

CHAMPION	R Series 7.5HP	Eng. Data Sheet: CP-R4-V4
	Engineering Data Sheet	Date: 9/13/2022
	Air Cooled, 60Hz	Supersedes: CP-R4-V3

Model Number	VR7F-6 VR7F-8 VR7F-12 HR7F-6 HR7F-8 HR7F-12 HR7DF-12 HR7DF-24 BR7F BR7 VR7-8 VR7-12 HR7-8 HR7-12 HR7-24 HR7D-12 HR7D-24
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Configurator Number	R2-30A
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Description	Units	Product Data
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Compressor Pump

Pump Model	n/a	R15B	R30D
Number of Cylinders	n/a	2	4
Bore & Stroke	in.	4-5/8 & 2-1/2 x 3	4-5/8 (2) & 2-1/2 (2) x 3
Flywheel	OD in.	16.5	18.9
Pulley 80 / 125 PSIG	OD in.	9.35	7
Pulley 175 PSIG	OD in.	9.35	6.2
Number of Stages	n/a	2	
Lubrication	n/a	Splash Lubricated	
Oil Capacity	qt.	2	4
Oil Type	n/a	CHAMPLUB, ISO 100 Non-Detergent Industrial Lubricant	
Number of Belt Grooves	n/a	2	
Belt Section	n/a	B	
Crankcase	n/a	Cast Iron	
Bearings	n/a	Tapered Roller	
Cylinder	n/a	Aluminum with Cast Iron Liner	
Piston 1st Stage	n/a	Aluminum Alloy	
Piston 2nd Stage	n/a	Cast Iron	
Valves	n/a	Disc Valves	
Intake Filter	n/a	5 Micron	

Main Drive Motor (1)

Drive Motor Nominal Power	hp(kW)	7.5 (5.59)	
Voltage (2)	n/a	208/230/460/575	
Phase	n/a	1 or 3	
Drive Motor Speed	rpm	1800	
Service Factor	n/a	1.15	
Motor Insulation Class	n/a	F	
Drive Motor Full Load Current - 208/1/60 (3)	amps	44.0	
Drive Motor Full Load Current - 230/1/60 (3)	amps	40.0	
Drive Motor Full Load Current - 208/3/60 (3)	amps	24.2	
Drive Motor Full Load Current - 230/3/60 (3)	amps	22.0	
Drive Motor Full Load Current - 460/3/60 (3)	amps	11.0	
Drive Motor Full Load Current - 575/3/60 (3)	amps	9.0	
Wire Size - 208/1/60 (3,4,5)	awg	6 (2)	6 (2)
Wire Size - 230/1/60 (3,4,5)	awg	6 (2)	6 (2)
Wire Size - 208/3/60 (3,4,5)	awg	8 (6)	8 (6)
Wire Size - 230/3/60 (3,4,5)	awg	10 (6)	10 (6)
Wire Size - 460/3/60 (3,4,5)	awg	14 (10)	14 (10)
Wire Size - 575/3/60 (3,4,5)	awg	14 (10)	14 (10)

- 1) Main Drive Motor performance is based off the standard ODP motor.
- 2) Compressors are voltage specific and must be specified at time of order.
- 3) The amp draws and wire size provided are off general NEC guidelines. For proper breaker and fuses please consult a licensed electrician or electrical contractor.
- 4) Copper wire, 75°C (167°F) maximum temperature rating, 30°C (86°F) ambient temperature
- 5) Values in () is for incoming power line on duplex units.

Model Number	<div style="display: flex; justify-content: space-between;"> VR7F-6 VR7F-8 VR7F-12 HR7F-6 HR7F-8 HR7F-12 HR7DF-12 HR7DF-24 BR7F BR7 VR7-8S VR7-12 HR7-8 HR7-12 HR7-24 HR7D-12 HR7D-24 </div>
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Configurator Number	R2-30A
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Description	Units	Product Data
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Performance Data (6)

