

KIRBY

Air conditioning & Refrigeration Compressors



Design Features:

- Up to 4HP Single Phase, 13HP Three Phase.
- Designed for all popular refrigerants.
- Thacom rotary compressors.
- Modern, efficient, compact designs.
- Backed by Kirby's technical support.

New Releases - WJ SERIES

- Convenient grouping of electrical terminals, suction valve and discharge connector tube for ease of installation and service.
- Mounting centres identical to AK and AJ compressors.
- No additional height required for electrical access - the WJ terminals are on the side of the housing.
- Quiet in operation, with optimum balance for minimum vibration.

AE18MG AE18LZ COMPRESSORS

- Extend the range of the very competitive AE design.
- Replace the 19cc AK models, and offer increased performance, at lower cost.
- Vertical copper tube connections, for ease of brazing and minimum overall dimensions.
- External overload, for ease of diagnosis.
- Both AE & WJ models available with pre-wired electrical box.

COMPRESSORS USING RT34a (Also approved for R12 or suitable drop-in replacement)

Part No.	Nominal HP	Displ. (cc/rev)	Nominal 134a Capacity (Watts)											RATING POINT			Motor			Power Input (Watts)		Connections (in.) Suction	Oil Charge (cc)	Oil Type	Height (mm)	Net Wt (kg)	Replaces	
			-30	-25	-20	-15	-10	-5	0	5	10	-23.3	-6.7	7.2	Type	L	M	H	Discharge									
AZ Domestic 220/240V 50Hz 1 Phase - Static Cooling																												
AZ22LY-1KS	1/20	2.23	23	31	42	64	93														5/16 ST	1/4 ST	270	4	155	6.4		
AZ30LY-1KS	1/16	2.95	34	44	62	85	117														5/16 ST	1/4 ST	270	4	155	6.4	AE1322A**	
AZ33LY-1KS	1/12	3.28	54	73	94	126	168														5/16 ST	1/4 ST	400	4	168	6.8	AE12Z7**	
AZ36LY-1KS	1/10	3.59	57	78	101	134	179														5/16 ST	1/4 ST	400	4	155	6.4	AE8ZA7**	
AZ40LY-1KS	1/8	4.00	66	86	111	142	185														5/16 ST	1/4 ST	300	4	155	6.4	AE6ZD7**	
AZ56LY-1KS	1/6	5.59	83	108	140	182	238														5/16 ST	1/4 ST	300	4	168	6.8		
AE Domestic 220/240V 50Hz 1 Phase - Static Cooling																												
AEV6LY-1KS	1/5	5.99	89	116	150	195	255														5/16 ST	1/4 ST	296	4	189	9.4	AE5ZF9**	
AEV7LY-1KS	1/5	6.91	108	140	182	236	309														5/16 ST	1/4 ST	485	4	189	9.6	AE4ZF11**	
AEV8LY-1KS	1/4	8.12	124	162	209	272	356														5/16 ST	1/4 ST	485	4	189	9.8	AE4ZG12**	
AE Domestic 220/240V 50Hz 1 Phase - Oil Cooler																												
AEV9LY-1KS	1/4	9.42	147	191	248	322	421														5/16 ST	1/4 ST	485	4	189	10.2	AE1385A**	
AE Commercial 240V 50Hz 1 Phase																												
AE5HY-1KS	1/6	4.48			95	130	173																					
AE6LMY-1KS	1/6	5.51	55	87	120	165	215																					
AE8LMY-1KS	1/5	7.55	85	130	182	240	310																					
AE9MHY-1KS	1/4	8.88			210	270	350																					
AE12LMY-1KS	1/4	12.1	150	220	300	390	480																					
AE14LMY-1KS	1/3	14.1	175	255	340	445	560																					
AE16LMY-1KS	3/8	16.1	220	310	420	540	680																					
AE18LZ-1KS	1/2	18.0	280	370	480	600	750																					
WJ Commercial 220/240V 50Hz 1 Phase																												
WJ22LZ-1C	5/8	21.5			420	620	820																					
WJ26LZ-1C	3/4	26.7			510	730	1010																					
WJ31LZ-1C	1	30.5			580	830	1140																					
AW Commercial 240V 50Hz 1 Phase																												
AW40LZ-1C	1	39.6			740	1090	1480																					
AW43LZ-5C	1	43.1			840	1240	1690																					
AW48MHY-3C	1 1/2	48.4			820	1210	1790																					
AW54LZ-1C***	1	53.1	510	860	1200	1690	2200																					
AW Commercial 380/420V 50Hz 3 Phase																												
AW48MHY-2C	1	48.4			820	1210	1790																					
AV Commercial 220/240V 50Hz 1 Phase																												
AV79MHY-1C	2	79.0			1180	1770	2530																					
AV Commercial 380/420V 50Hz 3 Phase																												
AV79MHY-2C	2	79.0			1180	1770	2530																					

