



# DATASHEET

## TECHNICAL HIGHLIGHTS - HVP5

### STANDARD FEATURES



#### Mechanical and Hydraulics

<b>Compressors</b>	<p><b>High efficiency Screw compressors</b> (1 or 2 circuits with 1 compressor per circuit)</p> <ul style="list-style-type: none"> <li>consistent energy efficiency across a wide range of operating conditions, with stepless (infinite) capacity control</li> <li>ideal for applications requiring variable load conditions due to their ability to modulate capacity efficiently</li> <li>robust and suitable for continuous operation in demanding industrial applications</li> </ul>
<b>Condenser</b>	<p>All-aluminum alloy microchannel refrigerant heat exchangers Special condenser execution for heavy duty applications Reduced refrigerant charge with increased heat transfer performance</p>
<b>Evaporator</b>	<p><b>Brazed plates (BP)</b> BP "dimple" based technology with increased heat-transfer efficiency at part load conditions and reduced refrigerant charge</p>
<b>Electronic Expansion Valve</b>	<p>True extended temperature range with MOP function Improved part load control and efficiency due to better stability and higher evaporating conditions in any ambient temperature</p>
<b>Fans</b>	<p>EC: brushless fans with variable speed for ambient temperatures down to -20°C and suitable for ducting in case of indoor installation (max prevalence 80Pa) Ambient temperature sensor included with EC fans as winter protection Individual flow partitioning for improved fan performance, noise reduction and effective head pressure control</p>
<b>Hydraulic Configuration</b>	<p><b>3 different water configurations:</b></p> <ul style="list-style-type: none"> <li>without pump (N)</li> <li>with evaporator pump only (M)</li> <li>with 2 pumps (process and evaporator) and tank (vented/pressurizable) (S)</li> </ul> <p>In all configurations a Flow Switch is present as fast acting and reliable protection for the no flow condition on the evaporator. The tank is equipped with a small expansion vented tank for water level management in open to atmosphere system operation Non ferrous wet construction</p>
<b>Control panel</b>	<p>The Unit Control Panel is equipped with a dedicated user interface and an advanced logic control board, designed for optimal user experience and operational efficiency</p>
<b>Power supply</b>	<p>4 different power supply options available:</p> <ul style="list-style-type: none"> <li>400V/3/50 Hz</li> <li>460V/3/60 Hz</li> <li>380V/3/60 Hz</li> <li>460V/3/60 Hz UL</li> </ul>
<b>Structure</b>	<p>Galvanized steel frame, painted with epoxy powder coating Frame with various access points for inspection and maintenance Control panel is IP54 rated with extended roof lid Compressors circuit section semi-enclosed, protected by 3 sides panel structure, easily removable for service activities</p>



#### Software and Control

<b>Dynamic condensing pressure control</b>	<p>EC fan speed control based on Dynamic condensing pressure optimization Logic</p>
<b>Antifreeze protection</b>	<p>Pumps only mode/auto-on logic with low ambient temperature Water sensors and additional anti-freeze protection based on compressor suction pressure</p>
<b>System integration</b>	<p>HVP units can be easily integrated into a chiller system solution with a master control panel like 3PR 4.0 Premium or Lite version.</p>

### OPTIONS

- Y strainer for water inlet
- Flange adapters
- Condenser air filter kit
- Leveling pads
- Mirror HMI
- Connectivity Kit for MiND monitoring system

