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(12) **United States Design Patent**
Hines et al.

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(54) **DIAPHRAGM PUMP**
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D388,797 S * 1/1998 Conti D15/7
5,711,658 A * 1/1998 Conti F04B 43/0736
417/344
D400,210 S * 10/1998 Reynolds D15/7
5,927,954 A * 7/1999 Kennedy F04B 43/0736
417/395
6,152,705 A * 11/2000 Kennedy F04B 7/0241
137/102
D435,855 S * 1/2001 Donelson D15/7
RE38,239 E * 8/2003 Duncan F04B 43/0736
417/395
D484,145 S * 12/2003 Roberts D15/7
D515,101 S * 2/2006 Wiechers D15/7
D562,849 S * 2/2008 Buitenhuis D15/7
7,399,168 B1 * 7/2008 Eberwein F04B 43/0736
417/395
D652,844 S * 1/2012 Hanitsch D15/7
D657,800 S * 4/2012 Villagomez, Jr. D15/7

(**) Term: **15 Years**
(21) Appl. No.: **29/606,076**

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(51) **LOC (11) Cl.** **15-02**
(52) **U.S. Cl.**
USPC **D15/7**
(58) **Field of Classification Search**
USPC D15/7-9; D23/231, 232, 225; 417/60, 417/235, 265, 321, 355, 358, 363, 359, 417/410.1, 415-416, 405, 900, 269, 539, 417/393, 344, 345, 395; 60/408, 412; 184/26-37; 415/140-147; 123/495, 509; 137/565.34
CPC F02M 37/04; F02M 37/14; F04B 53/92; F04B 1/005; F04B 43/0736
See application file for complete search history.

(56) **References Cited**
U.S. PATENT DOCUMENTS
D268,413 S * 3/1983 Wilden D15/7
D294,947 S * 3/1988 Wilden D15/7
D331,412 S * 12/1992 Wilden D15/7
D370,488 S * 6/1996 Kozumplik, Jr. D15/7
D380,218 S * 6/1997 McKee D15/7
D388,796 S * 1/1998 Conti D15/7

(Continued)

OTHER PUBLICATIONS

Graco Inc. Husky 1050 Pumps brochure, 344801EN-B, revised Jun. 2010.
(Continued)

