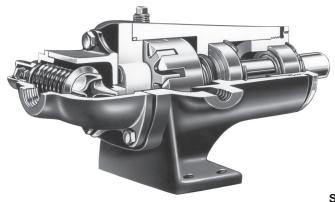


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#### **FEATURES**



SERIES 4195-G Cutaway View "GG", "HJ" and "HL" Sizes

# SERIES 4195-G Cutaway View "AS", "AK" and "AL" Sizes Safety valve furnished (not shown)

#### **VIKING 4195-G SERIES PUMP FEATURES**



# AUTOMATIC PRESSURE LUBRICATION

(Standard Equipment) ("AS", "AK" & "AL" Sizes)

This system provides a constant film of liquid between the idler bushing and idler pin at a pressure equal to the pump discharge pressure regardless of pump rotation.



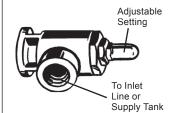
#### **O-RING GASKETS**

(Standard Equipment)

O-Ring gaskets are used between casing and head plate and between casing and return-to-tank bypass valve or valve plates on all 4195-G Series pumps. O-Rings provide a positive seal, eliminating a chance for leakage at these points.



("GG", "HJ" & "HL" Sizes)



("AS", "AK" & "AL" Sizes)

# ADJUSTABLE RETURN-TO-TANK, BYPASS VALVES (Standard Equipment)

These adjustable return-to-tank bypass valves are used for handling LP-Gas and in many applications where the liquid should be transferred back to a supply tank rather than directly back to the suction side of the pump. Using this return-to-tank bypass valve in place of regular internal relief valve helps keep the temperature of the liquid from rising when the valve is in use. The result is improved pump service with longer life and quieter operation.

① Maximum Differential Pressure

100 PSI (7 BAR)

© GPM 8 - 17 - 25 - 30 - 45 - 65
 (m³/hr 2 - 4 - 6 - 7 - 10 - 15)

(Nominal Rating)

The three small 4195-G Series pumps are ideal for fueling and bottle filling service and the three large size pumps are built for high speed bulk plant transfer service. All sizes feature O-Ring gaskets, dry-liquid type mechanical seals, casing ball bearings and radial thrust ball bearings, integral return-to-tank valves and carry the Underwriter's label.

The three small pumps feature non-lubricated idler bearings and the three large sizes, Viking's exclusive automatic pressure lubrication system. See illustration at left.

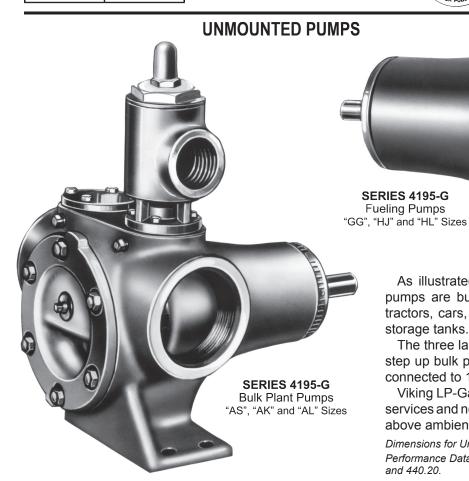
These pumps as well as others shown in this section will operate satisfactorily when operated at rated speeds with the following NPSHa (Net Positive Suction Head available) values shown in the table below. They will deliver more capacity and have longer service life if the NPSHa is greater than value shown.

Pump Series	Minimum ③NPSHa (Feet of LP-Gas)
"GG", "HJ", "HL" 4195-G	3
"AS", "AK", "AL" 4195-G	4

- See following pages or consult factory for specific recommendations on individual models or sizes.
- ② See Performance Curves Pages 440.19 and 440.20.
- ③ These figures are NPSHa values; submergence or level of liquid above the suction port of the pump will always be greater than the value shown for NPSHa.

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As illustrated above, the three small series 4195-G pumps are built for LP-Gas bottle filling or fueling of tractors, cars, trucks, taxi-cabs or busses from central storage tanks.

The three larger 4195-G Series pumps enable you to step up bulk plant transfer of LP-Gas. All can be direct connected to 1200 RPM motors.

Viking LP-Gas pumps are built for intermittent transfer services and not for continuous duty or suction pressures above ambient temperature vapor pressures.

Dimensions for Unmounted Pumps — See Page 440.8.

