



Cooling Synergies

KIRLOSKAR CHILLERS PRIVATE LIMITED
A Kirloskar Group Company



Enriching Lives

Leadership, Innovation, Advanced Technology Synergize Here!

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A Kirloskar Group Company



Enriching Lives



130 Years of Engineering Innovation

Kirloskar Chillers is proud to be a part of the 130-year-old **Kirloskar Group**, a diversified engineering conglomerate that gave India its first iron plough, water pump, electric motor, compressor & engine. In the present era, we spearhead the effort to introduce energy efficient & eco-friendly 'GREEN' products to the Indian market. Today, the Group not only has a strong presence in India, but also in more than 70 countries across the globe.

KIRLOSKAR CHILLERS PRIVATE LIMITED

Kirloskar Chillers, a future-focused organization, is committed to introducing innovative products for comfort & process cooling and heating applications. The company commenced its operations in 1996 & since then has been demonstrating its commitment to achieving customer delight in every aspect of its business.

The 1st Company in India to manufacture both Centrifugal & Screw chillers, designed for a wide range of operating conditions, we lead the industry in energy efficiency, complying with or exceeding prevailing environment norms. We take pride in being the first company in India to establish an AHRI-certified chiller test bed at our manufacturing facility at Pune, India, evidence of our commitment to offer products meeting global standards.

Our ability to offer our customers superlative product quality, flexibility in meeting expectations, and prompt & competent service support are our USPs, enabling us to achieve the status of 'preferred chiller supplier' for our customers, not just in India but across the globe.



Comprehensive solutions for comfort cooling, process cooling & heating needs

Kirloskar Chillers' product portfolio covers a wide range of highly energy efficient & reliable Centrifugal & Screw Chillers from 45 TR (160 kW) to 2,400 TR (8,440 kW), using environment-friendly technologies.

Apart from cooling applications, we have various heat recovery options such as Partial & Total Heat Recovery and Reverse Cycle Heat Pumps for hot water applications. This is an efficient, economical, clean, hence the most preferred option over generating hot water by burning fossil fuels.

Vast experience with equipment totaling >500,000 TR cooling capacity, and more than 3000 chillers successfully operating in the field makes us a trusted partner. Responsive after-sales support and value-added services ensure reliable operation through the life of the equipment.

TURBOLEV[®]

TURBOTEK[®]

PRODIGY[®]

- KCM Series - Water Cooled Variable Speed Centrifugal Chillers with Magnetic Bearing Compressors
- KSC Series - Single Compressor Centrifugal Chillers
- KDC Series - Dual Compressor Centrifugal Chillers
- KWI Series - Water Cooled Screw Chillers (Falling Film with Inverter drive)
- KWI Series - Water Cooled Screw Chillers - HFO 1234ze Refrigerant (with Inverter drive)
- KWK Series - Water Cooled Screw Chillers (Flooded) - High Efficiency
- KWE Series - Water Cooled Screw Chillers (Flooded)
- KWS Series - Water Cooled Screw Chillers (Dx)
- KAS Series - Air Cooled Screw Chillers (Dx)
- KAA Series - Air Cooled Screw Chillers with Adiabatic Cooling

TURBOLEV® Water Cooled Centrifugal Chillers with Magnetic Bearing Compressors

KCM Series: Water Cooled Variable Speed Centrifugal Chillers with Magnetic Bearing Compressors

Features & Benefits

Kirloskar TURBOLEV® KCM series water cooled, flooded, variable speed Centrifugal Chillers are equipped one, two or three high efficiency Magnetic Bearing Compressors. These chillers use flooded evaporators enabling to achieve efficiency as high as COP 6.2 (0.57 kW/tonR) **at full load** at defined AHRI (550/590) and AHRI (551/591) standard rating conditions and IPLV/IP is as low as 0.34 kW/tonR (IPLV, SI 10.3)

Each TURBOLEV® KCM series chiller is equipped with:

- 1, 2 or 3 Magnetic bearing compressors, with semi hermetic, refrigerant cooled, squirrel cage two pole induction motor suitable for voltages between 380 ~ 460V. These high efficiency compressors are designed for exceptionally quiet operation & have step-less capacity control.
- Shell & tube condenser with enhanced surface copper tubes & removable water heads.
- Flooded shell & tube evaporator with enhanced surface copper tubes & removable water heads.
- Electrical panel housing intelligent 'K-Smart' controller, with 13" LED touch screen graphic display.
- Anti-vibration rubber pads / spring isolator for field installation.
- Differential water pressure switches.
- Victaulic coupling compatible water connections for both heat exchangers.

Technology: The TURBOLEV® series of chillers uses the principle of magnetic levitation, combined with variable-speed centrifugal compression and supported by digital electronics to run the compressor without any contact between the rotating dynamic and static parts, allowing the compressor to operate in a frictionless environment so as achieve the highest efficiencies.

Oil-free Operation:

TURBOLEV® chillers operate without the need for lubrication of the compressor bearings owing to their non-contact design, thus this 'oil-free' operation eliminates the issues related to oil lubrication

- No oil management system hardware required such as oil separator, oil heater & cooler, oil pump, oil filter & associated controls.
- No oil coating on tube surfaces, drastically improves heat transfer efficiency.
- Oil-free operation reduces maintenance activities & downtime costs - no oil changes or filter cleaning / replacement required.
- No oil recovery issues even when operating continuously at extremely low loads.

Outstanding Energy Efficiency: TURBOLEV® chillers with in-built Variable Speed Drive (VSD) and 2-stage compressor design achieve excellent full load & part load performance, resulting in substantial savings in operating costs.

Soft Start: Soft start module significantly reduces in-rush current at start up, provides advantages to line power systems & reduces thermal stresses on the stator. The start-up in-rush current of compressors used in these chillers is only 2 Amps.

Exceptionally Quiet Operation: Due to the absence of metal to metal contact, sound levels are extremely low, i.e. < 73dbA, and vibrations are virtually non-existent.

Compact VSD: Refrigerant cooled VSD reduces the size of the unit, making the panel compact as compared with conventional air cooled VSDs.

Surge Line Control: For compressors used in TURBOLEV® chillers, accurate performance mapping is carried out so as to precisely predict the impeller surge line, enabling it to run within a safe bandwidth.



Approximate Range:
95 TR (330 kW) up to 610 TR (2,145 kW)

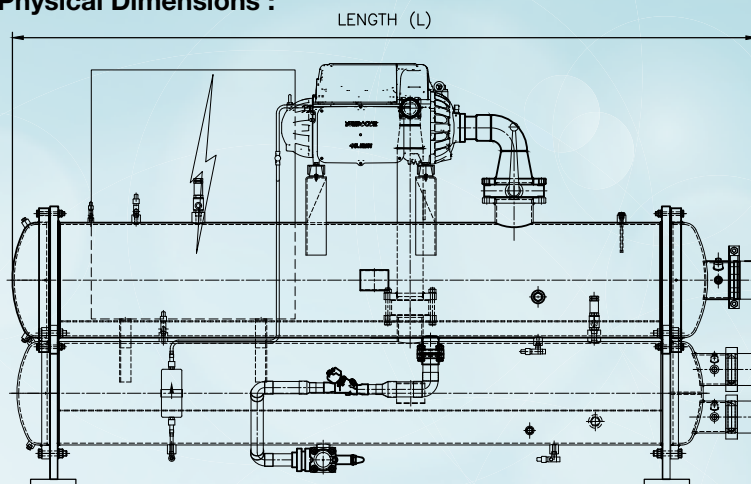
Options & Accessories

The following options are available for all TURBOLEV® KCM series chillers:

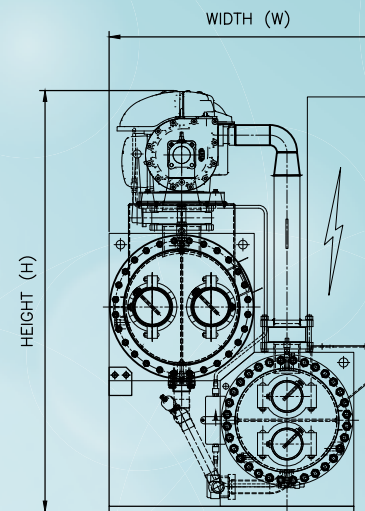
- Marine water boxes for heat exchangers.
- Spring isolators for vibration isolation.
- Witness testing on AHRI certified test bed, at design conditions, at full and part loads.



Physical Dimensions :



FRONT VIEW



SIDE VIEW



TURBOLEV® Water Cooled Centrifugal Chillers - KCM Series (HFC 134a)

Parameter / Model	UOM	KCM 300.14	KCM 350.14	KCM 400.14	KCM 700.14	KCM 300.24	KCM 350.24	KCM 400.24	KCM 700.24	KCM 400.34	KCM 700.34
Nominal Cooling Capacity	TR	94	130	157	193	189	261	314	385	470	612
Compressor Type		Centrifugal with VSD									
No. of Compressors	#	1	1	1	1	2	2	2	2	3	3
Capacity Control	%	IGV and Speed Variation									
Approx. Ref Charge	kg	160	170	175	185	235	295	385	395	484	636
Evaporator Type		Shell and Tube - Flooded Type									
Evaporator Water Volume	Ltr	80	90	125	141	155	185	245	285	340	505
Evaporator Water Nozzle Size	NB	125	125	150	150	150	200	200	200	250	250
Condenser Type		Shell and Tube - Flooded Type									
Condenser Water Volume	Ltr	100	110	135	144	150	176	235	300	385	550
Condenser Water Nozzle Size	NB	125	125	125	125	150	150	150	150	200	250
Length	mm	3450	3450	3540	3540	3880	4030	4740	4740	4490	4500
Width	mm	1130	1130	1260	1260	1300	1540	1540	1540	1700	2000
Height	mm	1790	1790	1960	1960	2000	2100	2100	2100	2300	2500
Shipping Weight	kg	2450	2510	2800	2860	3390	4070	4650	4810	5950	8050
Operating Weight	kg	2480	2560	2860	2920	3470	4220	4860	5080	6350	8910

Note:

Cooling capacities declared above are at the following conditions:

1. Evaporator water Inlet/Outlet temperatures 12 / 7°C respectively.
2. Condenser water Inlet/Outlet temperatures 30 / 34°C respectively.
3. Input Power supply: 415 V / 50 Hz / 3-Phase.
4. Chillers can be supplied with PED Certified Heat Exchangers and CE Certification.
5. All weight and dimensions are approximate.

TURBOTEK® Centrifugal Chillers



KSC Series: Single Compressor Centrifugal Chillers

Features & Benefits

Kirloskar KSC Series TURBOTEK® single compressor centrifugal chillers are certified in accordance with AHRI Standard 550 590 (IP) and 551/591(SI). The kW/tonR for KSC series TURBOTEK® chillers is as low as 0.55 (COP > 6.3) at standard AHRI rating conditions.

Each TURBOTEK® centrifugal chiller is equipped with:

- Single stage, gear-driven centrifugal compressor with high strength Aluminium alloy impeller.
- Compressor provided with unloading mechanism using inlet guide vanes for Stepless capacity modulation from 100 to 10%, gear drive & semi-hermetic, liquid refrigerant cooled, squirrel cage, 2-pole induction motor.
- Shell & tube condenser with enhanced surface copper tubes & removable water heads.
- Flooded shell & tube evaporator with enhanced surface copper tubes & removable water heads.
- Lubrication system with submersible oil pump, which supplies pressurized lubricating oil to hydrodynamic bearings of the compressor as well as to the hydraulic mechanism of the inlet guide vanes, and Refrigerant cooled.
- Intelligent & user friendly 'K-Smart' controller, with 13" LED touch screen graphic display.
- 'K-Smart' controller equipped to communicate with the Building Automation Systems over Modbus or BACnet protocols.

Standard Factory-supplied Accessories

TURBOTEK® centrifugal chillers are supplied with following accessories as standard along with the chiller:

- Victaulic coupling compatible water connections for both heat exchangers.
- Water pressure differential switches for evaporator & condenser to ensure adequate water flow through the heat exchangers.
- Anti-vibration rubber pads / spring isolators, supplied loose for field installation.

Options & Accessories

The following options are available for TURBOTEK® centrifugal chillers:

- Various voltages for compressor motors:
 - LV : 380 ~ 460 V, MV : 3300 V, 6600 V, HV : 11000 V.
- Various starter types:
 - **For LV chillers:** Closed transition Wye-Delta Starter, Soft Starter, Variable Frequency Drives
 - **For MV / HV chillers:** Auto Transformer Starters, Soft Starter, Direct On Line Starters
- Harmonic filters to limit THID, THvD at equipment level for VFD chillers.
- Copper, 90:10 Cupro-Nickel, Stainless Steel, Titanium tubes for heat exchangers.
- Marine water boxes for heat exchangers.
- High water side design pressure for heat exchangers.
- Witness testing on AHRI certified test bed, at design conditions, at full and part loads.

