-150	30	Q	522.64	452.42	389.03	332.07	281.06	235.58	
		THR	610.54	539.72	476.03	419.37	368.36	322.88	
	40	Q	485.15	420.03	361.38	308.72	261.58	219.50	
		THR	594.95	530.13	471.78	419.42	372.28	329.60	
	50	Q	438.58	379.69	326.61	278.82	235.85	197.30	
		THR	575.98	517.99	465.21	417.72	374.45	335.30	
HP504-HSK6451-200	30	Q	696.86	603.23	518.71	442.76	374.75	314.10	
		THR	814.06	719.63	634.71	559.16	491.15	430.50	
	40	Q	646.87	560.04	481.84	411.63	348.77	292.66	
		THR	793.27	706.84	629.04	559.23	496.37	439.46	
	50	Q	584.77	506.26	435.48	371.76	314.46	263.06	
		THR	767.97	690.66	620.28	556.96	499.26	447.06	
HP502-HSK6461-120	30	Q	413.04	357.31	307.15	262.19	222.01	186.20	
		THR	490.24	433.11	381.55	335.39	294.21	257.60	
	40	Q	384.61	332.55	285.79	243.85	206.28	172.68	
		THR	478.61	425.55	377.79	334.85	296.28	261.68	
	50	Q	346.17	299.00	256.57	218.39	184.02	153.05	
		THR	461.97	414.00	370.77	331.79	296.42	264.05	

PERFORMANCE DATA

R404A

Performance data, based on 10k suction gas superheat, economizer operation; 50Hz

Unit Model	Cond. Temp. °C		Cooling Capacity	Q _o [kW]			Total Heat Rejection			
				Evaporating Temperature °C						
				5	0	-5	-10	-15	-20	
HP503-HSK6461-180	30	Q	619.57	535.97	460.73	393.28	333.01	279.30		
		THR	735.37	649.67	572.33	503.08	441.31	386.40		
	40	Q	576.91	498.83	428.68	365.78	309.43	259.02		
		THR	717.91	638.33	566.68	502.28	444.43	392.52		
	50	Q	519.26	448.50	384.85	327.59	276.03	229.58		
		THR	692.96	621.00	556.15	497.69	444.63	396.08		
HP504-HSK6461-240	30	Q	826.09	714.62	614.30	524.38	444.01	372.40		
		THR	980.49	866.22	763.10	670.78	588.41	515.20		
	40	Q	769.21	665.11	571.58	487.70	412.57	345.36		
		THR	957.21	851.11	755.58	669.70	592.57	523.36		
	50	Q	692.34	598.00	513.14	436.78	368.04	306.11		
		THR	923.94	828.00	741.54	663.58	592.84	528.11		
HP502-HSK7451-140	30	Q	520.03	446.35	380.90	322.94	271.73	226.60		
		THR	599.43	527.75	464.10	407.94	358.13	314.00		
	40	Q	475.42	408.14	348.46	295.61	248.87	207.61		
		THR	579.22	513.94	456.26	405.01	359.47	319.01		
	50	Q	419.84	360.36	307.50	260.52	218.76	181.63		
		THR	554.84	497.76	446.90	401.32	360.36	323.43		
HP503-HSK7451-210	30	Q	780.04	669.52	571.36	484.42	407.60	339.90		
		THR	899.14	791.62	696.16	611.92	537.20	471.00		
	40	Q	713.13	612.20	522.69	443.42	373.31	311.41		
		THR	868.83	770.90	684.39	607.52	539.21	478.51		
	50	Q	629.76	540.53	461.24	390.78	328.13	272.45		
		THR	832.26	746.63	670.34	601.98	540.53	485.15		
HP504-HSK7451-280	30	Q	1040.05	892.69	761.81	645.89	543.46	453.20		
		THR	1198.85	1055.49	928.21	815.89	716.26	628.00		
	40	Q	950.84	816.27	696.92	591.23	497.75	415.22		
		THR	1158.44	1027.87	912.52	810.03	718.95	638.02		
	50	Q	839.68	720.71	614.99	521.04	437.51	363.27		
		THR	1109.68	995.51	893.79	802.64	720.71	646.87		
HP502-HSK7461-160	30	Q	574.09	493.85	422.30	358.78	302.54	252.90		
		THR	669.69	588.45	516.50	452.98	396.54	346.50		
	40	Q	524.58	451.31	386.23	328.55	277.51	232.43		
		THR	643.98	570.51	505.43	447.75	396.51	350.83		
	50	Q	464.93	400.07	342.48	291.35	245.97	205.68		
		THR	614.73	550.27	492.88	441.75	395.97	355.28		
HP503-HSK7461-240	30	Q	861.13	740.77	633.46	538.17	453.81	379.35		
		THR	1004.53	882.67	774.76	679.47	594.81	519.75		
	40	Q	786.87	676.96	579.34	492.82	416.27	348.65		
		THR	965.97	855.76	758.14	671.62	594.77	526.25		
	50	Q	697.39	600.11	513.72	437.03	368.95	308.51		
		THR	922.09	825.41	739.32	662.63	593.95	532.91		
HP504-HSK7461-320	30	Q	1148.18	987.70	844.61	717.56	605.08	505.80		
		THR	1339.38	1176.90	1033.01	905.96	793.08	693.00		
	40	Q	1049.16	902.61	772.46	657.10	555.02	464.86		
		THR	1287.96	1141.01	1010.86	895.50	793.02	701.66		
	50	Q	929.86	800.14	684.96	582.71	491.93	411.35		
		THR	1229.46	1100.54	985.76	883.51	791.93	710.55		
HP502-HSK7471-180	30	Q	620.86	534.25	457.07	388.57	327.93	274.36		
		THR	734.26	645.05	565.47	494.77	432.13	377.16		
	40	Q	570.52	490.66	419.71	356.77	300.96	251.51		
		THR	707.52	625.46	552.51	487.77	430.16	379.11		
	50	Q	505.27	434.12	370.91	314.73	264.71	220.10		
		THR	672.47	599.52	534.71	476.73	425.11	378.90		
HP503-HSK7471-270	30	Q	931.30	801.38	685.61	582.85	491.89	411.55		
		THR	1101.40	967.58	848.21	742.15	648.19	565.75		
	40	Q	855.78	735.99	629.56	535.15	451.45	377.27		
		THR	1061.28	938.19	828.76	731.65	645.25	568.67		
	50	Q	757.91	651.17	556.36	472.09	397.07	330.16		
		THR	1008.71	899.27	802.06	715.09	637.67	568.36		
HP504-HSK7471-360	30	Q	1241.73	1068.50	914.14	777.13	655.85	548.73		
		THR	1468.53	1290.10	1130.94	989.53	864.25	754.33		
	40	Q	1141.04	981.32	839.42	713.53	601.93	503.02		
		THR	1415.04	1250.92	1105.02	975.53	860.33	758.22		
	50	Q	1010.55	868.23	741.82	629.45	529.42	440.21		
		THR	1344.95	1199.03	1069.42	953.45	850.22	757.81		
HP602-HSK8551-220	30	Q	819.11	703.95	601.48	510.54	430.08	359.13		
		THR	958.91	843.95	741.88	651.34	571.28	500.73		
	40	Q	756.88	649.13	553.16	467.89	392.35	325.68		
		THR	934.28	828.33	734.16	650.09	575.35	509.08		
	50	Q	538.77	441.59	358.41	287.59	227.68	177.37		
		THR	734.77	635.19	550.01	477.39	415.88	364.57		
HP603-HSK8551-330	30	Q	1228.67	1055.93	902.21	765.82	645.12	538.70		
		THR	1438.37	1265.93	1112.81	977.02	856.92	751.10		
	40	Q	1135.32	973.69	829.74	701.84	588.53	488.52		
		THR	1401.42	1242.49	1101.24	975.14	863.03	763.62		
	50	Q	808.16	662.39	537.61	431.39	341.52	266.05		
		THR	1102.16	952.79	825.01	716.09	623.82	546.85		

