

# KIRLOSKAR FK/GK SERIES AIR CONDITIONING AND REFRIGERATION COMPRESSORS



Enriching Lives



Corporate Office, Pune

Kirloskar Pneumatic Company Limited (KPCL) is known for the last four decades as the leading manufacturer of wide range of Air-conditioning and Refrigeration Equipment in India. Kirloskar Pneumatic has vast experience and the latest technology and up-to-date manufacturing facilities at its modern plant at Saswad, near Pune. The Company has established a countrywide 'sales & service' network for up-keep of every product it manufactures. Today more than 25000 of various ACR compressor models are operating in India and abroad (over 30 countries) for more than 15 applications.

KPCL is an ISO9001-2000 company, the very first in India in its line of activities. Kirloskar Pneumatic is also an outstanding force in the areas of system engineering and turnkey projects in Refrigeration and Air-conditioning.

## FK/GK COMPRESSORS

FK/GK series compressors are the result of years of dedicated work by the Research & Development Department of Kirloskar Pneumatic.

The FK/GK series have been designed to be used with air-cooled as well as water-cooled condensers. As they can withstand high pressures and high temperatures, FK/GK compressors are extensively used with air-cooled condensers for comfort air-conditioning of rooms and halls and process cooling. This is a boon especially where water shortage restricts use of water cooled condensers.

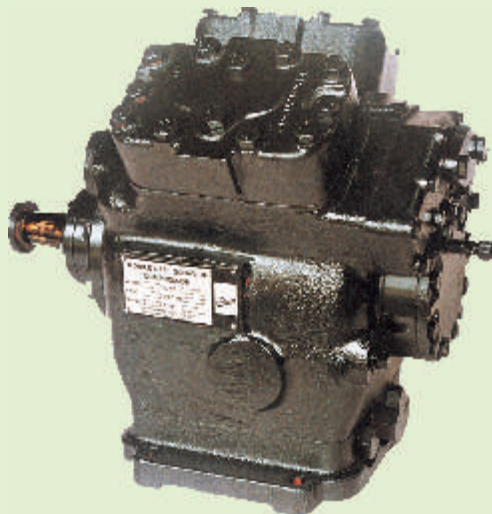
These compressors are suitable for refrigerants R-22 and R-134a.

## FEATURES

1. Crankcase is made of high grade cast iron and is heat treated for stress relieving. Fine bored and honed cylinders are integral with the crankcase, resulting in mirror-smooth running surface.
2. Bottom cover, bearing covers, cylinder covers are also made of high grade cast iron, heat treated for stress relieving and machined with great accuracy, keeping in view the interchangeability of all the parts.
3. Crankshaft is of S.G. iron, perfectly balanced statically and dynamically. The bearing surfaces are ground and

polished to fine tolerances. The shaft is of a rotary type and continuously immersed in oil supplied through the drilled crankshaft.

4. Connecting rods and pistons are of light weight aluminium alloy. The piston is provided with one compression ring and one oil scrapper ring.
5. Force feed lubrication is ensured by crankshaft driven gear pump incorporated in gear bearing cover. The oil level may be checked by a sight glass provided in the crankcase.



## APPLICATIONS

The salient features like low noise level, vibration less running and lightweight make FK/GK compressors ideal for mobile applications like bus/train/ship air-conditioning, refrigerated vans, trucks, trailers and containers. FK/GK compressors are also ideal for water coolers, display cabinets, deep freeze cabinets and air-conditioners.

## ACCESSORIES

FK/GK compressors are provided with shut off valves and flywheels for V belt drive. These compressors can also be fitted with electromagnetic clutch or flexible coupling for direct drive. Solenoid valve for capacity control for models FK-4 & GK-25 can also be provided.



## TECHNICAL DATA

FK/GK compressors are suitable for use with R-12, R-22 and R-134a

Description			FK3	FK4	GK25	
No. of cylinders			2	4	4	
Bore	mm		55	55	70	
Stroke	mm		49	49	55	
Displacement at 1450 RPM			m <sup>3</sup> C/hr	19.84	40.52	73.65
Weight without flywheel			kg	29	65	92
Maximum speed, RPM with			R-22	2000	2000	2000
Minimum speed, RPM with R-12 & R-22				900	900	900
Maximum condensing temperature °C			R-22	60	60	60
Maximum evaporating temperature °C R-12 & R-22				10	10	10
Oil charge			Ltr.	1	4	4.5
Overall Dimensions:	Length	L	mm	320	455	470
	Width	W	mm	235	305	355
	Height	H	mm	404	437	465

## PERFORMANCE CHART

FK/GK compressors are suitable for use with R-12, R-22 and R-134a

Compressor	Evaporating Temperature °C	Condensing Temperatures									
		Refrigerant R-12 2000 RPM						Refrigerant R-22 2000 RPM			
		40°C		50°C		60°C		40°C		50°C	
		k cal/hr	kW AT SHAFT	k cal/hr	kW AT SHAFT	k cal/hr	kW AT SHAFT	k cal/hr	kW AT SHAFT	k cal/hr	kW AT SHAFT
FK3	+10	15700	4.6	14100	5.1	12700	5.7	24800	6.8	21800	7.9
	+5	13100	4.5	11700	4.9	10200	5.3	20800	6.4	18200	7.3
	0	10800	4.2	9400	4.6	8300	4.7	16800	6.0	14800	6.8
	-10	7000	3.7	6000	3.9	5000	4.5	11000	5.3	11200	6.0
	-20	4150	3.0	3500	3.1	2800	3.3	6800	4.6	5500	5.1
	-30	2300	2.3	1600	2.4	1200	2.5	4000	4.0	2900	4.3
FK4	+10	31600	8.1	28400	9.0	25500	10.3	52270	11.7	46100	13.8
	+5	26100	7.9	23500	8.8	21000	9.8	43400	10.9	38400	12.3
	0	22100	7.5	19300	8.3	17000	9.3	35450	10.0	30900	11.3
	-10	14000	6.4	12000	6.9	10300	7.8	22500	8.5	19500	9.0
	-20	8300	5.1	7000	5.4	5400	6.3	13400	6.9	11150	7.4
	-30	4600	4.1	3400	4.3	2200	4.7	7200	5.3	5000	5.7
GK25	+10	52900	13.7	46900	15.9	40500	17.9	90800	22.1	79200	25.0
	+5	45000	13.3	40000	15.1	34100	17.0	76300	20.8	65900	23.1
	0	38000	12.7	33300	14.0	28700	15.6	62500	19.4	53300	21.5
	-10	25000	11.0	22000	11.7	18500	12.6	40000	16.5	33800	18.1
	-20	15000	8.4	12900	9.0	10500	9.8	24200	13.3	20000	14.2
	-30	8200	6.0	6200	6.5	4700	6.8	12500	10.0	9600	10.6

### NOTES:

Capabilities based on: Liquid subcooling of 0°C; Return gas temperature 20°C.

Specifications are subject to change without prior notice

**WARRANTY:** Every compressor carries a standard warranty against manufacturing defects of 12 months from the date of start-up/commissioning by a KPC authorised engineer OR 18 months from the date of despatch whichever occurs earlier. The warranty card must be produced for any warranty claims. Standard warranty does not include consumables like oil, filters, gaskets, O-rings, etc. and warranty is not applicable if failure occurs due to fault in system design.

## Kirloskar Refrigeration

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