Performance Data for Unmounted Pumps — See Pages 440.19 and 440.20

# CONSTRUCTION $\stackrel{\odot \oplus}{-}$ 4195-G SERIES ("GG" THROUGH "AL" SIZES)

Standard Construction Models	Casing	Head	Rotor	ldler	Rotor Shaft and Idler Pin	ldler Bushing	Return-to-tank Relief Valve
GG4195-G HJ4195-G	Iron	Iron	Iron	② Iron	Steel	Carbon Graphite	Iron
HL4195-G	Iron	Iron	Ductile Iron	Iron	Steel	Carbon Graphite	Iron
AS4195-G AK4195-G AL4195-G	Ductile Iron	Iron Internal Lubrication	Ductile Iron	Ductile Iron	Steel Internal Lubrication	Carbon Graphite	Iron

#### SPECIFICATIONS — UNMOUNTED PUMPS

	③ Nominal Port Pump Size Rating				Moto	r Horsepower Re At Rated Speed		Maximum Recommended Differential	Approximate Shipping Weight	
Model Number	Inches	GPM	(m³/hr)	RPM	50 PSI (3 BAR)	75 PSI (5 BAR)	100 PSI (7 BAR)	Pressure PSI (BAR)	With Valve Pounds (KG)	
GG4195-G	1	8	(2)	1800	1/2	3/4	1	100 (7)	17	(8)
HJ4195-G	11/2	17	(4)	1800	1	11/2	2	100 (7)	36	(16)
HL4195-G	11/2	25	(6)	1800	11/2	2	3	100 (7)	36	(16)
AS4195-G	21/2	30	(7)	1200	2	3	5	100 (7)	80	(36)
AK4195-G	21/2	45	(10)	1200	3	5	5	100 (7)	80	(36)
AL4195-G	3	65	(15)	1200	3	5	71/2	100 (7)	80	(36)

① Buna N elastomer used in mechanical seal of 4195-G Series pumps.

② "GG" size has steel idler.

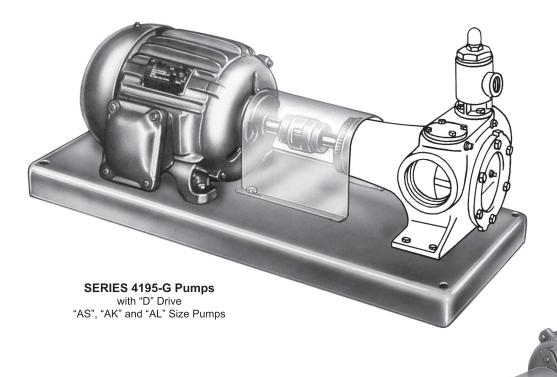
 $<sup>\</sup>ensuremath{\mathfrak{G}}$  Suction piping recommended one size larger than pump port.

④ To maintain compliance to UL test specifications, any repairs must be completed at the factory. The pump is then re-tested and re-certified for the UL listing.



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## **DIRECT DRIVE UNITS ("D" DRIVE)**



All six sizes of Series 4195D-G direct connected units from "GG" to "AL" sizes are mounted on formed steel bases with the pumps connected to 1200 or 1800 RPM motors through flexible couplings with guards. The three small units are ideal for fueling and the three large units for bulk plant transfer. All units are built for intermittent service and not for continuous duty. Viking bulk plant transfer pumps are not built for top unloading of railroad tank cars. Compressors are recommended for this use.

Dimensions for "D" Drive Units — See Page 440.9.

Performance Data for "D" Drive Units — See Pages 440.19 and 440.20.

## SERIES 4195-G Pumps with "D" Drive "GG", "HJ" and "HL" Size Pumps

#### SPECIFICATIONS — "D" DRIVE UNITS

	① Port Size	Nominal Pump Rating			Moto	r Horsepower Re At Rated Speed		Maximum Recommended	Approximate Shipping Weight	
Model Number	Inches	GPM	(m³/hr)	RPM	50 PSI (3 BAR)	75 PSI (5 BAR)	100 PSI (7 BAR)	Differential Pressure PSI (BAR)	Pressure (Less Powe	
GG4195D-G	1	8	(2)	1800	1/2	3/4	1	100 (7)	42	(19)
HJ4195D-G	11/2	17	(4)	1800	1	11/2	2	100 (7)	65	(30)
HL4195D-G	11/2	25	(6)	1800	11/2	2	3	100 (7)	90	(41)
AS4195D-G	21/2	30	(7)	1200	2	3	5	100 (7)	205	(93)
AK4195D-G	21/2	45	(10)	1200	3	5	5	100 (7)	205	(93)
AL4195D-G	3	65	(15)	1200	3	5	7½	100 (7)	210	(95)

① Suction piping recommended one size larger than pump port.

