

Flowrox™ (枫诺™) 泵产品

LPP-D 配料软管泵

Flowrox™ (枫诺™) LPP-D 泵针对重工业作业设计，尤其适用于磨蚀性、腐蚀性、粘性或结晶介质的配料和流体控制。由于泵的排放流量不依赖于管道压力，因此，Flowrox™ (枫诺™) LPP-D 泵可在各种工艺条件下提供准确配料。不受排放压力条件的影响，确保每次循环的恒定输出量。Flowrox™ (枫诺™) 软管泵可确保精确的每转流量。其采用了先进的滚动设计，可消除摩擦、最大限度地延长软管寿命，并降低能耗。Flowrox™ (枫诺™) 泵软管的使用寿命是传统软管泵的 3-5 倍。

优点

- 精准配料
- 可 24/7 全天候运转
- 节能性能佳
- 维修间隔长
- 运转成本低

特征

- 通过容积泵实现精确配料，同时最大限度减少回流。
- 采用先进滚轮设计，可最大限度地减少摩擦和热量，避免连续高流速下发生过热。
- 耐磨软管和软管插件是与介质接触的唯一部件。
- 尤其适用于泵送各种浆料以及配料各类磨蚀性、腐蚀性、粘性或结晶介质。



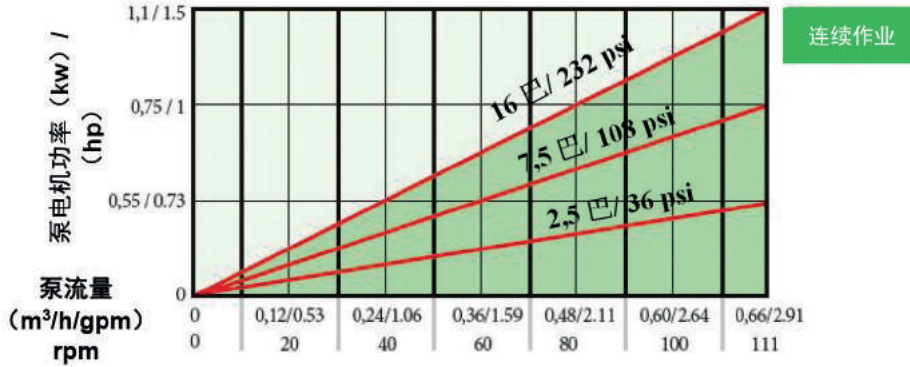
特别适用于：

- 化学品配料 (如：石灰乳、絮凝剂)
- 浮选
- 工艺分析仪送样

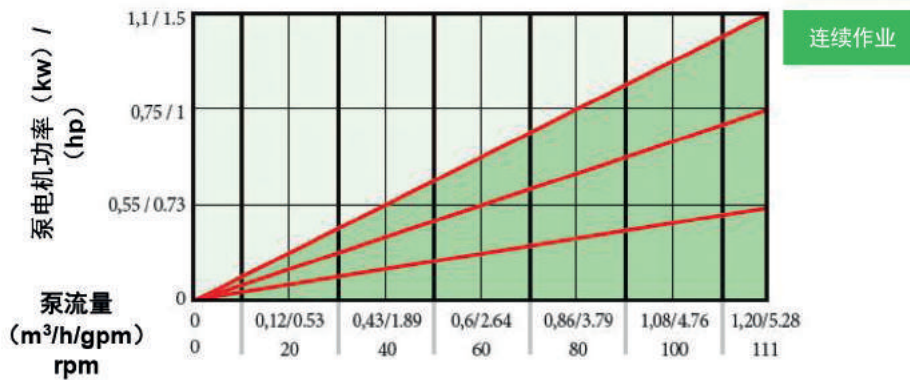
技术资料	LPP-D15 / LPP-D½	LPP-D20 / LPP-D¾	LPP-D25 / LPP-D1
重量	47 kg/104 磅	47 kg/104 磅	60 kg/132 磅
流量/转	0,1l/0.026 加仑	0,18l/0.047 加仑	0,3 l/0.079 加仑
最大流量	0.66 m³/h / 2.91 gpm	1,2 m³/h / 5.28 gpm	2,0 m³/h / 8.8 gpm
最大压力 (标准)	7.5 巴/ 108 psi	7.5 巴/ 108 psi	7.5 巴/ 108 psi
最大压力 (高压)	16 巴/ 232 psi	16 巴/ 232 psi	16 巴/ 232 psi
最高流体温度	95°C/203°F (NR-软管 : 75°C/167°F)		
润滑剂用量 (标准)	0.4 l/0.1 加仑	0.4 l/0.1 加仑	0.4 l/0.1 加仑
润滑剂用量 (高压)	1 l / 0.26 加仑	1 l / 0.26 加仑	1 l / 0.26 加仑
软管接头	15 mm / ½英寸	20 mm / ¾英寸	25 mm / 1 英寸
电动机功率	0,55-1,1 kW / 0.75-1.5 hp	0,55-1,1 kW / 0.75-1.5 hp	0,75-1,5 kW / 0.75-2.0 hp

