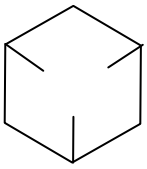
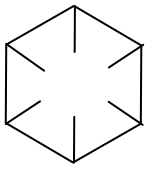
Bolt Torque On Copeland Compressors (All Values Are In FT/LBS)						
Bolt Usage	Size	Grade	E, 3A, 3R, L	N	M, 2, 3D, 9	4, 6, 8
Bottom Plate	3/8 – 16	5	34	34	34	34
	3/8 – 16	8	44	44	44	44
Capacity Control Valve	3/8 – 16				23	23
Counter Weight Bolt and Conelock Nut	1/4 – 28		5 – 6			
Crankcase Heater Plug	1/2 Pipe					38
	3/8 Pipe				34	34
Cylinder Head	3/8 – 16	8	34 – 44	34 – 44	34 – 44	34 – 44
Discharge Valve Retainer	1/4 – 28		9 – 10	9 – 10	9 – 10	9 – 10
Housing Cover	3/8 – 16		34	34	34	
	3/8 – 16					46
Magnetic Plugs						46 – 50
Oil Cooler Tee Fitting						10
Oil Pump or Bearing Cover to Housing Cover	5/16 – 18	5	21			
	5/16 – 18	8		25	25	25
Oil Schrader Fitting			15	15	15	
Oil Sight Glass	Retainer Bolts		9			
	Bolts with “O” Ring			4	4	4
				7	7	7
Oil Sight Glass Plate				13		
Oil Supply Magnetic Plug	1 – 16					100
	3/4 – 16				100	
Rod Bolts	5/16 – 24				16 –18	16 – 18
	1/4 – 28				9 – 11	9 – 11
Rotor Bolts	5/8 – 11		24 – 25	24 – 25	38 – 42	38 – 42
	5/8 – 18					
	1/2 – 20					
	1/4 – 20		24 – 25	24 – 25	38 – 42	38 – 42
Service Valves	5/8 – 11					80
	1/2 – 13	5		42	42	42
	1/2 – 13	8				55
	5/16 – 18	5	19	19	19	
Stator Cover	1/2 – 13	5				53
	3/8 – 16	5	34	34	34	
	3/8 – 16	8	44	44	44	
Steel Shut Off Valve	5/16 – 18		17 – 20	17 – 20		
Terminal Block Screws	#10 – 32		2	2	2	
Terminal Cover	#8 – 18		4	4	4	
Terminal Fused Cluster	1/4 – 20			4	4	7
Terminal Jumper Bar Nut	1/4 – 28				7	
Terminal Plate	3/8 – 16	8				44
	5/16 – 18	8	25	25	25	
Terminal Screws & Nuts, External	#6 – 32		1	1	1	
	#8 – 32		2	2	2	
	#10 – 32		2	2	2	
	#10 – 24					2
	1/4 – 20					5
	1/4 – 28			5	5	
Terminal Screws & Nuts, Internal	#10 – 32		3	3	3	
	1/4 – 28					5

Miscellaneous Torque Values (All Values Are In FT/LBS)

	Size	Torque
Flare Nuts (Double Flared, Copper Or Steel)	1/4	11
	5/16	19
	3/8	25
	1/2	34
	5/8	50
Pipe Plugs	1/8	17
	1/4	25
	3/8	35
	1/2	40
	3/4	50
	1 **	59
RotaLock Couplings W/Teflon Seal	3/4 – 16	10 – 20
	1 – 14	15 – 25
	1 1/4 – 12	20 – 30
	1 1/2 – 12	25 – 35
	1 3/4 –12	30 – 40
Sentronic Sensor		60 – 65

Under tension, metal parts will tend to stretch slightly, and gaskets may relax. In the event of oil and/or refrigerant, it is possible that the due to changes in pressure the bolt torques will be somewhat reduced from the original settings. The bolts should be retightened to the original settings.

Copeland recommends the retorquing of all bolts. However, pipe plugs with sealant applied at the factory are not to be retorqued or seal broken, as this may create a leak path in the cured sealant.

General Torque Wrench Settings					
	Size	Torque		Identification	
		Grade 5	Grade 8	Grade 5	Grade 8
Steel Bolts	1/4 – 20	9	12		
	5/16 – 18	21	25		
	3/8 -	34	44		
		38	100		
		80	200		