operation at this conditions allowed only without Economizer

PERFORMANCE DATA

R404A

Performance data, based on 10k suction gas superheat, economizer operation; 50Hz

Unit Model	Cond. Temp. °C		Cooling Capacity Q_o [kW]		Total Heat Rejection		THR [kW]	
			Evaporating Temperature °C					
			5	0	-5	-10	-15	-20
HP604-HSK8551-440	30	Q	1638.22	1407.90	1202.95	1021.09	860.16	718.26
		THR	1917.82	1687.90	1483.75	1302.69	1142.56	1001.46
	40	Q	1513.76	1298.26	1106.32	935.79	784.70	651.36
		THR	1868.56	1656.66	1468.32	1300.19	1150.70	1018.16
	50	Q	1077.54	883.19	716.81	575.18	455.36	354.73
		THR	1469.54	1270.39	1100.01	954.78	831.76	729.13
HP602-HSK8561-250	30	Q	910.17	781.56	667.67	567.20	478.83	401.31
		THR	1069.37	939.76	825.27	724.40	636.23	559.11
	40	Q	833.68	714.07	608.66	515.92	434.47	363.08
		THR	1032.28	913.47	809.06	717.52	637.27	566.68
	50	Q	737.37	630.25	536.02	453.21	378.93	315.08
		THR	992.17	888.45	797.42	717.41	637.27	566.68
HP603-HSK8561-375	30	Q	1365.25	1172.33	1001.50	850.80	718.25	601.97
		THR	1604.05	1409.63	1237.90	1086.60	954.35	838.67
	40	Q	1250.51	1071.11	912.99	773.88	651.71	544.61
		THR	1548.41	1370.21	1213.59	1076.28	955.91	850.01
	50	Q	1106.06	945.38	804.04	679.82	578.93	483.67
		THR	1488.26	1332.68	1196.14	1076.12	954.35	838.67
HP604-HSK8561-500	30	Q	1820.34	1563.11	1335.33	1134.40	957.66	802.63
		THR	2138.74	1879.51	1650.53	1448.80	1272.46	1118.23
	40	Q	1667.35	1428.14	1217.32	1031.84	868.95	726.15
		THR	2064.55	1826.94	1618.12	1435.04	1274.55	1133.35
	50	Q	1474.75	1260.50	1072.05	906.43	758.93	637.27
		THR	1984.35	1776.90	1594.85	1434.83	1274.55	1133.35
HP602-HSK8571-280	30	Q	1001.89	863.33	739.62	630.06	533.49	448.69
		THR	1179.89	1038.53	912.82	801.66	704.29	619.49
	40	Q	918.34	789.18	674.96	574.25	485.63	407.81
		THR	1136.94	1006.58	891.96	791.45	703.23	626.21
	50	Q	813.08	697.70	595.95	506.30	427.33	357.79
		THR	1088.08	974.10	874.15	786.50	709.53	641.59
HP603-HSK8571-420	30	Q	1502.83	1294.99	1109.43	945.09	800.24	673.04
		THR	1769.83	1557.79	1369.23	1202.49	1056.44	929.24
	40	Q	1377.51	1183.77	1012.43	861.37	728.45	611.71
		THR	1705.41	1509.87	1337.93	1187.17	1054.85	939.31
	50	Q	1219.62	1046.55	893.93	759.44	640.99	536.68
		THR	1632.12	1461.15	1311.23	1179.74	1064.29	962.38
HP604-HSK8571-560	30	Q	2003.77	1726.66	1479.24	1260.12	1066.99	897.39
		THR	2359.77	2077.06	1825.64	1603.32	1408.59	1238.99
	40	Q	1836.68	1578.36	1349.91	1148.49	971.26	815.61
		THR	2273.88	2013.16	1783.91	1582.89	1406.46	1252.41
	50	Q	1626.16	1395.40	1191.90	1012.59	854.65	715.58
		THR	2176.16	1948.20	1748.30	1572.99	1419.05	1283.18