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#### **FEATURES**



#### **VIKING 4205-G SERIES PUMP**



# AUTOMATIC PRESSURE LUBRICATION

(Standard Equipment)

This lubrication system provides a constant film of liquid between the idler bushing and idler pin at a pressure equal to the pump discharge pressure, regardless of pump rotation.



#### **MECHANICAL SEAL**

(Standard Equipment)

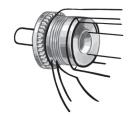
All Viking 4205-G Series LP-Gas pumps are furnished with Single Mechanical Seals. This seal is a simple, self adjusting, non-leak method of shaft sealing. It is especially desirable in handling liquids of a hazardous nature.



#### **O-RING GASKETS**

(Standard Equipment)

O-Ring gaskets are used between all assembled faces on the back flange, head and valve as assurance against leakage, since they provide a positive seal.



# INTEGRAL THRUST BEARING

(Standard Equipment)

An outstanding feature of the Series 4205-G pump is the integral thrust bearing shown above. By means of a simple adjustment, a close end fit is maintained for peak pumping performance.

Maximum
 Differential
 Pressure

100 PSI (7 BAR)

@ GPM 30 - 40 - 75 - 95
 (m³/hr 7 - 9 - 17 - 22)

(Nominal Rating)

All Viking 4205-G Series pumps are specifically designed for intermittent LP-gas service and are ideal for mounting on trucks and for bulk plant transfer service.

These pumps as well as others shown in this section will operate satisfactorily when operated at rated speeds with the following NPSHa (Net Positive Suction Head available) values shown in the table below. They will deliver more capacity and have longer service life if the NPSHa is greater than value shown.

Pump Series	Minimum ③NPSHa (Feet of LP-Gas)
4205-G	2

- See following pages or consult factory for specific recommendations on individual models or sizes.
- ② See Performance Curves Pages 440.20 and 440.21.
- ③ This figure is NPSHa value; submergence or level of liquid above the suction port of the pump will always be greater than the value shown for NPSHa.



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#### **UNMOUNTED PUMPS**



The series 4205-G above illustrates the basic pump construction for LP-Gas Truck Pumps and Units ("R" and "V" Drives.) The pumps are equipped with return-to-tank bypass valves on heads, or on request, internal relief valves can be substituted for the return-to-tank valves (see Section 630, Page 630.2) Simple, dependable mechanical seals, leak-proof O-Ring gaskets, internal pressure lubrication system, integral thrust bearings

and revolvable casings for easy and complete selection of port locations to suit your piping, are standard equipment. The pumps come equipped with carbon graphite idler bearings and bronze bracket bearings. See construction table below.

Dimensions for Unmounted Pumps — See Page 440.10.

Performance Data for Unmounted Pumps — See Pages 440.19 and 440.20.

# CONSTRUCTION $\stackrel{\odot \, \odot}{-}$ 4205-G SERIES ("K" THROUGH "LL" SIZES)

Pump					Rotor Shaft Bush		nings	Return-to-tank	
Construction	Casing	Head	Bracket	Rotor	ldler	Idler Pin	ldler	Bracket	Relief Valve
Standard Construction	Ductile Iron	Iron	Iron	Iron	Iron	Steel	Carbon Graphite	Bronze	Iron

#### SPECIFICATIONS — UNMOUNTED PUMPS

	② Port Size	Nominal Pump Rating			Moto	r Horsepower Red At Rated Speed	Maximum Recommended Differential	Approximate Shipping Weight		
Model Number	Inches	GPM (m³/hr) RPM		RPM	50 PSI (3 BAR)	75 PSI (5 BAR)	100 PSI (7 BAR)	Pressure PSI (BAR)	With Valve Pounds (KG)	
K4205-G	2	30	(7)	420	3	5	5	100 (7)	105	(48)
KK4205-G	2	40	(9)	420	3	5	7½	100 (7)	110	(50)
L4205-G	3	75	(17)	420	5	71/2	10	100 (7)	155	(70)
LQ4205-G	3 3	75	(17)	420	5	71/2	10	100 (7)	185	(84)
LL4205-G	3 3	95	(22)	420	5	7½	10	100 (7)	200	(91)

