XVL8.0KX
Variable Speed Drive Compressor
R600a
220-240V 50/60Hz

TOOL4COOL® Flexible control settings

yellow warning label is placed separately

General

Code number	108H7730
Electronic unit (attached, PFC) - *XVL-AEO/Freq.* Inputs: Modbus, thermostat, frequency signal	105N5324, 50 pcs: 105N5325
Approvals	EN 60335-2-34 w. Annex AA (VDE), GB 4706.17 (CCC/CQC)
Compressors on pallet	175
Remarks: In AEO (Adaptive Energy Optimizing) speed mode the XVL compressor will always adapt its speed to the actual cooling demand. PFC = power factor correction according to EN 61000-3-2:2014	

Application

Application		LBP	
Frequency	Hz	50	60
Evaporating temperature	°C	-35 to 0 (-5/-10)	-35 to 0 (-5/-10)
Voltage range	V	160 - 264	160 - 264
Max. condensing temperature continuous (short)	°C	60 (70)	60 (70)
Max. winding temperature continuous (short)	°C	125 (135)	125 (135)

Cooling requirements

Frequency	Hz	50			60		
Application		LBP	MBP	HBP	LBP	MBP	HBP
32°C		S	–	–	S	–	–
38°C		S	–	–	S	–	–
43°C		S	–	–	S	–	–
Remarks: HST capable (High starting torque, start against differential pressure) All measured performance data include losses caused by electronic unit.							

S = Static cooling normally sufficient
O = Oil cooling
F_1 = Fan cooling 1.5 m/s (compressor compartment temperature equal to ambient temperature)
F_2 = Fan cooling 3.0 m/s necessary
SG = Suction gas cooling normally sufficent
– = not applicable in this area

Features

Speed range	rpm	1000 - 4000
Protections		current / speed / temperature
External speed control		frequency signal 5V, 0-200Hz

Motor

Motor type		permanent magnet
LRA (rated after 4 sec. UL984)	A	electronic cut off
Maximum current	A	2.5
Resistance, all 3 windings (25°C)	Ω	20.0

Design

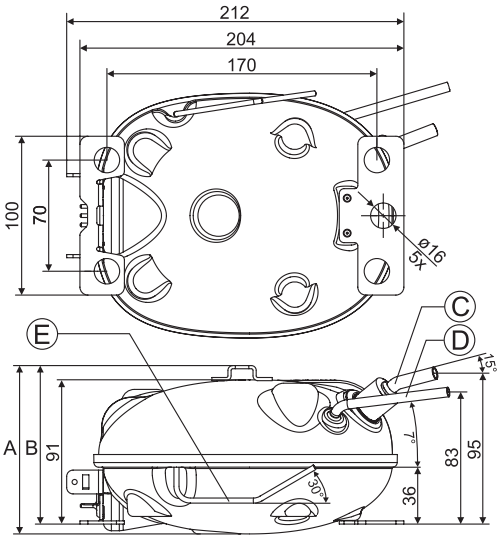
Displacement	cm^3	7.7
Oil quantity (type)	cm^3	115 (5 cSt mineral)
Maximum refrigerant charge	g	150
Free gas volume in compressor	cm^3	900
Weight	kg	4.9

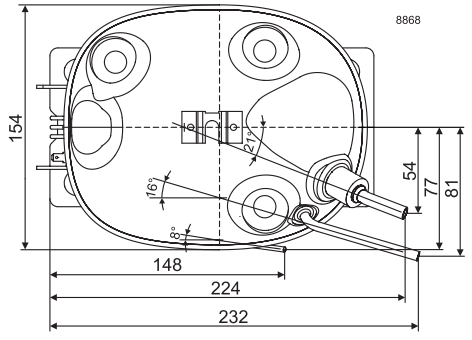
Dimensions

Height	mm	A	106
		B	100
Suction connector	location/I.D. mm | angle	C	6.2 | 15°
	material | comment		Cu-plated steel | Rubber plug
Process connector	location/O.D. mm | angle	D	6.0 | 7°
	material | comment		Copper | Rubber plug
Discharge connector	location/O.D. mm | angle	E	3.2 | 30°
	material | comment		Cu-plated steel | Rubber plug
Oil cooler connector	location/I.D. mm | angle	F	–
	material | comment		–
Connector tolerance	mm		6.2 +0.1, 6.0 ±0.1, 3.2 ±0.05