<b>HVP5 R513A 50Hz</b>												
<b>Model</b>				<b>151</b>	<b>181</b>	<b>241</b>	<b>301</b>	<b>302</b>	<b>362</b>	<b>482</b>	<b>602</b>	
Power supply				400V±10%/3/50Hz								
Cooling Capacity (*)	Process Water/Air inlet	15 °C / 25 °C	kW	160	180	246	300	320	359	491	600	
		10 °C / 35 °C	kW	122	137	188	230	244	274	375	459	
Refrigerant	Type			R513A								
Max water temperature set point			°C	25								
Min water temperature set point (No glycol)			°C	7								
Min water temperature set point (With glycol)			°C	-5								
Min ambient temperature ( Y version - EC Axial Fans )			°C	-20								
Max ambient temperature			°C	50								
Expansion valve	Type			Electronic								
Compressor	Type			Screw								
	Capacity control			Single Circuit Stepless Screw (0-25-100%)				Double Circuit Stepless Screw (0-25-100%)				
	N°			1				2				
	Circuits			1				2				
	Nominal Power (each)			Hp	50	60	80	90	50	60	80	90
Air condenser	Type			Microchannel								
	Material			All-aluminum alloy with special execution for heavy duty applications								
	EC Nominal flow			m³/h	46.911	46.911	70.367	93.823	93.822	93.822	140.734	187.646
Fan	N°			2	2	3	4	4	4	6	8	
	EC axial Nominal motor power			kW	2,5	2,5	2,5	2,5	2,5	2,5	2,5	
Condenser Pressure control			Type	Stepless with Dynamic Optimization Logic								
Evaporator	Type			Brazen Plate								
	N°			1				2				
	Nom. Flow Rate			m³/h	21	24	32	39	42	47	64	79
	Nom. Pressure Drop (evap. only)			bar	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1
Evaporator pump	Type			Centrifugal								
	N°			1								
	kW			1,5	1,5	1,5	3,0	3,0	3,0	3,0	4,0	
Process pump	Type			Centrifugal								
	N°			1								
	Standard pressure	kW			4,0	4,0	4,0	7,5	7,5	7,5	7,5	9,2
		min flow rate	m³/h		12,0	12,0	12,0	24,0	24,0	24,0	24,0	37,0
		max flow rate	m³/h		42,0	42,0	42,0	72,0	72,0	72,0	72,0	132,0
		max pressure	bar		3,9	3,9	3,9	3,8	3,8	3,8	3,8	3,4
	min pressure	bar		2,3	2,3	2,3	2,6	2,6	2,6	2,6	1,7	
Tank	Type			Cylindrical Vented Tank - Pressurizable								
	Material			Galvanized with internal coating								
	Volume			L	300	300	465	465	465	465	760	900
Auto-filling kit				For vented tank configuration: digital level control For pressurized tank configuration: pressure control								
Refill connection				1" BSP (with 500 micron Y strainer included)								
Process water connections	Type			Grooved (Flange Adapters available as accessory)								
	Standard flow	In / Out (**)	NPS	2"1/2	2"1/2	2"1/2	3"	3"	3"	4"	4"	
Process return Y strainer				Available as accessory								
Machine Full Load Ampere (FLA) (***)			A	100	117	147	185	195	236	288	354	
Max Power input (***)			kW	60	64	89	114	117	126	176	219	
Approximate net weight / shipping weight (***)			kg	1.410	1.500	2.190	2.470	2.730	2.900	3.610	4.490	
Gas charge BPHE			kg	29	36	40	48	58	72	80	96	
Approximate operating weight			kg	1.650	1.750	2.490	2.790	3.060	3.250	4.200	5.200	
Sound level (A) 10 m			db	64	64	63	67	66	66	66	69	

**Note:**

(\*) With process deltaT of 5 °C and EC Fans  
 (\*\*) Imperial Pipe Size  
 (\*\*\*) Full Hydronic version S  
 Maximum water working pressure 6 bar

Not suitable for Demi water  
 Glycol percentage: 20% in volume for set point down to 5°C. Higher glycol % up to 35% based on minimum set point and/or ambient temperature  
 Altitude limit 2000 m a.s.l.  
 Approximate Net Weight = Approximate Shipping Weight

HVP5 R513A 60Hz												
Model				151	181	241	301	302	362	482	602	
Power supply				460V±10%/3/60Hz								
Cooling Capacity (*)	Process Water/Air inlet	15 °C / 25 °C	kW	165	189	223	300	330	377	447	601	
		10 °C / 35 °C	kW	126	144	170	230	252	287	341	460	
Refrigerant	Type			R513A								
Max water temperature set point			°C	25								
Min water temperature set point (No glycol)			°C	7								
Min water temperature set point (With glycol)			°C	-5								
Min ambient temperature ( Y version - EC Axial Fans )			°C	-20								
Max ambient temperature			°C	50								
Expansion valve	Type			Electronic								
Compressor	Type			Screw								
	Capacity control			Single Circuit Stepless Screw (0-25-100%)				Double Circuit Stepless Screw (0-25-100%)				
	N°			1				2				
	Circuits			1				2				
Nominal Power (each)			Hp	40	50	60	80	40	50	60	80	
Air condenser	Type			Microchannel								
	Material			All-aluminum alloy with special execution for heavy duty applications								
	EC Nominal flow			m³/h	46.911	46.911	70.367	93.823	93.822	93.822	140.734	187.646
Fan	N°			2	2	3	4	4	4	6	8	
	EC axial Nominal motor power			kW	2,4	2,4	2,4	2,4	2,4	2,4	2,4	
Condenser Pressure control			Type	Stepless with Dynamic Optimization Logic								
Evaporator	Type			Brazen Plate								
	N°			1				2				
	Nom. Flow Rate			m³/h	22	25	29	40	43	49	59	79
	Nom. Pressure Drop (evap. only)			bar	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1
Evaporator pump	Type			Centrifugal								
	N°			1								
	kW			3,0	3,0	3,0	5,5	5,5	5,5	5,5	5,5	
Process pump	Type			Centrifugal								
	N°			1								
	Standard pressure	kW			4,0	4,0	4,0	7,5	7,5	7,5	7,5	9,2
		min flow rate		m³/h	12,0	12,0	12,0	30,0	30,0	30,0	30,0	42,0
		max flow rate		m³/h	50,0	50,0	50,0	86,0	86,0	86,0	86,0	126,0
		max pressure		bar	3,7	3,7	3,7	3,7	3,7	3,7	3,7	3,6
min pressure		bar	2,0	2,0	2,0	2,0	2,0	2,0	2,0	1,7		
Tank	Type			Cylindrical Vented Tank - Pressurizable								
	Material			Galvanized with internal coating								
	Volume			L	300	300	465	465	465	465	760	900
Auto-filling kit				For vented tank configuration: digital level control For pressurized tank configuration: pressure control								
Refill connection				1" BSP (with 500 micron Y strainer included)								
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	Standard flow	In / Out (**)	NPS	2"1/2	2"1/2	2"1/2	3"	3"	3"	4"	4"	
Process return Y strainer				Available as accessory								
Machine Full Load Ampere (FLA) (***)			A	92	100	122	161	177	202	238	301	
Max Power input (***)			kW	64	70	79	116	125	138	156	217	
Approximate net weight / shipping weight (***)			kg	1.410	1.500	2.190	2.470	2.730	2.900	3.610	4.490	
Gas charge BPHE			kg	29	36	40	48	58	72	80	96	
Approximate operating weight			kg	1.650	1.750	2.490	2.790	3.060	3.250	4.200	5.200	
Sound level (A) 10 m			db	64	66	66	66	67	69	69	69	