operation at this conditions allowed only without Economizer

PERFORMANCE DATA

R404A

Performance data, based on 10k suction gas superheat, economizer operation; 50Hz

Unit Model	Cond. Temp. °C		Cooling Capacity Q_o [kW]				Total Heat Rejection THR [kW]			
			Evaporating Temperature °C							
			-15	-20	-25	-30	-35	-40	-45	
HP402-HSN5343-40	30	Q	117.3	98.9	82.5	68.0	55.3	44.1	34.4	
		THR	159.9	140.3	122.9	107.2	93.2	80.5	69.1	
	40	Q	111.1	93.4	77.5	63.5	51.1	40.2	30.7	
		THR	164.5	145.4	128.1	112.5	98.1	85.0	72.7	
	50	Q	59.3	46.8	36.3	27.5	44.7	34.0	24.7	
		THR	108.3	94.0	81.7	71.1	103.1	88.8	75.5	
HP403-HSN5343-60	30	Q	176.0	148.4	123.8	102.1	82.9	66.2	51.7	
		THR	83.0	73.2	64.5	56.6	49.6	43.3	37.6	
	40	Q	166.7	140.0	116.3	95.2	76.6	60.3	46.0	
		THR	85.3	75.7	67.1	59.2	52.0	45.5	39.3	
	50	Q	89.0	70.2	54.4	41.3	67.1	51.1	37.0	
		THR	57.2	50.0	43.8	38.6	54.6	47.4	40.7	
HP404-HSN5343-80	30	Q	234.7	197.8	165.1	136.1	110.6	88.3	68.9	
		THR	319.9	280.6	245.9	214.4	186.3	161.1	138.3	
	40	Q	222.2	186.7	155.1	127.0	102.1	80.3	61.3	
		THR	329.0	290.7	256.3	225.0	196.1	169.9	145.3	
	50	Q	118.6	93.5	72.5	55.1	89.4	68.1	49.3	
		THR	216.6	187.9	163.3	142.3	206.2	177.7	150.9	
HP402-HSN5353-50	30	Q	137.0	115.5	96.4	79.5	64.7	51.7	40.5	
		THR	185.8	162.9	142.4	124.1	107.7	92.9	79.7	
	40	Q	129.5	109.0	90.7	74.4	60.1	47.5	36.5	
		THR	190.1	168.0	148.1	129.8	113.5	98.3	84.5	
	50	Q	71.1	56.3	43.8	33.4	53.2	40.9	30.2	
		THR	128.7	111.5	96.6	84.0	119.4	103.5	88.6	
HP403-HSN5353-75	30	Q	205.4	173.2	144.6	119.3	97.1	77.6	60.7	
		THR	278.6	244.3	213.6	186.2	161.6	139.4	119.5	
	40	Q	194.3	163.5	136.0	111.7	90.2	71.3	54.8	
		THR	285.2	252.0	222.1	194.8	170.3	147.5	126.8	
	50	Q	106.7	84.4	65.7	50.1	79.7	61.4	45.3	
		THR	193.1	167.2	144.9	126.0	179.0	155.3	132.9	
HP404-HSN5353-100	30	Q	273.9	231.0	192.8	159.1	129.4	103.5	80.9	
		THR	371.5	325.8	284.8	248.3	215.4	185.9	159.4	
	40	Q	259.0	217.9	181.4	148.9	120.2	95.0	73.0	
		THR	380.2	335.9	296.2	259.7	227.0	196.6	169.0	
	50	Q	142.3	112.5	87.6	66.9	106.3	81.9	60.4	
		THR	257.5	222.9	193.2	168.1	238.7	207.1	177.2	
HP402-HSN5363-60	30	Q	156.4	132.1	110.4	91.2	74.3	59.6	46.8	
		THR	211.6	185.5	162.0	141.0	122.1	105.4	90.4	
	40	Q	147.8	124.7	104.1	85.9	69.8	55.7	43.4	
		THR	216.6	191.5	168.9	148.5	129.8	113.1	98.0	
	50	Q	84.2	66.9	52.5	40.5	30.6	49.6	37.9	
		THR	150.6	130.1	112.9	98.3	86.0	121.8	106.3	
HP403-HSN5363-90	30	Q	234.7	198.1	165.6	136.8	111.5	89.4	70.2	
		THR	317.5	278.2	243.0	211.5	183.2	158.1	135.6	
	40	Q	221.8	187.1	156.2	128.8	104.7	83.5	65.1	
		THR	325.0	287.3	253.4	222.7	194.7	169.6	147.0	
	50	Q	126.3	100.4	78.7	60.7	45.8	74.5	56.8	
		THR	225.9	195.2	169.3	147.4	128.9	182.8	159.4	
HP404-HSN5363-120	30	Q	312.9	264.1	220.8	182.4	148.7	119.2	93.6	
		THR	423.3	370.9	324.0	282.0	244.3	210.8	180.8	
	40	Q	295.7	249.5	208.3	171.8	139.6	111.4	86.9	
		THR	433.3	383.1	337.9	297.0	259.6	226.2	196.1	
	50	Q	168.4	133.9	104.9	80.9	61.1	99.3	75.7	
		THR	301.2	260.3	225.7	196.5	171.9	243.7	212.5	
HP502-HSN6451-80	30	Q	188.8	159.1	132.7	109.3	88.7	70.7	55.0	
		THR	251.2	219.3	190.7	165.3	142.5	122.3	104.2	
	40	Q	178.1	150.0	125.0	103.0	83.5	66.5	51.7	
		THR	254.5	224.4	197.2	172.8	150.7	131.1	113.3	
	50	Q	105.5	83.6	65.4	50.3	75.4	59.6	45.8	
		THR	182.9	157.6	136.4	118.3	160.4	141.2	123.6	
HP503-HSN6451-120	30	Q	283.2	238.7	199.0	164.0	133.1	106.1	82.4	
		THR	376.8	329.0	286.0	248.0	213.8	183.5	156.2	
	40	Q	267.2	225.0	187.6	154.4	125.3	99.7	77.5	
		THR	381.8	336.6	295.9	259.1	226.1	196.6	169.9	
	50	Q	158.2	125.4	98.1	75.5	113.1	89.3	68.6	
		THR	274.3	236.4	204.6	177.5	240.6	211.7	185.3	
HP504-HSN6451-160	30	Q	377.7	318.2	265.4	218.7	177.5	141.4	109.9	
		THR	502.5	438.6	381.4	330.7	285.1	244.6	208.3	
	40	Q	356.3	300.0	250.1	205.9	167.0	133.0	103.4	
		THR	509.1	448.8	394.5	345.5	301.4	262.2	226.6	
	50	Q	210.9	167.2	130.8	100.7	150.8	119.1	91.5	
		THR	365.7	315.2	272.8	236.7	320.8	282.3	247.1	
HP502-HSN6461-100	30	Q	217.3	183.2	153.0	126.5	103.2	82.8	65.2	
		THR	293.9	257.0	223.8	194.3	167.8	144.2	123.2	
	40	Q	202.5	170.9	142.9	118.2	96.5	77.5	61.0	
		THR	295.7	260.7	229.3	200.8	175.5	152.9	132.8	
	50	Q	121.6	96.9	76.1	106.2	86.4	68.8	53.4	
		THR	216.0	185.9	160.1	208.6	184.6	163.0	144.2	