*** Use without run capacitor on LBP applications
 ** Provided that replacement compressor will use R12 or equivalent

COMPRESSORS USING R12 OR SUITABLE DROP-IN REPLACEMENT

Part No.	Nominal HP	Displ. (cc/rev)	Nominal Capacity Watts			Motor Type			Power Input (Watts)		Connections (in.)	Oil Charge (cc)	Oil Type	Height (mm)	Net Wt (kg)
			-23.3	-6.7	7.2	L	M	H	Suction	Discharge					
AE Domestic 240V 50Hz 1 Phase - Oil Cooler															
AE5ZF9-30KS	1/5	7.5	152			RSIR	170			5/16 ST	1/4 ST	592	1	189	9.0
AE4ZF11-36KS	1/4	8.88	185			RSIR	210			5/16 ST	1/4 ST	510	1	189	9.5
AE4ZG12-35KS	1/4	10.2	220			RSIR	237			5/16 ST	1/4 ST	510	1	189	9.5
AE1385A-22KS	1/4	10.2	250			RSIR	275			5/16 ST	1/4 ST	510	1	189	9.5
AE1411A-7KS	1/4	14.14	338			RSIR	335			5/16 ST	1/4 ST	600	1	202	11.2
AE Commercial 240V 50Hz 1 Phase															
AE10LMA-1KS	1/4	10.25	250	480		CSIR	275	345		5/16 ST	1/4 ST	505	1	189	9.5

LOW TEMPERATURE COMMERCIAL COMPRESSORS USING R404A, R507 AND R407B

Part No.	Nominal HP	Displ. (cc/rev)	Nominal 404A Capacity (Watts)							Motor Type	Power L	Connections (in.)		Oil Charge (cc)	Oil Type	Height (mm)	Net Wt (kg)	Replaces
			-35	-30	-25	-20	-15	-23.3	Suction			Discharge						
													Power Input (Watts)					
AE Series 240V 50Hz 1 Phase																		
AE8MG-1KS	1/4	7.55	137	210	295	385	490	330	CSIR	330	5/16 ST	1/4 ST	487	4	202	10.0		
AE12LMY-1KS	1/3	12.1	190	310	440	585	745	490	CSIR	460	5/16 ST	1/4 ST	607	4	215	11.8		
AE16LMY-1KS	3/8	16.1	330	465	620	810	1025	690	CSR	610	5/16 ST	1/4 ST	487	4	215	11.8		
AE18LZ-1KS	1/2	18.0	400	550	720	930	1180	800	CSR	710	3/8 ST	1/4 ST	487	4	215	12.5	AKL19ZS-1C	
WJ Series 220-240V 50Hz 1 Phase																		
WJ22LZ-1C	3/4	21.5	360	560	810	1130	1490	930	CSR	780	1/2 FV	5/16 ST	946	4	275	23.5		
WJ26LZ-1C	7/8	26.7	420	670	990	1390	1850	1140	CSR	920	1/2 FV	5/16 ST	946	4	275	23.5	AKL26ZS-1C	
WJ31LZ-1C	1	30.5	530	820	1180	1610	2130	1360	CSR	1050	5/8 FV	5/16 ST	946	4	275	24.0	AJ33LZ-1C	
AW Series 240V 50Hz 1 Phase																		
AW40LZ-1C	1	39.6	590	900	1325	1890	2590	1520	CSR	1120	5/8 FV	5/16 ST	946	4	305	32.6	AH40LZ-1C	
AW43LZ-1C	1 1/4	43.1	680	1030	1540	2160	2890	1750	CSR	1200	5/8 FV	5/16 ST	946	4	305	32.6		
AW54LZ-1C	1 1/2	53.5	780	1250	1920	2760	3660	2210	CSR	1660	5/8 FV	5/16 ST	946	4	340	29.8	AH53LZ-3C	
AV Series 380-420 50Hz 3 Phase																		
AV2490ZG	2	73.0	900	1600	2400	3350	4500	2720	3 PH	2090	7/8 SV	1/2 SV	1600	4	500	35.0	AH74LZ-4C	