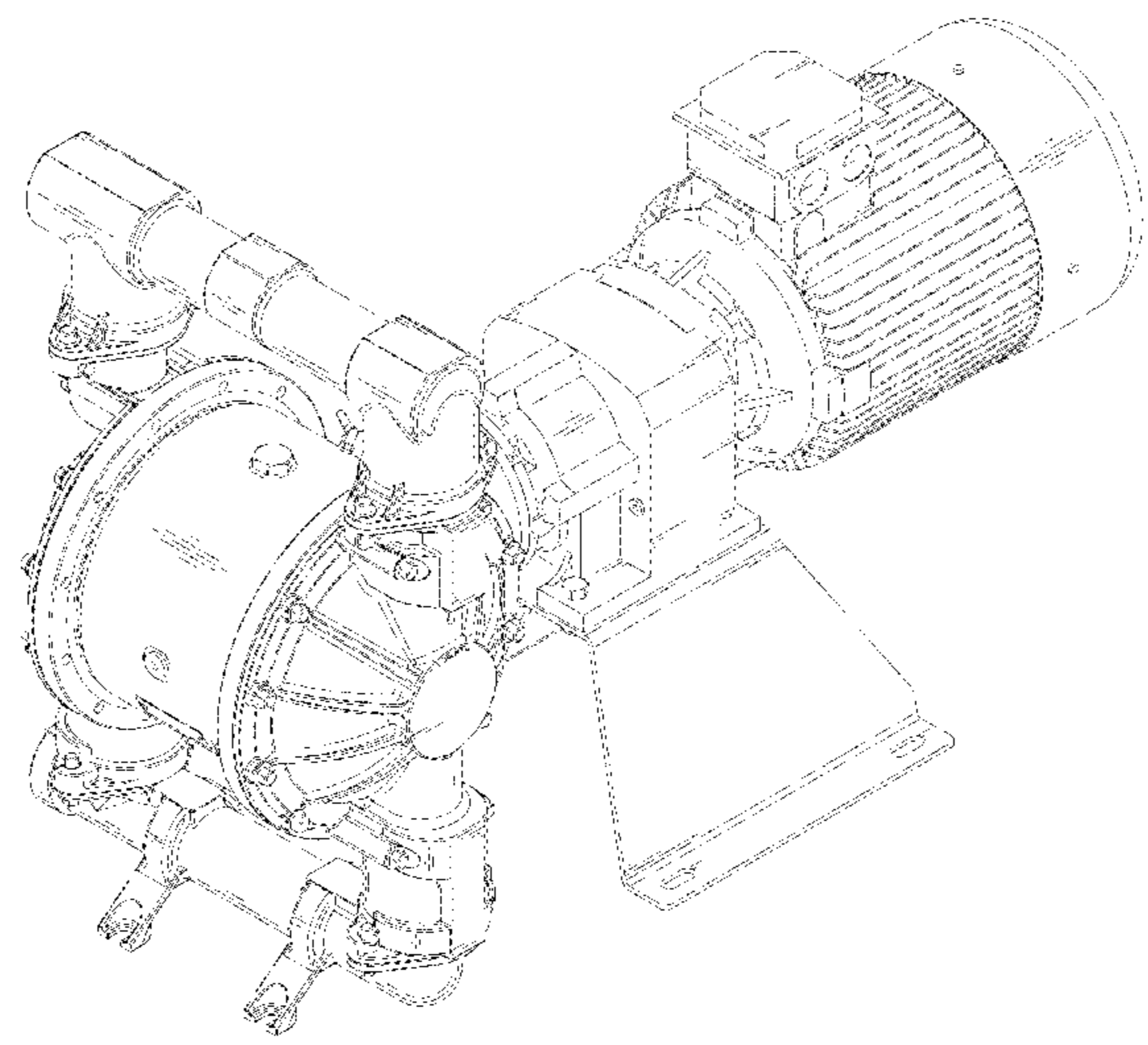
Primary Examiner — Ralf Seifert

(57) **CLAIM**
An ornamental design for a diaphragm pump, as shown and described.

DESCRIPTION

FIG. 1 is a front isometric view of a diaphragm pump showing our new design;
FIG. 2 is a front view;
FIG. 3 is a left side view;
FIG. 4 is a rear view;
FIG. 5 is a right side view;
FIG. 6 is a top view; and,
FIG. 7 is a bottom view.

1 Claim, 7 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

D667,465	S	*	9/2012	Headley	.....	D15/7
D668,684	S	*	10/2012	Noguchi	.....	D15/9
D674,815	S	*	1/2013	Headley	.....	D15/7
D675,231	S	*	1/2013	Headley	.....	D15/7
D682,316	S	*	5/2013	Rogne	.....	D15/7
D692,923	S	*	11/2013	Conrad	.....	D15/7
D746,872	S	*	1/2016	Davis	.....	D15/7
D746,873	S	*	1/2016	Davis	.....	D15/7
D746,874	S	*	1/2016	Davis	.....	D15/7
D747,362	S	*	1/2016	Davis	.....	D15/7
D771,714	S	*	11/2016	Hines	.....	D15/7
D780,227	S	*	2/2017	Hines	.....	D15/7
D781,923	S	*	3/2017	Suwabe	.....	D15/7
D782,541	S	*	3/2017	Hines	.....	D15/7

OTHER PUBLICATIONS

RANPumps 1" EM Metal Body Pump, D25E-AX "PDF Catalogue"
created Feb. 2014.

ABEL Pump Technology Electromechanical Membrane Pumps
Brochure, particularly top of p. 4, revised Jun. 2014.

Graco Inc. Husky E-Series brochure, 345088EN-D, revised Jul.
2016.

DELLMECO Electromechanical Double Diaphragm Pumps bro-
chure, Sep. 2014.

Related design: U.S. Appl. No. 29/606,062, filed today.

Related design: U.S. Appl. No. 29/606,067, filed today.

