

Copeland scroll compressors for air conditioning

ZR18K* to ZR380K*
ZP24K* to ZP485K*



2 Product description

2.1 Compressor range

These application guidelines deal with all vertical single Copeland scroll compressors for air-conditioning and heat-pump applications, from ZR18K* to ZR380K* and from ZP24K* to ZP485K*.

These compressors have one scroll compression set driven by a single or three-phase induction motor. The scroll set is mounted at the upper end of the rotor shaft of the motor. The rotor shaft axis is in the vertical plane.

Compressor	Cooling capacity (kW)			Motor
	R407C	R134a	R22	
ZR18K5E	3.78	N/A	N/A	PFJ
ZR22K3E	4.54	3.61	5.33	PFJ/TFD
ZR28K3E	5.88	4.74	6.98	PFJ/TFD
ZR34K3E	7.04	5.55	8.32	PFJ/TFD
ZR40K3E	8.22	6.49	9.8	PFJ/TFD
ZR48K3E	10.10	7.74	11.85	PFJ/TFD
ZR61KCE	12.7	10.05	14.5	PFZ/TFD
ZR61KSE	12.80	N/A	N/A	TFD
ZR72KCE	14.75	11.8	17.6	TFD
ZR81KCE	16.7	13.3	19.9	TFD
ZR94KCE	20.6	15.2	23.3	TFD
ZR108KCE	23	17.8	26.4	TFD
ZR125KCE	27	20.7	31.1	TFD
ZR144KCE	30.9	23.3	35.2	TFD
ZR160KCE	33.4	25.7	38.1	TFD
ZR190KCE	39.3	30.7	45.3	TFD
ZR250KCE	52.2	39.5	59.8	TWD
ZR310KCE	65.0	49.2	74.2	TWD
ZR380KCE	80.1	61	91.2	TWD

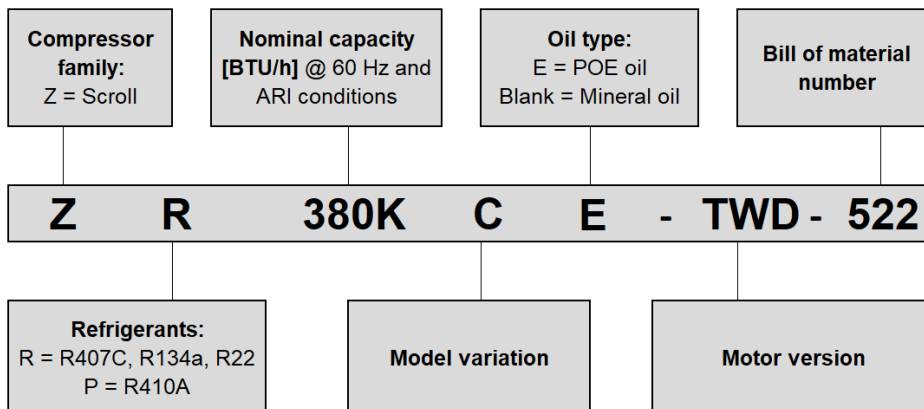
Compressor	Cooling capacity (kW)	Motor
	R410A	
ZP24K5E	5.05	PFJ/TFD
ZP29K5E	6.03	PFJ/TFD
ZP31K5E	6.50	PFJ/TFD
ZP36K5E	7.62	PFJ/TFD
ZP42K5E	8.89	PFJ/TFD
ZP54K5E	11.45	PFJ/TFD
ZP61K5E	13.35	TFD
ZP72KCE	15.25	TFD
ZP83KCE	17.65	TFD
ZP91KCE	19.25	TFD
ZP104KCE	22.70	TFD
ZP122KCE	26.50	TFD
ZP137KCE	29.00	TFD
ZP143KCE	31.60	TFD
ZP154KCE	33.10	TFD
ZP182KCE	39.00	TFD
ZP233KZE	50.60	TED
ZP293KZE	63.30	TED
ZP385KCE	82.30	TWD
ZP485KCE	105.00	TWD

Refrigerant dew temperature, evaporating temperature: 5 °C; condensing temperature: 50 °C; suction gas superheat: 10 K; liquid sub-cooling: 0 K; frequency: 50 Hz

Table 1: ZR* & ZP* model overview for high temperature applications

2.2 Nomenclature

The model designation contains the following technical information about the compressor:



*ARI conditions:

Evaporating temperature.....7.2 °C
 Condensing temperature.....54.4 °C
 Suction gas superheat11 K