Dimensions

		Code number
Bolt joint for one compressor	Ø: 16 mm	118-1917
Bolt joint in quantities	Ø: 16 mm	118-1918
Snap-on in quantities	Ø: 16 mm	118-1919





1000 rpm 220V, 50/60Hz, static cooling, p_{cond} = 35°C, T_{suc} = 32°C, T_{liq} = 35°C

Evap. temp. in °C	-45	-40	-35	-30	-25	-23.3	-20	-15	-10	-6.7	-5	0	5	7.2	10
Capacity in W			31.9	39.3	49.1	53.1	61.8	77.5	96.5	111	119	145			
Power cons. in W			18	21.1	24.4	25.5	27.7	31	34.1	36	36.9	39.3			
Current cons. in A			0.14	0.16	0.18	0.18	0.20	0.22	0.24	0.25	0.25	0.27			
COP in W/W			1.78	1.86	2.02	2.08	2.23	2.50	2.83	3.08	3.22	3.69			

1200 rpm 220V, 50/60Hz, static cooling, p_{cond} = 35°C, T_{suc} = 32°C, T_{liq} = 35°C

Evap. temp. in °C	-45	-40	-35	-30	-25	-23.3	-20	-15	-10	-6.7	-5	0	5	7.2	10
Capacity in W			37.9	46.6	58.4	63.1	73.4	92.1	115	132	141	172			
Power cons. in W			20.6	24.2	28	29.3	31.8	35.6	39.2	41.3	42.4	45.1			
Current cons. in A			0.16	0.18	0.20	0.21	0.23	0.25	0.27	0.29	0.29	0.31			
COP in W/W			1.84	1.93	2.09	2.16	2.31	2.59	2.92	3.19	3.33	3.82			

1300 rpm 220V, 50/60Hz, static cooling, p_{cond} = 35°C, T_{suc} = 32°C, T_{liq} = 35°C

Evap. temp. in °C	-45	-40	-35	-30	-25	-23.3	-20	-15	-10	-6.7	-5	0	5	7.2	10
Capacity in W			40.9	50.3	63	68.1	79.2	99.3	124	142	152	186			
Power cons. in W			21.9	25.7	29.8	31.2	33.9	37.9	41.7	44	45.1	48			
Current cons. in A			0.17	0.19	0.22	0.22	0.24	0.27	0.29	0.30	0.31	0.33			
COP in W/W			1.87	1.96	2.12	2.19	2.34	2.62	2.97	3.23	3.38	3.88			

1500 rpm 220V, 50/60Hz, static cooling, p_{cond} = 35°C, T_{suc} = 32°C, T_{liq} = 35°C

Evap. temp. in °C	-45	-40	-35	-30	-25	-23.3	-20	-15	-10	-6.7	-5	0	5	7.2	10
Capacity in W			46.9	57.7	72.2	78.1	90.8	114	142	163	175	213			
Power cons. in W			24.6	28.8	33.4	34.9	38	42.5	46.7	49.3	50.6	53.8			
Current cons. in A			0.19	0.21	0.24	0.25	0.27	0.30	0.32	0.34	0.35	0.37			
COP in W/W			1.91	2.00	2.17	2.24	2.39	2.68	3.03	3.30	3.46	3.96			

1800 rpm 220V, 50/60Hz, static cooling, p_{cond} = 35°C, T_{suc} = 32°C, T_{liq} = 35°C

Evap. temp. in °C	-45	-40	-35	-30	-25	-23.3	-20	-15	-10	-6.7	-5	0	5	7.2	10
Capacity in W			55.3	68	85.1	92	107	134	167	192	206	251			
Power cons. in W			29	34	39.3	41.2	44.8	50.1	55.1	58.1	59.6	63.4			
Current cons. in A			0.22	0.25	0.28	0.30	0.32	0.35	0.38	0.40	0.41	0.43			
COP in W/W			1.91	2.00	2.16	2.24	2.39	2.68	3.03	3.30	3.46	3.96			