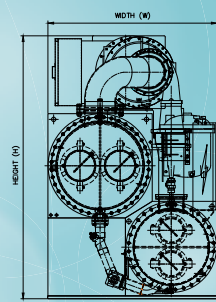
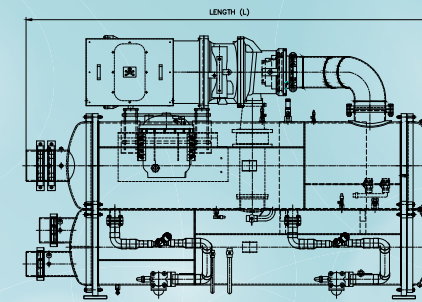
Approximate Range:

200 TR (705 kW) up to 1200 TR (4220 kW)

KSC 063:	200 - 320 TR	(705 - 1125 kW)
KSC 079:	280 - 400 TR	(985 - 1405 kW)
KSC 087:	400 - 650 TR	(1405 - 2285 kW)
KSC 100:	525 - 800 TR	(1845 - 2810 kW)
KSC 113:	725 - 930 TR	(2550 - 3270 kW)
KSC 126:	930 - 1200 TR	(3270 - 4220 kW)



Physical Dimensions :
SINGLE COMPRESSOR - SERIES KSC



TURBOTEK® Centrifugal Chillers - KSC Series (HFC 134a)

Model	Evaporator	Condenser	Length (mm)	Width (mm)	Height (mm)	Shipping Weight (kg)	Operating Weight (kg)
KSC 063 200 TR - 320 TR	E2209	C2009	3310	1100	2030	5670	5640
	E2209	C2209	3320	1120	2050	6010	6000
	E2609	C2209	3530	1360	2150	6400	6410
	E2609	C2609	3535	1380	2220	6750	6780
	E3009	C2609	3550	1480	2300	7150	7200
	E2212	C2012	4140	1120	2030	5560	5580
	E2212	C2212	4140	1340	2130	5910	5930
	E2612	C2212	4400	1360	2150	6300	6330
	E2612	C2612	4410	1390	2220	6810	6860
	E3012	C2612	4410	1490	2300	8080	8460
KSC 079 280 TR - 400 TR	E2609	C2209	3530	1360	2150	6390	6400
	E2609	C2609	3535	1380	2220	6480	6560
	E3009	C2609	3550	1480	2300	7140	7420
	E3009	C3009	3560	1530	2460	7900	8470
	E2212	C2212	4140	1340	2130	6140	6160
	E2612	C2212	4400	1360	2150	6300	6330
	E2612	C2612	4410	1390	2220	7180	7460
	E3012	C2612	4410	1490	2300	8080	8460
	E3012	C3012	4410	1545	2500	8730	9300
	E3612	C3012	4420	1780	2570	10700	11790
KSC 087 400 TR - 650 TR	E3612	C3612	4475	2170	2620	11380	12570
	E2609	C2209	3530	1360	2150	6390	6400
	E2609	C2609	3535	1380	2220	6480	6560
	E3009	C2609	3550	1480	2300	7150	7430
	E3009	C3009	3560	1530	2460	7920	8490
	E3609	C3009	3580	1770	2550	8400	9110
	E2612	C2212	4410	1360	2150	6300	6330
	E2612	C2612	4410	1390	2220	7180	7460
	E3012	C2612	4485	1490	2300	8100	8480
	E3012	C3012	4410	1545	2500	8750	9320
KSC 100 525 TR - 800 TR	E3612	C3012	4420	1780	2570	10770	11860
	E3612	C3612	4475	2170	2620	11390	12580
	E4212	C3612	4620	2300	2640	14220	14830
	E4212	C4212	4750	2610	3210	15510	16120
	E4812	C4212	4750	2610	3210	17090	17970
	E4812	C4812	4770	2810	3360	18700	19990
KSC 113 725 TR - 930 TR	E4812	C4212	4750	2780	3250	20370	22060
	E4812	C4812	4770	2810	3360	22030	24280
	E3612	C3012	4420	1780	2570	14520	15340
	E3612	C3612	4475	2170	2620	15520	16130
	E4212	C3612	4620	2300	2640	17090	17970
	E4212	C4212	4750	2610	3210	18700	19990
KSC 126 930 TR - 1200 TR	E4812	C4212	4750	2780	3250	20370	22060
	E4812	C4812	4770	2810	3360	22030	24280
	E3612	C3012	4420	1780	2570	14520	15340
	E3612	C3612	4475	2170	2620	15520	16130
	E4212	C3612	4620	2300	2640	17090	17970
	E4212	C4212	4750	2610	3210	18700	19990



Notes:

1. The lengths given here are for 2 pass models.
2. Chillers can be supplied with PED Certified Heat Exchangers and CE Certification.
3. All weight and dimensions are approximate.

For heat exchangers & compressor combinations other than mentioned or any additional details, please contact Kirloskar Chillers' local sales office.

TURBOTEK® Centrifugal Chillers



KDC Series: Dual Compressor Centrifugal Chillers

Features & Benefits

Kirloskar KDC Series TURBOTEK® dual compressor centrifugal chillers are certified in accordance with AHRI Standard 550/590 (IP) and 551/591(SI). The kW/tonR for KDC series TURBOTEK® chillers is as low as 0.55 (COP > 6.3) at standard AHRI rating conditions.

Kirloskar KDC Series TURBOTEK® dual compressor centrifugal chillers offer all the advantages of a single compressor centrifugal chiller with some additional benefits as listed below:

- Two compressors along with two oil pumps are mounted on a single set of heat exchangers. This provides built in redundancy; either compressor can be isolated for service requirements.
- Being dual compressor configuration, stepless capacity modulation is achieved from 5% to 100% of rated capacity. Further, excellent part load efficiencies are possible, especially if the chillers are operating below 60% load. In fact, IPLV figures for dual compressor fixed speed chillers are comparable with variable speed chillers.
- A dual compressor chiller has a smaller footprint compared to two identical chillers totaling the same capacity. This reduces piping costs & thus is economical when compared with two independent chillers.

Standard Factory-supplied Accessories

TURBOTEK® centrifugal chillers are supplied with following accessories as standard along with the chiller:

- Victaulic coupling compatible water connections for both heat exchangers.
- Water pressure differential switches for evaporator & condenser to ensure adequate water flow through the heat exchangers.
- Anti-vibration rubber pads / spring isolators, supplied loose for field installation.

Options & Accessories

The following options are available for TURBOTEK® centrifugal chillers:

- Various voltages for compressor motors:
 - LV : 380 ~ 460 V, MV : 3300 V, 6600 V, HV : 11000 V.
- Various starter types:
 - For LV chillers: Closed transition Wye-Delta Starter, Soft Starter, Variable Frequency Drives
 - For MV / HV chillers: Auto Transformer Starters, Soft Starter, Direct On Line Starters
- Harmonic filters to limit THiD, THvD at equipment level for VFD chillers.
- Copper, 90:10 Cupro-Nickel, Stainless Steel, Titanium tubes for heat exchangers.
- Marine water boxes for heat exchangers.
- High water side design pressure for heat exchangers.
- Witness testing on AHRI certified test bed, at design conditions, and at part loads.

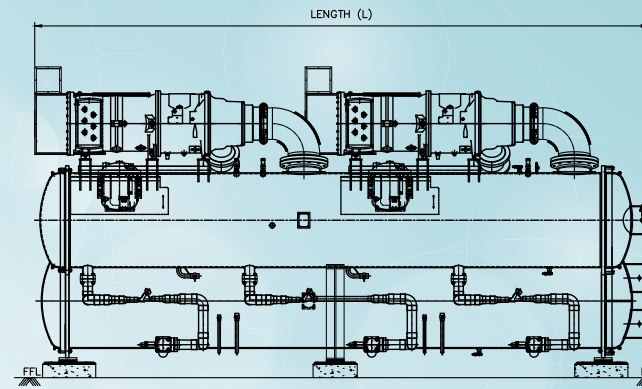
Approximate Range:

400 TR (1405 kW) up to 2,400 TR (8440 kW)

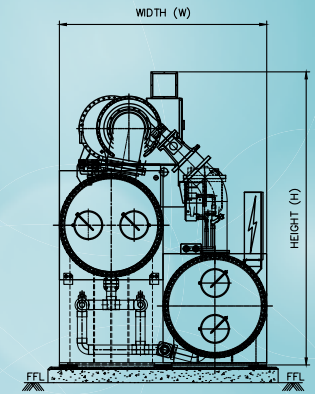
KDC 063:	400 - 650 TR	(1405 ~ 2285 kW)
KDC 079:	560 - 800 TR	(1970 ~ 2810 kW)
KDC 087:	800 - 1200 TR	(2810 ~ 4220 kW)
KDC 100:	1100 - 1600 TR	(3865 ~ 5625 kW)
KDC 113:	1600 - 1850 TR	(5625 ~ 6505 kW)
KDC 126:	1850 - 2400 TR	(6505 ~ 8440 kW)



Physical Dimensions :
DUAL COMPRESSOR - SERIES KDC



FRONT VIEW



SIDE VIEW

TURBOTEK® Centrifugal Chillers - KDC Series (HFC 134a)

Parameter / Model	Vessel Code		Length (mm)	Width (mm)	Height (mm)	Shipping Wt. (kg)	Operating Wt. (kg)
	Evaporator	Condenser					
KDC 063 400 TR - 650 TR	E2616	C2616	5544	1470	2032	10330	11180
	E3016	C3016	5426	1470	2032	11920	13070
	E3616	C3016	5518	1808	2496	13700	15180
	E3616	C3616	5518	1886	2686	15180	17040
KDC 079 560 TR - 800 TR	E3016	C3016	5442	1454	2407	12490	13650
	E3616	C3016	5531	1808	2530	14140	15620
	E3616	C3616	5531	1886	2686	15620	17470
	E4216	C4216	5556	2343	2530	21440	24610
KDC 087 800 TR - 1200 TR	E3016	C3016	5442	1454	2407	13110	14260
	E3616	C3016	5531	1808	2530	14760	15330
	E3616	C3616	5531	1886	2686	16240	18090
	E4216	C4216	5556	2343	2530	21440	24610
KDC 100 1100 TR - 1600 TR	E3616	C3616	5528	2419	2652	18970	21100
	E4216	C4216	5554	2545	2722	22900	26070
	E4816	C4816	5703	2792	2956	26850	31300
	E4220	C4220	6772	2343	2591	24860	28690
KDC 113 1600 TR - 1850 TR	E4820	C4820	6890	2810	2648	29930	35250
	E3616	C3616	5528	2419	2652	18970	21100
	E4216	C4216	5554	2545	2722	22900	26070
	E4816	C4816	5703	2792	2956	26850	31300
KDC 126 1850 TR - 2400 TR	E4220	C4220	6772	2343	2591	24860	28690
	E4820	C4820	6890	2810	2648	29930	35250
	E4216	C4216	5554	2545	2722	22900	26070
	E4816	C4816	5703	2792	2956	26850	31300
	E4220	C4220	6772	2343	2591	24860	28690
	E4820	C4820	6890	2810	2648	29930	35250

Notes:

1. The lengths given here are for 2 pass models.
2. Chillers can be supplied with PED Certified Heat Exchangers and CE Certification.
3. All weight and dimensions are approximate.

For heat exchangers & compressor combinations other than mentioned or any additional details, please contact Kirloskar Chillers' local sales office.



PRODIGY® Water Cooled Screw Chillers

KWI Series: Falling Film Evaporator Screw Chillers with Variable Speed Drives

Features & Benefits

Kirloskar PRODIGY® KWI series water cooled falling film screw compressor chillers with variable speed drives are equipped with one or two high efficiency screw compressors. These chillers use variable speed drives for capacity control to achieve very high IPLV.SI value up to 9.2 (IPLV.IP 0.38 kW/tonR).

Each PRODIGY® KWI series water cooled screw chiller with variable speed drive is equipped with:

- 1 or 2 twin-screw compressors, equipped with semi hermetic, refrigerant cooled, squirrel cage two pole induction motor. Motor is controlled using variable speed drive for step-less capacity control from 35 ~ 100% load for Single Compressor and 17.5 ~ 100% load for Dual Compressor chillers.
- Well-designed external oil separator, efficient & reliable oil recovery system to recover traces of oil carried over into the heat exchangers.
- Shell & tube condenser with enhanced surface copper tubes & removable water heads.
- Falling Film shell & tube evaporator with enhanced surface copper tubes & removable water heads.
- Electrical panel housing intelligent 'K-Smart' controller, with 7" LED touch screen graphic display.
- Variable speed drives are unit mounted & pre-wired in factory.
- Anti-vibration rubber pads for field installation.
- Victaulic coupling compatible water connections for both heat exchangers.