CFM Delivery @ 80 PSIG (7)	acfm	23.7	47.4	23.7	31.9	63.8	
CFM Delivery @ 125 PSIG (7)	acfm	23.0	46.0	23.0	28.7	57.4	
CFM Delivery @ 175 PSIG (7)	acfm	22.3	44.6	22.3	25.6	51.2	
Displacement @ 80 / 125 PSIG	cfm	28.7	57.4	28.7	39.6	79.2	
Displacement @ 175 PSIG	cfm	28.7	57.4	28.7	33.5	67	
Maximum Pressure	psig	175					
Working Pressure Differential	psig	35					
Pump Operating Speed @ 80 / 125 PSIG	rpm	949			649		
Pump Operating Speed @ 175 PSIG	rpm	949			570		
Minimum Speed	rpm	400					
Maximum Speed	rpm	1000			1050		
Cooling Air Flow @ 80 / 125 PSIG	cfm	1195			975		
Cooling Air Flow @ 175 PSIG	cfm	1195			835		
Dryer Flow	cfm	32					
Heat Rejection	btu/hr	16800	33600	16800	33600		
Noise Level (8)	dB(A)	77	80	77	78		
Aftercooler Approach Temp (9)	°F	45					
Min/Max Operating Temp	°F	32 / 104					

Dimensions and Weight

Tank Size	gal	60	80	120	60	80	120	240	n/a	80	120	80	120	240	120	240		
Tank Configuration	n/a	Vertical			Horizontal					Vertical	Horizontal							
Tank Capacity @ 80 PSIG	ft³	51.7	68.9	103.3	51.7	68.9	103.3	206.7		68.9	103.3	68.9	103.3	206.7	103.3	103.3		
Tank Capacity @ 125 PSIG	ft³	76.2	101.6	152.4	76.2	101.6	152.4	304.9		101.6	152.4	101.6	152.4	304.9	152.4	304.9		
Tank Capacity @ 175 PSIG	ft³	103.5	138.0	207.0	103.5	138.0	207.0	414.0		138.0	207.0	138.0	207.0	414.0	207.0	414.0		
Tank Pumping Time @ 125 PSIG (10)	min	2.9	3.8	5.7	2.9	3.8	2.9	2.9		3.0	4.6	3.0	4.6	9.5	2.3	4.7		
Tank Pumping Time @ 175 PSIG (10)	min	4.1	5.5	8.3	4.1	5.5	4.1	4.1		4.9	7.4	4.9	7.5	15.4	3.7	7.7		
Package Length	in.	35.3	35.0	35.3	51.8	66.8	71.5	74.9	88.3	38.0	42.7	42.8	42.7	67.3	71.8	88.2	83.0	88.3
Package Length w/ dryer	in.	n/a				74.6	76.8	n/a						82.5	91.9	n/a		
Package Width	in.	32.5	34.5	37.4	31.6	31.6	32.8	32.7	37.9	24.7	25.3	37.9	37.4	31.6	32.8	33.3	33.7	37.9
Package Width w/ dryer	in.	n/a				34.5	35.7	n/a						35.8	35.8	n/a		
Package Height	in.	77.0	76.4	75.8	49.3	49.0	54.8	54.0	60.5	29.5	28.2	63.7	75.7	48.8	54.7	60.6	54.0	60.6
Package Height w/ dryer	in.	n/a				49.8	54.0	n/a						54.8	61.4	n/a		
Approx. Ship Weight	lbs.	565	630	802	565	630	802	1150	1485	310	430	753	882	763	882	1236	1305	1675
Approx. Ship Weight w/ dryer	lbs.	n/a				855	964	n/a						1080	1230	n/a		
Pump Length	in.	20					21.13											
Pump Width	in.	16.875					25.42											
Pump Height	in.	23.25					23.563											
Pump Weight	lbs.	109					220											
Discharge Connection (11)	npt "	1/2 F	3/4 F	1/2 F	3/4 F				3/4 F									
Parts Manual ID	n/a	CQF3454				CQF3455				CQF3454				CQF3455				
Service Manual ID	n/a	CQF3473																
Controller Manual ID	n/a	CQF3475				CQF3538				CQF3475				CQF3538				

6) All units tested in accordance with CAGI/PNEUROP Acceptance Test Code PN2CPTC2.
7) acfm is actual cubic feet per minute at inlet conditions.
8) Sound levels are based off estimated dB(A).
9) Approach temperature is the temperature above the discharge air and above the ambient air of the aftercooler.
10) Tank pumping time is based off 0 PSIG to fully pressurized.
11) M = Male connection, F=Female connection

NOTE: Duplex models take quantities of 2 on applicable items such as motors, pump, oil quantity, etc.