- ① Buna N elastomer used in mechanical seal of 4205-G Series pumps.
- $\ensuremath{\textcircled{2}}$  Suction piping recommended one size larger than pump port.
- ③ Flanged ports; pumps furnished with threaded companion flanges. All other models

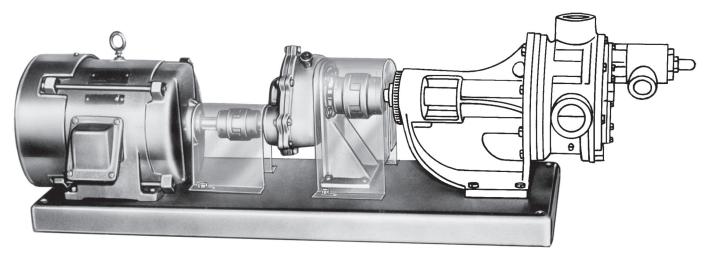
tapped for standard pipe.

 To maintain compliance to UL test specifications, any repairs must be completed at the factory. The pump is then re-tested and re-certified for the UL listing.

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#### **VIKING HELICAL GEAR REDUCTION UNITS ("R" DRIVE)**



#### **SERIES 4205-G Pump**

with "R" Drive "KK" through "LL" Size Pumps

Viking helical gear reducer units for LP-Gas are available in the capacity range to 127 GPM. They are specifically designed for compactness and quietness of operation.

These units feature eight gear ratios interchangeable in the same reducer, providing a wide range in speeds and capacities. Refer to section 610, page 610.3 for the full range of ratios available. The pump, motor or reducer can be removed without disturbing other components.

The units are equipped with: standard flexible couplings, between motor and reducer as well as reducer and pump; oil and weather tight reducer for outdoor service; an easily adjustable reducer to various motor heights; and a completely enclosed, formed steel base.

Dimensions for "R" Drive Units — See Page 440.10.

Performance Data for "R" Drive Units — See Pages 440.20 and 440.21.

#### HELICAL REDUCER SPECIFICATIONS AND PUMP CAPACITY TABLE

						PUMP	MODELS AN	D CAPACITY	G.P.M. WITH	SIZE "B" RED	UCER				
		Maximum		K420	5R-G	KK42	05R-G	L420	5R-G	LQ42	05R-G	LL4205R-G			
Motor RPM	Reducer Ratio	Reducer HP	Pump RPM	50 PSI (3 BAR)			100 PSI (7 BAR)	50 PSI (3 BAR)	100 PSI (7 BAR)	50 PSI (3 BAR)	100 PSI (7 BAR)	50 PSI (3 BAR)	100 PSI (7 BAR)		
	2.76 to 1	15	640	55	46	64	56	127	113	127	113				
1800	3.40 to 1	10	520	42	33	52	41	98	84	98	84	127	108		
	4.19 to 1	10	420	31 22		31 22		38 28		75 61		75	61	97	78

#### SPECIFICATIONS — "R" DRIVE UNITS

	① Port Size		Nominal Pump Rating		Moto	r Horsepower Re At Rated Speed		Maximum Recommended Differential	Shi <sub>l</sub> We	oximate pping eight Valve
Model Number	Inches	GPM	(m³/hr)	RPM	50 PSI (3 BAR)	75 PSI (5 BAR)	100 PSI (7 BAR)	Pressure PSI (BAR)	(Less	Power) ds (KG)
K4205R-G	2	30	(7)	420	3	5	5	100 (7)	325	(148)
KK4205R-G	2	40	(9)	420	3	5	71/2	100 (7)	330	(150)
L4205R-G	3	75	(17)	420	5	71/2	10	100 (7)	370	(168)
LQ4205R-G	② 3	75	(17)	420	5	7½	10	100 (7)	415	(188)
LL4205R-G	② 3	95	(22)	420	5	71/2	10	100 (7)	450	(204)

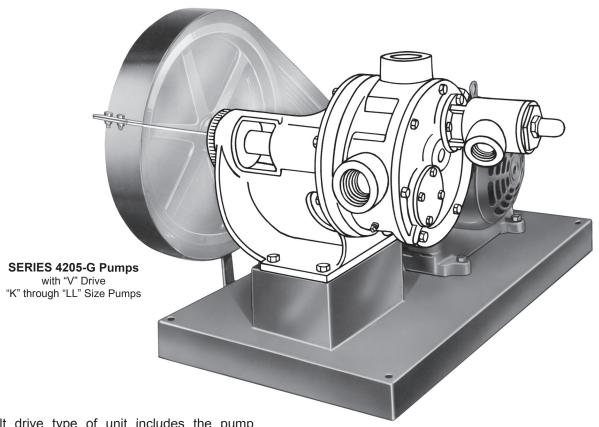
① Suction piping recommended one size larger than pump port.