2100 rpm 220V, 50/60Hz, static cooling, p_{cond} = 35°C, T_{suc} = 32°C, T_{liq} = 35°C

Evap. temp. in °C	-45	-40	-35	-30	-25	-23.3	-20	-15	-10	-6.7	-5	0	5	7.2	10
Capacity in W			63.6	78.3	98	106	123	155	192	221	237	289			
Power cons. in W			33.4	39.2	45.3	47.4	51.5	57.7	63.4	67	68.6	73			
Current cons. in A			0.25	0.29	0.33	0.34	0.37	0.40	0.44	0.46	0.47	0.50			
COP in W/W			1.91	2.00	2.16	2.24	2.39	2.68	3.03	3.3	3.45	3.96			

2500 rpm 220V, 50/60Hz, static cooling, p_{cond} = 35°C, T_{suc} = 32°C, T_{liq} = 35°C

Evap. temp. in °C	-45	-40	-35	-30	-25	-23.3	-20	-15	-10	-6.7	-5	0	5	7.2	10
Capacity in W			74.8	92	115	125	145	182	226	260	279				
Power cons. in W			39.2	46	53.3	55.7	60.6	67.8	74.6	78.7	80.7				
Current cons. in A			0.30	0.34	0.39	0.40	0.43	0.48	0.52	0.54	0.56				
COP in W/W			1.91	2.00	2.16	2.23	2.39	2.68	3.03	3.30	3.45				

3000 rpm 220V, 50/60Hz, static cooling, p_{cond} = 35°C, T_{suc} = 32°C, T_{liq} = 35°C

Evap. temp. in °C	-45	-40	-35	-30	-25	-23.3	-20	-15	-10	-6.7	-5	0	5	7.2	10
Capacity in W			86.6	107	133	144	168	210	262	301	323				
Power cons. in W			46.2	54.2	62.7	65.6	71.3	79.8	87.8	92.7	95				
Current cons. in A			0.35	0.40	0.45	0.47	0.51	0.56	0.61	0.64	0.65				
COP in W/W			1.88	1.97	2.13	2.2	2.35	2.64	2.98	3.25	3.40				

3500 rpm 220V, 50/60Hz, static cooling, p_{cond} = 35°C, T_{suc} = 32°C, T_{liq} = 35°C

Evap. temp. in °C	-45	-40	-35	-30	-25	-23.3	-20	-15	-10	-6.7	-5	0	5	7.2	10
Capacity in W			98.5	121	152	164	191	239	298	342	367				
Power cons. in W			53.1	62.3	72.1	75.5	82.1	91.8	101	107	109				
Current cons. in A			0.40	0.46	0.52	0.54	0.58	0.64	0.70	0.74	0.75				
COP in W/W			1.85	1.94	2.10	2.17	2.32	2.60	2.95	3.21	3.36				

4000 rpm 220V, 50/60Hz, static cooling, p_{cond} = 35°C, T_{suc} = 32°C, T_{liq} = 35°C

Evap. temp. in °C	-45	-40	-35	-30	-25	-23.3	-20	-15	-10	-6.7	-5	0	5	7.2	10
Capacity in W			110	136	170	184	214	268	333						
Power cons. in W			60.1	70.5	81.6	85.4	92.8	104	114						
Current cons. in A			0.46	0.52	0.59	0.61	0.66	0.73	0.79						
COP in W/W			1.84	1.92	2.08	2.15	2.3	2.58	2.92						

1000 rpm 220V, 50/60Hz, static cooling, p_{cond} = 95°F, T_{suc} = 90°F, T_{liq} = 95°F

Evap. temp. in °F	-49	-40	-31	-22	-13	-10	-4	5	14	20	23	32	41	45	50
Capacity in BTU/h			109	134	168	181	211	264	329	378	406	495			
Power cons. in W			18	21.1	24.4	25.5	27.7	31	34.1	36	36.9	39.3			
Current cons. in A			0.14	0.16	0.18	0.18	0.20	0.22	0.24	0.25	0.25	0.27			
EER in BTU/Wh			6.07	6.36	6.88	7.10	7.60	8.52	9.64	10.5	11.0	12.6			

1200 rpm 220V, 50/60Hz, static cooling, p_{cond} = 95°F, T_{suc} = 90°F, T_{liq} = 95°F

