

KINNEY®

Rotary Piston Vacuum Pumps

Kinney® Rotary Piston Pumps Selector Guide



Compound Specifications

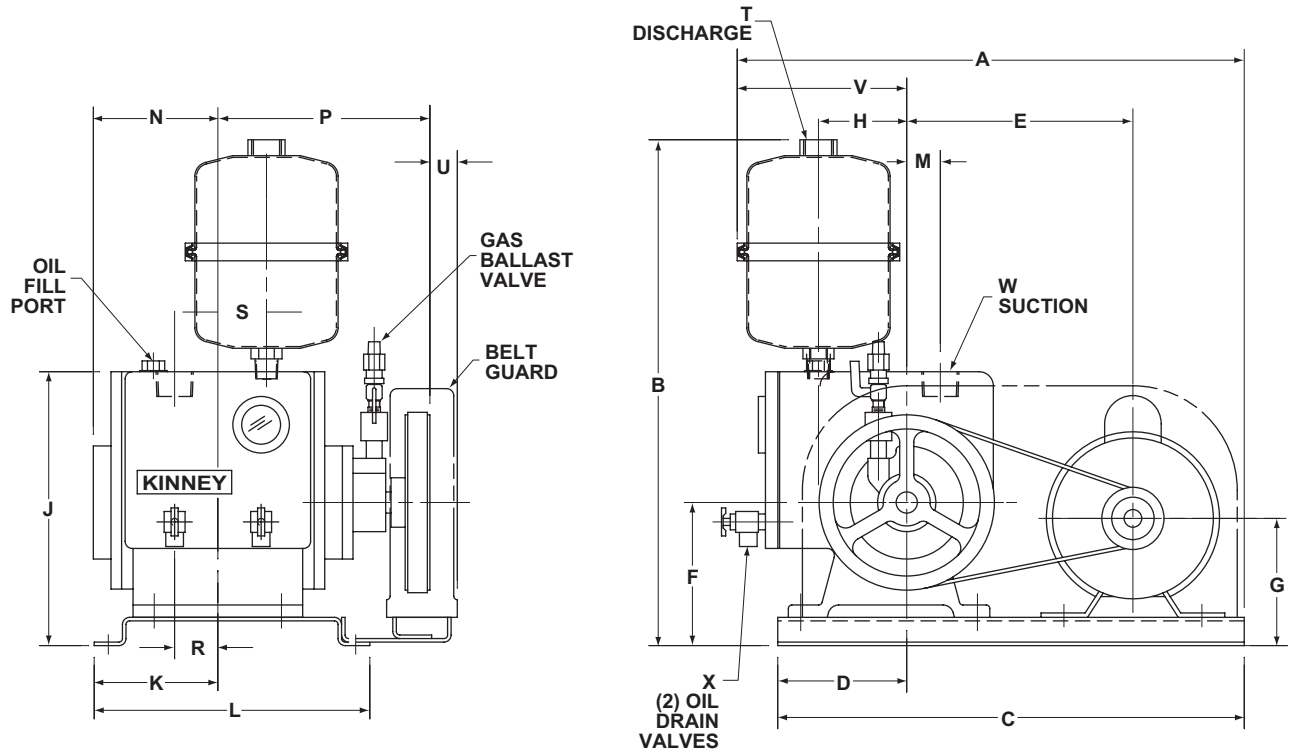
MODEL NUMBER	UNIT	KC-5	KC-8
Free Air Displacement at Rated RPM, Theoretical	CFM / m^3/h	5 / 8.5	8 / 13.6
Pump Speed	RPM	638	1022
Standard Motor	HP / kW	.33 / .25	.75 / .56
Inlet Connection	ANSI	—	—
Inlet Connection	NPT	1"	1"
Discharge Connection	NPT	3/4"	3/4"
Cooling Water Inlet Connection	NPT	N/A, Air-cooled	N/A, Air-cooled
Cooling Water Outlet Connection	NPT	N/A, Air-cooled	N/A, Air-cooled
Cooling Water Required @ 80°F (26.6°C) (1)	GPM / L/min	N/A, Air-cooled	N/A, Air-cooled
Overall Height	In. / mm	17.88 / 454	17.88 / 454
Overall Width (Facing Drive)	In. / mm	18 / 457	18 / 457
Overall Depth	In. / mm	12.88 / 327	12.88 / 327
Oil Capacity	Quarts / Liters	0.8 / 0.76	0.8 / 0.76
Weight (Complete Assembly, without Oil)	Lbs / kg	115 / 52.3	120 / 54.6
Maximum Gas Ballast Flow	%	15%	15%
Typical Blank off Pressure with Full Gas Ballast (3)	Torr / mbar	0.020 / 0.027	0.020 / 0.027
Ultimate Pressure - McLeod Gauge (3) (with Kinney® AX Vacuum Oil)	microns	0.2	0.2