* cited by examiner

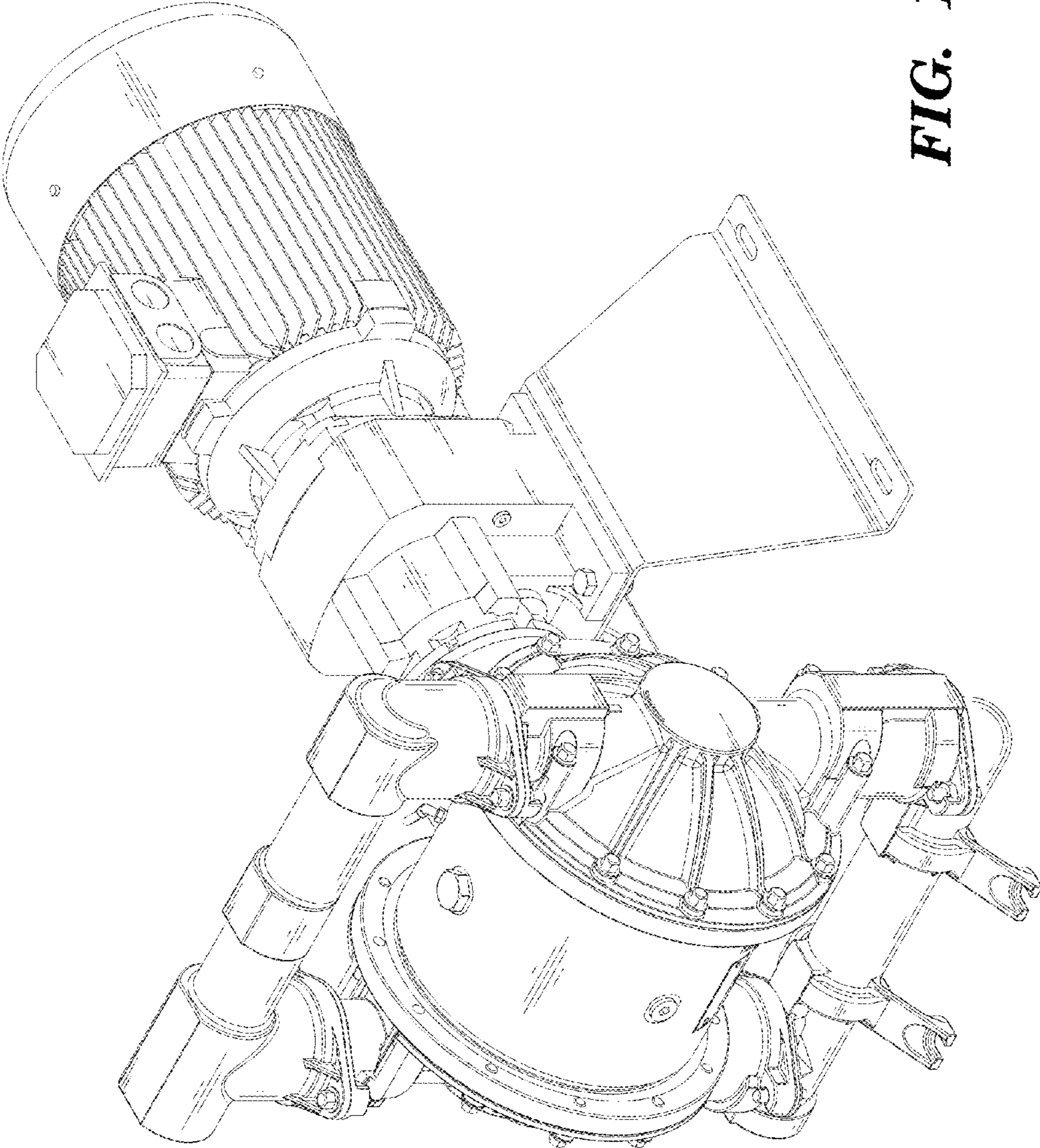