operation at this conditions allowed only without Economizer

PERFORMANCE DATA

R404A

Performance data, based on 10k suction gas superheat, economizer operation; 50Hz

Unit Model	Cond. Temp. °C		Cooling Capacity Q_o [kW]					Total Heat Rejection THR [kW]				
			Evaporating Temperature °C									
			-15	-20	-25	-30	-35	-40	-45			
HP503-HSN6461-150	30	Q	326.0	274.8	229.5	189.7	154.7	124.2	97.8			
		THR	440.9	385.5	335.7	291.4	251.6	216.3	184.8			
	40	Q	303.7	256.3	214.4	177.3	144.8	116.3	91.5			
		THR	443.5	391.0	344.0	301.2	263.3	229.4	199.2			
	50	Q	182.4	145.3	114.2	159.4	129.5	103.2	80.1			
		THR	324.0	278.8	240.2	313.0	276.8	244.5	216.3			
HP504-HSN6461-200	30	Q	434.6	366.4	306.1	252.9	206.3	165.7	130.4			
		THR	587.8	514.0	447.7	388.5	335.5	288.5	246.4			
	40	Q	405.0	341.8	285.8	236.4	193.0	155.0	122.0			
		THR	591.4	521.4	458.6	401.6	351.0	305.8	265.6			
	50	Q	243.2	193.7	152.3	212.5	172.7	137.6	106.8			
		THR	432.0	371.7	320.3	417.3	369.1	326.0	288.4			
HP502-HSN7451-120	30	Q	271.9	227.6	188.7	154.7	124.9	99.1	76.6			
		THR	362.9	314.0	271.9	235.7	203.9	175.7	150.2			
	40	Q	249.2	208.9	173.4	142.2	115.0	91.2	70.6			
		THR	358.2	314.5	276.6	243.2	213.8	187.4	163.6			
	50	Q	148.8	118.1	153.3	125.8	101.5	80.3	61.7			
		THR	262.0	227.1	282.3	251.8	224.7	200.7	179.3			
HP503-HSN7451-180	30	Q	407.9	341.5	283.1	232.0	187.4	148.6	115.0			
		THR	544.4	471.1	407.9	353.5	305.9	263.5	225.4			
	40	Q	373.8	313.3	260.1	213.4	172.5	136.8	105.9			
		THR	537.3	471.7	414.9	364.9	320.7	281.1	245.4			
	50	Q	223.1	177.1	229.9	188.7	152.3	120.4	92.5			
		THR	392.9	340.6	423.4	377.7	337.1	301.0	268.9			
HP504-HSN7451-240	30	Q	543.9	455.3	377.5	309.4	249.9	198.1	153.3			
		THR	725.9	628.1	543.9	471.4	407.9	351.3	300.5			
	40	Q	498.4	417.7	346.8	284.5	230.0	182.4	141.2			
		THR	716.4	628.9	553.2	486.5	427.6	374.8	327.2			
	50	Q	297.5	236.2	306.6	251.5	203.1	160.5	123.3			
		THR	523.9	454.2	564.6	503.5	449.5	401.3	358.5			
HP502-HSN7461-140	30	Q	303.7	255.0	212.3	174.8	142.0	113.4	88.5			
		THR	401.9	349.4	303.1	262.2	226.2	194.4	165.9			
	40	Q	281.5	236.5	196.9	162.2	131.9	105.4	82.4			
		THR	399.9	351.3	308.1	269.8	235.9	205.6	178.8			
	50	Q	251.9	211.5	176.0	144.8	117.3	93.3	72.3			
		THR	396.7	352.7	313.8	279.0	247.5	219.1	193.1			
HP503-HSN7461-210	30	Q	455.5	382.6	318.4	262.2	213.0	170.0	132.7			
		THR	602.8	524.2	454.6	393.3	339.3	291.5	248.8			
	40	Q	422.2	354.7	295.4	243.3	197.8	158.1	123.6			
		THR	599.8	526.9	462.2	404.7	353.8	308.4	268.2			
	50	Q	377.8	317.3	264.0	217.2	176.0	139.9	108.4			
		THR	595.0	529.1	470.7	418.5	371.3	328.6	289.6			
HP504-HSN7461-280	30	Q	607.3	510.1	424.6	349.6	284.0	226.7	177.0			
		THR	803.7	698.9	606.2	524.4	452.4	388.7	331.8			
	40	Q	563.0	472.9	393.8	324.4	263.7	210.7	164.7			
		THR	799.8	702.5	616.2	539.6	471.7	411.1	357.5			
	50	Q	503.7	423.1	352.1	289.6	234.7	186.6	144.6			
		THR	793.3	705.5	627.7	558.0	495.1	438.2	386.2			
HP502-HSN7471-150	30	Q	320.1	269.0	224.2	185.1	150.9	121.3	95.7			
		THR	430.7	375.0	325.6	282.1	243.3	209.1	178.9			
	40	Q	294.1	247.5	206.7	170.9	139.7	112.4	88.8			
		THR	426.9	375.1	329.1	288.1	251.9	219.6	191.2			
	50	Q	260.6	219.6	183.4	151.6	123.5	98.9	77.2			
		THR	421.8	375.0	333.0	295.6	261.9	232.3	206.4			
HP503-HSN7471-225	30	Q	480.2	403.5	336.3	277.6	226.4	182.0	143.6			
		THR	646.1	562.5	488.4	423.1	365.0	313.7	268.4			
	40	Q	441.2	371.3	310.0	256.4	209.5	168.7	133.2			
		THR	640.4	562.7	493.6	432.2	377.8	329.5	286.8			
	50	Q	390.9	329.3	275.1	227.4	185.3	148.3	115.8			
		THR	632.7	562.4	499.5	443.4	392.9	348.4	309.6			
HP504-HSN7471-300	30	Q	640.2	538.0	448.4	370.1	301.9	242.7	191.5			
		THR	861.4	750.0	651.2	564.1	486.7	418.3	357.9			
	40	Q	588.2	495.1	413.4	341.8	279.3	224.9	177.6			
		THR	853.8	750.3	658.2	576.2	503.7	439.3	382.4			
	50	Q	521.2	439.1	366.8	303.2	247.1	197.8	154.5			
		THR	843.6	749.9	666.0	591.2	523.9	464.6	412.9			
HP602-HSN8571-250	30	Q	534.8	450.4	376.6	312.2	256.2	207.7	165.8			
		THR	720.4	625.0	540.8	467.2	403.0	347.7	300.6			
	40	Q	489.2	411.3	343.1	283.4	231.4	186.0	146.7			
		THR	705.2	615.7	537.3	468.6	408.4	355.8	309.9			
	50	Q	432.1	362.0	300.4	246.2	198.6	156.7	119.9			
		THR	689.1	607.0	534.8	470.6	413.2	361.3	313.7			
HP603-HSN8571-375	30	Q	802.2	675.6	564.9	468.3	384.3	311.5	248.7			
		THR	1080.6	937.5	811.2	700.8	604.5	521.5	450.9			
	40	Q	733.8	617.0	514.7	425.2	347.0	279.0	220.0			
		THR	1057.8	923.6	806.0	703.0	612.5	533.7	464.8			
	50	Q	648.1	543.1	450.6	369.4	297.9	235.1	179.9			
		THR	1033.6	910.6	802.2	706.0	619.8	542.0	470.6			