ZF Scroll Series 380-420/50Hz 3 Phase

Part No.	Nominal HP	Displ. (cc/rev)	Nominal R404A Capacity (Watts)										Motor Type	Power Input		Connections (in.)		Oil Charge (cc)	Oil Type	Height (mm)	Net Wt (kg)	Replaces
			-40	-30	-20	-10	0	7	-23.3	-6.7	Suction	Discharge		L	M	Suction	Discharge					
ZF09K4E-TFD-550	3	46.4	1200	1900	2800	4000	5600	7100	2530	4528	3 PH	2800	7/8 SV	5/8 SV	1100	4	430	27				
ZF11K4E-TFD-550	3.5	57.5	1500	2300	3500	4900	7000	8900	3140	5593	3 PH	3080	7/8 SV	5/8 SV	1100	4	440	28				
ZF13K4E-TFD-551	4	67.8	1700	2700	4000	5800	8200	10300	3610	6592	3 PH	3450	7/8 SV	5/8 SV	1400	4	480	38				
ZF15K4E-TFD-551	5	83.3	2100	3300	4900	7000	10000	12700	4420	7990	3 PH	4150	7/8 SV	5/8 SV	1700	4	480	39				
ZF18K4E-TFD-551	6	98.8	2500	4000	5900	8400	12000	15300	5330	9588	3 PH	4820	7/8 SV	5/8 SV	1700	4	480	41				
ZF24K4E-TFD-551	7.5	125.9	3060	4900	7200	10300	14700	18500	6510	11752	3 PH	6380	1 3/8 SV	3/4 SV	4000	4	560	93				
ZF33K4E-TFD-551	10	166.1	4350	6720	10300	14900	20800	25700	9226	16847	3 PH	9180	1 3/8 SV	7/8 SV	4000	4	560	93				
ZF40K4E-TWD-551	13	204.6	5200	8300	12500	18000	25500	32200	10900	20300	3 PH	10680	1 3/8 SV	7/8 SV	4100	4	570	103				
ZF48K4E-TWD-551	15	TBA	6000	9600	14100	20700	29300	37000	12500	23300	3 PH	13130	1 3/8 SV	7/8 SV	4100	4	570	115				