FIG. 1

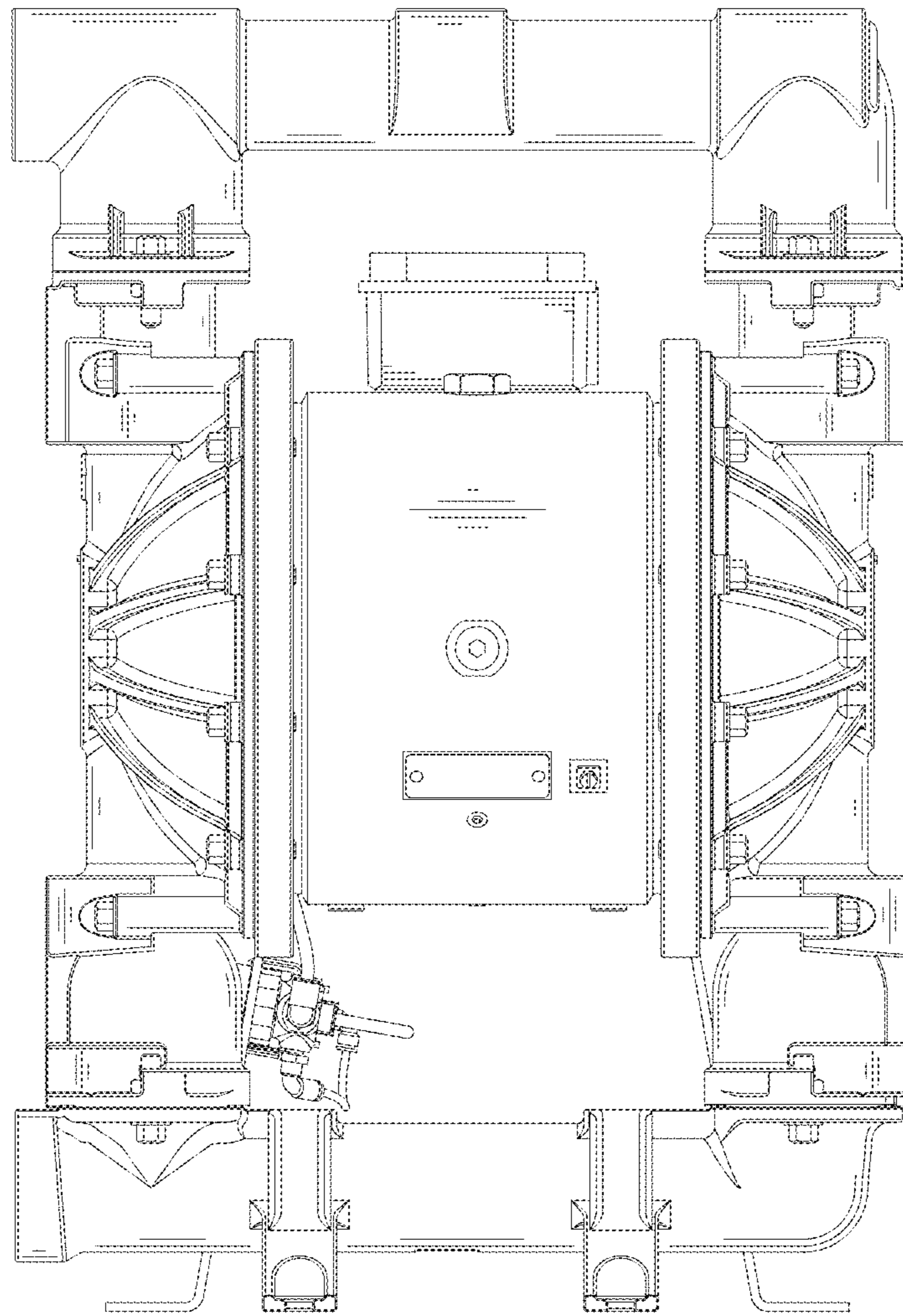


FIG. 2