operation at this conditions allowed only without Economizer

PERFORMANCE DATA

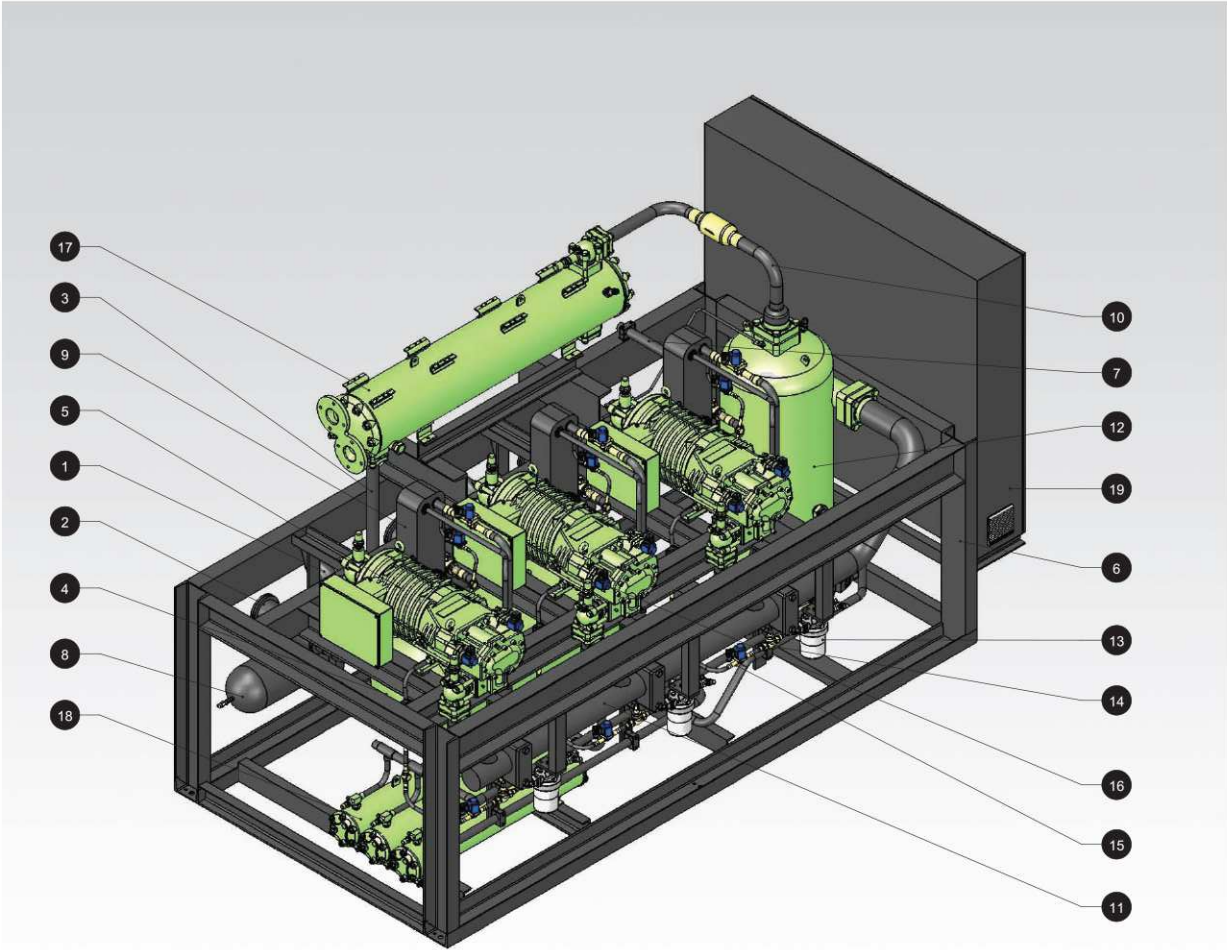
R404A

Performance data, based on 10k suction gas superheat, economizer operation; 50Hz

Unit Model	Cond. Temp. °C		Cooling Capacity Q_o [kW]					Total Heat Rejection			THR [kW]
			Evaporating Temperature °C								
			-15	-20	-25	-30	-35	-40	-45		
HP604-HSN8571-500	30	Q	1069.5	900.9	753.2	624.4	512.4	415.4	331.6		
		THR	1440.7	1250.1	1081.6	934.4	806.0	695.4	601.2		
	40	Q	978.4	822.7	686.2	566.9	462.7	372.0	293.3		
		THR	1410.4	1231.5	1074.6	937.3	816.7	711.6	619.7		
	50	Q	864.2	724.1	600.8	492.5	397.2	313.5	239.9		
		THR	1378.2	1214.1	1069.6	941.3	826.4	722.7	627.5		
HP602-HSN8591-320	30	Q	668.2	560.6	466.8	385.3	314.6	253.3	200.4		
		THR	889.6	772.0	669.6	580.7	502.6	434.1	373.2		
	40	Q	605.1	508.0	423.1	348.8	284.1	227.6	178.4		
		THR	873.5	767.2	673.9	591.0	517.3	450.8	390.6		
	50	Q	531.6	446.1	370.7	304.2	245.4	193.3	146.8		
		THR	871.4	776.1	689.9	611.2	538.6	471.1	407.2		
HP603-HSN8591-480	30	Q	1002.3	840.9	700.3	578.0	471.8	380.0	300.7		
		THR	1334.4	1158.0	1004.5	871.1	753.8	651.2	559.9		
	40	Q	907.6	762.0	634.6	523.3	426.1	341.4	267.6		
		THR	1310.2	1150.8	1010.8	886.6	775.9	676.2	585.9		
	50	Q	797.4	669.1	556.1	456.4	368.1	289.9	220.1		
		THR	1307.1	1164.1	1034.9	916.9	807.9	706.6	610.7		
HP604-HSN8591-640	30	Q	1336.3	1121.2	933.7	770.6	629.1	506.6	400.9		
		THR	1779.1	1544.0	1339.3	1161.4	1005.1	868.2	746.5		
	40	Q	1210.1	1015.9	846.1	697.7	568.1	455.2	356.7		
		THR	1746.9	1534.3	1347.7	1182.1	1034.5	901.6	781.1		
	50	Q	1063.2	892.2	741.5	608.5	490.9	386.5	293.5		
		THR	1742.8	1552.2	1379.9	1222.5	1077.3	942.1	814.3		