泵特性曲线

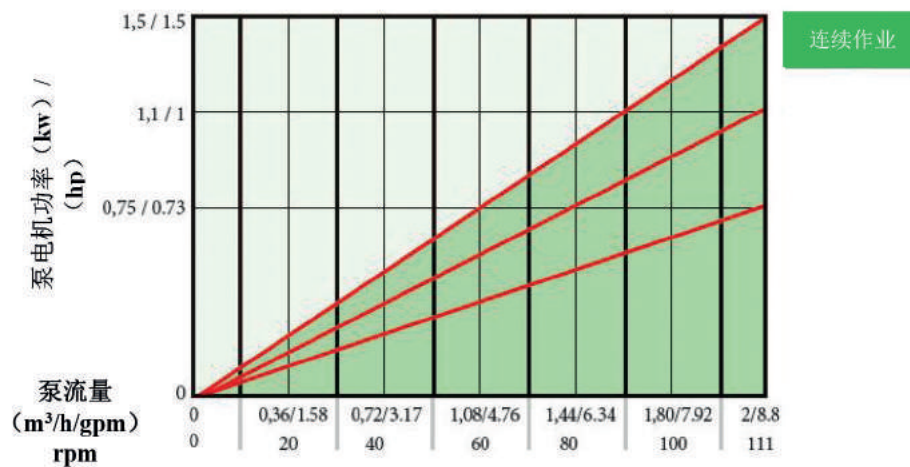
LPP-D15 流量图，连续作业，最高温度：95°C/203°F（每天 24 小时/每周 7 天）