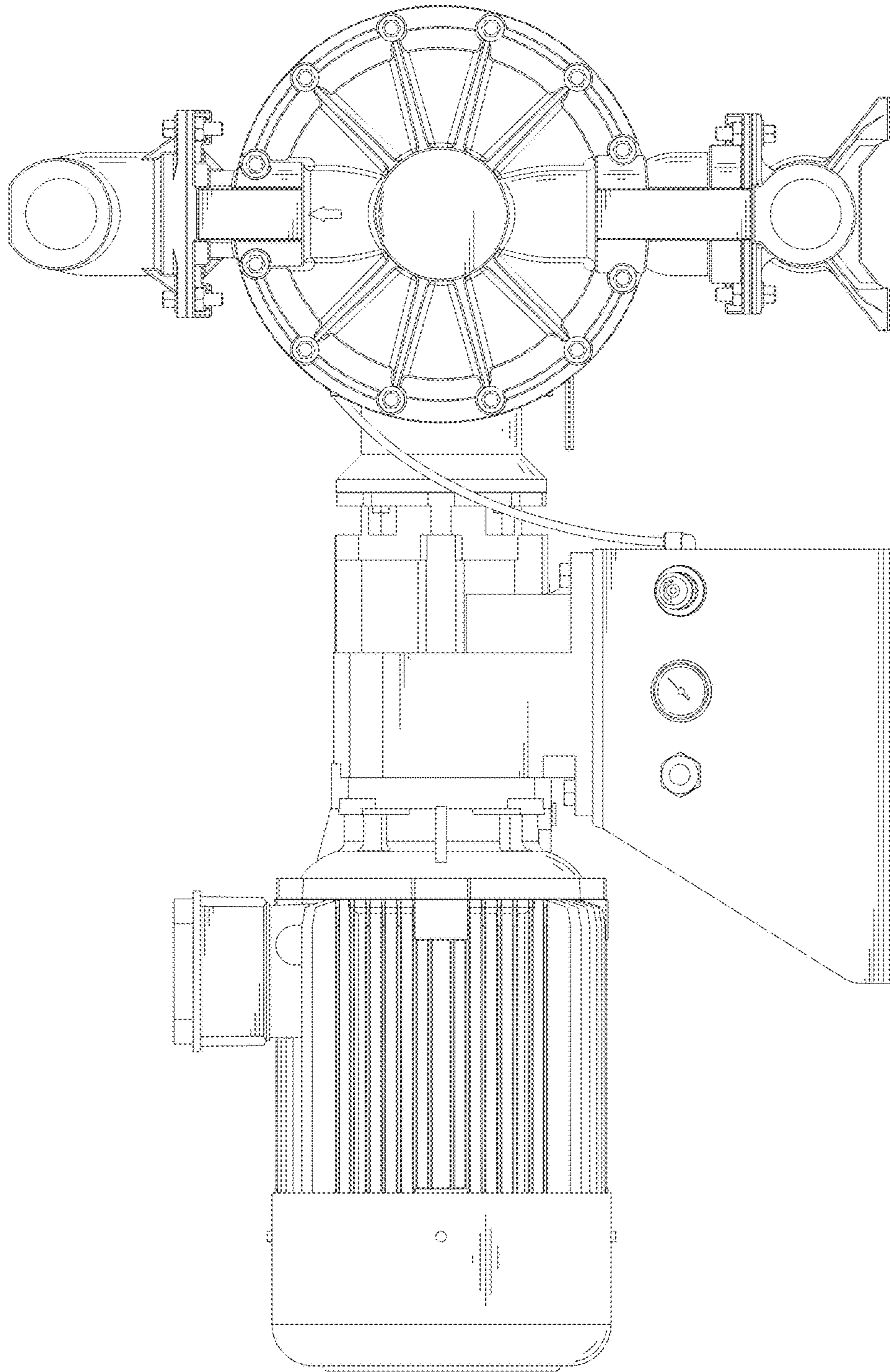


FIG. 3