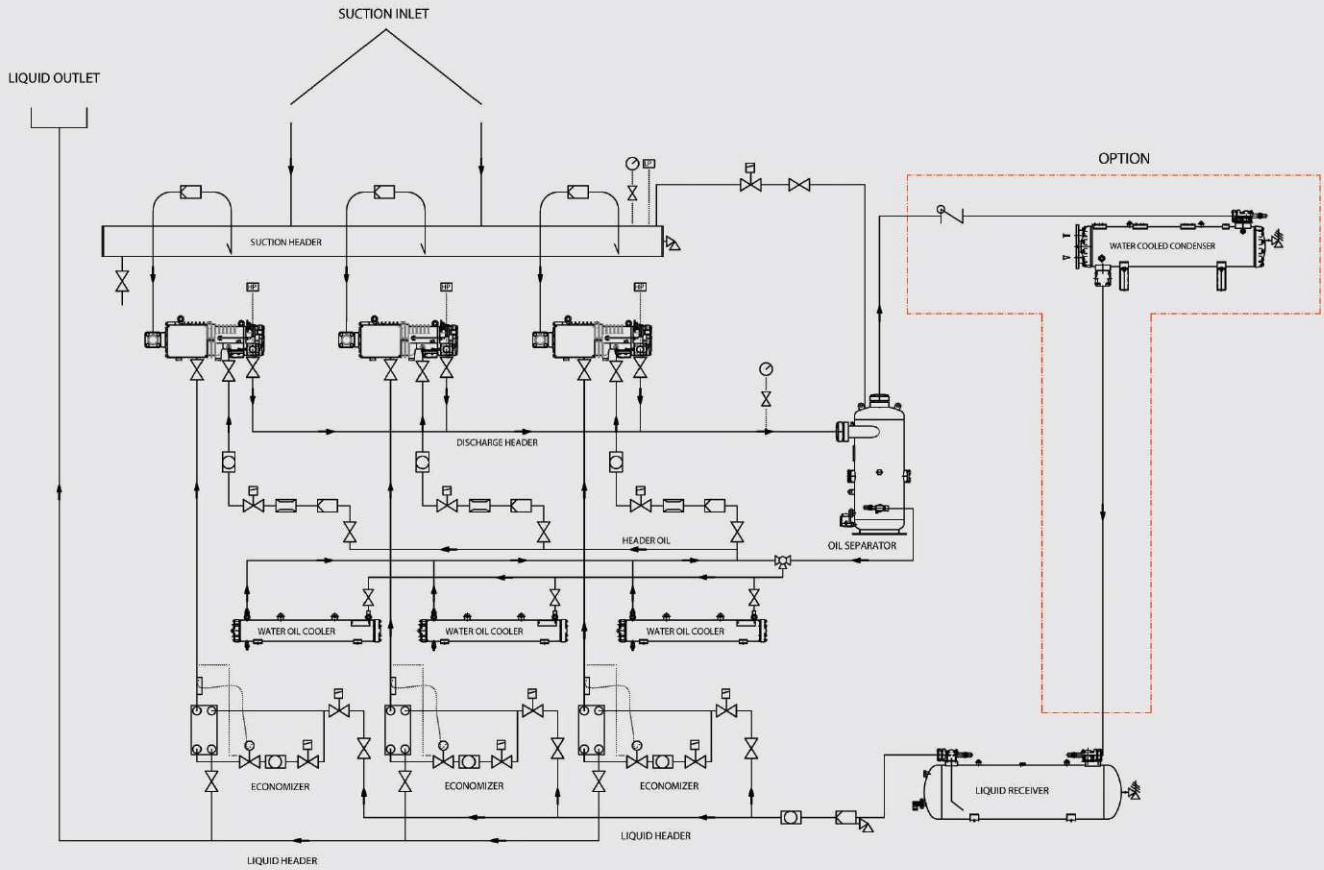
PRODUCT LAYOUT

HP 400 / 500 / 600



- | | | |
|---|----------------------------|--|
| 1 Suction connections | 7 Liquid outlet connection | 13 Oil filter |
| 2 Suction filter demountable per compressor | 8 Suction header | 14 Oil flow switch |
| 3 Liquid receiver inlet connection | 9 Economizer | 15 Oil line solenoid valve |
| 4 Liquid receiver | 10 Discharge connection | 16 Compressor unloading solenoid valve |
| 5 BITZER screw compressor | 11 Discharge header | 17 Water cooled condenser (optional) |
| 6 Solid metal frame | 12 Oil separator | 18 Oil cooler (optional) |
| | | 19 Electrical panel (optional) |

SCHEMATIC DIAGRAM



ITEM	DESCRIPTION
	LIQUID LEVEL
	AMOT VALVE
	PRESSURE GAUGES
	LOW PRESSURE SWITCH
	HIGH PRESSURE SWITCH
	SOLENOID VALVE
	EXPANSION VALVES
	BALL VALVE / HAND VALVE
	CHECK VALVE
	PRESSURE RELIEFE VALVE
	ANGLE VALVE
	FILTERS
	SIGHT GLASS
	OIL FLOW

TECHNICAL DATA

MODEL	No. of comp	Total Displacement (m ³ /h)	System		Oil Charge ¹ (dm ³)	Oil Sep. sump heater [Watts]	Liquid receiver pump down ² (kg)		
			Voltage (V) / Phase	Max Current (Amps)			R134a	R404A	
HP402-L-HSN5343-40	2	26.8	380-420/3/50	74.0	18.0	1 x 140	123.6	107.7	
HP403-L-HSN5343-60	3	40.2		111.0	40.0	2 x 100	123.6	107.7	
HP404-L-HSN5343-80	4	53.2		148.0	40.0	2 x 100	251.6	219.2	
HP402-M-HSK5343-60	2	168.0		94.0	18.0	1 x 140	123.6	107.7	
HP403-M-HSK5343-90	3	252.0		141.0	40.0	2 x 100	123.6	107.7	
HP404-M-HSK5343-120	4	336.0		188.0	40.0	2 x 100	251.6	219.2	
HP402-L-HSN5353-50	2	200.0		88.0	18.0	1 x 140	123.6	107.7	
HP403-L-HSN5353-75	3	300.0		132.0	40.0	2 x 100	123.6	107.7	
HP404-L-HSN5353-100	4	400.0		176.0	40.0	2 x 100	251.6	219.2	
HP402-M-HSK5353-70	2	200.0		112.0	18.0	1 x 140	123.6	107.7	
HP403-M-HSK5353-105	3	300.0		168.0	40.0	2 x 100	123.6	107.7	
HP404-M-HSK5353-140	4	400.0		224.0	40.0	2 x 100	251.6	219.2	
HP402-L-HSN5363-60	2	236.0		100.0	18.0	1 x 140	123.6	107.7	
HP403-L-HSN5363-90	3	354.0		150.0	40.0	2 x 100	123.6	107.7	
HP404-L-HSN5363-120	4	472.0		200.0	40.0	2 x 100	251.6	219.2	
HP402-M-HSK5363-80	2	236.0		130.0	40.0	2 x 100	123.6	107.7	
HP403-M-HSK5363-120	3	354.0		195.0	40.0	2 x 100	123.6	107.7	
HP404-M-HSK5363-160	4	472.0		260.0	90.0	3 x 140	251.6	219.2	
HP502-L-HSN6451-80	2	26.8		380-420/3/50	130.0	40.0	2 x 100	123.6	107.7
HP503-L-HSN6451-120	3	40.2			195.0	40.0	2 x 100	251.6	219.2
HP504-L-HSN6451-160	4	53.2	260.0		40.0	2 x 100	251.6	219.2	
HP502-M-HSK6451-100	2	280.0	158.0		40.0	2 x 100	123.6	107.7	
HP503-M-HSK6451-150	3	420.0	237.0		40.0	2 x 100	251.6	219.2	
HP504-M-HSK6451-200	4	560.0	316.0		90.0	3 x 140	251.6	219.2	
HP502-L-HSN6461-100	2	330.0	158.0		40.0	2 x 100	123.6	107.7	
HP503-L-HSN6461-150	3	495.0	237.0		40.0	2 x 100	251.6	219.2	
HP504-L-HSN6461-200	4	660.0	316.0		90.0	3 x 140	251.6	219.2	
HP502-M-HSK6461-120	2	330.0	196.0		40.0	2 x 100	123.6	107.7	
HP503-M-HSK6461-180	3	495.0	294.0		90.0	3 x 140	251.6	219.2	
HP504-M-HSK6461-240	4	660.0	392.0		90.0	3 x 140	251.6	219.2	
HP502-L-HSN7451-120	2	384.0	196.0		40.0	2 x 100	251.6	219.2	
HP503-L-HSN7451-180	3	576.0	294.0		40.0	2 x 100	251.6	219.2	
HP504-L-HSN7451-240	4	768.0	392.0		90.0	3 x 140	353.1	307.6	
HP502-M-HSK7451-140	2	384.0	248.0		40.0	2 x 100	251.6	219.2	
HP503-M-HSK7451-210	3	576.0	372.0		90.0	3 x 140	353.1	307.6	
HP504-M-HSK7451-280	4	768.0	496.0		90.0	3 x 140	353.1	307.6	
HP502-L-HSN7461-140	2	440.0	248.0		40.0	2 x 100	251.6	219.2	
HP503-L-HSN7461-210	3	660.0	372.0		90.0	3 x 140	353.1	307.6	
HP504-L-HSN7461-280	4	880.0	496.0	90.0	3 x 140	353.1	307.6		
HP502-M-HSK7461-160	2	440.0	288.0	40.0	2 x 100	251.6	219.2		
HP503-M-HSK7461-240	3	660.0	432.0	90.0	3 x 140	353.1	307.6		
HP504-M-HSK7461-320	4	880.0	576.0	140.0	3 x 140	353.1	307.6		
HP502-L-HSN7471-150	2	500.0	288.0	40.0	2 x 100	251.6	219.2		
HP503-L-HSN7471-225	3	750.0	432.0	90.0	3 x 140	353.1	307.6		
HP504-L-HSN7471-300	4	1000.0	576.0	90.0	3 x 140	353.1	307.6		
HP502-M-HSK7471-180	2	500.0	324.0	90.0	3 x 140	251.6	219.2		
HP503-M-HSK7471-270	3	750.0	486.0	90.0	3 x 140	353.1	307.6		
HP504-M-HSK7471-360	4	1000.0	648.0	140.0	3 x 140	353.1	307.6		
HP602-M-HSK8551-220	2	26.8	380-420/3/50	360.0	90.0	3 x 140	353.1	307.6	
HP603-M-HSK8551-330	3	40.2		540.0	90.0	3 x 140	353.1	307.6	
HP604-M-HSK8551-440	4	53.2		720.0	140.0	3 x 140	521.9	454.7	
HP602-M-HSK8561-250	2	718.0		432.0	90.0	3 x 140	353.1	307.6	
HP603-M-HSK8561-375	3	1077.0		648.0	140.0	3 x 140	521.9	454.7	
HP604-M-HSK8561-500	4	1436.0		864.0	140.0	3 x 140	606.8	528.7	
HP602-L-HSN8571-250	2	820.0		432.0	90.0	3 x 140	353.1	307.6	
HP603-L-HSN8571-375	3	1230.0		648.0	140.0	3 x 140	521.9	454.7	
HP604-L-HSN8571-500	4	1640.0		864.0	140.0	3 x 140	606.8	528.7	
HP602-M-HSK8571-280	2	820.0		492.0	90.0	3 x 140	353.1	307.6	
HP603-M-HSK8571-420	3	1230.0		738.0	140.0	3 x 140	521.9	454.7	
HP604-M-HSK8571-560	4	1640.0		984.0	250.0	3 x 200	606.8	528.7	
HP602-L-HSN8591-320	2	1070.0		520.0	90.0	3 x 140	353.1	307.6	
HP603-L-HSN8591-480	3	1605.0		780.0	140.0	3 x 140	521.9	454.7	
HP604-L-HSN8591-640	4	2140.0		1040.0	250.0	3 x 200	606.8	528.7	