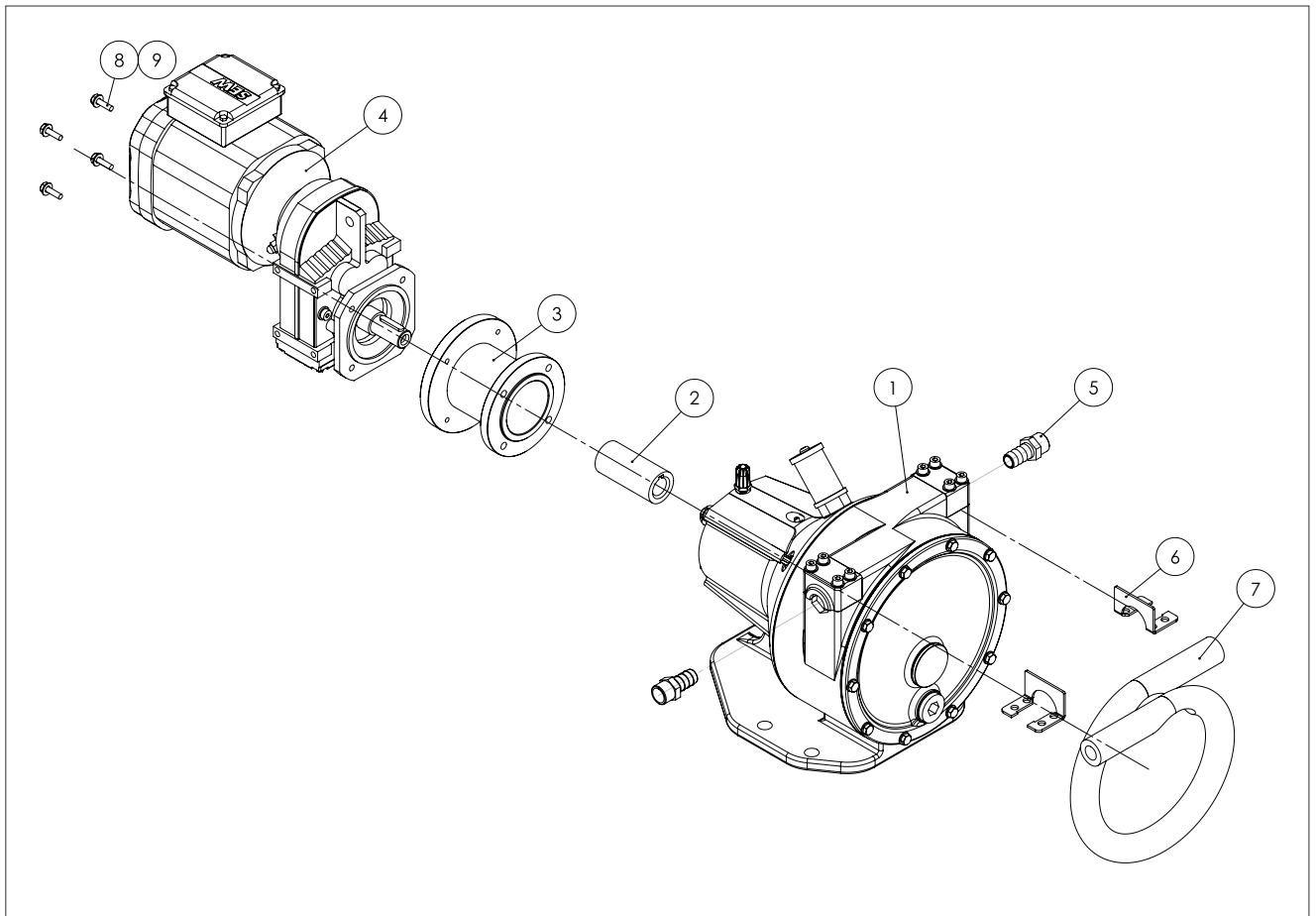
1,5 / 2LPP-D20 流量图，连续作业，最高温度：95°C/203°F（每天 24 小时/每周 7 天）