AIR CONDITIONING COMPRESSORS USING R22

Part No.	Nominal HP	Disp. (cc/rev)	Nom. Capacity (Watts)	Motor Type	Input (Watts)	Connections (in.)		Oil Charge (cc)	Oil Type*	Height (mm)	Net Wt. (kg)	Replaces
						Suction	Discharge					
AE Series 240V 50Hz 1 Phase												
AE5462G-1KS	3/4	14.14	1800	PSC	812	3/8 ST	1/4 ST	385	4	215	12	
AK Series 220/240V 50Hz 1 Phase												
AKA5510EXC	7/8	18.8	2440	PSC	1015	3/8 ST	1/4 ST	503	1 or 2	247	18	AJ5483E-1C
AKA5512EXC	1	22.3	2930	PSC	1175	3/8 ST	1/4 ST	503	1 or 2	247	18	AJ5510E-1C
AJ Series 220/240V 50Hz 1 Phase												
AJB5515EXC	1 1/4	26.1	3670	PSC	1610	1/2 ST	5/16 ST	768	1 or 2	272	23	AJ5513G-1C
AJA5518EXC	1 1/2	32.7	4510	PSC	1980	1/2 ST	5/16 ST	768	1 or 2	283	23	AJ5515G-1C
AJA5519EXC	1 1/2	34.2	4720	PSC	2110	1/2 ST	5/16 ST	768	1 or 2	283	23	AJ5516G-1C
AJ Series 220/240V 50Hz 1 Phase												
AW5522EK-3C	1 3/4	39.6	5330	PSC	1900	3/4 ST	3/8 ST	946	1	322	28	AH5518HG-1C
AW5524EK-3C	2	43.1	6050	PSC	2100	3/4 ST	3/8 ST	946	1	322	38	AH5520G-1C
AW5528EK-3C	2 1/4	48.4	6830	PSC	2440	3/4 ST	3/8 ST	946	1	322	30	AH5523G-1C
AW5532EK-3C	2 1/2	53.5	7630	PSC	2700	3/4 ST	3/8 ST	946	1	322	30	
AW Series 380/420V 50Hz 3 Phase												
AWF5522EXG	1 3/4	39.6	5330	3 PH	1940	3/4 ST	3/8 ST	946	1	322	28	AH5518G-2C
AWF5524EXG	2	43.1	6050	3 PH	2150	3/4 ST	3/8 ST	946	1	322	28	AH5520G-2C
AWF5528EXG	2 1/4	48.4	6830	3 PH	2500	3/4 ST	3/8 ST	946	1	322	30	AH5523G-2C
AWF5532EXG	2 1/2	53.5	7630	3 PH	2770	3/4 ST	3/8 ST	946	1	322	30	
AV Series 220/240V 50Hz 1 Phase												
AVA5535EXC	2 3/4	62.4	8590	PSC	2900	7/8 ST	1/2 ST	1597	1 or 2	388	36	
AVA5538EXC	3	67.0	9380	PSC	3200	7/8 ST	1/2 ST	1597	1 or 2	391	38	
AVA5542EXC	3 1/2	73.3	10380	PSC	3575	7/8 ST	1/2 ST	1597	1 or 2	370	38	
AVA5546EXC	4	79.0	11360	PSC	3850	7/8 ST	1/2 ST	1597	1 or 2	370	38	
AV Series 380/420V 50Hz 3 Phase												
AVA5535EXG	2 3/4	62.4	8590	3 PH	2900	7/8 ST	1/2 ST	1597	1 or 2	388	36	
AVA5538EXG	3	67.0	9380	3 PH	3015	7/8 ST	1/2 ST	1597	1 or 2	391	38	
AVA5542EXG	3 1/2	73.3	10380	3 PH	3505	7/8 ST	1/2 ST	1597	1 or 2	370	38	AH5533G-2C
AVA5546EXG	4	79.0	11360	3 PH	3830	7/8 ST	1/2 ST	1597	1 or 2	370	38	
AVA5555EXG	4 1/2	91.0	13430	3 PH	4500	7/8 ST	1/2 ST	1597	1 or 2	391	40	AGA5553EXG
AVB5558EXG	4 3/4	91.0	13720	3 PH	4640	7/8 ST	1/2 ST	1597	1 or 2	391	40	AGA5561EXG
AG Series 380/420V 50Hz 3 Phase												
AGC5561EXG	5	112.5	14880	3 PH	5250	7/8 ST	1/2 ST	1922	3	399	41	
AGC5568EXG	5 3/4	124.5	16360	3 PH	6040	7/8 ST	1/2 ST	1922	3	412	41	
AGA5573EXG	6	135.1	17680	3 OH	6250	7/8 ST	1/2 ST	1922	3	412	47	
ZR Series 220/240V 50Hz 1 Phase												
ZR28K3PFJ522-C	2 1/3	39.2	6970	PSC	2190	3/4 ST	1/2 ST	1000	3	385	27.3	
ZR34K3PFJ522-C	2 7/8	46.1	8260	PSC	2530	3/4 ST	1/2 ST	1120	3	410	29.5	
ZR36K3PFJ522-C	3	49.5	8850	PSC	2720	3/4 ST	1/2 ST	1120	3	410	29.5	
ZR47K3PFJ522-C	3 7/8	64.1	11500	PSC	3500	7/8 ST	1/2 ST	1120	3	440	30.5	
ZR68KCPJ522-C	5 3/4	93.0	16800	PSC	5120	7/8 ST	1/2 ST	1660	3	460	41.8	
ZR Series 380/420V 50Hz 3 Phase												
ZR54KCTFD522-C	4 1/2	73.2	13000	3 PH	4020	7/8 ST	1/2 ST	1830	3	460	35.5	
ZR61KCTFD522-C	5	82.4	14700	3 PH	4420	7/8 ST	1/2 ST	1830	3	460	35.9	
ZR68KCTFD522-C	5 3/4	93.0	16500	3 PH	4960	7/8 ST	1/2 ST	1660	3	460	38.2	
ZR72KCTFD522-C	6	98.0	17800	3 PH	5260	7/8 ST	1/2 ST	1660	3	460	38.2	
ZR81KCTFD522-C	6 3/4	110.6	19800	3 PH	5820	7/8 ST	1/2 ST	1660	3	465	40.0	
ZR94KCTFD523-C	8	127.2	23200	3 PH	6880	1 1/8 SV	3/4 SV	2400	3	495	58.2	SFA5594EXG
ZR108KCTFD523-C	9	144.5	26900	3 PH	7890	1 1/8 SV	3/4 SV	3130	3	555	62.7	SFA5611EXG
ZR125KCTFD523-C	10	165.6	31000	3 PH	9110	1 1/8 SV	3/4 SV	3130	3	555	62.7	SFA5612EXG
ZR144KCTFD523-C	12	191.7	34700	3 PH	10180	1 1/8 SV	3/4 SV	3130	3	555	62.7	SFA5615EXG
ZR16M3TWD551-C	13	204.3	37700	3 PH	11180	1 3/8 SV	7/8 SV	4140	3	546	103.1	
ZR19M3TWD551-C	15	241.9	45900	3 PH	14030	1 5/8 SV	1 1/8 SV	4140	3	592	112.1	

