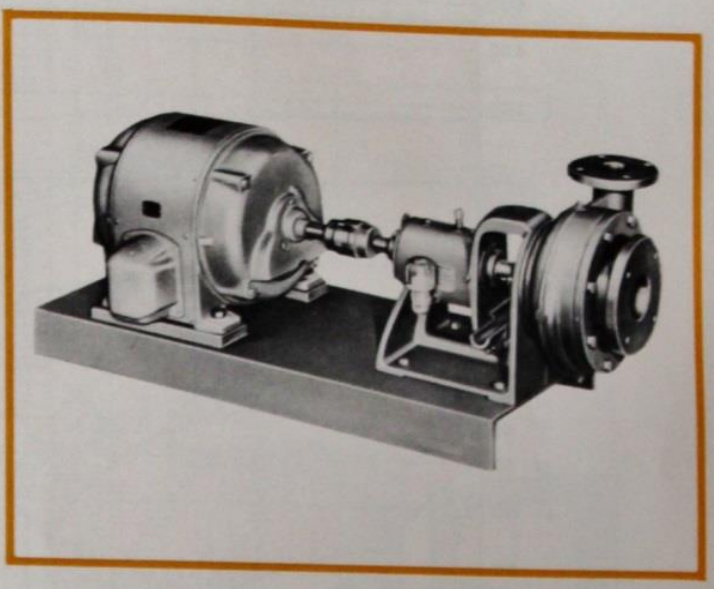
end suction process pumps

Type CNG

- Worthite construction
- Heavy duty open impellers
- Flanged connections
- Sizes ¾ in. to 8 in.
- Temperatures to 350° F
- Heads to 450 ft.
- Capacities to 4900 gpm



The CNG pump is specially designed for chemical service and has the following features to assure you of the maximum in pump dependability and economy.

Heavy Duty Open Impellers - Design with heavy vanes and a thick back shroud for rugged service and long life. The CNG impeller also features back pump-out vane which eliminates any wearing rings within the pump. Balance ports are machined into the impeller to keep stuffing box pressures at an absolute minimum and reduce axial loading on the pump shaft. CNG impellers are keyed to the shaft for positive torque transmission in tough applications. The keyed impeller design also eliminates the possibility of an impeller being backed off if the pump is started in reverse rotation.

Trouble-free maintenance is assured through the modern production control system, procedures and equipment used in machining. For example, the minimum tolerances on fit, recommended by bearing manufacturers, are cut in half when we machine pumps. If a minimum of .0010 is specified, we require .0005. Quality control is an absolute at Worthington.

Bearing frame is constructed of heavy cast iron with the casing-mounting ring cast integrally. This ring is rabbeted for further accuracy of alignment. Highly accurate machining techniques insure required alignment between bearing bore and casing mounting fit.

Bearings are anti-friction ball bearings conservatively sized to take the thrust and radial loads encountered. They are standard bearings and are designed for a minimum average life of 10 years.

Bearing protection is provided by a system of deflectors, covers and lip seals which prevent contaminants from reaching and entering bearings.

Lubrication Oil lubricated bearings are standard on CNG pumps. The pumps are supplied with a constant-level oiler and two oil slingers.

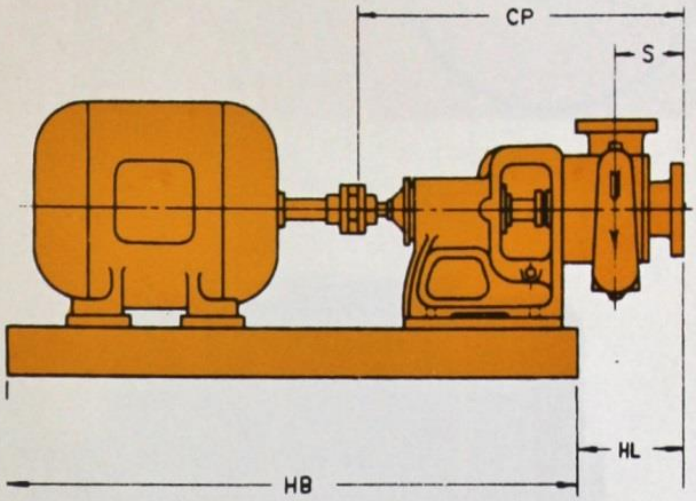
Shaft — All shafts are one piece and are ground on all critical surfaces. A centrifugal pump shaft must not only transmit power from the driver to the impeller, but must also withstand the radial load imposed on the impeller because of radial reaction. All shafts in this line are designed to transmit the power required and to withstand the radial reaction forces. In fact, on all pumps up to 500 gpm design capacity the force on the shaft under worst conditions causes less than 0.002 inch deflection of the shaft at the impeller. Larger pumps have proportionately low deflection.