Options & Accessories

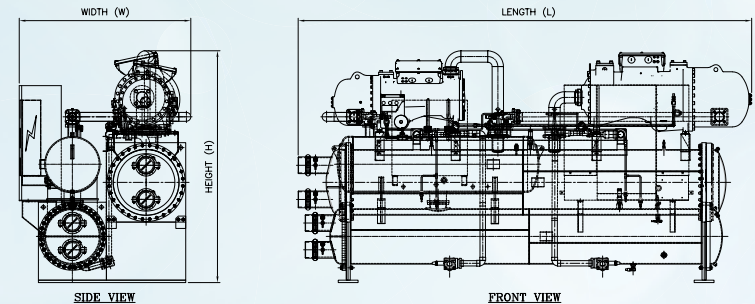
The following options are available for all PRODIGY® KWI series water cooled screw chillers:

- Copper, 90:10 Cupro-Nickel, Stainless Steel, Titanium tubes for heat exchangers.
- Marine water boxes for heat exchangers.
- Water flow switches or differential water pressure switches.
- Spring isolators for vibration isolation.
- High water side design pressure for heat exchangers.
- Harmonic filters to limit THiD, THvD at equipment level.
- Also suitable for low temperature applications, with brine as secondary cooling media.
- Witness testing on AHRI certified test bed, at design conditions, at full and part loads.

PRODIGY®

Approximate Range:
130 TR (455 kW) up to 560 TR (1970 kW)

Physical Dimensions :



PRODIGY® Water Cooled Screw Chillers - KWI Series (HFC 134a)

Parameter / Model	UOM	KWI 130.14	KWI 150.14	KWI 170.14	KWI 195.14	KWI 220.14	KWI 240.14	KWI 265.14	KWI 280.14	KWI 265.24	KWI 295.24	KWI 320.24	
Nominal Cooling Capacity	TR	130	147	171	195	223	242	263	280	264	295	318	
Compressor Type		Semi Hermetic Twin Screw											
No. of Compressors	#	1	1	1	1	1	1	1	1	2	2	2	
Capacity Control	%	Stepless 100-35%								Stepless 100-17.5%			
Approx. Ref Charge	kg	128	132	144	176	192	195	212	220	212	220	232	
Evaporator Type		Shell And Tube - Falling Film Type											
Evaporator Water Volume	Ltr	115	135	160	160	185	195	205	215	205	215	245	
Evaporator Water Nozzle Size	NB	125	125	150	125	150	150	150	150	150	150	150	
Condenser Type		Shell And Tube - Flooded Type											
Condenser Water Volume	Ltr	110	130	150	160	190	190	200	230	205	230	255	
Condenser Water Nozzle Size	NB	125	125	150	125	150	150	150	150	150	150	150	
Length	mm	3450	3450	3600	4300	4600	4600	4600	4600	4470	4470	4510	
Width	mm	1440	1440	1650	1620	1770	1770	1750	1750	1720	1720	1740	
Height	mm	2020	2020	2130	2100	2260	2260	2280	2280	2430	2430	2540	
Shipping Weight	kg	4040	4110	5300	5570	6200	6230	6310	6330	6690	6760	7660	
Operating Weight	kg	4120	4230	5350	5610	6270	6310	6420	6430	6800	6910	7850	



Parameter / Model	UOM	KWI 340.24	KWI 365.24	KWI 390.24	KWI 415.24	KWI 445.24	KWI 460.24	KWI 485.24	KWI 505.24	KWI 525.24	KWI 545.24	KWI 560.24
Nominal Cooling Capacity	TR	339	365	391	417	446	462	484	504	526	543	560
Compressor Type		Semi Hermetic Twin Screw										
No. of Compressors	#	2	2	2	2	2	2	2	2	2	2	2
Capacity Control	%	Stepless 100-17.5%										
Approx. Ref Charge	kg	240	260	338	352	368	408	472	488	512	528	544
Evaporator Type		Shell And Tube - Falling Film Type										
Evaporator Water Volume	Ltr	245	260	340	365	380	485	505	515	540	540	555
Evaporator Water Nozzle Size	NB	150	150	200	200	200	200	200	200	200	200	200
Condenser Type		Shell And Tube - Flooded Type										
Condenser Water Volume	Ltr	260	285	350	385	455	480	540	560	560	600	600
Condenser Water Nozzle Size	NB	150	150	200	200	250	250	250	250	250	250	250
Length	mm	4770	4770	4820	4820	4780	4780	4780	4830	4880	4880	4880
Width	mm	1780	1780	1940	1940	2230	2310	2310	2310	2310	2310	2310
Height	mm	2540	2540	2580	2580	2630	2630	2630	2630	2630	2630	2630
Shipping Weight	kg	8290	8370	9820	9990	10650	11510	11730	11800	11890	11970	12030
Operating Weight	kg	8490	8610	10190	10420	11150	12140	12430	12540	12650	12770	12840

Notes:

1. Cooling capacity: For condenser water inlet/outlet temperatures 30° / 34°C and evaporator water outlet/inlet temperatures 7° / 12°C respectively.
2. Input power supply: 415 V / 50 Hz / 3-Phase.
3. Fouling factors according to AHRI 550 / 590 & 551 / 591.
4. Chillers can be supplied with PED Certified Heat Exchangers and CE Certification.
5. All weight and dimensions are approximate.

To select optimised chiller configuration & for options other than listed above, please contact your local Kirloskar Chillers sales office.

PRODIGY® Water Cooled Screw Chillers

KWI Series: Screw Chillers with HFO 1234ze Refrigerant & Variable Speed Drive

Features & Benefits

Kirloskar PRODIGY® KWI.*G Series water-cooled screw compressor chillers with variable speed drives are equipped with one or two high efficiency screw compressors. These chillers use R 1234ze refrigerant with GWP = 1. These chillers use variable speed drives for capacity control to achieve very high IPLV (SI) of up to 8.5 / IPLV (IP) of up to 0.41 kW/TR.

Each PRODIGY® KWI *G Series chiller is equipped with:

- 1 or 2 twin-screw compressors, equipped with semi-hermetic, refrigerant cooled, squirrel cage 2-pole induction motor. Motor is controlled using variable speed drive for step-less capacity control from 35 ~ 100% load for single compressor and 17.5 ~ 100% load for dual compressor chillers.
- Well-designed external oil separator, efficient & reliable oil recovery system to recover traces of oil carried over into the heat exchangers.
- Shell & tube condenser with enhanced surface copper tubes & removable water heads.
- Shell & tube evaporator with enhanced surface copper tubes & removable water heads.
- Oil pump for force feed lubrication at low lift condition.
- Electrical panel housing intelligent 'K-Smart' controller, with 7" LED touch screen graphic display.
- Variable speed drives, unit mounted & pre-wired in factory.
- Anti-vibration rubber pads for field installation.
- Victaulic coupling-compatible water connections for both heat exchangers.

Options & Accessories

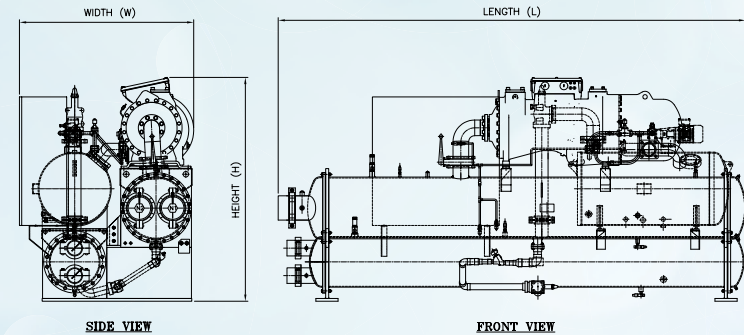
The following options are available for all PRODIGY® KWI.*G Series Chillers:

- Copper, 90:10 Cupro-Nickel, Stainless Steel, Titanium tubes for condenser.
- Marine water boxes for heat exchangers.
- Flow switches or differential pressure switches for evaporator & condenser.
- Spring isolators for vibration isolation.
- High water side design pressure for heat exchangers.
- Harmonic filters to limit THiD, THvD at equipment level.
- Witness testing on AHRI certified test bed, at design conditions, at full and part loads.

PRODIGY®

Approximate Range:
130 TR (455 kW) up to 419 TR (1474 kW)

Physical Dimensions :



PRODIGY® Water Cooled Screw Chillers - KWI Series (HFO 1234ze)

Parameter / Model	UOM	KWI 130.1G	KWI 145.1G	KWI 170.1G	KWI 195.1G	KWI 210.1G	KWI 260.2G	KWI 275.2G	KWI 295.2G	
Nominal Cooling Capacity	TR	130	147	171	194	210	259	276	293	
Compressor Type		Semi Hermetic Twin Screw								
No. of Compressors	#	1	1	1	1	1	2	2	2	
Capacity Control	%	Stepless 100-35%					Stepless 100-17.5%			
Approx. Ref Charge	kg	160	180	180	240	245	290	290	300	
Evaporator Type		Shell And Tube								
Evaporator Water Volume	Ltr	135	160	160	195	205	245	245	245	
Evaporator Water Nozzle Size	NB	150	200	200	200	200	200	200	200	
Condenser Type		Shell And Tube								
Condenser Water Volume	Ltr	130	150	150	190	200	255	255	260	
Condenser Water Nozzle Size	NB	125	150	150	150	150	150	150	150	
Length	mm	3450	3600	3600	4600	4600	4510	4510	4770	
Width	mm	1440	1650	1650	1770	1750	1740	1740	1780	
Height	mm	2020	2130	2130	2260	2280	2540	2540	2540	
Shipping Weight	kg	4110	5300	5300	6230	6310	7660	7660	8290	
Operating Weight	kg	4230	5350	5350	6310	6420	7850	7850	8490	

Parameter / Model	UOM	KWI 320.2G	KWI 340.2G	KWI 355.2G	KWI 370.2G	KWI 390.2G	KWI 405.2G	KWI 420.2G
Nominal Cooling Capacity	TR	318	342	356	370	389	404	419
Compressor Type		Semi Hermetic Twin Screw						
No. of Compressors	#	2	2	2	2	2	2	2
Capacity Control	%	Stepless 100-17.5%						
Approx. Ref Charge	kg	325	400	415	425	435	440	460
Evaporator Type		Shell And Tube						
Evaporator Water Volume	Ltr	260	340	340	340	365	365	380
Evaporator Water Nozzle Size	NB	200	250	250	250	250	250	250
Condenser Type		Shell And Tube						
Condenser Water Volume	Ltr	285	350	350	350	385	385	455
Condenser Water Nozzle Size	NB	150	200	200	200	200	200	250
Length	mm	4770	4820	4820	4820	4820	4820	4780
Width	mm	1780	1940	1940	1940	1940	1940	2230
Height	mm	2540	2580	2580	2580	2580	2580	2630
Shipping Weight	kg	8370	9820	9820	9820	9990	9990	10650
Operating Weight	kg	8610	10190	10190	10190	10420	10420	11150

Notes:

1. Cooling capacity: For condenser water inlet/outlet temperatures 30° / 34° C and evaporator water outlet/inlet temperatures 7° / 12° C respectively.
2. Input power supply: 415 V / 50 Hz / 3-Phase.
3. Fouling factors according to AHRI 550 / 590 & 551 / 591.
4. Chillers can be supplied with PED Certified Heat Exchangers and CE Certification.
5. All weight and dimensions are approximate.

To select optimised chiller configuration & for options other than listed above, please contact your local Kirloskar Chillers sales office.



PRODIGY® Water Cooled Screw Chillers

KWK Series: High Efficiency Flooded Evaporator Screw Chillers

Features & Benefits

Kirloskar PRODIGY® KWK series water cooled flooded screw compressor chillers are equipped with one or two high efficiency screw compressors. These chillers use flooded evaporators enabling to achieve efficiency as high as COP 6.3 (0.56 kW/tonR) at standard AHRI rating conditions.

Each PRODIGY® KWK series water cooled screw chiller is equipped with:

- 1 or 2 twin-screw compressors, equipped with semi hermetic, refrigerant cooled, squirrel cage two pole induction motor suitable for voltages between 380 ~ 460V. These high efficiency compressors are designed for quiet operation & have step-less capacity control from 25 ~ 100% load for Single Compressor and 12.5 ~ 100% load for Dual Compressor chillers.
- Well-designed external oil separator, efficient & reliable oil recovery system to recover traces of oil carried over into the heat exchangers.
- Shell & tube condenser with enhanced surface copper tubes & removable water heads.
- Flooded shell & tube evaporator with enhanced surface copper tubes & removable water heads.
- Electrical panel housing intelligent 'K-Smart' controller, with 7" LED touch screen graphic display.
- Anti-vibration rubber pads for field installation.
- Victaulic coupling compatible water connections for both heat exchangers.

Options & Accessories

The following options are available for all PRODIGY® KWK series water cooled screw chillers:

- Available with Soft Starter.
- Copper, 90:10 Cupro-Nickel, Stainless Steel, Titanium tubes for heat exchangers.
- Marine water boxes for heat exchangers.
- Water flow switches or differential water pressure switches.
- Spring isolators for vibration isolation.
- High water side design pressure for heat exchangers.
- Also suitable for low temperature applications, with brine as secondary cooling media.
- Witness testing on AHRI certified test bed, at design conditions, at full and part loads.