* Refer Page 6 Oil Table

PERFORMANCE RATING BASIS (ASHRAE)

Application	Ambient Temp °C	Condensing Temp °C	Liquid Entering Temp °C	Return Vapour Temp °C	Nominal Capacity W @ SST °C	Power Input w @ SST °C	Standard
Low Suction Temp	32	55	32	32	-23.3	-23.3	ASHRAE-T
Medium Suction Temp	35	55	47	35	-6.7	-6.7	ASHRAE-T
High Suction Temp	35	55	47	35	+7.2	+7.2	ASHRAE-T
Air Conditioning	35	55	47	35	+7.2	+7.2	ASHRAE-T
ZR Scrolls REF	35	55	46	18	+7.2	+7.2	ARI
ZF Scroll	35	55	55	18/25	-23.3/-6.7	-23.3/-6.7	ARI

Stated Capacity(watts) and Power Input (watts) in the following tables have been established at these conditions using nominated refrigerants and are accurate to ±5%. To establish capacities at design conditions, the following factors may be used:

- For lower condensing temperature: increase capacity 6% for every 5°C lower condensing temperature.
- For higher condensing temperature: decrease capacity 6% for every 5°C higher condensing temperature.
- For lower liquid entering temperature: increase capacity 1% for every 1°C lower liquid entering temperature.
- For lower return temperature: disregard, generally marginal.

FEATURES

- All hermetic compressors require fan cooling unless otherwise specified.
- Low start torque compressors (i.e. with RSIR or PSC motors) require capillary refrigerant control.
- High start torque compressors (i.e. with CSIR, CSR or 3 Phase motors) can be used with capillary or TX valve control.