NOTES:

- (1) Maximum allowable outlet water temperature 110°F (43.3°C)
- (2) Can be furnished for use without water on special request
- (3) Torr = 1 mm Hg Abs.; 1000 microns = 1 Torr
- (4) Model KTC-21 has both threaded and flanged connections. Flange is 1 1/4" with four 5/16-18 tapped holes on a 3 1/2" bolt circle.

KC-15	KTC-21	KTC-60	KTC-112
15 / 25.5	21 / 36	60 / 102	107 / 182
572	1725	960	1060
1 / .75	1.5 / 1.1	3 / 2.2	7.5 / 5.6
—	1 1/4" (4)	3"	3"
2"	2" (4)	—	—
1 1/2"	3/4"	1 1/4" ANSI FLG	2" ANSI FLG
N/A, Air-cooled	N/A, Air-cooled	N/A, Air-cooled	1/4"
N/A, Air-cooled	N/A, Air-cooled	N/A, Air-cooled	1/4"
N/A, Air-cooled	N/A, Air-cooled	N/A, Air-cooled	1.5 (2) / 5.7
24.31 / 617	20.25 / 515	36.5 / 927	44.25 / 1124
20.25 / 514	11.25 / 286	19.7 / 500	20.75 / 527
18.5 / 470	25.13 / 638	23.69 / 602	26 / 660
3 / 2.84	2 / 1.90	8 / 7.6	16 / 15.1
210 / 95	190 / 86	515 / 234	880 / 399
15%	10%	10%	10%
0.020 / 0.027	0.020 / 0.027	0.020 / 0.027	0.020 / 0.027
0.2	0.2	0.2	0.2

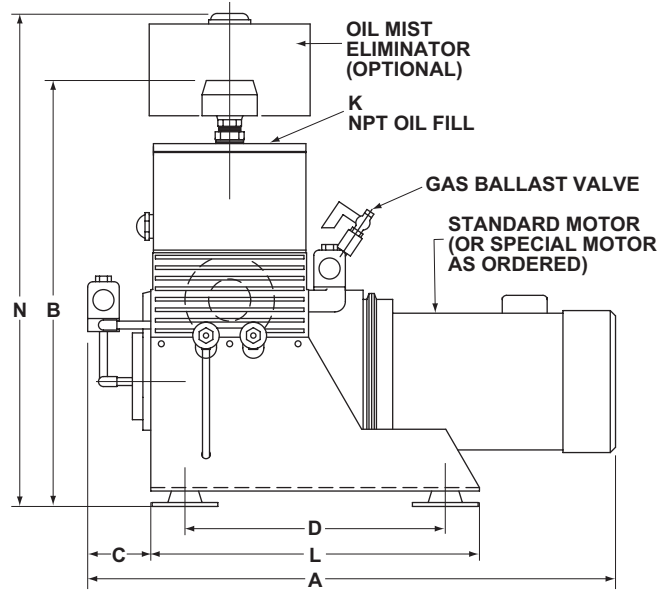
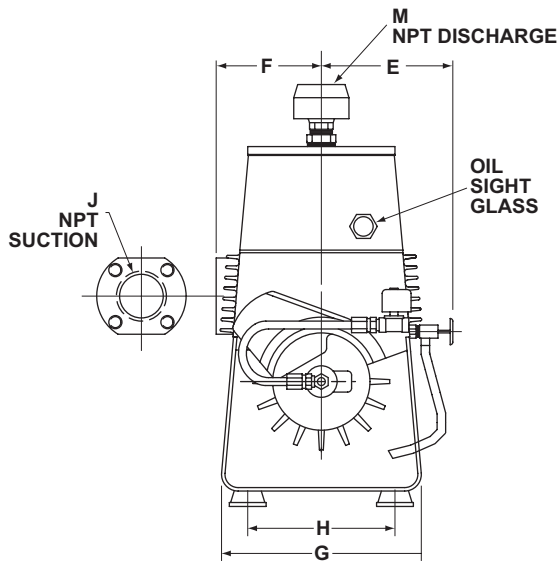
KC Series Dimensional Drawing