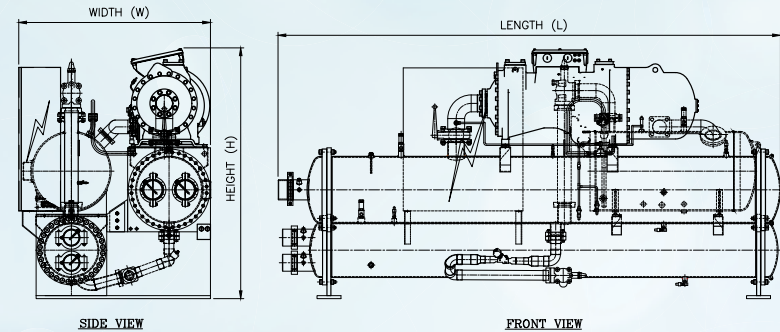
Heat Recovery Option

- These chillers can be offered with 100% heat recovery in condensers, with maximum hot water outlet temperature of 45°C, and control on hot water temperature, giving simultaneous heating and cooling.
- These chillers can be offered with desuperheaters for partial heat recovery, with maximum hot water outlet temperature of 45°C.

PRODIGY®

Approximate Range:
105 TR (370 kW) up to 475 TR (1670 kW)

Physical Dimensions :



PRODIGY® Water Cooled Screw Chillers - KWK Series (HFC 134a)

Parameter / Model	UOM	KWK 105.14	KWK 120.14	KWK 145.14	KWK 165.14	KWK 185.14	KWK 200.14	KWK 220.14	KWK 240.14	KWK 215.24	KWK 245.24	KWK 265.24	
Nominal Cooling Capacity	TR	107	122	143	164	185	205	222	236	218	245	265	
Compressor Type		Semi Hermetic Twin Screw											
No. of Compressors	#	1	1	1	1	1	1	1	1	2	2	2	
Capacity Control	%	Stepless 100-25%								Stepless 100-12.5%			
Approx. Ref Charge	kg	140	160	160	180	195	220	220	240	220	240	240	
Evaporator Type		Shell And Tube - Flooded Type											
Evaporator Water Volume	Ltr	105	105	135	160	150	160	160	165	160	160	195	
Evaporator Water Nozzle Size	NB	150	150	190	200	150	150	150	150	150	150	200	
Condenser Type		Shell And Tube - Flooded Type											
Condenser Water Volume	Ltr	100	100	130	150	145	160	175	175	165	180	190	
Condenser Water Nozzle Size	NB	125	125	125	150	125	125	125	125	125	125	150	
Length	mm	3440	3440	3450	3600	4300	4300	4310	4310	4310	4310	4740	
Width	mm	1340	1340	1450	1650	1620	1620	1620	1620	1630	1630	1720	
Height	mm	1980	1980	2060	2130	2100	2100	2110	2110	2240	2240	2430	
Shipping Weight	kg	3730	3750	4650	5250	5455	5540	5560	5610	5870	5930	7010	
Operating Weight	kg	3800	3820	4770	5300	5470	5580	5620	5670	5920	5990	7090	



Parameter / Model	UOM	KWK 290.24	KWK 310.24	KWK 330.24	KWK 350.24	KWK 370.24	KWK 390.24	KWK 405.24	KWK 425.24	KWK 445.24	KWK 460.24	KWK 475.24
Nominal Cooling Capacity	TR	286	307	328	350	371	387	404	424	443	458	473
Compressor Type		Semi Hermetic Twin Screw										
No. of Compressors	#	2	2	2	2	2	2	2	2	2	2	2
Capacity Control	%	Stepless 100-12.5%										
Approx. Ref Charge	kg	244	275	290	300	325	345	423	440	460	510	590
Evaporator Type		Shell And Tube - Flooded Type										
Evaporator Water Volume	Ltr	205	215	245	250	260	285	340	355	380	405	505
Evaporator Water Nozzle Size	NB	200	200	200	200	200	200	250	250	250	250	250
Condenser Type		Shell And Tube - Flooded Type										
Condenser Water Volume	Ltr	205	230	255	260	285	285	350	375	405	480	520
Condenser Water Nozzle Size	NB	150	150	150	150	150	150	200	200	200	250	250
Length	mm	4740	4740	4750	4770	4770	4770	4820	4870	4920	4880	4880
Width	mm	1750	1750	1800	1830	1880	1880	1990	1990	1990	2230	2330
Height	mm	2430	2430	2540	2540	2540	2540	2580	2580	2580	2630	2630
Shipping Weight	kg	7650	7750	8010	8290	8430	8480	9630	9750	9850	10580	11460
Operating Weight	kg	7760	7900	8210	8490	8660	8740	10000	10180	10300	11120	12140

Notes:

1. Cooling capacity: For condenser water inlet/outlet temperatures 30° / 34°C and evaporator water outlet/inlet temperatures 7° / 12°C respectively.
2. Input power supply: 415 V / 50 Hz / 3-Phase.
3. Fouling factors according to AHRI 550 / 590 & 551 / 591.
4. Chillers can be supplied with PED Certified Heat Exchangers and CE Certification.
5. All weight and dimensions are approximate.

To select optimised chiller configuration & for options other than listed above, please contact your local Kirloskar Chillers sales office.

PRODIGY® Water Cooled Screw Chillers

KWE Series: Flooded Evaporator Screw Chillers

Features & Benefits

Kirloskar PRODIGY® KWE series water cooled flooded screw compressor chillers are equipped with one or two compressors. These chillers use flooded evaporators enabling to achieve efficiency as high as COP 5.7 (0.62 kW/tonR) at standard AHRI rating conditions.

Each PRODIGY® KWE series water cooled screw chiller is equipped with:

- 1 or 2 twin-screw compressors, equipped with semi hermetic, refrigerant cooled, squirrel cage two pole induction motor suitable for voltages between 380 ~ 460V. These high efficiency compressors are designed for quiet operation & have step-less capacity control from 25 ~ 100% load for Single Compressor and 12.5 ~ 100% load for Dual Compressor chillers.
- Well-designed external oil separator, efficient & reliable oil recovery system to recover traces of oil carried over into the heat exchangers.
- Shell & tube condenser with enhanced surface copper tubes & removable water heads.
- Flooded shell & tube evaporator with enhanced surface copper tubes & removable water heads.
- Electrical panel housing intelligent 'K-Smart' controller with LCD display
- Anti-vibration rubber pads for field installation.

Options & Accessories

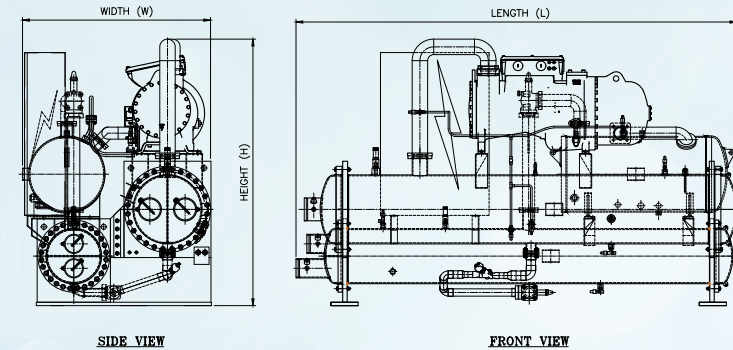
The following options are available for all PRODIGY® KWK series water cooled screw chillers:

- Water flow switches.
- Spring isolators for vibration isolation.
- Witness testing on AHRI certified test bed, at design conditions, at full and part loads.

PRODIGY®

Approximate Range:
100 TR (350 kW) up to 450 TR (1580 kW)

Physical Dimensions :



PRODIGY® Water Cooled Screw Chillers - KWE Series (HFC 134a)

Parameter / Model	UOM	KWE 100.14	KWE 115.14	KWE 135.14	KWE 155.14	KWE 175.14	KWE 190.14	KWE 210.14	KWE 225.14	KWE 200.24	KWE 230.24	KWE 250.24	
Nominal Cooling Capacity	TR	101	115	130	155	175	191	211	225	204	230	250	
Compressor Type		Semi Hermetic Twin Screw											
No. of Compressors	#	1	1	1	1	1	1	1	1	2	2	2	
Capacity Control	%	Stepless 100-25%								Stepless 100-12.5%			
Approx. Ref Charge	kg	110	120	140	160	160	180	180	195	180	195	220	
Evaporator Type		Shell And Tube - Flooded Type											
Evaporator Water Volume	Ltr	85	90	105	125	135	175	125	150	115	140	155	
Evaporator Water Nozzle Size	NB	150	150	150	150	150	200	150	150	150	150	150	
Condenser Type		Shell And Tube - Flooded Type											
Condenser Water Volume	Ltr	75	80	95	105	115	135	120	130	120	130	145	
Water Nozzle Size	NB	125	125	125	125	125	150	125	125	125	125	125	
Length	mm	3450	3450	3450	3550	3550	3590	4340	4450	4340	4450	4680	
Width	mm	1420	1420	1420	1460	1490	1650	1480	1500	1380	1400	1400	
Height	mm	2120	2120	2140	2200	2250	2270	2200	2250	2120	2080	2250	
Shipping Weight	kg	3260	3270	3960	4120	4190	4490	4600	4790	4610	4970	5580	
Operating Weight	kg	3420	3440	4160	4350	4440	4800	4845	5070	4845	5240	5880	



Parameter / Model	UOM	KWE 270.24	KWE 290.24	KWE 310.24	KWE 330.24	KWE 350.24	KWE 365.24	KWE 380.24	KWE 405.24	KWE 420.24	KWE 435.24	KWE 450.24
Nominal Cooling Capacity	TR	270	290	310	330	349	365	381	404	422	436	449
Compressor Type		Semi Hermetic Twin Screw										
No. of Compressors	#	2	2	2	2	2	2	2	2	2	2	2
Capacity Control	%	Stepless 100-12.5%										
Approx. Ref Charge	kg	220	240	240	244	275	290	300	325	344	423	440
Evaporator Type		Shell And Tube - Flooded Type										
Evaporator Water Volume	Ltr	165	200	210	220	225	245	250	260	290	340	370
Evaporator Water Nozzle Size	NB	150	200	200	200	200	200	200	200	200	250	250
Condenser Type		Shell And Tube - Flooded Type										
Condenser Water Volume	Ltr	155	170	170	180	205	225	230	250	260	310	340
Condenser Water Nozzle Size	NB	125	150	150	150	150	150	150	150	150	200	200
Length	mm	4760	4760	4760	4760	4760	4780	4780	4780	4780	4850	4850
Width	mm	1420	1640	1640	1640	1640	1620	1620	1620	1620	1820	1820
Height	mm	2280	2380	2380	2400	2400	2400	2400	2400	2400	2470	2470
Shipping Weight	kg	6240	6540	6560	6680	6810	6960	7010	7410	7800	8530	8680
Operating Weight	kg	6560	6910	6940	7080	7240	7430	7490	7920	8350	9180	9390

Notes:

1. Cooling capacity: For condenser water inlet/outlet temperatures 30° / 34°C and evaporator water outlet/inlet temperatures 7° / 12°C respectively.
2. Input power supply: 415 V / 50 Hz / 3-Phase.
3. Fouling factors according to AHRI 550 / 590 & 551 / 591.
4. All weight and dimensions are approximate.

To select optimised chiller configuration & for options other than listed above, please contact your local Kirloskar Chillers sales office.

PRODIGY® Water Cooled Screw Chillers

KWS Series: DX Evaporator Screw Chillers

Features & Benefits

Kirloskar PRODIGY® KWS series water cooled, DX evaporator screw compressor chillers are equipped with one or two high efficiency screw compressors. These chillers have efficiency in the range of 0.67 ~ 0.73 kW/tonR (COP of 5.3 ~ 4.8) at standard AHRI rating conditions.

Each PRODIGY® KWS series water cooled screw chiller is equipped with:

- 1 or 2 twin-screw compressors, equipped with semi hermetic, refrigerant cooled, squirrel cage two pole induction motor suitable for voltages between 380 ~ 460V. These high efficiency compressors are designed for quiet operation & have step-less capacity control from 25 ~ 100% load for Single Compressor and 12.5 ~ 100% load for Dual Compressor chillers.
- Compressors are equipped with built in Oil separator.
- Shell & tube condenser with enhanced surface copper tubes & removable water heads.
- DX shell & tube evaporator with enhanced surface copper tubes.
- Electrical panel housing intelligent 'K-Smart' controller with LCD display.
- Anti-vibration rubber pads for field installation.
- Victaulic coupling compatible water connections for both heat exchangers.