Evap. temp. in °F	-49	-40	-31	-22	-13	-10	-4	5	14	20	23	32	41	45	50
Capacity in BTU/h			129	159	199	215	251	314	391	449	482	588			
Power cons. in W			20.6	24.2	28	29.3	31.8	35.6	39.2	41.3	42.4	45.1			
Current cons. in A			0.16	0.18	0.20	0.21	0.23	0.25	0.27	0.29	0.29	0.31			
EER in BTU/Wh			6.28	6.58	7.12	7.35	7.87	8.82	9.98	10.9	11.4	13.0			

1300 rpm 220V, 50/60Hz, static cooling, p_{cond} = 95°F, T_{suc} = 90°F, T_{liq} = 95°F

Evap. temp. in °F	-49	-40	-31	-22	-13	-10	-4	5	14	20	23	32	41	45	50
Capacity in BTU/h			140	172	215	232	270	339	422	485	520	635			
Power cons. in W			21.9	25.7	29.8	31.2	33.9	37.9	41.7	44	45.1	48			
Current cons. in A			0.17	0.19	0.22	0.22	0.24	0.27	0.29	0.30	0.31	0.33			
EER in BTU/Wh			6.37	6.67	7.22	7.46	7.98	8.94	10.1	11.0	11.5	13.2			

1500 rpm 220V, 50/60Hz, static cooling, p_{cond} = 95°F, T_{suc} = 90°F, T_{liq} = 95°F

Evap. temp. in °F	-49	-40	-31	-22	-13	-10	-4	5	14	20	23	32	41	45	50
Capacity in BTU/h			160	197	246	266	310	389	484	556	596	728			
Power cons. in W			24.6	28.8	33.4	34.9	38	42.5	46.7	49.3	50.6	53.8			
Current cons. in A			0.19	0.21	0.24	0.25	0.27	0.30	0.32	0.34	0.35	0.37			
EER in BTU/Wh			6.51	6.83	7.39	7.63	8.17	9.15	10.4	11.3	11.8	13.5			

1800 rpm 220V, 50/60Hz, static cooling, p_{cond} = 95°F, T_{suc} = 90°F, T_{liq} = 95°F

Evap. temp. in °F	-49	-40	-31	-22	-13	-10	-4	5	14	20	23	32	41	45	50
Capacity in BTU/h			189	232	290	314	365	458	570	655	703	857			
Power cons. in W			29	34	39.3	41.2	44.8	50.1	55.1	58.1	59.6	63.4			
Current cons. in A			0.22	0.25	0.28	0.30	0.32	0.35	0.38	0.40	0.41	0.43			
EER in BTU/Wh			6.51	6.82	7.39	7.63	8.16	9.15	10.4	11.3	11.8	13.5			

2100 rpm 220V, 50/60Hz, static cooling, p_{cond} = 95°F, T_{suc} = 90°F, T_{liq} = 95°F

Evap. temp. in °F	-49	-40	-31	-22	-13	-10	-4	5	14	20	23	32	41	45	50
Capacity in BTU/h			217	267	334	362	421	527	656	754	809	987			
Power cons. in W			33.4	39.2	45.3	47.4	51.5	57.7	63.4	67	68.6	73			
Current cons. in A			0.25	0.29	0.33	0.34	0.37	0.40	0.44	0.46	0.47	0.50			
EER in BTU/Wh			6.51	6.82	7.38	7.62	8.16	9.15	10.3	11.3	11.8	13.5			

2500 rpm 220V, 50/60Hz, static cooling, p_{cond} = 95°F, T_{suc} = 90°F, T_{liq} = 95°F

Evap. temp. in °F	-49	-40	-31	-22	-13	-10	-4	5	14	20	23	32	41	45	50
Capacity in BTU/h			255	314	393	425	494	620	771	887	951				
Power cons. in W			39.2	46	53.3	55.7	60.6	67.8	74.6	78.7	80.7				
Current cons. in A			0.30	0.34	0.39	0.40	0.43	0.48	0.52	0.54	0.56				
EER in BTU/Wh			6.51	6.82	7.38	7.62	8.16	9.14	10.3	11.3	11.8				