KC SERIES

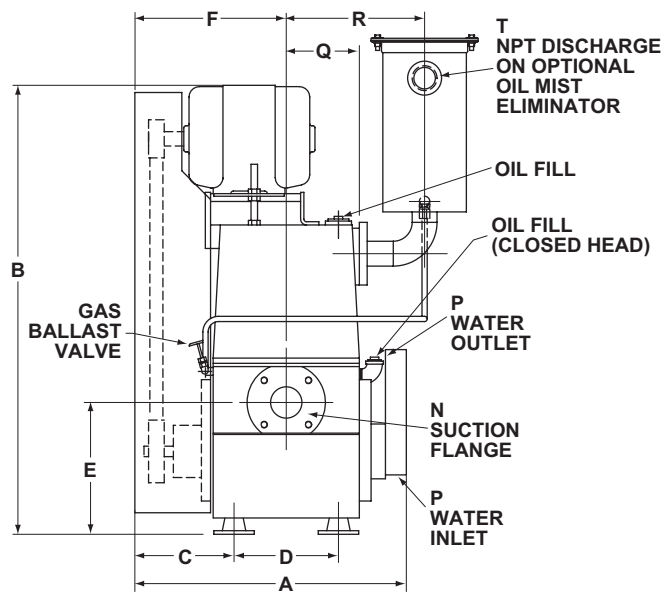
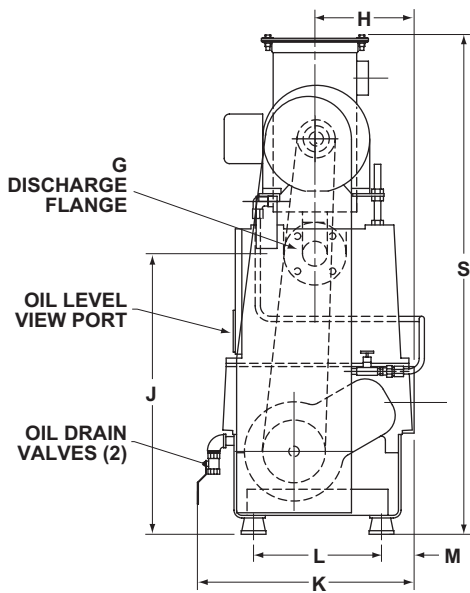
MODEL		A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	T	U	V	W	X
KC-5	in.	17.94	17.88	16.50	4.56	8.00	5.06	4.50	3.13	9.69	4.38	9.75	1.19	4.38	7.50	1.50	1.75	3/4"	1.00	6.00	1"	1/4"
	mm	456	454	419	116	203	129	114	80	246	111	248	30	111	191	38	44	NPT	25	152	NPT	NPT
KC-8	in.	17.94	17.88	16.50	4.56	8.00	5.06	4.50	3.13	9.69	4.38	9.75	1.19	4.38	7.50	1.50	1.75	3/4"	1.00	6.00	1"	1/4"
	mm	456	454	419	116	203	129	114	80	246	111	248	30	111	191	38	44	NPT	25	152	NPT	NPT
KC-15	in.	20.25	24.31	17.00	4.00	9.00	6.00	5.50	3.75	12.81	8.00	15.75	—	7.25	10.69	3.00	3.50	1 1/2"	0.56	7.31	2"	1/4"
	mm	514	617	432	101	229	152	140	95	325	203	400	—	184	272	76	89	NPT	14	186	NPT	NPT