Options & Accessories

The following options are available for all PRODIGY® KWS series water cooled screw chillers:

- Various starters for compressor motors: Start Delta or Soft starter.
- Water flow switches or differential water pressure switches.
- Spring isolators for vibration isolation.
- Also suitable for low temperature applications, with brine as secondary cooling media.
- Available with the options of HFC 134a & HFC 407C refrigerants.
- Witness testing on AHRI certified test bed, at design conditions at full and part loads.

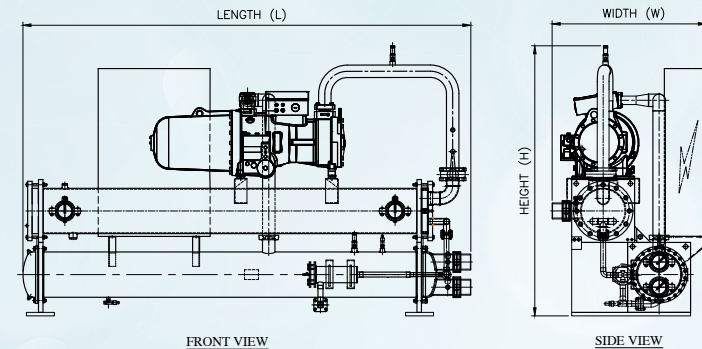
Heat Recovery Option

- These chillers can be offered with 100% heat recovery in condensers, with maximum hot water outlet temperature of 55°C in case of HFC 134a refrigerant and 50°C in case of HFC 407C refrigerant and control on hot water temperature, giving simultaneous heating and cooling.
- These chillers can be offered with desuperheaters for partial heat recovery with maximum hot water outlet temperature of 50°C in case of HFC 134a refrigerant and 55°C in case of HFC 407C refrigerant.

PRODIGY®

Approximate Range:
50 TR (175 kW) up to 385 TR (1355 kW)

Physical Dimensions :



PRODIGY® Water Cooled Screw Chillers - KWS Series (HFC 134a)

Parameter / Model	UOM	KWS 050.14	KWS 060.14	KWS 080.14	KWS 090.14	KWS 110.14	KWS 130.14	KWS 165.14	KWS 180.14	KWS 100.24	
Nominal Cooling Capacity	TR	50	58	80	92	108	127	164	180	101	
Nominal Heating Capacity	Kw	177	200	281	320	370	425	561	615	354	
Compressor Type		Semi Hermetic Twin Screw									
No. of Compressors	#	1	1	1	1	1	1	1	1	2	
Capacity Control	%	Stepless 100-25%									Stepless 100-12.5%
Approx. Ref Charge	Kg	35	44	53	59	72	84	106	118	70	
Evaporator Type		Shell & Tube - DX Type									
Evaporator Water Volume	Ltr	75	125	110	135	200	175	225	205	200	
Evaporator Water Nozzle Size	NB	100	100	100	100	150	150	150	150	150	
Condenser Type		Shell & Tube - Flooded Type									
Condenser Water Volume	Ltr	45	65	65	78	90	95	125	130	120	
Condenser Water Nozzle size	NB	100	100	100	100	125	125	125	125	100	
Length	mm	2400	3300	3300	3330	3450	3450	3490	3490	3640	
Width	mm	1120	1060	1060	1140	1260	1260	1300	1300	1600	
Height	mm	1930	1980	1980	2000	2170	2170	2400	2400	2000	
Shipping Weight	Kg	1820	1930	2310	2475	2700	3390	3690	3750	2970	
Operating Weight	Kg	1910	2010	2420	2585	2830	3540	3920	3960	3180	



Parameter / Model	UOM	KWS 130.24	KWS 145.24	KWS 160.24	KWS 185.24	KWS 215.24	KWS 235.24	KWS 275.24	KWS 295.24	KWS 330.24	KWS 360.24
Nominal Cooling Capacity	TR	128	144	160	183	216	236	274	293	329	361
Nominal Heating Capacity	Kw	464	511	562	640	740	795	922	993	1122	1229
Compressor Type		Semi Hermetic Twin Screw									
No. of Compressors	#	2	2	2	2	2	2	2	2	2	2
Capacity Control	%	Stepless 100-12.5%									
Approx. Ref Charge	Kg	88	100	112	124	136	148	174	188	206	226
Evaporator Type		Shell & Tube - DX Type									
Evaporator Water Volume	Ltr	175	245	225	300	310	420	372	345	440	405
Evaporator Water Nozzle Size	NB	150	150	150	200	150	200	200	200	200	200
Condenser Type		Shell & Tube - Flooded Type									
Condenser Water Volume	Ltr	120	125	130	160	200	220	230	230	270	280
Condenser Water Nozzle Size	NB	100	100	100	100	100	125	125	125	125	125
Length	mm	3640	3780	3780	3820	4700	4750	4750	4750	4750	4750
Width	mm	1600	1600	1600	1800	1800	1900	1900	1900	1900	1900
Height	mm	2000	2080	2080	2240	2240	2320	2320	2320	2400	2400
Shipping Weight	Kg	3110	3810	4190	4400	4500	5380	6070	6100	6710	6770
Operating Weight	Kg	3220	4060	4420	4730	4870	5890	6540	6570	7270	7320

Note:

1. Cooling capacity: For condenser water inlet/outlet temperatures 30° / 34°C and evaporator water outlet/inlet temperatures 7° / 12°C respectively.
2. Heating capacity: For condenser inlet/outlet water temperature 55° / 60°C and evaporator outlet/inlet water temperature 7° / 12°C respectively.
3. Input power supply: 415 V / 50 Hz / 3-Phase.
4. Fouling factors according to AHRI 550 / 590 & 551 / 591.
5. All weight and dimensions are approximate.

To select optimised chiller configuration & for options other than listed above, please contact your local Kirloskar Chillers sales office.

PRODIGY® Water Cooled Screw Chillers - KWS Series (HFC 407C)

Parameter / Model	UOM	KWS 055.17	KWS 070.17	KWS 095.17	KWS 110.17	KWS 135.17	KWS 180.17	KWS 205.17	KWS 230.17
Nominal Cooling Capacity	TR	55	72	98	108	135	181	205	233
Nominal Heating Capacity	kW	194	257	343	371	472	623	708	812
Compressor Type		Semi Hermetic Twin Screw							
No. of Compressors	#	1	1	1	1	1	1	1	1
Capacity Control	%	Stepless 100-25%							
Approx. Ref Charge	kg	28	43	58	70	84	112	136	148
Evaporator Type		Shell And Tube - DX Type							
Evaporator Water Volume	Ltr	95	110	200	175	230	270	385	360
Evaporator Water Nozzle Size	NB	100	100	150	150	150	200	200	200
Condenser Type		Shell and Tube - Flooded Type							
Condenser Water Volume	Ltr	45	68	90	95	105	165	185	205
Condenser Water Nozzle Size	NB	100	100	125	125	125	125	125	125
Length	mm	2400	3320	3450	3450	3490	3550	4250	4250
Width	mm	1160	1060	1260	1260	1250	1450	1450	1450
Height	mm	1980	1980	2170	2170	2360	2480	2480	2480
Shipping Weight	kg	1800	1950	2260	2770	2920	3980	4370	4400
Operating Weight	kg	1870	2070	2400	2900	3150	4350	4850	4910

Parameter / Model	UOM	KWS 110.27	KWS 130.27	KWS 150.27	KWS 180.27	KWS 215.27	KWS 270.27	KWS 315.27	KWS 360.27	KWS 385.27
Nominal Cooling Capacity	TR	109	127	153	179	216	270	316	363	386
Nominal Heating Capacity	kW	390	452	547	633	742	944	1095	1246	1331
Compressor Type		Semi Hermetic Twin Screw								
No. of Compressors	#	2	2	2	2	2	2	2	2	2
Capacity Control	%	Stepless 100-12.5%								
Approx. Ref Charge	kg	70	78	95	112	136	156	191	230	239
Evaporator Type		Shell And Tube - DX Type								
Evaporator Water Volume	Ltr	175	245	210	270	385	340	415	490	470
Evaporator Water Nozzle Size	NB	150	150	150	200	200	200	200	200	200
Condenser Type		Shell And Tube - Flooded Type								
Condenser Water Volume	Ltr	120	120	150	160	200	230	260	360	360
Condenser Water Nozzle Size	NB	100	100	100	100	100	125	125	125	125
Length	mm	3640	3780	3820	3820	4700	4750	4750	4980	4980
Width	mm	1600	1600	1800	1800	1800	1900	1900	2200	2200
Height	mm	2000	2080	2100	2240	2240	2320	2400	2790	2790
Shipping Weight	kg	3110	3400	3550	3720	4760	4910	6170	7490	7580
Operating Weight	kg	3220	3650	3800	4050	5180	5380	6720	8190	8280

Note:

1. Cooling capacity: For condenser water inlet/outlet temperatures 30° / 34°C and evaporator water outlet/inlet temperatures 7° / 12°C respectively.
2. Heating capacity: For condenser inlet/outlet water temperature 50° / 55°C and evaporator outlet/inlet water temperature 7° / 12°C respectively.
3. Input power supply: 415 V / 50 Hz / 3-Phase.
4. Fouling factors according to AHRI 550 / 590 & 551 / 591.
5. All weight and dimensions are approximate.

To select optimised chiller configuration & for options other than listed above, please contact your local Kirloskar Chillers sales office.

PRODIGY® Air Cooled Screw Chillers

KAS Series: Air Cooled Screw Chillers with DX Evaporator

Features & Benefits

Kirloskar PRODIGY® KAS Series air cooled DX evaporator screw compressor chillers are equipped with one, two or three high efficiency screw compressors. These chillers have an efficiency in the range of 1.00 ~ 1.10 kW/tonR (COP of 3.2 ~ 3.5) at standard rating conditions.

Each PRODIGY® KAS series air cooled screw chiller is equipped with:

- 1, 2 or 3 twin-screw compressors, equipped with semi hermetic, refrigerant cooled, squirrel cage two pole induction motor suitable for voltages between 380 ~ 460V. These high efficiency compressors are designed for quiet operation & have step-less capacity control from 25 ~ 100% load for Single Compressor, 12.5 ~ 100% load for Dual Compressor chillers and 8.3 ~ 100% load for Three Compressor chillers.
- Built-in oil separator within the compressor.
- Copper tube & Aluminium fin condenser coils with adequate number of fans for air circulation over the coils. The fans are designed for quiet operation & are equipped with IP-55 protected squirrel cage induction motors.
- DX shell & tube evaporator with enhanced surface copper tubes.
- Electrical panel housing intelligent 'K-Smart' controller with LCD display.
- Anti-vibration rubber pads for field installation.
- Victaulic compatible water connections for evaporator.

Options & Accessories

The following options are available for all PRODIGY® KAS Series air cooled screw chillers:

- Various starters for compressor motors: Star Delta, Soft starter or Variable Frequency Drive.
- Anti-corrosive blue coatings on the condenser fins.
- Water flow switches or differential water pressure switches for evaporator.
- Spring isolators for vibration isolation.
- Acoustic enclosure for compressors for noise reduction.
- Also suitable for low temperature applications, with brine as secondary cooling media.
- Available with the options of HFC 134a & HFC 407C refrigerants.
- Witness testing at full and part loads, at available ambient conditions.

Heat Recovery Options

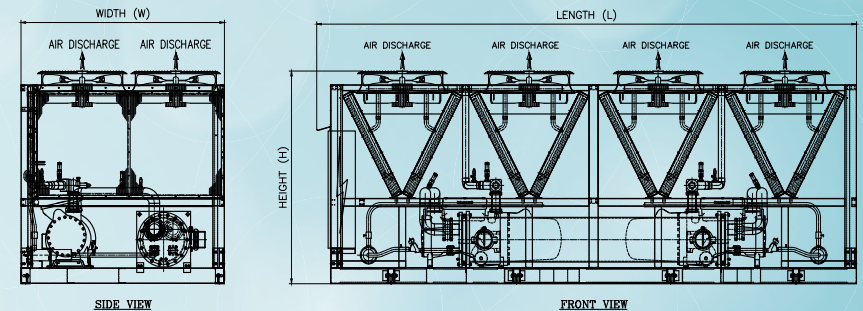
- **Partial Heat Recovery:** These chillers can be offered with desuperheaters for partial heat recovery with maximum hot water outlet temperature of 55°C for both HFC 134a & HFC 407C refrigerant.
- **Reverse Cycle Heat Pumps:** These chillers are used for either heating or cooling application at a time. Maximum hot water temperature achieved during heating mode is 55°C for R134a and 50°C for R407C at ambient temperatures as low as 10°C.