3000 rpm 220V, 50/60Hz, static cooling, p_{cond} = 95°F, T_{suc} = 90°F, T_{liq} = 95°F

Evap. temp. in °F	-49	-40	-31	-22	-13	-10	-4	5	14	20	23	32	41	45	50
Capacity in BTU/h			296	364	455	492	573	718	893	1027	1101				
Power cons. in W			46.2	54.2	62.7	65.6	71.3	79.8	87.8	92.7	95				
Current cons. in A			0.35	0.40	0.45	0.47	0.51	0.56	0.61	0.64	0.65				
EER in BTU/Wh			6.40	6.71	7.26	7.5	8.03	8.99	10.2	11.1	11.6				

3500 rpm 220V, 50/60Hz, static cooling, p_{cond} = 95°F, T_{suc} = 90°F, T_{liq} = 95°F

Evap. temp. in °F	-49	-40	-31	-22	-13	-10	-4	5	14	20	23	32	41	45	50
Capacity in BTU/h			336	413	517	559	651	816	1015	1167	1252				
Power cons. in W			53.1	62.3	72.1	75.5	82.1	91.8	101	107	109				
Current cons. in A			0.40	0.46	0.52	0.54	0.58	0.64	0.70	0.74	0.75				
EER in BTU/Wh			6.32	6.63	7.17	7.41	7.93	8.89	10.1	11.0	11.5				

4000 rpm 220V, 50/60Hz, static cooling, p_{cond} = 95°F, T_{suc} = 90°F, T_{liq} = 95°F

Evap. temp. in °F	-49	-40	-31	-22	-13	-10	-4	5	14	20	23	32	41	45	50
Capacity in BTU/h			376	463	580	626	729	914	1137						
Power cons. in W			60.1	70.5	81.6	85.4	92.8	104	114						
Current cons. in A			0.46	0.52	0.59	0.61	0.66	0.73	0.79						
EER in BTU/Wh			6.26	6.57	7.11	7.34	7.85	8.80	9.96						

CECOMAF LBP p evap = -25°C = -13°F T suc = 32°C = 90°F

220V, 50/60Hz, static cooling p cond = 55°C = 131°F T liq = 55°C = 131°F

Speed [rpm]	1000	1100	1300	1500	1800	2100	2500	3000	3500	4000
Capacity [W]	34.4	37.6	44.1	50.5	59.5	68.6	80.6	93.3	106.1	118.8
Power consumption [W]	26.5	28.5	32.4	36.3	42.8	49.3	58.0	68.3	78.5	88.8
Current consumption [A]	0.19	0.20	0.23	0.26	0.31	0.35	0.42	0.49	0.56	0.64
COP [W/W]	1.30	1.32	1.36	1.39	1.39	1.39	1.39	1.37	1.35	1.34
Capacity [BTU/h]	117	128	150	172	203	234	275	318	362	405
EER [BTU/Wh]	4.42	4.50	4.64	4.74	4.74	4.74	4.74	4.66	4.61	4.56

ASHRAE LBP p evap = -23.3°C = -10°F T suc = 32.2°C = 90°F

220V, 50/60Hz, static cooling p cond = 54.4°C = 130°F T liq = 32.2°C = 90°F

Speed [rpm]	1000	1100	1300	1500	1800	2100	2500	3000	3500	4000
Capacity [W]	46.4	50.8	59.5	68.2	80.4	92.6	108.8	126.0	143.2	160.4
Power consumption [W]	28.2	30.3	34.5	38.6	45.6	52.5	61.7	72.6	83.6	94.5
Current consumption [A]	0.20	0.22	0.25	0.28	0.33	0.38	0.44	0.52	0.60	0.68
COP [W/W]	1.64	1.67	1.73	1.77	1.76	1.76	1.76	1.74	1.71	1.70
Capacity [BTU/h]	158	173	203	233	274	316	371	430	489	547
EER [BTU/Wh]	5.61	5.71	5.89	6.02	6.02	6.02	6.02	5.92	5.85	5.79