KTC Series Dimensional Drawings



KTC-21

MODEL		A	B	C	D	E	F	G	H	J	K	L	M	N
KTC-21	in.	25.13	20.25	3.00	12.38	6.25	5	9.56	7	2"	3/4"	15.63	3/4"	23.44
	mm	638	515	76	314	159	127	243	175	NPT	NPT	397	NPT	595



KTC-60/112

MODEL		A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
KTC-60	in.	23.25	36.50	8.75	10	19.63	13.75	1 1/4"	7.63	21.75	18.75	11.50	2.50	3"	—	6.18	11.50	38.88	1 1/2"
	mm	591	927	213	254	498	349	ANSI	194	552	476	292	64	ANSI	—	157	292	988	NPT
KTC-112	in.	26	43	9.5	10	12.63	14.50	2"	9.50	26.88	20.75	12.25	3.13	3"	1/4"	7.00	13.25	47.88	2"
	mm	660	1092	241	254	321	368	ANSI	241	695	527	311	79	ANSI	NPT	178	337	1216	NPT

Section II — Compound Pumps

KC Series

Free Air Displacement: 5, 8 & 15 cfm

Ultimate Pressure: 0.2 microns

FEATURES

- High pumping speed at pressures below 10 microns; much lower than attainable with single stage pumps
- Adjustable gas ballast permits handling of condensable vapors
- Rugged construction and compact design
- No metal-to-metal contact in pumping chamber
- Unequalled durability, even in dirty applications
- Dynamically balanced for functionally vibration-free operation
- Air-cooled
- Caged slide pin outwears other types commonly used



GENERAL DESCRIPTION

Kinney® KC Series compound high vacuum pumps are designed to maintain lower pressures than are attainable with single stage pumps. Two sets of cams and pistons mounted 180° apart on a single shaft operate in series. The two pumping chambers are connected by a channel that serves as an oil supply duct for the high vacuum side of the pump and as a gas duct between the two stages. The high vacuum side is continuously sealed with vacuum-purified oil from its own reservoir, the vacuum conditioning being provided by the roughing (2nd) stage.

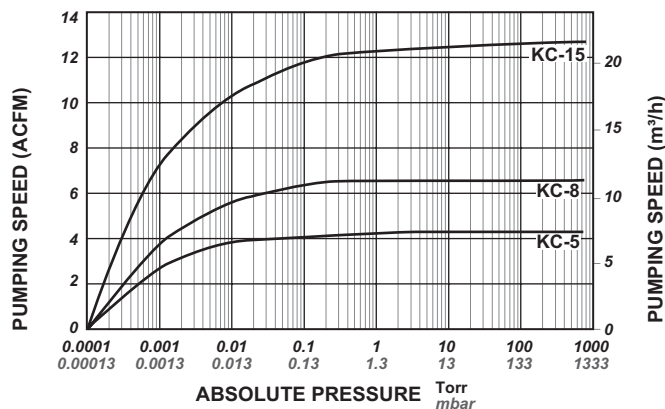
In operation, KC pumps are functionally vibrationless, making them well suited for portable installations where high vibration cannot be tolerated. The rotary pistons have no contact with surfaces in the pumping chamber, all clearances being perfectly sealed and lubricated with oil. Because there is no mechanical contact, wear is minimized, permitting Kinney pumps to operate efficiently for years without repairs. Whenever repairs do become necessary, these pumps can be easily serviced in the field without special tools.

All KC pumps are air-cooled and are equipped with controllable

gas ballast. The gas ballast feature provides vapor-handling capability and reduces oil changes by preventing condensable vapors from contaminating the oil. They are equipped with oil mist eliminators as standard equipment. This feature, optional on most other makes of pumps, eliminates all visible oil mist in the pump discharge, keeping the work area cleaner, safer, and more pleasant. Each pump operates within the rating of its standard drip-proof motor throughout its entire operating pressure range.