PRODIGY®

Approximate Range:

45 TR (160 kW) up to 425 TR (1495 kW)

Physical Dimensions :



PRODIGY® Air Cooled Screw Chillers - KAS Series (HFC 134a)

Parameter / Model	UOM	KAS 045.14	KAS 070.14	KAS 095.14	KAS 110.14	KAS 130.14	KAS 150.14	KAS 165.14	KAS 125.24	KAS 165.24	KAS 185.24	
Nominal Cooling Capacity	TR	43	70	94	107	128	152	163	124	168	185	
Compressor Type		Semi Hermetic Twin Screw										
No. of Compressors	#	1	1	1	1	1	1	1	2	2	2	
Capacity Control	%	Stepless 100-25%							Stepless 100-12.5%			
Approx. Ref Charge	Kg	26	42	54	60	70	78	88	70	87	96	
Evaporator Type		Direct Expansion Type - Shell & Tube										
Evap Water Volume	LTR	75	85	130	200	175	240	225	175	225	300	
Evaporator Water Nozzle Size	NB	100	100	100	150	150	150	150	150	150	200	
Condenser Type		Aluminium Fins & Copper Tube Coils										
No. of Fans	#	2	4	6	6	6	8	8	6	8	10	
Length	mm	2680	3040	4400	4400	4400	5790	5790	4420	5790	7160	
Width	mm	1550	2200	2200	2200	2200	2200	2200	2200	2200	2210	
Height	mm	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180	
Shipping Weight	Kg	1760	2680	3200	3800	3875	4550	4600	4410	4950	5525	
Operating Weight	Kg	1840	2760	3320	4000	4100	4800	4820	4590	5180	5830	



Parameter / Model	UOM	KAS 205.24	KAS 230.24	KAS 265.24	KAS 300.24	KAS 325.24	KAS 355.24	KAS 380.34*	KAS 400.34*	KAS 425.34*	
Nominal Cooling Capacity	TR	207	229	263	298	326	353	379	403	426	
Compressor Type		Semi Hermetic Twin Screw									
No. of Compressors	#	2	2	2	2	2	2	3	3	3	
Capacity Control	%	Stepless 100-12.5%						Stepless 100-8.33%			
Approx. Ref Charge	Kg	110	121	132	159	168	184	202	212	222	
Evaporator Type		Direct Expansion Type - Shell & Tube									
Evap Water Volume	Ltr	270	420	370	485	465	430	553	530	680	
Evaporator Water Nozzle Size	NB	200	200	200	200	200	200	200	200	250	
Condenser Type		Aluminium Fins & Copper Tube Coils									
No. of Fans	#	10	12	14	16	16	18	20	22	24	
Length	mm	7180	8540	9910	11300	11300	12800	14200	15500	16900	
Width	mm	2210	2210	2210	2210	2210	2210	2210	2210	2210	
Height	mm	2180	2180	2380	2380	2380	2380	2380	2380	2380	
Shipping Weight	kg	6820	7440	8000	8750	8780	9320	11830	12570	13400	
Operating Weight	kg	7100	7860	8375	9240	9260	9750	12390	13100	14100	

Note:

1. Cooling capacity: For evaporator water outlet/inlet temperatures 7° / 12°C respectively & ambient temperature 35°C.
2. Input power supply: 415 v / 50 Hz / 3-Phase.
3. Fouling factors according to AHRI 550 / 590 & 551 / 591.
4. All weight and dimensions are approximate.
5. * - Unit shall be shipped in two different modules.
6. ** - Unit shall be shipped in two different modules, for export.

To select optimised chiller configuration & for options other than listed above, please contact your local Kirloskar Chillers sales office.

PRODIGY® Air Cooled Screw Chillers - KAS Series (HFC 407C)

Parameter / Model	UOM	KAS 050.17	KAS 070.17	KAS 095.17	KAS 120.17	KAS 160.17	KAS 190.17	KAS 210.17	KAS 240.17
Nominal Cooling Capacity	TR	48	68	93	121	161	187	210	237
Compressor Type		Semi Hermetic Twin Screw							
No. of Compressors	#	1	1	1	1	1	1	1	1
Capacity Control	%	Stepless 100-25%							
Approx. Ref Charge	kg	28	43	58	70	98	122	135	148
Evaporator Type		Shell And Tube - Direct Expansion Type							
Evaporator Water Volume	Ltr	90	115	175	245	300	290	385	355
Evaporator Water Nozzle Size	NB	100	150	150	150	200	150	200	200
Condenser Type		Aluminium Fins And Copper Tube Coils							
No. of Fans	#	2	4	6	6	8	10	10	12
Length	mm	2680	3040	4400	4400	5790	7160	7160	8540
Width	mm	1550	2200	2200	2200	2200	2210	2210	2210
Height	mm	2180	2180	2180	2180	2180	2180	2180	2180
Shipping Weight	kg	1990	2340	2590	3050	4265	4510	4650	5165
Operating Weight	kg	2080	2450	2820	3290	4500	4820	4950	5585

Parameter / Model	UOM	KAS 130.27	KAS 150.27	KAS 215.27	KAS 245.27	KAS 280.27	KAS 320.27	KAS 345.27**	KAS 375.27*	KAS 415.27*
Nominal Cooling Capacity	TR	130	152	213	243	282	321	346	375	427
Compressor Type		Semi Hermetic Twin Screw								
No. of Compressors	#	2	2	2	2	2	2	2	2	2
Capacity Control	%	Stepless 100-12.5%								
Approx. Ref Charge	kg	72	96	121	148	169	190	218	246	264
Evaporator Type		Shell And Tube - Direct Expansion Type								
Evaporator Water Volume	Ltr	245	210	385	345	445	395	515	490	590
Evaporator Water Nozzle Size	NB	150	150	200	200	200	200	200	200	250
Condenser Type		Aluminium Fins And Copper Tube Coils								
No. of Fans	#	6	8	10	12	14	16	18	20	22
Length	mm	4420	5790	7160	8540	9910	11300	12800	14200	15500
Width	mm	2200	2210	2210	2210	2210	2210	2210	2210	2210
Height	mm	2180	2180	2180	2180	2380	2380	2380	2380	2380
Shipping Weight	kg	3275	4950	5730	6440	7300	8250	8775	9100	9520
Operating Weight	kg	3500	5180	5980	6690	7740	8770	9290	9580	9980

Notes:

1. Cooling capacity: For evaporator water outlet/inlet temperatures 7° / 12°C respectively & ambient temperature 35°C.
2. Input power supply: 415 V / 50 Hz / 3-Ph.
3. Fouling factors according to AHRI 550 / 590 & 551 / 591.
4. All weight and dimensions are approximate.
5. * - Unit shall be shipped in two different modules.
6. ** - Unit shall be shipped in two different modules, for export.

To select optimised chiller configuration & for options other than listed above, please contact your local Kirloskar Chillers sales office.

PRODIGY® Air Cooled Screw Chillers with Adiabatic Cooling

KAA Series: Air Cooled Screw Chillers with Adiabatic Cooling Kit

The KAA series chillers are provided with Adiabatic cooling kits for mounting on condenser coils. Adiabatic cooling helps reduce the peak power consumption of air cooled chillers, especially in dry & hot ambient conditions.

What are Adiabatic Kits?

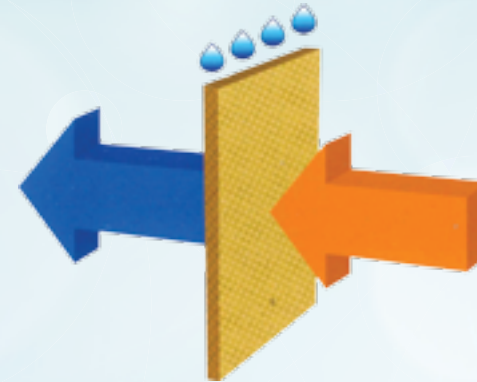
Adiabatic kits make use of lower Wet Bulb temperature in places with hot & dry ambient conditions to reduce the entering air temperature over the condenser coils. Adiabatic pads along with water spray system are used to cool the hot & dry entering air. The annual water consumption of these systems is approximately 1/6th of the annual water required in a cooling tower for water cooled chillers. Further, water circulation is required only during periods of operation in hot weather; the system automatically switches to normal air cooled operation mode in periods of moderate temperature. Thus on an average yearly basis, the water consumption drops to less than 15% of the total water required in a cooling tower.

The system consists of adiabatic pads mounted in front of the condenser coils. A water spray system sprays finely atomized water over these pads depending on the ambient air temperature. The spray system is intermittent and the ON & OFF times depend on the ambient temperature. For example, during periods with very high ambient temperature, say 40°C & above, the water spray will be on for about 30 seconds on each pad. During these 30 seconds, the pads get wet & cool the air flowing over them by about 5 ~ 8 °C. Thus, the air entering the condenser coils, will now be cooler by 5 ~ 8°C than the actual ambient, thus reducing the condensing temperature in the system, in turn reducing the power consumption of the chiller unit. The pads retain this water for about one minute after the sprays are switched off & keep cooling the air flowing over it. After about one minute, the spray of water again starts & continues for another 30 seconds & this cycle continues. The ON & OFF times will depend on the ambient temperature: lower the ambient temperature, higher will be OFF time & vice versa, in order to optimize water consumption. For chillers with adiabatic kits, the chiller controller, 'K-Smart' will have software programmed to monitor & control the operation of the sprays.

The adiabatic system comes complete with SS water piping for the spray nozzles, high pressure water pump, water tank, filters, etc. This entire system is factory fitted & tested prior to dispatch.

PRODIGY®

Approximate Range:
45 TR (160 kW) up to 455 TR (1600 kW)



PRODIGY® Air Cooled Screw Chillers, with Adiabatic Kit - KAA Series (HFC 134a)

Parameter / MODEL	UOM	CAA 045.14	CAA 075.14	CAA 115.14	CAA 135.14	CAA 160.14	CAA 175.14	CAA 130.24	CAA 180.24	CAA 195.24	CAA 220.24
Nominal Cooling Capacity	TR	45	74	113	135	159	171	131	176	194	217
Compressor Type		Semi Hermetic Twin Screw									
No. of Compressors	#	1	1	1	1	1	1	2	2	2	2
Capacity Control	%	Stepless 100-25%						Stepless 100-12.5%			
Approx. Ref Charge	kg	26	42	60	70	78	88	70	87	96	110
Evaporator Type		Shell and Tube - Direct Expansion Type									
Evaporator Water Volume	Ltr	75	85	200	175	240	225	175	225	300	270
Evaporator Water Nozzle Size	NB	100	100	150	150	150	150	150	150	200	200
Condenser Type		Aluminium Fins and Copper Tube Coils									
No. of Fans	#	2	4	6	6	8	8	6	8	10	10
Length	mm	2680	3040	4400	4400	5790	5790	4420	5790	7160	7180
Width	mm	1550	2200	2200	2200	2200	2200	2200	2200	2210	2210
Height	mm	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180
Shipping Weight	kg	1760	2680	3800	3875	4550	4600	4410	4950	5525	6820
Operating Weight	kg	1840	2760	4000	4100	4800	4820	4590	5180	5830	7100



MODEL		CAA 245.24	CAA 280.24	CAA 320.24	CAA 345.24	CAA 365.24	CAA 405.34	CAA 430.34	CAA 450.34
Nominal Cooling Capacity	TR	241	276	313	341	362	399	424	448
Compressor Type		Semi Hermetic Twin Screw							
No. of Compressors	#	2	2	2	2	2	3	3	3
Capacity Control	%	Stepless 100-12.5%					Stepless 100-8.33%		
Approx. Ref Charge	kg	121	132	159	168	184	202	212	222
Evaporator Type		Shell and Tube - Direct Expansion Type							
Evaporator Water Volume	Ltr	420	370	485	465	430	553	530	680
Evaporator Water Nozzle Size	NB	200	200	200	200	200	200	200	250
Condenser Type		Aluminium Fins and Copper Tube Coils							
No. of Fans	#	12	14	16	16	18	20	22	24
Length	mm	8540	9910	11300	11300	12800	14200	15500	16900
Width	mm	2210	2210	2210	2210	2210	2210	2210	2210
Height	mm	2180	2380	2380	2380	2380	2380	2380	2380
Shipping Weight	kg	7440	8000	8750	8780	9320	11830	12570	13400
Operating Weight	kg	7860	8375	9240	9260	9750	12390	13100	14100

Notes:

1. Cooling capacity: For evaporator water outlet/inlet temperatures 7° / 12°C respectively & ambient temperature 37°C.
2. Input power supply: 415 V / 50 Hz / 3-Phase.
3. Fouling factors according to AHRI 550 / 590 & 551 / 591.
4. All weight and dimensions are approximate.

To select optimised chiller configuration & for options other than listed above, please contact your local Kirloskar Chillers sales office.