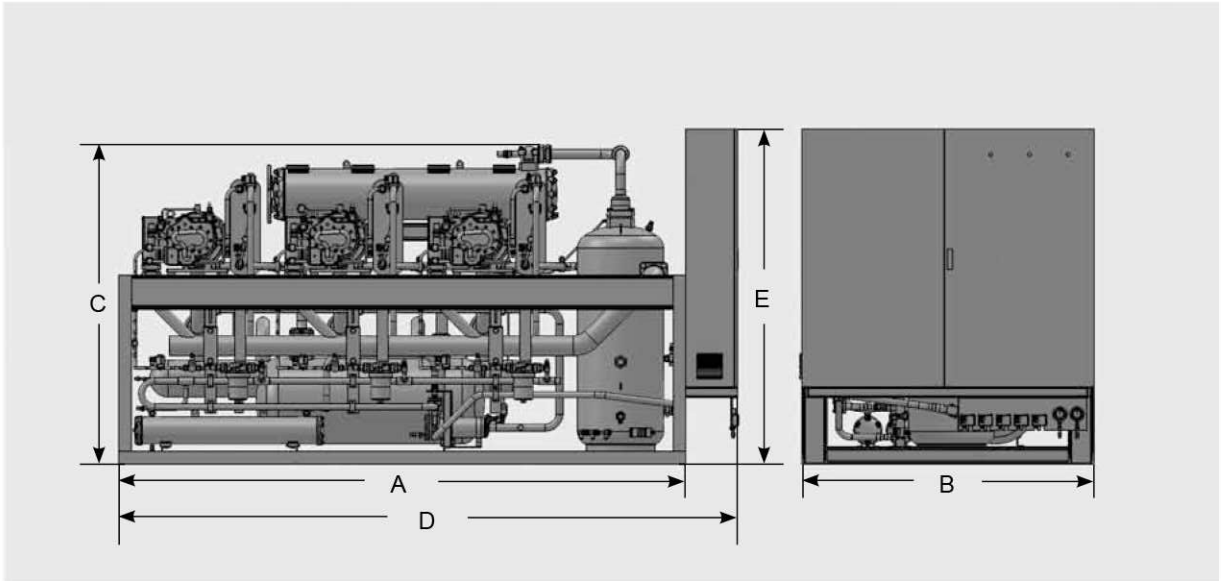
1 Oil charge is based on the oil separator charge, additional oil may be required during commissioning.

2 Maximum refrigerant pump down capacity of the receiver, may be different from system requirement.

3 Drain line connection based on the liquid receiver size.

DIMENSION

HP 400 / 500 / 600



System unit type	Dimension in mm					Suction line connection (inch)	Oli separator outlet connection (inch)	Liquid receiver inlet connection (inch)	Liquid line connection (inch)
	A	B	C	D	E				
HP402-HSN5343-40	2100	1500	1681	2400	1765	3 1/8	1 5/8	2 1/8	1 1/8
HP403-HSN5343-60	2850	1500	1681	3150	1765	2 x 2 5/8	3 1/8	2 1/8	1 3/8
HP404-HSN5343-80	3600	1500	1681	3900	1765	3 x 2 5/8	3 1/8	3 1/8	1 5/8
HP402-HSK5343-60	2100	1500	1681	2400	1765	2 5/8	1 5/8	2 1/8	1 3/8
HP403-HSK5343-90	2850	1500	1681	3150	1765	2 x 2 5/8	3 1/8	2 1/8	1 5/8
HP404-HSK5343-120	3600	1500	1681	3900	1765	3 x 2 1/8	3 1/8	3 1/8	2 1/8
HP402-HSN5353-50	2100	1500	1681	2400	1765	3 1/8	1 5/8	2 1/8	1 1/8
HP403-HSN5353-75	2850	1500	1681	3150	1765	2 x 3 1/8	3 1/8	2 1/8	1 3/8
HP404-HSN5353-100	3600	1500	1681	3900	1765	3 x 2 5/8	3 1/8	3 1/8	1 5/8
HP402-HSK5353-70	2100	1500	1681	2400	1765	3 1/8	1 5/8	2 1/8	1 3/8
HP403-HSK5353-105	2850	1500	1681	3150	1765	2 x 2 5/8	3 1/8	2 1/8	1 5/8
HP404-HSK5353-140	3600	1500	1681	3900	1765	3 x 2 5/8	3 1/8	3 1/8	2 1/8
HP402-HSN5363-60	2100	1500	1681	2400	1765	3 1/8	1 5/8	2 1/8	1 1/8
HP403-HSN5363-90	2850	1500	1681	3150	1765	2 x 3 1/8	3 1/8	2 1/8	1 3/8
HP404-HSN5363-120	3600	1500	1681	3900	1765	3 x 2 5/8	3 1/8	3 1/8	1 5/8
HP402-HSK5363-80	2100	1500	1681	2400	1765	3 1/8	1 5/8	2 1/8	1 5/8
HP403-HSK5363-120	2850	1500	1681	3150	1765	2 x 2 5/8	3 1/8	2 1/8	2 1/8
HP404-HSK5363-160	3600	1500	1681	3900	1765	3 x 2 5/8	3 1/8	3 1/8	2 1/8