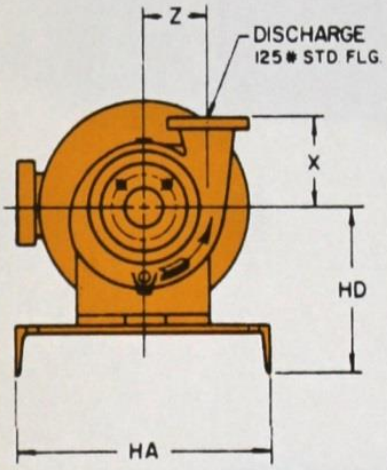
Connections are flanged on all pump sizes to allow fast, easy pump removal. (Note: ¾ CNG-42 available with threaded connections.)

dimensions

Type CNG

pump size	group	wt.	suct.	disch.	S	X	Z	CP	HL
1CNG-42	1	61	1½	1	3¼	4¼	3¼	16	5
1CNG-52	1	66	1½	1	3¼	4½	3¾	16	4⅞
1CNG-64	1	72	1½	1	2⅞	5¼	4¼	15¾	4¾
1CNG-62	2	92	1½	1	2⅞	5¼	4¼	19⅜	5½
1½CNG-52	2	104	2	1½	3½	5	3⅞	19⅞	6
1½CNG-62	2	108	2	1½	3¾	5¾	4½	20⅛	6¼
1½CNG-74	2	128	2	1½	3¾	6¼	5⅛	20¼	6¼
1½CNG-84	2	141	2	1½	3⅝	7¼	6	20	6
1½CNG-104	2	160	2	1½	3⅝	8	6¾	20	6
2CNG-52	2	113	3	2	4⅛	5¼	4⅛	20½	6½
2CNG-74	2	140	3	2	4¼	6½	5¼	20⅝	6⅝
2CNG-84	2	150	3	2	4	7½	6¼	20⅜	6½
3CNG-52	2	131	4	3	5	6	4¾	21⅝	7¾
3CNG-74	2	156	4	3	5⅛	6¾	5⅞	21¾	7⅞
3CNG-84	2	166	4	3	4¾	7½	6½	21⅜	7⅜
2CNG-62	3	221	3	2	4¼	6¾	5	26½	7¼
2CNG-104	3	270	3	2	3⅞	8	7	26	6⅞
3CNG-62	3	241	4	3	5¼	7¼	5¼	27⅝	8⅜
3CNG-104	3	295	4	3	4⅜	8¾	7½	26⅞	7⅝
4CNG-84	3	307	6	4	6¼	8½	7⅜	28⅝	9⅜
4CNG-104	4	421	6	4	5½	9	8½	31	9⅜
6CNG-84	4	412	6	6	6	9	7¾	31⅜	9⅝
6CNG-104	4	447	6	6	6⅜	10	8¾	31⅜	9⅝
6CNGL-104	4	452	8	6	6⅛	10	10¼	31⅜	9½