2,2 / 2LPP-D25 流量图，连续作业，最高温度：95°C/203°F（每天 24 小时/每周 7 天）



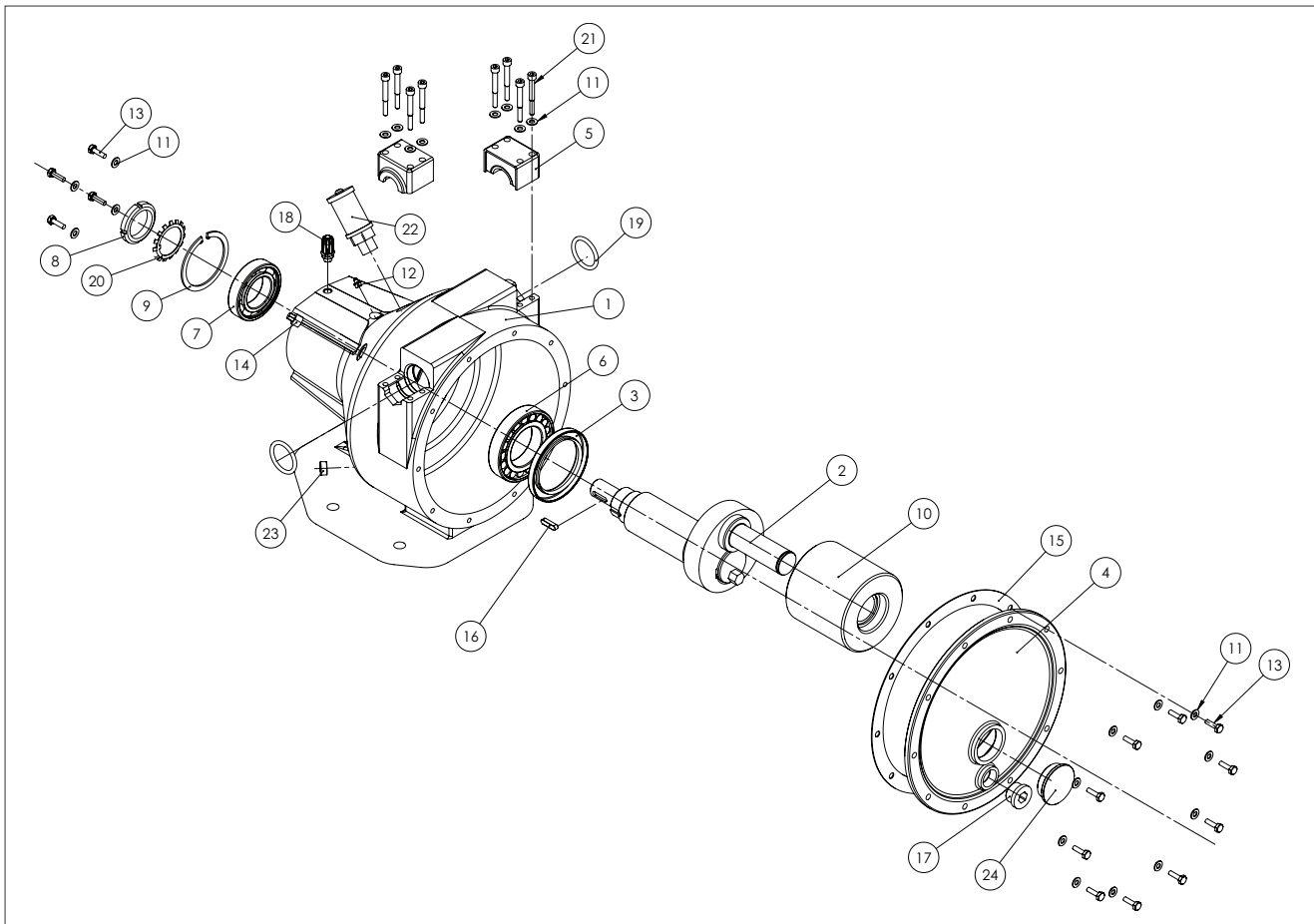
完整 LPP-D 泵爆炸图



项号	描述	数量
1	泵头	1
2	联轴器	1
3	转接法兰	1
4	齿轮电机	1
5	软管插件	2
6	密封贴纸	1
7	软管	2
8	螺钉	4
9	垫圈	4

所有爆炸图中的部件均为模块化部件，针对特定订单提供。转接器部件因所选齿轮电机而异。

LPP-D 泵头的爆炸图



项号	描述	数量
1	泵体	1
2	曲轴	1
3	径向轴封	1
4	前盖	1
5	软管支架	2
6	滚子轴承	1
7	滚珠轴承	1
8	轴螺母	1
9	扣环	1
10	转子组件	1
11	垫圈	22
12	黄油嘴	1
13	六角螺钉	14
14	塞子	1
15	前盖密封	1
16	平行键	1
17	塞子	1
18	消音器	1
19	O 型环	2
20	锁板	1
21	内六角螺钉	8
22	通气阀	1
23	内六角堵头	1
24	油孔	1

标准构造在高压泵中，除转子组件，还使用支撑辊：
 LPP-D15/20：3 个支撑辊
 LPP-D25：2 个支撑辊

技术规范

尺寸：

DN 15, 20, 25 / ½", ¾", 1"