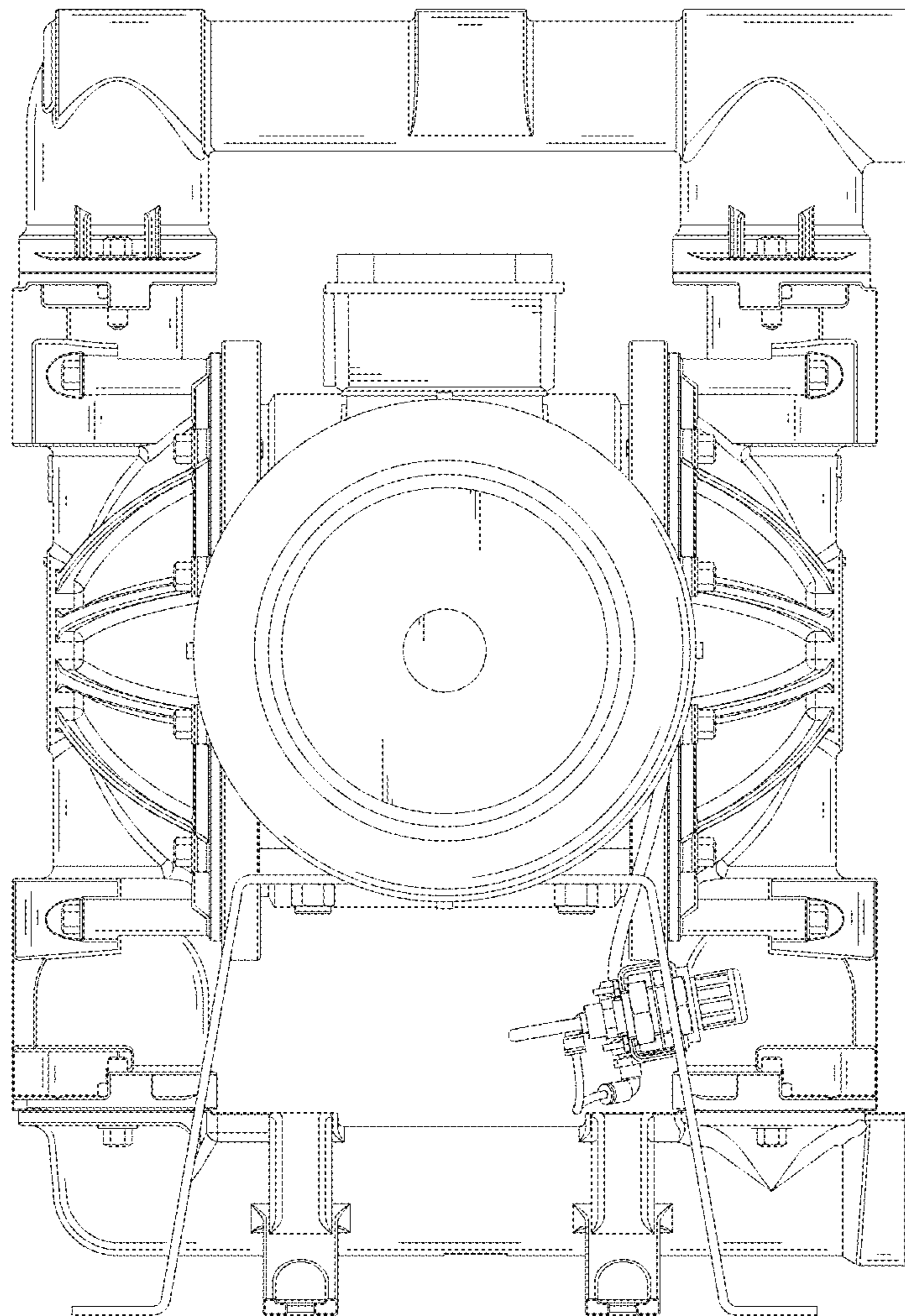


FIG. 4

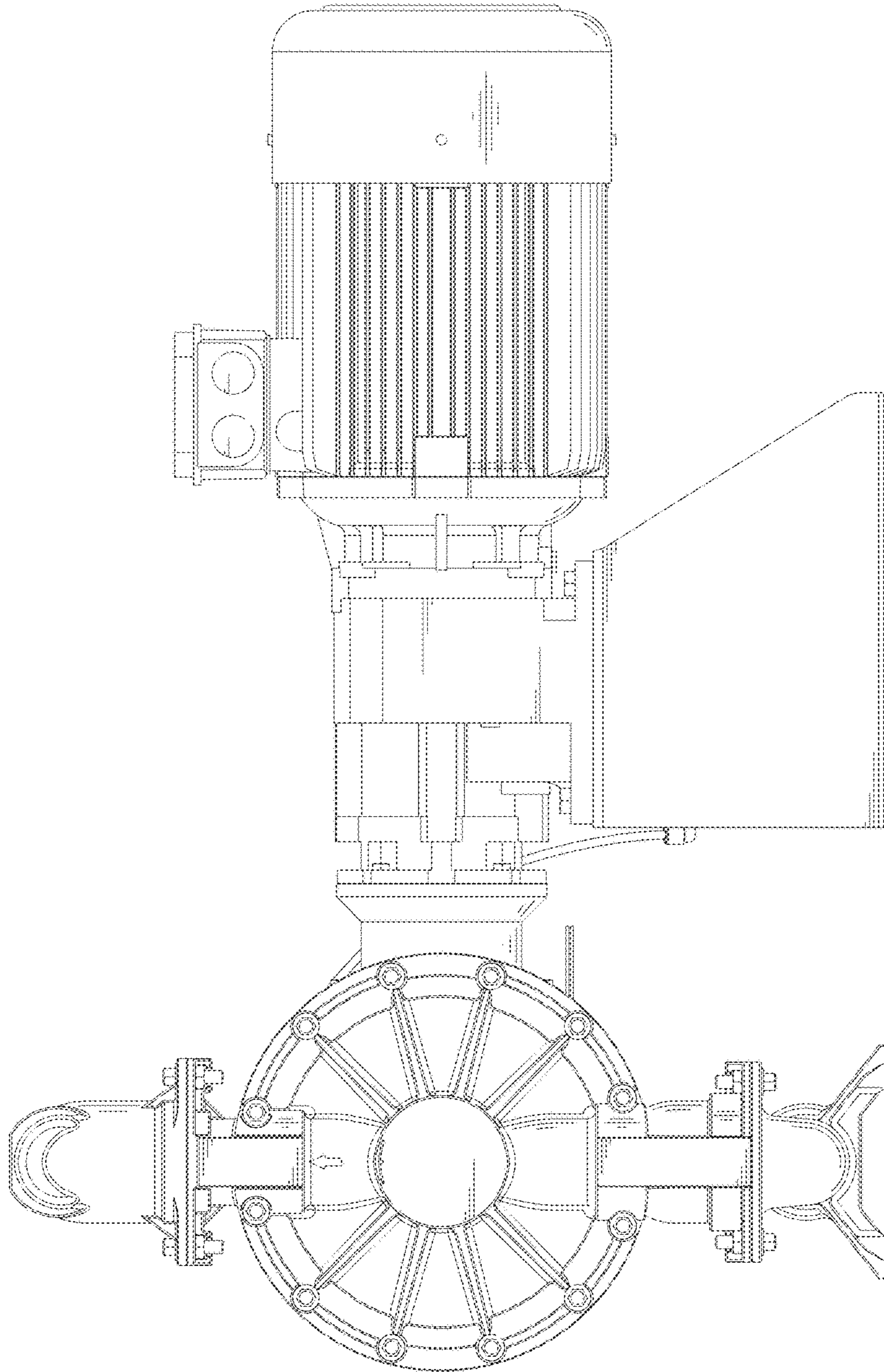