Liquid sub-cooling8.3 K
 Ambient temperature35 °C

2.6 Dimensions

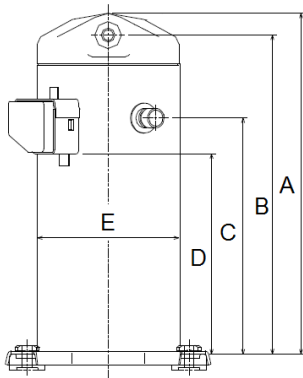


Figure 1: Drawing A
Drawing C

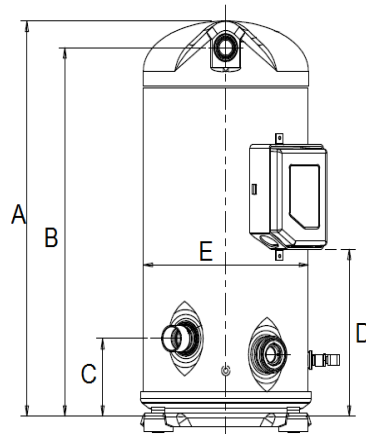


Figure 2: Drawing B

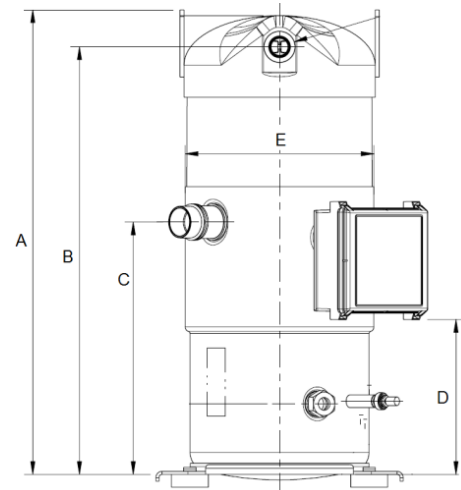


Figure 3:

Compressor model	Drawing	A ± 3	B	C ± 3	D ± 3	E
ZR18K5E	A (Fig. 1)	387.4	361.7	256.1	---	Ø 139.6
ZP24K5E, ZP29K5E, ZP31K5E		385-391	359.3-365.3	260.4-266.4	221.6-227.6	
ZR22K3E, ZR28K3E		363	338.4	244.6	202.4	
ZR34K3E		386.5	361	264.5	222.3	Ø 165.5
ZR40K3E		400.3	374.8	277.3	235.1	
ZR48K3E		417	391.7	294.2	252	
ZR61K5E		414.2-420.2	388.6-394.6	280.5-286.5	238.9-244.9	Ø 167.1
ZP36K5E, ZP42K5E		415.2-421.2	389.6-395.6	292.1-298.1	250.5-256.5	
ZP54K5E		415.2-421.2	389.6-395.6	292.1-298.1	221.4-227.4	
ZP61K5E		426.5-432.5	400.3-406.3	292.1-298.1	221.4-227.4	Ø 185.5
ZR61KCE, ZR72KCE		434.9-440.9	409.8	296.7	230.4-236.4	
ZR81KCE		440.4-446.4	413.9	296.7	230.4-236.4	
ZP72KCE, ZP83KCE, ZP91KCE		440.6-446.2	410.8	297.9	231.4-237.4	Ø 232.2
ZP104KCE, ZP122KCE, ZP143KCE		558.9	526.5	370,2	284.7	
ZR94KCE		476.3	444.3	93.6	201.5	
ZR108KCE, ZR125KCE, ZR144KCE ZP103KCE, ZP120KCE, ZP137KCE, ZP137KPE	B (Fig. 2)	533.1	501.2	122.4	242.8	Ø 232.2
ZR160KCE, ZR190KCE, ZP154KCE, ZP182KCE, ZP154KPE, ZP182KPE		551.5	519.5	140.5	181 (TW) 261.2 (TF)	
ZP232KZE, ZP292KZE (except TND)	C (Fig. 3)	661.5	614.5	439		
ZP232KZE, ZP292KZE (TND)		691.5	642.8	444	269	
ZP233KZE, ZP293KZE		691.5	642.8	444	310.3	
ZR250KCE, ZP235KCE		717.1	667.1	333.5	277	
ZR310KCE, ZR380KCE, ZP295KCE, ZP385KCE, ZP385KPE		715.1	659.7	375.3	273.3	
ZP485KCE, ZP485KPE		746.1	690.7	406.3	304.1	

Table 6: Compressor dimensions in mm & corresponding drawings

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