Optimization point p evap = -25°C = -13°F T suc = 32°C = 90°F

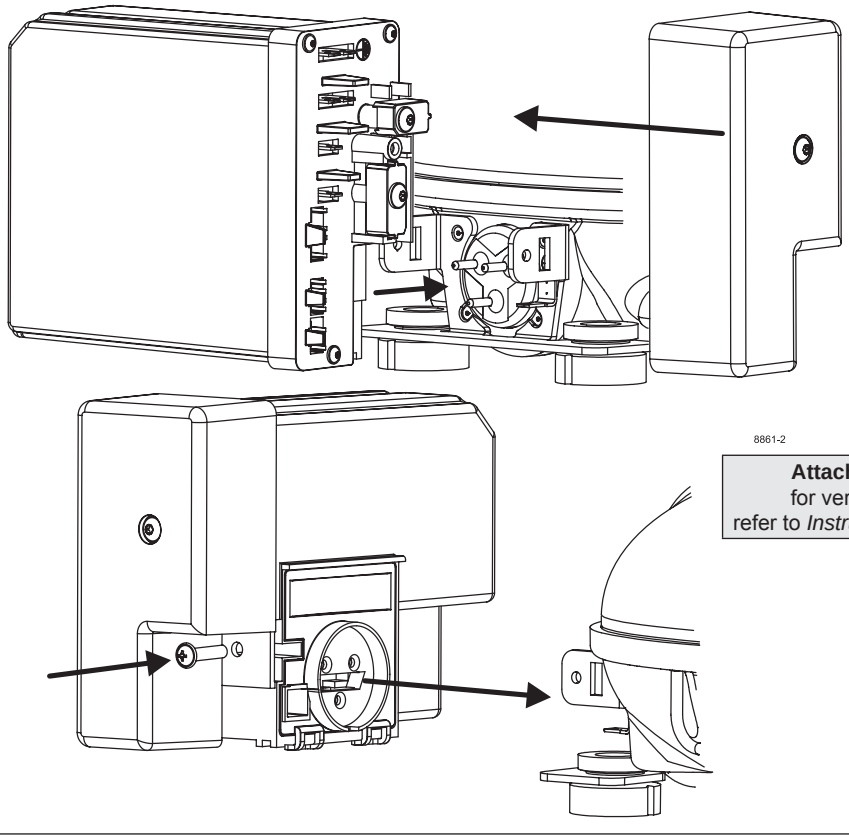
220V, 50/60Hz, static cooling p cond = 35°C = 95°F T liq = 35°C = 95°F

Speed [rpm]	1000	1100	1300	1500	1800	2100	2500	3000	3500	4000
Capacity [W]	49.1	53.8	63.0	72.2	85.1	98.0	115.2	133.4	151.6	169.8
Power consumption [W]	24.4	26.2	29.8	33.4	39.3	45.3	53.3	62.7	72.1	81.6
Current consumption [A]	0.18	0.19	0.22	0.24	0.28	0.33	0.39	0.45	0.52	0.59
COP [W/W]	2.02	2.05	2.12	2.17	2.16	2.16	2.16	2.13	2.10	2.08
Capacity [BTU/h]	168	183	215	246	290	334	393	455	517	580
EER [BTU/Wh]	6.88	7.01	7.22	7.39	7.39	7.38	7.38	7.26	7.17	7.11

Optimization point p evap = -10°C = 14°F T suc = 32°C = 90°F

220V, 50/60Hz, static cooling p cond = 45°C = 113°F T liq = 45°C = 113°F

Speed [rpm]	1000	1100	1300	1500	1800	2100	2500	3000	3500	4000
Capacity [W]	84.9	92.9	108.8	124.8	147.0	169.3	199.0	230.5	261.9	293.4
Power consumption [W]	38.9	41.8	47.5	53.2	62.8	72.3	85.0	100.0	115.1	130.2
Current consumption [A]	0.27	0.29	0.33	0.37	0.43	0.50	0.59	0.69	0.80	0.90
COP [W/W]	2.18	2.22	2.29	2.34	2.34	2.34	2.34	2.30	2.28	2.25
Capacity [BTU/h]	290	317	371	426	502	578	679	786	894	1001
EER [BTU/Wh]	7.45	7.59	7.82	8.00	7.99	7.99	7.99	7.86	7.76	7.69



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Attached controller:
for version 105N5324
refer to *Instructions* DES.I.300.U_