② Flanged ports; pumps furnished with threaded companion flanges. All other models tapped for standard pipe.



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### V-BELT DRIVE UNITS ("V" DRIVE)



The V-belt drive type of unit includes the pump mounted on base ready to accept an explosion proof motor. The drive is enclosed in a totally enclosed guard and incorporates static free belts running in grooved sheaves. Slide rail base and motor furnished extra.

Drive mounts directly on to pump shaft as shown in illustration.

Dimensions for "V" Drive Units — See Page 440.11.

Performance Data for "V" Drive Units — See Pages 440.20 and 440.21.

#### **SPECIFICATIONS — "V" DRIVE UNITS**

	① Port Size		Nominal Pump Rating		Motor	r Horsepower Red At Rated Speed		Maximum Recommended Differential	Approximate Shipping Weight With Valve
Model Number	Inches	GPM	(m³/hr)	RPM	50 PSI (3 BAR)	75 PSI (5 BAR)	100 PSI (7 BAR)	Pressure PSI (BAR)	(Less Power) Pounds (KG)
K4205V-G	2	30	30 (7)		3	5	5	100 (7)	255 (116)
KK4205V-G	2	40	(9)	420	3	5	7½	100 (7)	260 (118)
L4205V-G	3	75	(17)	420	5	71/2	10	100 (7)	300 (136)
LQ4205V-G	② 3	75	(17)	420	5	71/2	10	100 (7)	370 (168)
LL4205V-G	② 3	95	95 (22)		5	71/2	10	100 (7)	385 (175)

① Suction piping recommended one size larger than pump port.

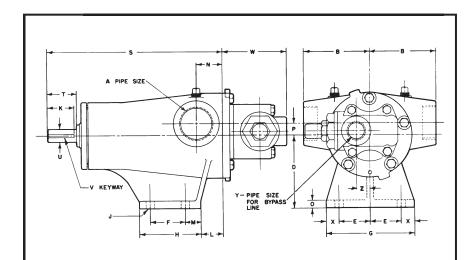
② Flanged ports; pumps furnished with threaded companion flanges. All other models tapped for standard pipe.

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#### **DIMENSIONS**

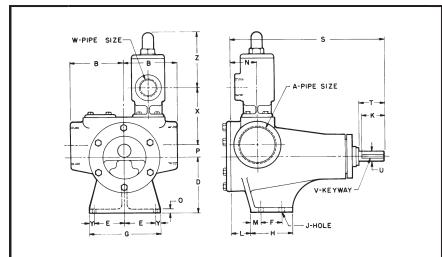
These dimensions are average and not for construction purposes. Certified prints on request.



For specifications, see pages 440.1 and 440.2

DIMENSIONS – 4195-G SERIES "GG" - "HL" SIZE

MODEL NO.	Α	В	D	Е	F	G	Н	J	K	L	М	N	0	Р	S	T	J	V	W	Х	Υ	Z
GG4195-G	1	23/4	23/4	15/8	15/16	4	27/16	11/32	1	1/32	11/16	11/8	5/16	5/8	75/16	11/8	1/2	FLAT	2 <sup>15</sup> / <sub>16</sub>	3/8	1/2	9/16
HJ4195-G	11/2	33/4	41/8	13/4	2	5	31/2	13/32	1½	11/4	7/8	1½	7/16	5/8	10	15/8	3/4	3/ <sub>16</sub> x 3/ <sub>32</sub>	33/4	3/4	3/4	3/4
HL4195-G	1½	33/4	41/8	13/4	2	5	3½	13/32	1½	11/4	7∕8	1½	7/16	5/8	10	15⁄8	3/4	<sup>3</sup> / <sub>16</sub> x <sup>3</sup> / <sub>32</sub>	33/4	3/4	3/4	3/4



For specifications, see page 440.2.