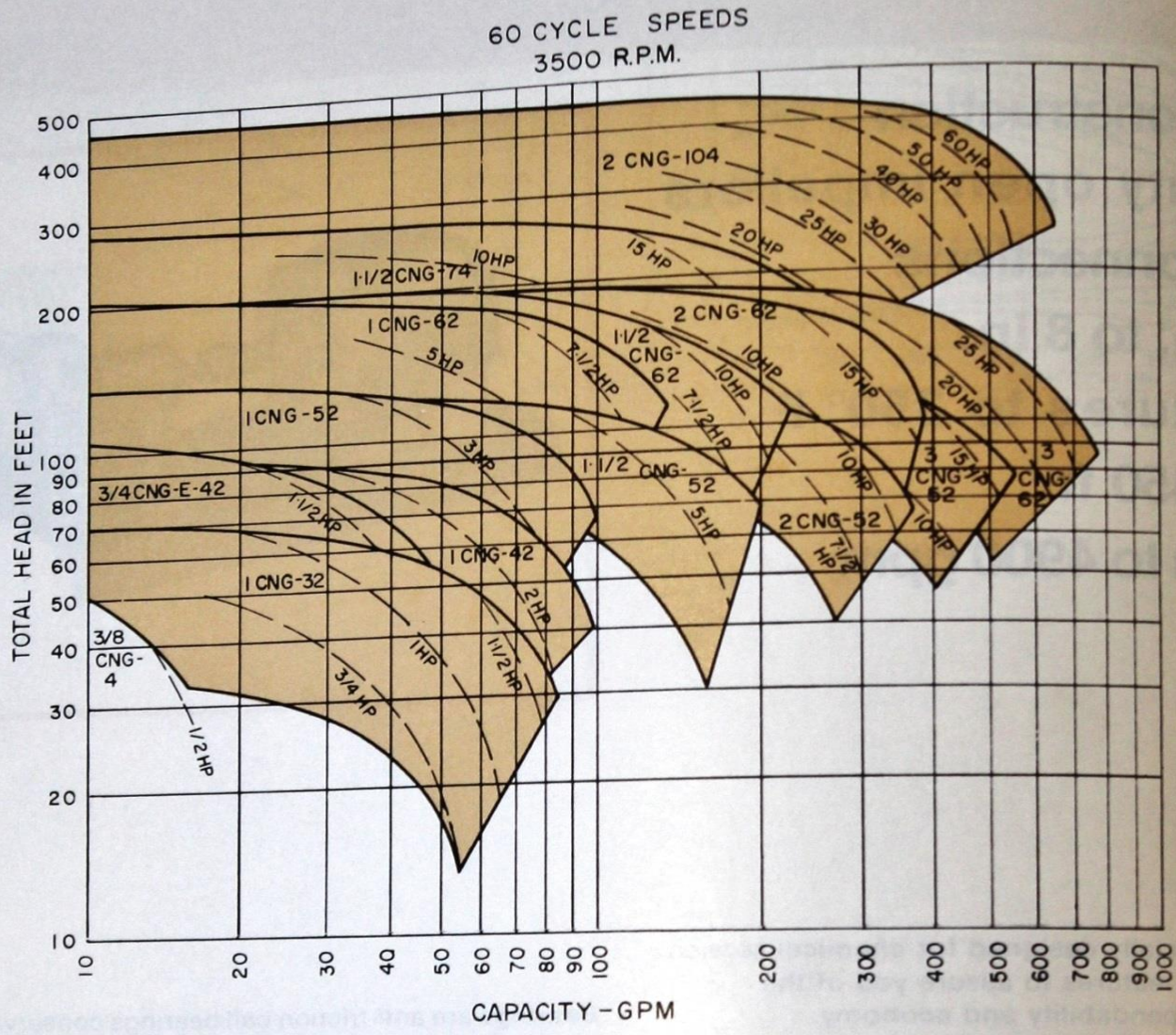


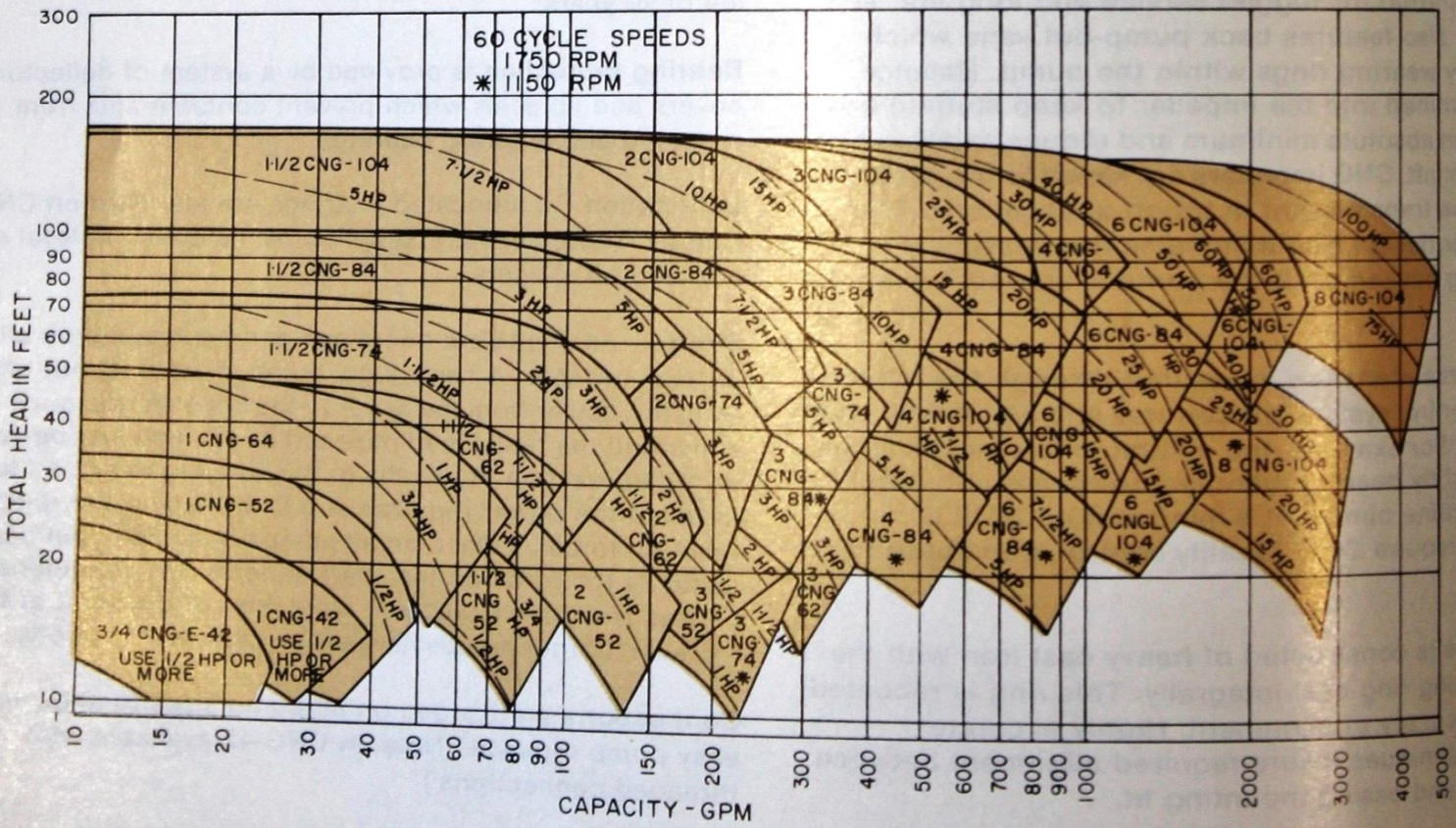


MOTOR AND BASE DIMENSIONS

motor frame	group	HA	HB	HD	weight	motor frame	group	HA	HB	HD	weight
56	1	12	23	8½	55	184 T	3	18	42	12⅞	70
143 T	1	12	23	8½	47	213 T	3	18	42	12⅞	63
145 T	1	12	23	8½	52	215 T	3	18	42	12⅞	70
182 T	1	12	29	8½	63	254 T	3	18	48	12⅞	180
184 T	1	12	29	8½	70	256 T	3	18	48	12⅞	220
213 T	1	12	29	8½	120	284 T	3	18	48	12⅞	290
215 T	1	12	29	8½	135	286 T	3	18	48	12⅞	330
254 T	1	15	32	9⅝	180	324 T	3	18	48	12⅞	480
256 T	1	15	37	9⅝	220	326 T	3	18	48	12⅞	540
143 T	2	15	32	10⅜	47	364 T	3	18	50	12⅞	625
145 T	2	15	32	10⅜	52	365 T	3	18	50	12⅞	680
182 T	2	15	32	10⅜	63	254 T	4	18	60	13⅞	180
184 T	2	15	32	10⅜	70	256 T	4	18	60	13⅞	220
213 T	2	15	32	10⅜	120	284 T	4	18	60	13⅞	290
215 T	2	15	32	10⅜	135	286 T	4	18	60	13⅞	330
254 T	2	15	37	10⅜	180	324 T	4	18	60	13⅞	480