PRODIGY® Air Cooled Screw Chillers, with Adiabatic Kit - KAA Series (HFC 407C)

Parameter / MODEL	UOM	CAA 050.17	CAA 075.17	CAA 130.17	CAA 170.17	CAA 200.17	CAA 225.17	CAA 255.17
Nominal Cooling Capacity	TR	51	72	128	169	197	221	250
Compressor Type		Semi Hermetic Twin Screw						
No. of Compressors	#	1	1	1	1	1	1	1
Capacity Control	%	Stepless 100-25%						
Approx. Ref Charge	kg	28	43	70	98	122	135	148
Evaporator Type		Shell and Tube - Direct Expansion Type						
Evaporator Water Volume	Ltr	90	115	245	300	290	385	355
Evaporator Water Nozzle Size	NB	100	150	150	200	150	200	200
Condenser Type		Aluminium Fins and Copper Tube Coils						
No. of Fans	#	2	4	6	8	10	10	12
Length	mm	2680	3040	4400	5790	7160	7160	8540
Width	mm	1550	2200	2200	2200	2210	2210	2210
Height	mm	2180	2180	2180	2180	2180	2180	2180
Shipping Weight	kg	1990	2340	3050	4265	4510	4650	5165
Operating Weight	kg	2080	2450	3290	4500	4820	4950	5585

Parameter / MODEL	UOM	CAA 140.27	CAA 165.27	CAA 230.27	CAA 260.27	CAA 300.27	CAA 345.27	CAA 370.27	CAA 400.27	CAA 455.27
Nominal Cooling Capacity	TR	137	160	224	256	297	338	365	395	449
Compressor Type		Semi Hermetic Twin Screw								
No. of Compressors	#	2	2	2	2	2	2	2	2	2
Capacity Control	%	Stepless 100-12.5%								
Approx. Ref Charge	kg	72	96	121	148	169	190	218	246	264
Evaporator Type		Shell and Tube - Direct Expansion Type								
Evaporator Water Volume	Ltr	245	210	385	345	445	395	515	490	590
Evaporator Water Nozzle Size	NB	150	150	200	200	200	200	200	200	250
Condenser Type		Aluminium Fins and Copper Tube Coils								
No. of Fans	#	6	8	10	12	14	16	18	20	22
Length	mm	4420	5790	7160	8540	9910	11300	12800	14200	15500
Width	mm	2200	2210	2210	2210	2210	2210	2210	2210	2210
Height	mm	2180	2180	2180	2180	2380	2380	2380	2380	2380
Shipping Weight	kg	3275	4950	5730	6440	7300	8250	8775	9100	9520
Operating Weight	kg	3500	5180	5980	6690	7740	8770	9290	9580	9980

Notes:

1. Cooling capacity: For evaporator water outlet/inlet temperatures 7° / 12°C respectively & ambient temperature 37°C.
2. Input power supply: 415 V / 50 Hz / 3-Phase.
3. Fouling factors according to AHRI 550 / 590 & 551 / 591.
4. All weight and dimensions are approximate.

To select optimised chiller configuration & for options other than listed above, please contact your local Kirloskar Chillers sales office.

Web-Based Remote Monitoring of Chillers

Kirloskar Chillers products are offered with web-based remote monitoring system – “K-Connect”. Real-time data is constantly acquired and processed, which is used to diagnose real-time health of chiller. Abnormal or unhealthy conditions in the equipment are analyzed using complex algorithms, and failures can be predicted for proactive maintenance. The system also generates alerts and notifications to customer’s maintenance / utility engineer via Email.

All chiller parameters including temperatures, pressures, currents etc. along with status of various safety and operational switches are logged at predefined interval by “K-Connect” & stored on centralized server. This data can be accessed by user at any point of time by logging to the server with proper credentials. Daily mailers will be generated by server for latest 24 hours logbook. User level Setpoints can also be viewed / modified by logging in through internet.

“K-Connect” hardware consists of a GSM/UMTS gateway which is used to transmit data to centralized server and is provided with RS-485 Modbus port to communicate with chiller. With this system one can constantly monitor the chiller performance, and when possible, fix problems remotely without the need for engineer to visit the site of installation.



Optional Features

Automatic Tube Cleaning System

Ball Type Automatic Tube Cleaning System

System Description

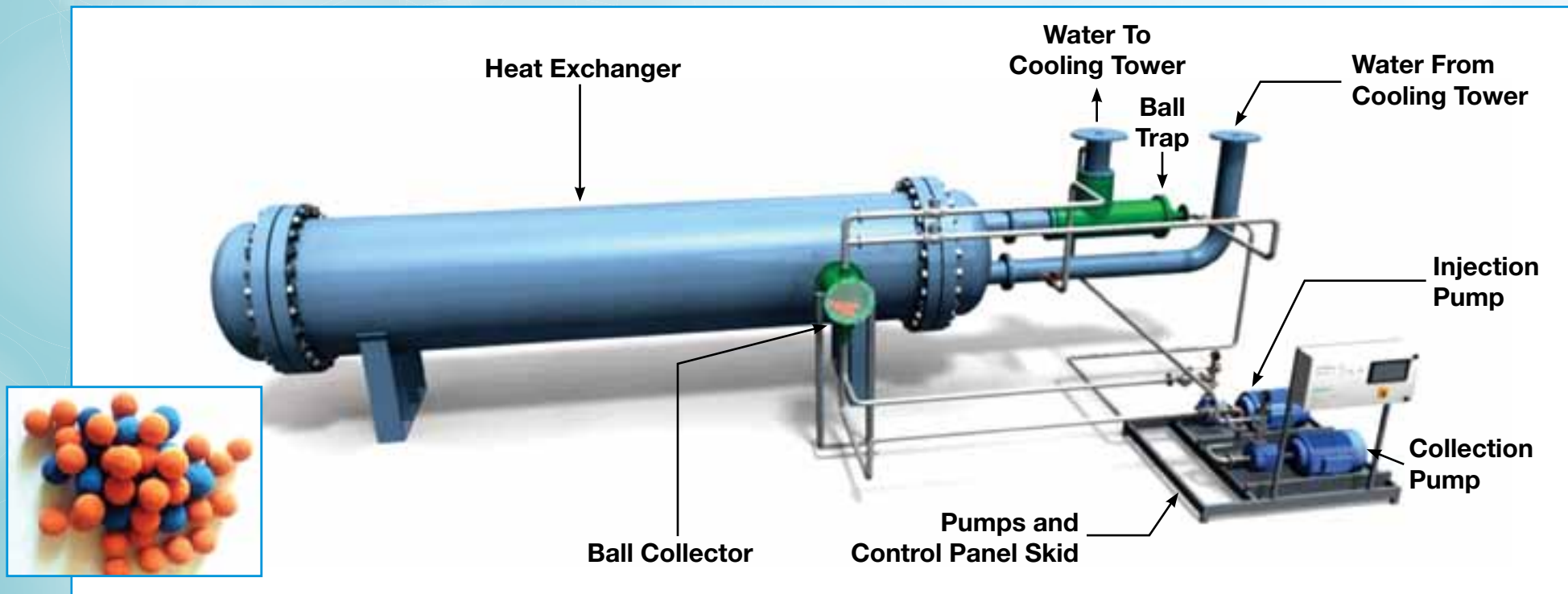
The system uses sponge balls to keep heat exchanger tubes clean. The sponge balls are injected almost simultaneously at the heat exchanger tube sheet with the help of injection pump thereby giving effective spread to the sponge balls in various tubes, the sponge balls would pass through the tubes and clean the fouling /scales/deposits inside the tubes.

Once the sponge balls come out of the heat exchanger tubes those are collected at ball trap, and are sent back to the ball collector with the help of collection pump. The entire process is a batch operation automatically controlled by PLC and occurs 2-3 times in an hour. These pumps run hardly for few seconds for injection and collection of sponge balls.

The system is designed to have long life & for trouble free operation.

Features & Benefits

- Fully automatic system, No manual intervention is required.
- Frequent ball circulation prevents scale formation / fouling inside the tubes.
- Gives Energy saving to the tune of around 10%.
- On-line system, thus avoids costly shut down.
- Avoids brush & chemical cleaning thus enhances tube life.
- Operating Energy Cost is very low.
- Single skid can accommodate multiple Chillers.
- Designed for minimal pressure drop.



Optional Features

Plant Manager

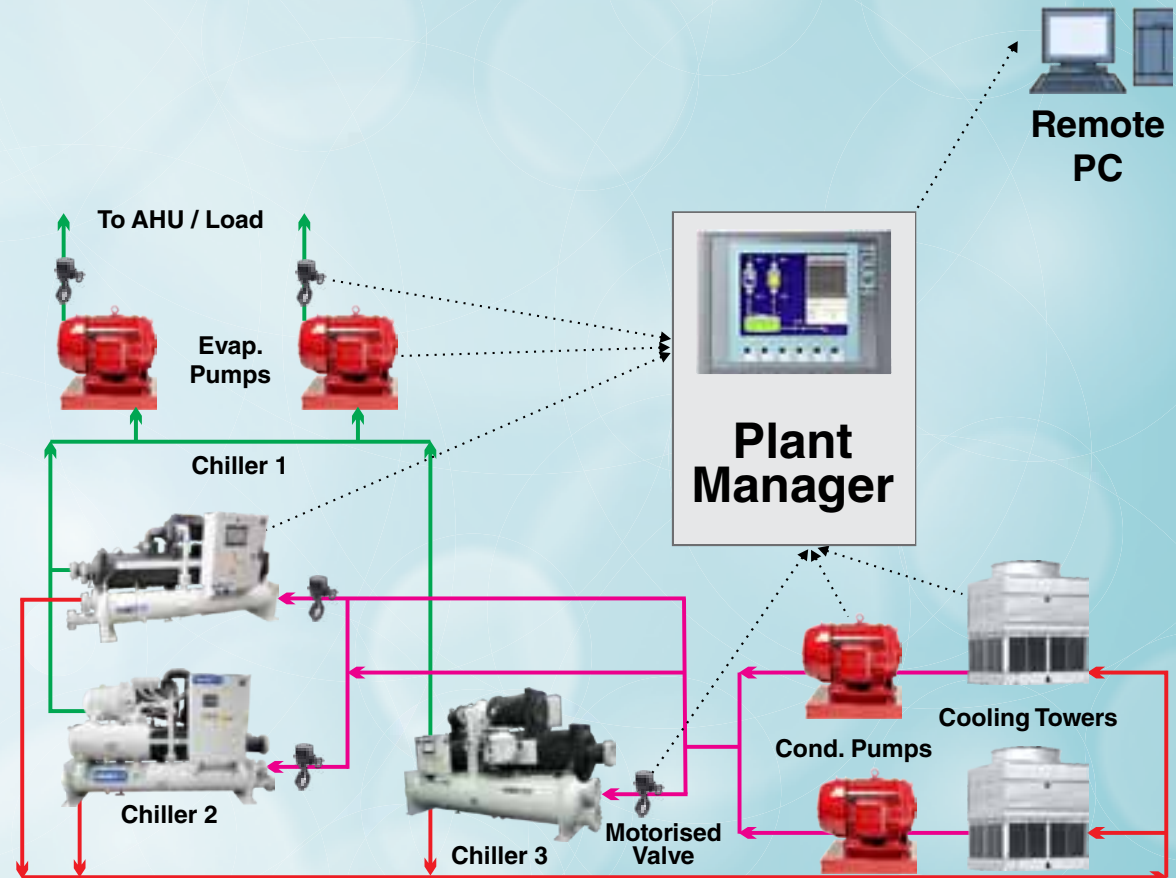
Kirloskar Chillers can optionally supply Plant Manager for controlling & optimally running a chiller system. A typical large chiller system can consist of the following equipment which will be controlled by the Plant Manager:

- Various chillers operating in the plant
- Chilled water primary pumps
- Chilled water secondary pumps with or without variable speed drives
- Condenser water pumps
- Cooling tower inlet / outlet motorized valves
- Chilled water inlet / outlet motorized valves
- Condenser water inlet / outlet motorized valves
- Modulating bypass valve

Depending on the sophistication required in the Plant Manager System, additional equipment can be added to the above list of equipment that is to be controlled by the Plant Manager. The features of the Plant Manager would also depend on the level of automation required by the customer. However, typically, a Plant Manager System can achieve all functions of the multi chiller control system & in addition the following:

- Depending on how many chillers are operating, the Plant Manager shall decide how many chilled water primary & condenser water pumps should run. And also controls motorized valves in chilled and condenser water line accordingly
- The Plant Manager can control the water flow to the cooling towers depending on the no. of chillers operating & by controlling the cooling tower motorized valves.
- The Plant Manager can control the speed of the secondary chilled water pumps, depending on the pressure signal received from the pressure transducer at the farthest air handling unit.

The extent of sophistication that can be incorporated into the Plant Manager is limitless & would be influenced by the available budget. Graphic display, fault & alarm displays at remote locations, data logging, reporting etc. are some of the features which can be added to the Plant Manager depending on customer requirements & budgets.