DIMENSIONS – 4195-G SERIES "AS" - "AL" SIZE

MODEL NO.	Α	В	D	Е	F	G	Н	J	К	L	M	N	0	Р	S	Т	U	٧	W	Х	Υ	Z
AS4195-G	21/2	5	51/4	21/8	2	63/4	4	13/32	21/4	11/4	1	2	7/16	11/8	141/8	23/8	1	1/ <sub>4</sub> x 1/ <sub>8</sub>	11/4	57/16	1/2	5%32
AK4195-G	21/2	5	51/4	21/8	2	63/4	4	13/32	21/4	11/4	1	2	7/16	11/8	141/8	23/8	1	1/4 x 1/8	11/4	57/16	1/2	5%32
AL4195-G	3	5	51/4	21/8	2	63/4	4	13/32	21/4	13/4	1	21/2	7/16	11/8	14 <sup>5</sup> ⁄8	23/8	1	1/4 x 1/8	11/4	57/16	1/2	5%32



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#### **DIMENSIONS**

These dimensions are average and not for construction purposes. Certified prints on request.

For specifications, see page 440.3.

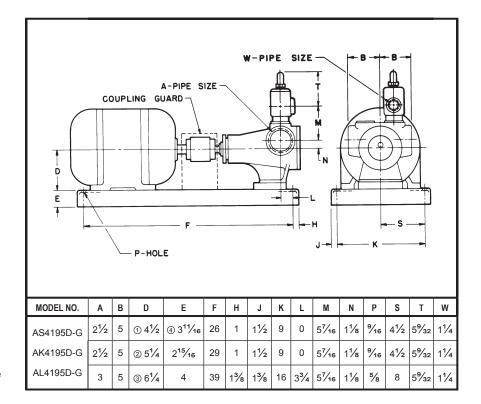
DIMENSIONS – 4195-G SERIES ("D" DRIVE) "GG" - "HL" SIZE

- ① 56 frame motors (short base).
- ② 143-T and 145-T frame motors (long base).
- ③ 56, 143-T and 145-T frame motors.
- 4 182-T and 184-T frame motors.
- ⑤ 213-T and 215-T frame motors.
- 6 Dimension includes motor block, base height is 11/2".

D H-1			SIZE — GUARD -			- M	BY L P	PE S PASS	LIN	E	B	B - S - S -		~
MODEL NO.	Α	В	D	Е	F	Н	J	K	L	М	N	Р	S	Υ
0044050.0	1	23/4	① 3½	1½	17½	3/4	3/4	8½	3/8	4½16	5/8	1/2	41/4	1/2
GG4195D-G	1	23/4	② 3½	1½	20½	3/4	3/4	8½	3/8	41/16	5/8	1/2	41/4	1/2
	1½	33/4	3 31/2	6 2½	20½	3/4	3/4	8½	0	51/4	5/8	1/2	41/4	3/4
HJ4195D-G HL4195D-G	1½	33/4	4 4½	2 <sup>15</sup> / <sub>16</sub>	25	1	1½	9	1/4	51/4	5/8	9/16	4½	3/4
11241000-0	11/2	33/4	⑤ 5 <sup>1</sup> / <sub>4</sub>	2 <sup>15</sup> / <sub>16</sub>	25	1	11/2	9	1/4	51/4	5/8	9/16	41/2	3/4

For specifications, see page 440.3.

DIMENSIONS — 4195-G SERIES ("D" DRIVE) "AS" - "AL" SIZE



① 182, 182-T, 184, 184-T frame motors.

② 213, 213-T, 215, 215-T frame motors.

③ 254U, 254-T, 256U, 256-T frame motors.

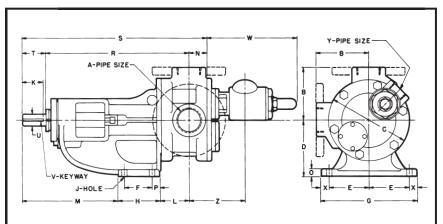
 $<sup>\</sup>odot$  Dimension includes motor block, base height is  $2^{15}/_{16}$ ". NOTE: All three pump sizes available with any of the three motors shown in columns.

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#### **DIMENSIONS**

These dimensions are average and not for construction purposes. Certified prints on request.