* Connection size is only an indication. Final connection size is provided with the P&ID of the unit and calculated according to the operating conditions.

DIMENSION

System unit type	Dimension in mm					Suction line connection (inch)	Oil separator outlet connection (inch)	Liquid receiver inlet connection (inch)	Liquid line connection (inch)
	A	B	C	D	E				
HP502-HSN6451-80	2500	1700	1690	2800	1690	4	3 1/8	2 1/8	1 3/8
HP503-HSN6451-120	3300	1700	1857	3600	1950	2 x 3 1/8	3 1/8	3 1/8	1 5/8
HP504-HSN6451-160	4100	1700	1868	4400	1950	3 x 3 1/8	3 1/8	3 1/8	2 1/8
HP502-HSK6451-100	2500	1700	1690	2800	1690	4	3 1/8	2 1/8	1 5/8
HP503-HSK6451-150	3300	1700	1857	3600	1950	2 x 3 1/8	3 1/8	3 1/8	2 1/8
HP504-HSK6451-200	4100	1700	1868	4400	1950	3 x 3 1/8	DN100	3 1/8	2 1/8
HP502-HSN6461-100	2500	1700	1690	2800	1690	4	3 1/8	2 1/8	1 3/8
HP503-HSN6461-150	3300	1700	1857	3600	1950	2 x 3 1/8	3 1/8	3 1/8	1 5/8
HP504-HSN6461-200	4100	1700	1868	4400	1950	3 x 3 1/8	DN100	3 1/8	2 1/8
HP502-HSK6461-120	2500	1700	1690	2800	1690	4	3 1/8	2 1/8	2 1/8
HP503-HSK6461-180	3300	1700	1857	3600	1950	2 x 3 1/8	3 1/8	3 1/8	2 1/8
HP504-HSK6461-240	4100	1700	1868	4400	1950	3 x 3 1/8	DN100	3 1/8	2 5/8
HP502-HSN7451-120	2500	1700	1690	2800	1690	5	3 1/8	3 1/8	1 5/8
HP503-HSN7451-180	3300	1700	1857	3600	1950	2 x 4	DN100	3 1/8	2 1/8
HP504-HSN7451-240	4100	1700	1868	4400	1950	3 x 4	DN100	3 1/8	2 5/8
HP502-HSK7451-140	2500	1700	1690	2800	1690	4	3 1/8	3 1/8	2 1/8
HP503-HSK7451-210	3300	1700	1857	3600	1950	2 x 4	DN100	3 1/8	2 5/8
HP504-HSK7451-280	4100	1700	1868	4400	1950	3 x 4	DN100	3 1/8	2 5/8
HP502-HSN7461-140	2500	1700	1690	2800	1690	5	3 1/8	3 1/8	1 5/8
HP503-HSN7461-210	3300	1700	1857	3600	1950	2 x 4	DN100	3 1/8	2 1/8
HP504-HSN7461-280	4100	1700	1868	4400	1950	3 x 4	DN100	3 1/8	2 5/8
HP502-HSK7461-160	2500	1700	1690	2800	1690	4	3 1/8	3 1/8	2 1/8
HP503-HSK7461-240	3300	1700	1857	3600	1950	2 x 4	DN100	3 1/8	2 5/8
HP504-HSK7461-320	4100	1700	1868	4400	1950	3 x 4	DN100	3 1/8	2 5/8
HP502-HSN7471-150	2500	1700	1690	2800	1690	5	3 1/8	3 1/8	1 5/8
HP503-HSN7471-225	3300	1700	1857	3600	1950	2 x 4	DN100	3 1/8	2 1/8
HP504-HSN7471-300	4100	1700	1868	4400	1950	3 x 4	DN100	3 1/8	2 5/8
HP502-HSK7471-180	2500	1700	1690	2800	1690	5	3 1/8	3 1/8	2 1/8
HP503-HSK7471-270	3300	1700	1857	3600	1950	2 x 4	DN100	3 1/8	2 5/8
HP504-HSK7471-360	4100	1700	1868	4400	1950	3 x 4	DN100	3 1/8	2 5/8
HP602-HSK8551-220	2900	2050	1852	3200	1950	2 x DN100	DN100	3 1/8	2 5/8
HP603-HSK8551-330	3800	2050	1978	4100	1978	4 x 3 1/8	DN100	3 1/8	3 1/8
HP604-HSK8551-440	4760	2050	2228	5060	2228	3 x DN100	DN100	DN100	3 1/8
HP602-HSK8561-250	2900	2050	1852	3200	1950	2 x DN100	DN100	3 1/8	2 5/8
HP603-HSK8561-375	3800	2050	1978	4100	1978	4 x 3 1/8	DN100	DN100	3 1/8
HP604-HSK8561-500	4760	2050	2228	5060	2228	3 x DN100	DN100	DN100	2 x 2 5/8
HP602-HSN8571-250	2900	2050	1852	3200	1950	2 x DN100	DN100	3 1/8	2 5/8
HP603-HSN8571-375	3800	2050	1978	4100	1978	4 x DN100	DN100	DN100	3 1/8
HP604-HSN8571-500	4760	2050	2228	5060	2228	5 x DN100	DN100	DN100	2 x 2 5/8
HP602-HSK8571-280	2900	2050	1852	3200	1950	2 x DN100	DN100	3 1/8	2 1/8
HP603-HSK8571-420	3800	2050	1978	4100	1978	4 x DN100	DN100	DN100	2 5/8
HP604-HSK8571-560	4760	2050	2228	5060	2228	5 x DN100	DN125	DN100	3 1/8
HP602-HSN8591-320	2900	2050	1852	3200	1950	2 x DN100	DN100	3 1/8	2 1/8
HP603-HSN8591-480	3800	2050	1978	4100	1978	4 x DN100	DN100	DN100	2 5/8
HP604-HSN8591-640	4760	2050	2228	5060	2228	5 x DN100	DN125	DN100	3 1/8

* Connection size is only an indication. Final connection size is provided with the P&ID of the unit and calculated according to the operating conditions.