**Note:**

(\*) With process deltaT of 5 °C and EC Fans

(\*\*) Imperial Pipe Size

(\*\*\*) Full Hydronic version S

Maximum water working pressure 6 bar

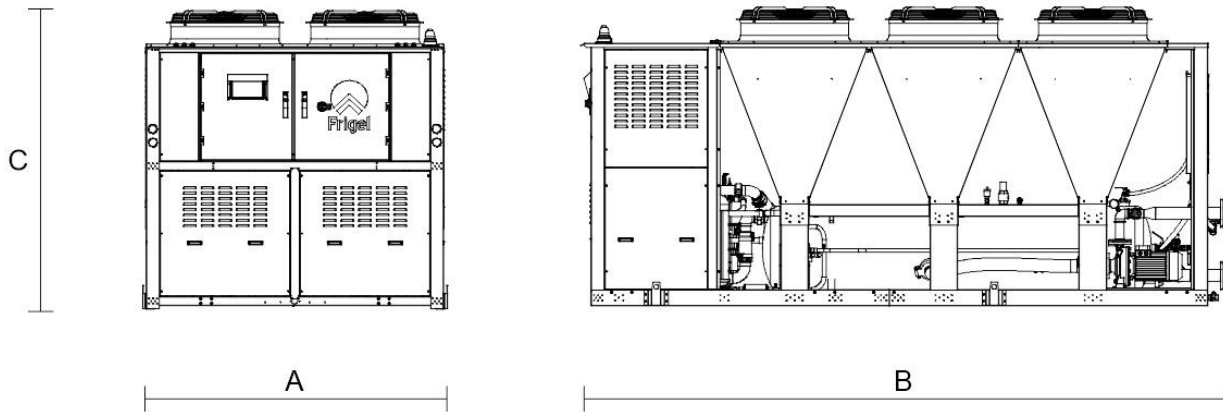
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Glycol percentage: 20% in volume for set point down to 5°C. Higher glycol % up to 35% based on minimum set point and/or ambient temperature

Altitude limit 2000 m a.s.l.

Approximate Net Weight = Approximate Shipping Weight

## Dimensional technical data



HVP dimensions									
Model		151	181	241	301	302	362	482	602
A	mm	1.100	1.100	2.200	2.200	2.200	2.200	2.200	2.200
B (*)	mm	3.350	3.350	3.700	3.700	3.700	3.700	4.802	5.900
C (**)	mm	2.273	2.273	2.273	2.273	2.273	2.273	2.273	2.273

**Notes:**

(\*) Machine enclosure only

(\*\*) +21mm for sliding skates (used in shipping)

## Order code

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
P	H	V	P	0	6	0	2	4	P	S	A	Y	G	0	A	0

**1) PRODUCT CATEGORY**  
P Product

**2) FAMILY**  
H Heavygel

**3) SERIES**  
V Air cooled

**4) RANGE**  
S Stand Alone Units  
P Package Chiller

**5-8) SIZE**  
Unit Model Size  
0151-0181-0241-0301-0302  
0362-0482-0602

**9) REFRIGERANT / MEDIUM**  
3 R407c / Single Scroll Compr.  
1 R410a / Multi Scroll Compr.  
4 R407c / Multi Scroll Compr.  
5 R513a / Screw Compr.

**10) EVAPORATOR TYPE**  
T Shell & Tube Evaporator  
P Braze Plate Evaporator

**17) POWER SUPPLY**  
0 V. 400 /3 Ph./50 Hz.  
1 V. 460 /3 Ph./60 Hz.  
3 V. 380 /3 Ph./60 Hz.  
5 V. 460 /3 Ph./60 Hz. UL

**16) ASSEMBLY REVISION**  
A Rev. A  
B Rev. B

**15) HEADERS for MODULAR CONFIG.**  
0 N/A

**14) FREE-COOLING**  
G NO Free-Cooling

**13) CLIMATE**  
Z min Ambient Temperature [5°C]  
Y min Ambient Temperature [-15°C]  
X min Ambient Temperature [-30°C]

**12) HEAT REJECTION**  
A On-Off Fans  
E Brushless EC Fans

**11) WATER CONFIGURATION**  
N Evap. Only  
M Evap. Pump  
S Two Pumps with Tank