OIL TABLE

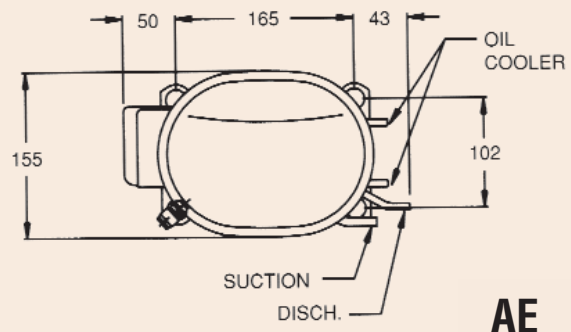
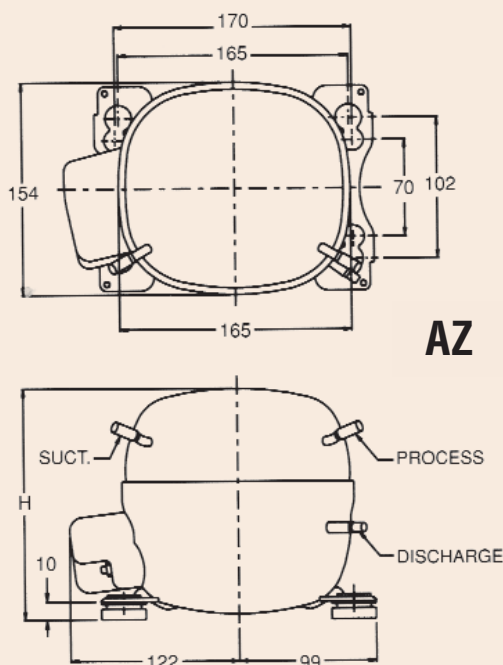
Oil Type	Oil Category	Typical Approved Oil *
1	Mineral (yellow / naphthenic)	Suniso 3GS
2	Synthetic (alkyl benzene)	Zerol 300
3	Mineral (white / naphthenic-paraffinic)	Sontex 200 LT
4	Polyol Ester (POE)	Emkarate RL32
5	Oil approved for RM rotary compressors	Barrel Freeze 32SAM