143 T	3	15	37	12⅜	47	326 T	4	18	60	13⅞	540
145 T	3	15	37	12⅜	52	364 T	4	18	60	13⅞	625
182 T	3	18	42	12⅞	63	365 T	4	18	60	13⅞	680

All dimensions are in inches — Not to be used for construction unless certified.


60 CYCLE SPEEDS
3500 R.P.M.
TOTAL HEAD IN FEET
CAPACITY - GPM
2 CNG-104
1-1/2 CNG-74
2 CNG-62
1 CNG-62
1-1/2 CNG-62
1 CNG-52
1-1/2 CNG-52
2 CNG-52
3/4 CNG-E-42
1 CNG-42
1 CNG-32
3/8 CNG-4
3 CNG-62
10HP
15 HP
20HP
25HP
30 HP
40HP
50HP
60HP
5HP
7-1/2HP
3HP
2HP
1HP
1-1/2HP
3/4HP
1/2HP


60 CYCLE SPEEDS
1750 RPM
* 1150 RPM
TOTAL HEAD IN FEET
CAPACITY - GPM
1-1/2 CNG-104
2 CNG-104
3 CNG-104
4 CNG-104
6 CNG-104
8 CNG-104
1-1/2 CNG-84
2 CNG-84
3 CNG-84
4 CNG-84
6 CNG-84
1-1/2 CNG-74
2 CNG-74
3 CNG-74
1 CNG-64
1 CNG-52
3/4 CNG-E-42
USE 1/2 HP OR MORE
1 CNG-42
USE 1/2 HP OR MORE
6 CNGL-104
100HP
75HP
60HP
50HP
40HP
30HP
25HP
20HP
15HP
10HP
7-1/2HP
5HP
3HP
2HP
1-1/2HP
1HP
3/4HP
1/2HP