FIG. 5

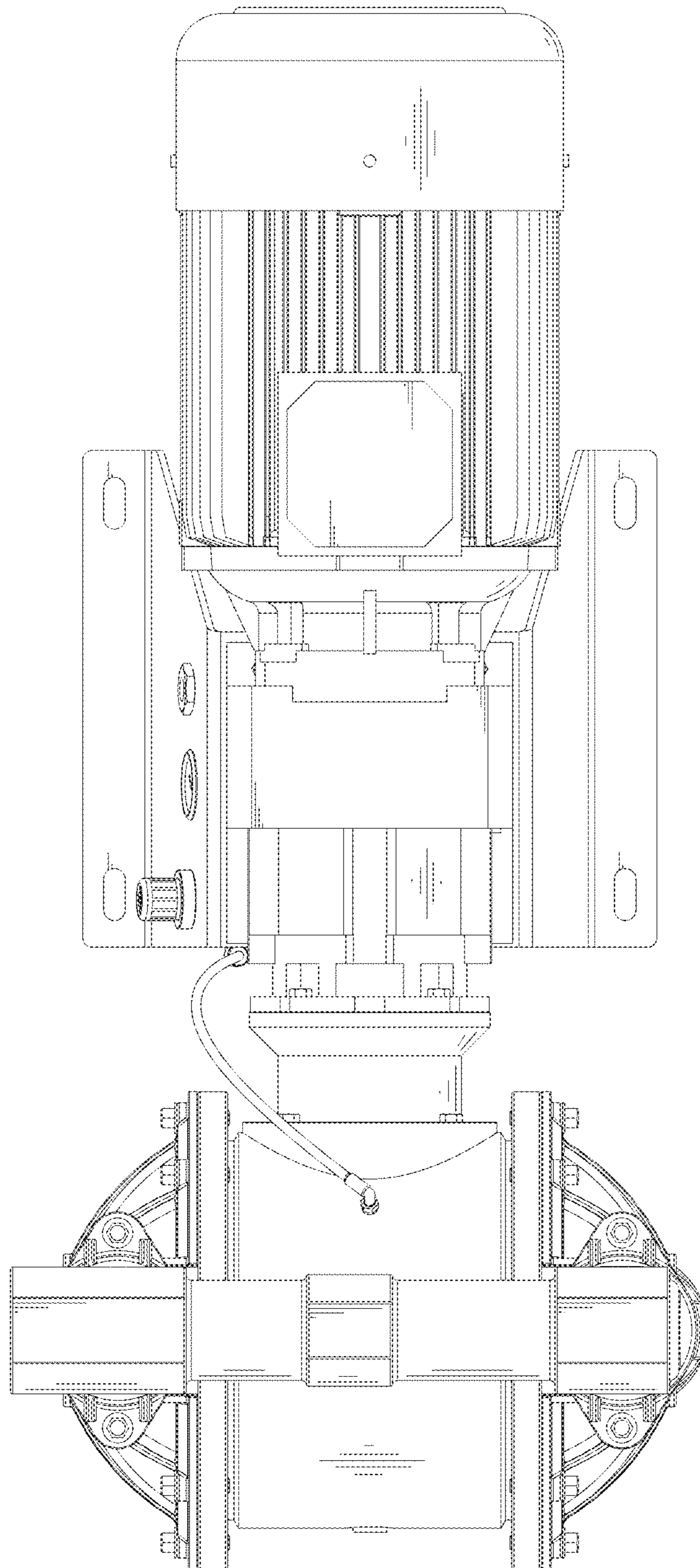