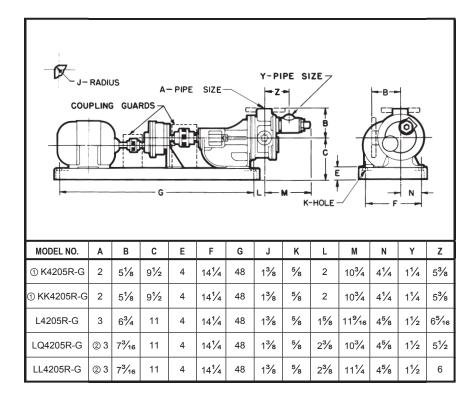


For specifications, see pages 440.4 and 440.5

DIMENSIONS – 4205-G SERIES "K" - "LL" SIZE

 Flanged ports; pumps furnished with threaded companion flanges. All other models tapped for standard pipe.

MODEL NO.	Α	В	С	D	Е	F	G	Н	J	K	L	М	N	0	Р	R	S	Т	U	V	W	Х	Υ	Z
K4205-G	2	51/8	8	5½	4	23/4	91/4	4	17/32	2	3	93/8	13/4	5/8	5/8	141/8	18½	21/4	11/8	1/ <sub>4</sub> x 1/ <sub>8</sub>	9	5/8	11/4	53/8
KK4205-G	2	51/8	8	5½	4	23/4	91/4	4	17/32	2	3	93/8	13/4	5/8	5/8	141/8	181/8	21/4	11/8	1/ <sub>4</sub> x 1/ <sub>8</sub>	9	5/8	11/4	53/8
L4205-G	3	63/4	101/4	7	43/8	4	10	53/8	17/32	2	29/16	91/8	29/16	5/8	5/8	14 <sup>13</sup> ⁄16	195⁄8	21/4	11/8	1/ <sub>4</sub> x 1/ <sub>8</sub>	9	5/8	11/2	65/16
LQ4205-G	① 3	73/16	101/4	7	43/8	4	10	53/8	17/32	2	33/8	91/8	13/4	5/8	5/8	155⁄8	195⁄8	21/4	11/8	1/ <sub>4</sub> x 1/ <sub>8</sub>	9	5/8	1½	5½
LL4205-G	① 3	73/16	101/4	7	43/8	4	10	53/8	17/32	2	33/8	91/8	21/4	5/8	5/8	155/8	201/8	21/4	11/8	1/4 x 1/8	9	5/8	1½	6



For specifications, see page 440.6

DIMENSIONS – 4205-G SERIES ("R" DRIVE) "K" - "LL" SIZE

- ① With motor frames 184-T and smaller, these units are assembled on a shorter base with the following dimension changes: (F=16, G=39, L=3, N=5<sup>5</sup>/₂).
  - Motor rails  $1\frac{1}{8}$  high are required with 56, 143-T and 145-T frame motors.
  - Motor frame larger than 256-T requires larger base. Consult factory. Units available to accept 10 HP, 1200 RPM maximum motor.
- ② Flanged ports; pumps furnished with threaded companion flanges. All other models tapped for standard pipe.
  - NOTE: Motor rails 2" high required on "L" thru "LL" size units with 184-T or  $4\frac{1}{2}$ " center height motors.



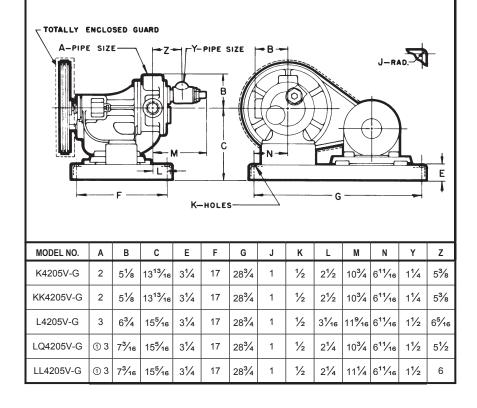
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Issue	Е

#### **DIMENSIONS**

These dimensions are average and not for construction purposes. Certified prints on request.

For specifications, see page 440.7.

DIMENSIONS — 4205-G SERIES ("V" DRIVE) "K" - "LL" SIZE



① Flanged ports; pumps furnished with threaded companion flanges. All other models tapped for standard pipe.

Base dimensions correct through 215T motors and 19" O.D. sheaves. Larger motors and/or 25" O.D. sheaves require larger base.