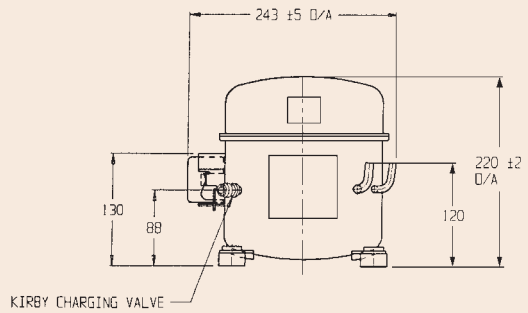
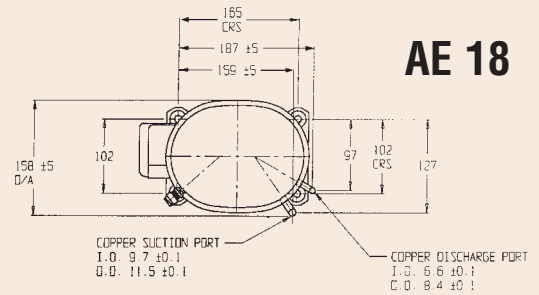
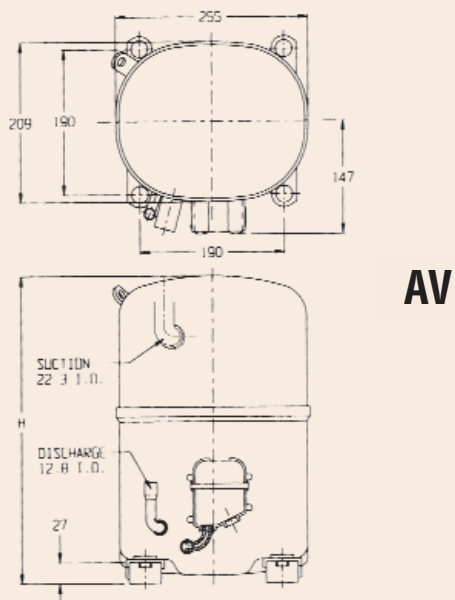
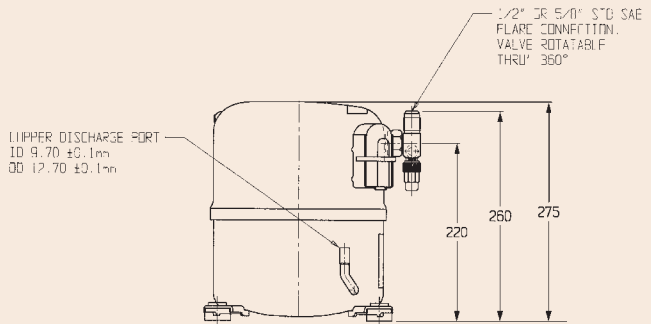
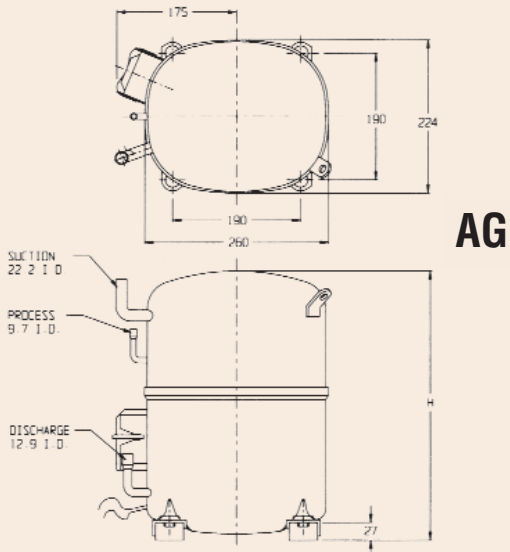
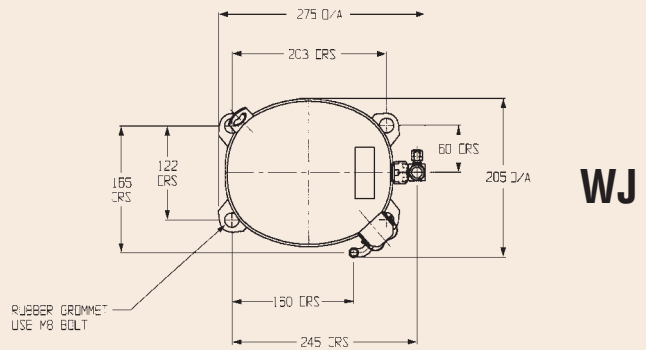
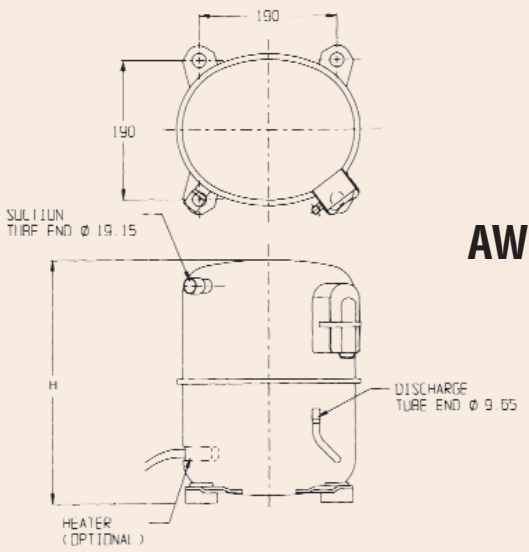
* Differing oil viscosities may be required for different models. Ensure that the oil you select is appropriate for the specific compressor model.