FIG. 6

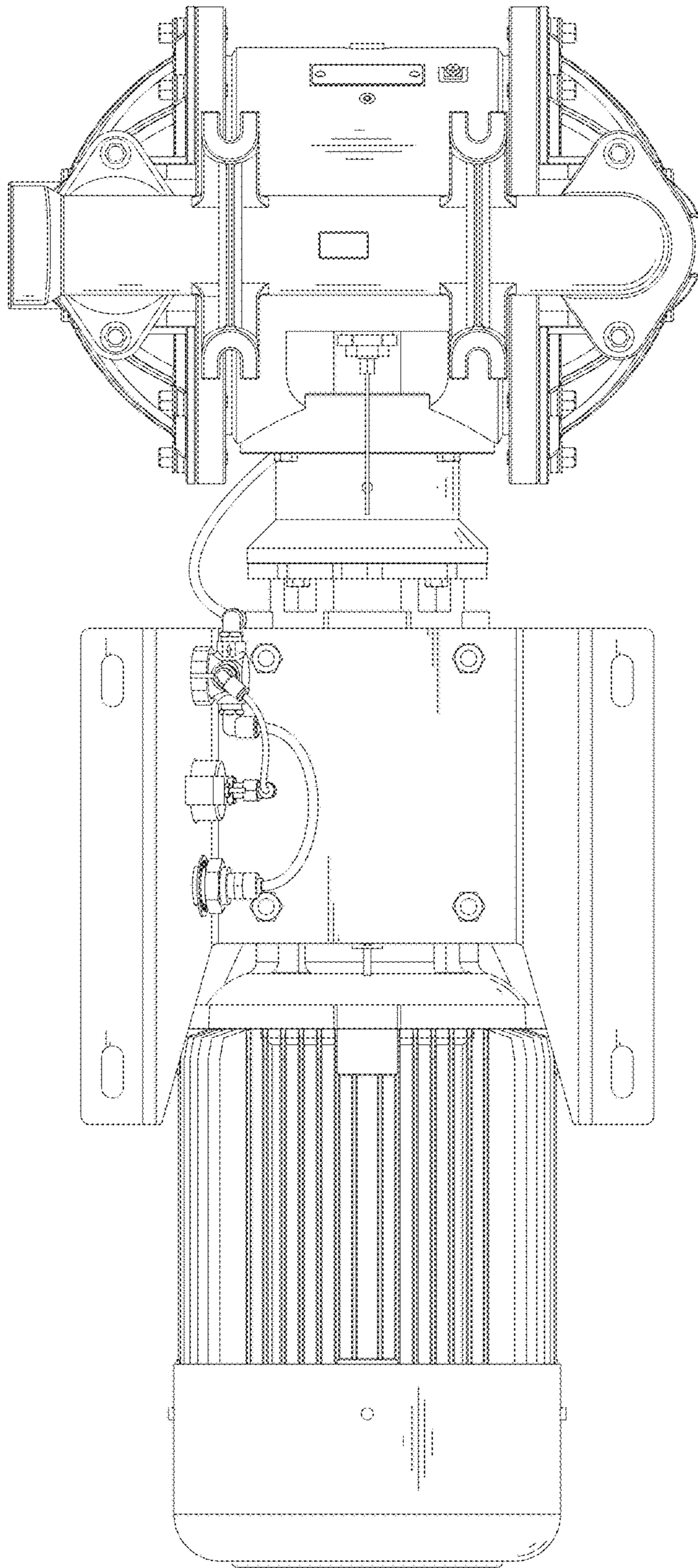


FIG. 7