Optional Features

De-Superheaters

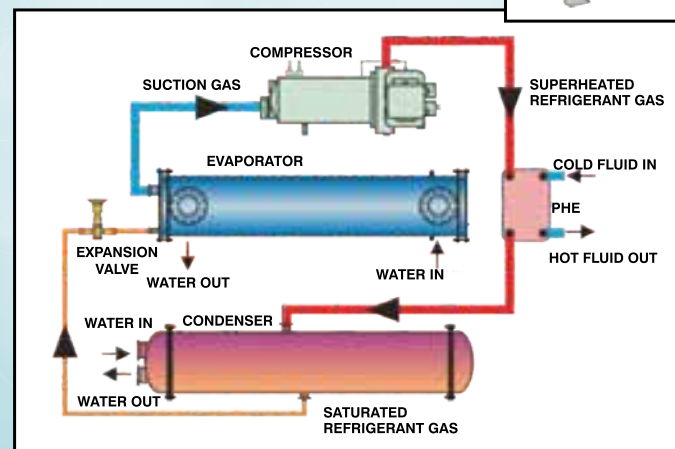
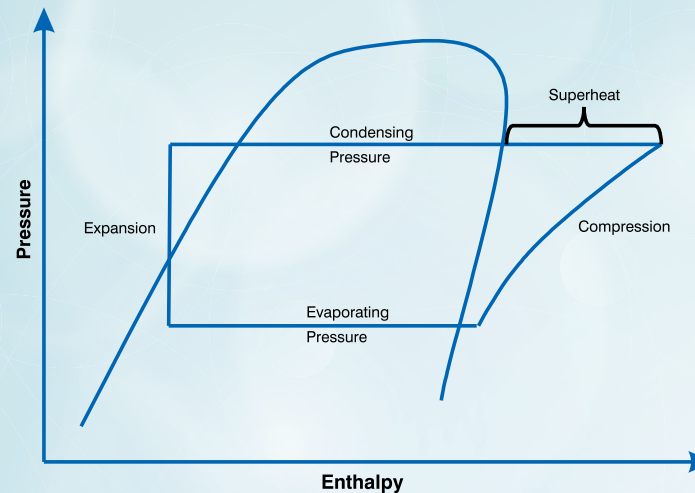
Kirloskar PRODIGY® screw chillers can be offered with a unique heat recovery option, the Desuperheater.

Principle of Operation

Desuperheaters are basically Plate Type Heat Exchangers (PHEs) fitted in the discharge line of the compressor. The superheat of the refrigerant gas leaving the compressor (see figure) is removed by water / fluid before the refrigerant gas enters the normal condenser, which may be either air cooled or water cooled. The latent heat of the refrigerant is then rejected to the cooling media in the condenser.

The advantage of a desuperheater over heat recovery condenser is that the heat recovery is at normal condensing pressures, unlike in total heat recovery condensers where the condensing pressure must be elevated. Thus, there is no increase in the compressor power and heat recovered is absolutely free and hence increases the efficiency of the water chiller.

In KWS and KAS series chillers, refrigerant discharge temperatures can be as high as 65°-75°C, hence heat is Recovered at a high temperature of 50°-55°C. In the KWK series chillers, normally the heat recovery would be at approx. 40°C, however, with some additional accessories, it can be increased to 45°C. Since PHEs are used instead of shell & tube type heat exchangers, heat recovery efficiency is also very high and also enables achieving high temperature differential fluid temperatures up to 10 ~ 12°C. Approximately 15% of the chiller's cooling capacity can be recovered as heat from a desuperheater.



Maintenance Contracts

Kirloskar Chillers has a strong commitment to 'customer delight', & in line with this philosophy, has built a strong team for aftersales support. Chillers are technologically advanced products & need proper care & support for trouble free operation on a long term & optimized basis. In line with these requirements, we offer maintenance contracts to our customers, post warranty period. The maintenance service contracts are of various types & durations. The following are the two main types of contracts we offer:

1. Annual Maintenance Contract: In these contracts, Kirloskar Chillers offers four preventive maintenance schedules & unlimited number of breakdown visits. The preventive maintenance schedule ensures trouble free operation of the chiller throughout its life & also keeps the performance of the chiller optimised. Any spare parts required for proper operation of the chiller are procured by the customer at an additional cost from Kirloskar Chillers.
2. Comprehensive Annual Maintenance Contract: In these contracts, all benefits of an annual service contract are available to the customer along with inclusion of all major spare parts required for the chiller. Only consumable items & certain electrical / electronic items are generally excluded from such contracts. Thus, customers opting for comprehensive contracts entrust the entire maintenance responsibility of the chiller to Kirloskar Chillers for a predetermined amount.

Customers have a lot to benefit from such contracts: They ensure that chillers are under care of competent personnel & it is an obvious choice that a manufacturer is the best position to provide such services. Customers are also assured of quick availability of genuine spare parts for their chillers & most importantly peace of mind as they can be assured of trouble free chiller operation for many years.



Our Strengths

Manufacturing & Testing Facilities

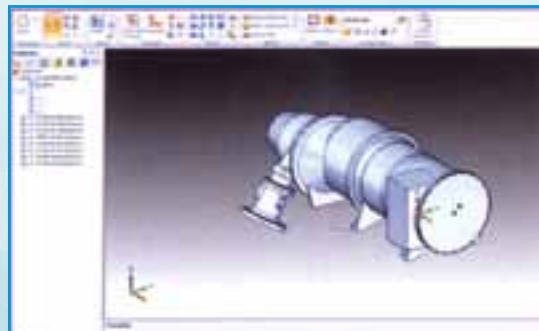
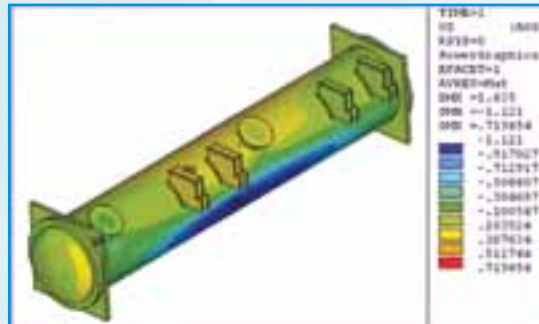
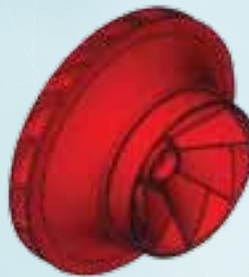
Kirloskar Chillers is an ISO 9001:2008 certified Company with a state-of-the-art engineering, manufacturing & testing facility located at Saswad, near Pune, India. The plant spread over 40,000 sq. ft. is one of the few facilities in India which manufactures both Centrifugal & Screw chillers under one roof. The production facility includes sections for centrifugal compressor assembly, heat exchanger fabrication. The heat exchanger shop is equipped with facilities for tube sheet machining, tube expansion & pressure testing. Other sections cover various stages of the chiller manufacturing process, such as electrical & control panel assembly, chiller assembly, pressure testing, refrigerant charging, painting & insulation. We were the first chiller manufacturer in India to offer chillers certified under the AHRI 550 / 590 & 551 / 591 certification program since 2006. In 2008, we were the first to establish an AHRI-certified test bed in India.

Supply Chain Management

Adopting a collaborative approach with all stakeholders allows us to maximize the efficiency & effectiveness of our operations. Our vendors are key partners in our endeavour to deliver quality products & services to our customers. Continuous efforts at vendor development to upgrade their knowledge, competence & facilities ensure that we source components at the right time with optimum cost & desired quality. Involving our vendors in various initiatives to promote exchange of information helps build trust & confidence in each other, ensuring they are partners in our growth to jointly achieve the Company's short term goals & long range plans.

Engineering, Research & Development Capabilities

Kirloskar Chillers prides itself on being a technology-driven company, responsive to the needs of its customers and alert to emerging global trends. Our focus on offering efficient & reliable products, new features & value-added services drives our efforts at continuous innovation. Our Engineering team uses advanced software tools for various aspects of chiller design. Vast experience in refrigeration system design, particularly in thermal & mechanical design, in-house expertise at Controller programming & logic development to optimize chiller operation enable us to remain a leader in chiller technology. For specialized engineering requirements like CFD analysis for impeller design, FEA for seismic studies, stress analysis, acoustic & vibration studies, we enlist the help of external expertise.



Some of our Esteemed Customers

Pharmaceutical Industry

- Lupin Ltd.- Goa, Pune, Aurangabad, Nagpur
- Glenmark Generics- Mumbai, Solapur, Aurangabad
- Strides Shasun Ltd.- Bengaluru
- Biocon Ltd.- Bengaluru, Vizag
- Wockhardt Ltd.- Aurangabad
- Mylan Laboratories Ltd.- Bengaluru
- Micro Labs Ltd.- Bengaluru, Goa, Sikkim
- Mankind Pharma Ltd.- Himachal Pradesh

Power Industry

- ITER- France
- NTPC Ltd.- Multiple Locations
- Reliance Power- Parichha
- Mukha Power Station- Yemen
- Jhabua Thermal Power Project
- NHPC Ltd.- Uttarakhand
- Koyna Hydro Power Project- Satara

Textile Industry

- PT Indorama- Jakarta (Indonesia)
- PT Indo-Bharat Rayon- Jakarta (Indonesia)
- Welspun India Ltd.- Vapi
- Garden Silk Mills Ltd.- Jolwa
- Grasim Industries Ltd.- Ujjain
- Dicitex Décor- Mumbai
- JBF Industries Ltd.- Silvassa

FMCG

- Cargill India- Pune, Bengaluru, Kandla
- Hindustan Unilever- Multiple Locations
- PepsiCo India Holdings Pvt. Ltd.- Pune, Kolkata
- Patanjali Ayurved Ltd.- Haridwar
- Uniliver- Srilanka
- Nivea India Pvt. Ltd.- Ahmedabad
- Parle Agro Pvt. Ltd.- Silvassa, Mysore, Odisha
- Adani Wilmar Ltd.- Nellore, Kutch, Mangalore, Mundra

Healthcare

- Lung Center of the Philippines
- Narayana Hrudayalaya- Bengaluru, Jaipur
- Ruby Hall Clinic- Pune
- RPG Life Sciences- Mumbai
- B M Birla Research Center- Kolkata
- SRM Institute of Science & Technology- Chennai
- Ram Manohar Lohia Hospital- New Delhi
- Kailash Healthcare Limited- Noida
- The Gujarat Cancer & Research Institute- Ahmedabad
- M K C G Medical College- Odisha
- National Cancer Institute- Nagpur
- Safdarjung Hospital- New Delhi
- Symbiosis Hospital- Pune
- Indian Institute of Science and Education Research- Pune

Commercial Buildings

- UB City- Bengaluru
- World Trade Center- Mumbai
- Lodha Projects- Mumbai
- Kalpataru Projects- Mumbai
- SE TransStadia Pvt. Ltd.- Ahmedabad
- Bengaluru International Exhibition Centre- Bengaluru
- Vellore Institute of Technology- Vellore

IT

- Prestige Tech Park- Bengaluru
- Majesco Ltd. (Mastek)- Mumbai
- Reliance Infocom- Chennai
- Lanco Hills Tech Park- Hyderabad
- SQS Info Systems- Pune
- CtrlS Datacenters- Mumbai
- Okaya Blue Silicon Business Park- Noida
- SLK Software- Bengaluru
- TCI Sanmar- Egypt

Malls & Multiplexes

- Lodha Experia Mall- Mumbai
- Amanora Town Center- Pune
- Future Group Retail Outlets at Multiple Locations
- Inorbit Mall- Bengaluru
- City Pride- Pune
- WestEnd Mall- Pune
- Kadewe Mall- Germany

Hotels

- JW Marriott- Mumbai, Bengaluru
- Taj Hotels- Multiple Locations within India & Sri Lanka
- Radisson- Multiple Locations
- Crowne Plaza- Pune
- Le Méridien Resort & Spa- Mahabaleshwar

Automobile Industry

- Toyota Kirloskar Motor Pvt. Ltd.- Bengaluru
- Bridgestone India Pvt. Ltd- Indore
- Bosch Limited- Nashik
- Mahindra & Mahindra- Pune, Nashik, Satara
- JCB India Ltd.- Pune
- Hyundai Motor India Ltd.- Chennai
- John Deere- Pune

Other Industries

- Malacanang Presidential Palace- Philippines
- Reliance Industries Ltd., Mumbai
- Sterlite Technologies Ltd.-Aurangabad
- 3M India- Pune
- Times of India- Pune
- Gujarat Alkalies and Chemicals Ltd.- Vadodara
- HAL- Bengaluru, Lucknow
- Air India Ltd.- Mumbai
- ONGC- Surat, Odisha

We nurture Trust & Responsibility in all relationships. Through every action, we demonstrate our intent to be an organisation responsible towards Society & Nature. We drive various initiatives to extend a helping hand to society & help protect the environment.

Disclaimer: Kirloskar Chillers Private Limited accepts no responsibility for possible errors in the brochure and reserves the right to alter its product specifications without any prior notice. Use of the AHRI Certified™ mark indicates a manufacturer's participation in the program. For verification of certification for individual products, go to www.ahridirectory.org.



Enriching Lives



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