EQUIVALENT COMPRESSOR MODELS

Application	New Model	Replaces	Previous Model
LBP R404A/R507	AE18LZ	AKL19ZS	AJ18LZ
	WJ22LZ		AJ22LMY
	WJ26LZ	AKL26ZS	AJ26LZ
	WJ31LZ	AJ33LZ	AJ34LMY
M/HBP R22/R404A/R507	AE18MG	AKM19ES	AJ20MG
	WJ22MHG	AKM22ES	AJ24MG
	WJ26MHG	AKM26ES	AJ26MG
	WJ31MHG	AJ33MG	AJ34MG
MBP R134a	AE18LZ	AKM19YS	AJ18MY
	WJ22LZ	AKM22YS	AJ22LMY
	WJ26LZ	AKM26YS	AJ26LMY
	WJ31LZ	AJ33LZ	AJ33MY

DRAWINGS AND DIMENSIONS





THACOM AIR CONDITIONING COMPRESSORS USING R22

Kirby – Thacom Rotary Compressors are made in Thailand by Thacom, a joint venture between Kulthorn Kirby and Mitsubishi Heavy Industries. The manufacturing plant utilises the latest technology to produce a high quality range of compressors.

Features

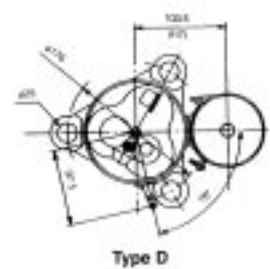
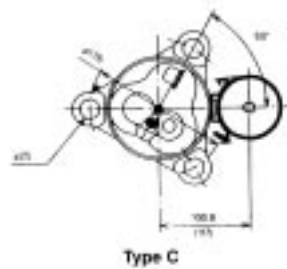
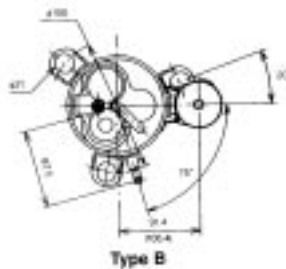
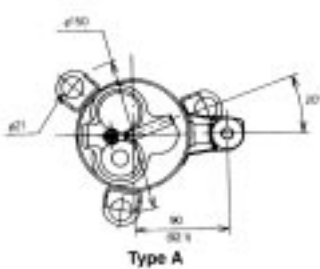
- Few moving parts, minimum vibration, fewer causes of possible malfunction.
- High efficiency design. Compression and suction carried through full 360° resulting in smooth refrigerant flow.
- Easy noise suppression. Rotary compressor noise mainly high frequency which is simple to suppress.

Use of Liquid Injection

Liquid injection cooling is offered on compressor type D (see below). Part of the liquid refrigerant at the exit end of the condenser is injected directly into the cylinder, cooling the discharge gas and improving efficiency and performance. When using these compressors as replacements for other manufacturers' rotary compressors, it is not always possible to connect a liquid injection system. This will not adversely affect performance compared to the compressor being replaced. When liquid injection is not being utilised, the connector on the lower housing should be sealed.



Part No	Nom HP	Disp. (cc/rev)	Rated Capacity (W)	Motor Type	Motor Input (W)	Liquid Injection	Connections (in) Suction	Discharge	Accum. Dia. (mm)	Type	Oil Charge (cc)	Oil Type	Height (mm)	Net wt (kg)
RM Rotary Series 220/240V 50Hz 1 Phase														
RM5485GNE81	.83	12.5	2075	PSC	730	NO	3/8 ST	1/4 ST	30	A	300	5	261	9.1
RM5510GNE9	1.1	14.5	2400	PSC	810	NO	3/8 ST	1/4 ST	78	A	350	5	305	12.1
RM5512GNE81	1.2	16.9	2930	PSC	965	NO	3/8 ST	1/4 ST	51	A	350	5	300	11.3
RM5515GNE81	1.5	21.4	3600	PSC	1180	NO	3/8 ST	1/4 ST	51	C	450	5	303	13.9
RM5518GNE81	1.9	25.0	4395	PSC	1410	NO	3/8 ST	1/4 ST	51	C	600	5	300	15.0
RM6520GNHE91	2.0	28.0	4885	PSC	1590	YES	5/8 ST	1/4 ST	89	D	700	5	349	19.1
RM5524GNHE91	2.4	34.5	5860	PSC	1970	YES	5/8 ST	1/4 ST	89	D	700	5	349	19.2
RM5526GNHE9	2.5	37.3	6350	PSC	2165	YES	5/8 ST	3/8 ST	89	D	700	5	383	19.6



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