KC pumps will produce an ultimate pressure of 0.2 micron Hg Abs. or less (McLeod Gauge) when using Kinney® AX vacuum oil.

TYPICAL PUMPING SPEED CURVES

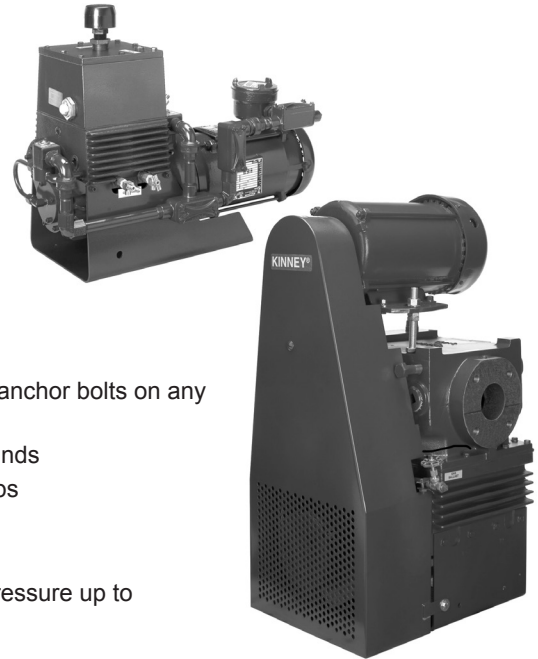


Section II — Compound Pumps

KTC Series

Free Air Displacement: 21-107 cfm

Ultimate Pressure: 0.2 microns



FEATURES

- High pumping speed at pressures below 10 microns; much lower than attainable with single stage pumps
- Triplex piston design for quiet, vibration-free operation - will operate without anchor bolts on any structure that will support its weight
- Unique discharge baffle reduces oil loss to rates far below those of other brands
- Produces lower ultimate pressures than are available with single stage pumps
- Adjustable gas ballast permits handling condensable vapors
- Caged slide pin outwears other types commonly used
- The KTC112 offers positive pressure lubrication assuring operation at any pressure up to atmospheric pressure
- No metal-to-metal contact in pumping chamber
- Unequalled durability, even in dirty applications

GENERAL DESCRIPTION

KTC-Series Kinney compound high vacuum pump is designed to maintain lower pressures than are attainable with single stage pumps. This "Triplex" pump has a single shaft with three sets of cams and pistons, one set larger than the other two. In operation, one of the smaller pumping chambers is in series with (backing) the other two which function in parallel. A unique internal balancing technique reduces the magnitude of pump movement (deflection) to 0.002" while simultaneously reducing the dynamic forces transmitted through the flexible mounting pads furnished with each pump to less than 1 pound on the KTC-21, less than 5 pounds on the KTC-60, and less than 10 pounds on the KTC-112. The resultant vibration-free characteristics of this pump make it ideal for portable installations and locations where vibration cannot be tolerated.

KTC-21 and KTC-60 pumps are air-cooled and are equipped with adjustable gas ballast, which provides vapor handling capability and reduces oil changes by preventing condensable vapors from contaminating the oil. KTC-112 pumps are continuously lubricated by forced oil feed at high pressures and

by internal pressure differential at low pressures. This permits continuous pump operation at any pressure up to and including atmosphere. They are equipped with adjustable gas ballast. The gas ballast feature provides vapor handling capability and reduces oil changes by preventing condensable vapors from contaminating the oil. Although standard KTC-112 pumps are water-cooled, they can also be furnished as an air-cooled pump.

The advantages of a Kinney Triplex pump are inherent in its design. Caged slide pins far outlast two-piece slide pins or sliding vanes. A special umbrella type discharge baffle reduces oil loss to levels not attainable in other pumps. Solenoid valves protect the pump against oil flooding.

A single gas ballast adjustment assures balanced airflow and simple regulation. The pump operates within the rating of its standard drip-proof motor throughout the entire operating pressure range. KTC Series vacuum pumps will produce an ultimate pressure of 0.2 micron Hg Abs. or less (McLeod Gauge) when using Kinney® AX vacuum oil.

TYPICAL PUMPING SPEED CURVES