接头：

- G½ 英寸公螺纹 (LPP-D15 / LPP- D½)
- G¾ 英寸公螺纹 (LPP-D20 / LPP- D3/4)
- G1 英寸公螺纹 (LPP-D25 / LPP-D1)

温度范围：

最高流体温度

95°C/203°F (NR-软管：75°C/167°F)

最低和最高环境温度：

0 至 46°C / 0 至 115°F

结构材料：

泵体： 铸铝

转子： 碳钢/聚氨酯

软管 插件： AISI 316 不锈钢/聚丙烯/尼龙

软管 材料：

- EPDM=三元乙丙橡胶
- NR=天然橡胶
- NBR=丁腈橡胶
- NBRF=丁腈橡胶 (FDA)

传动装置

- 齿轮电机
- 齿轮单元
- 光轴

辅助设备

- 软管检漏器
- 转数检测器
- 强制冷却风机
- 压力变送器
- 变频器

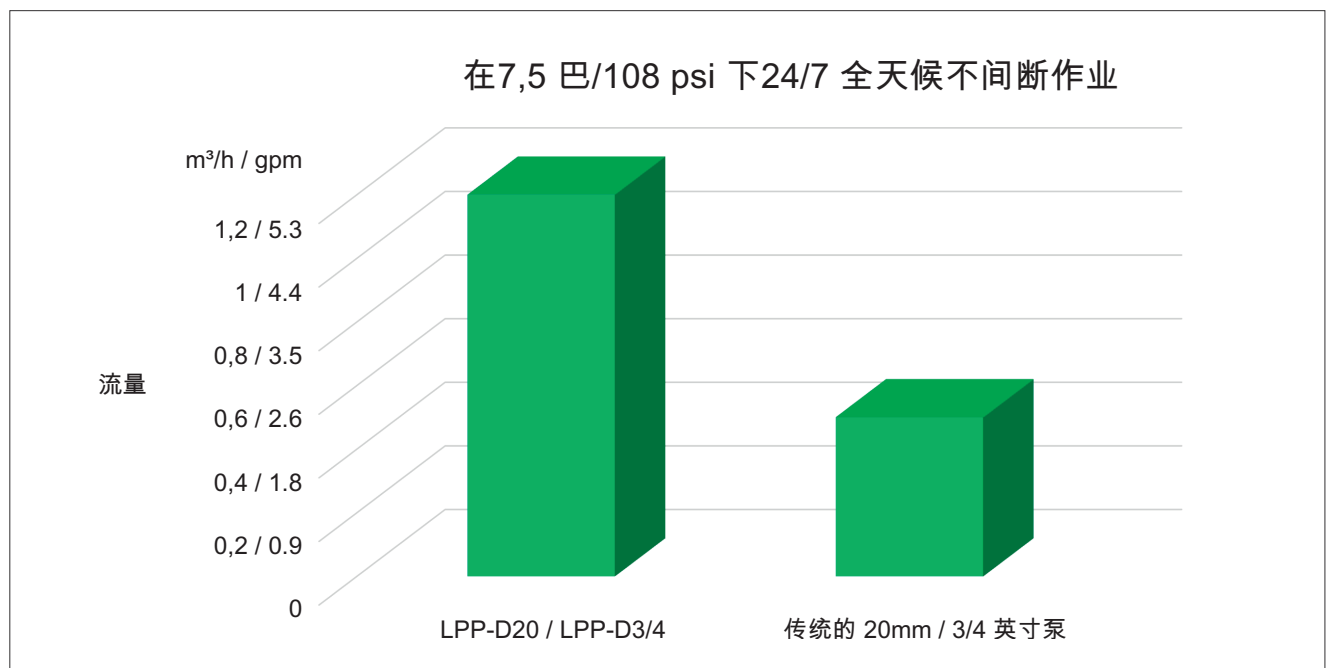
Flowrox™ (枫诺™) 技术对比

Flowrox™ (枫诺™) 轧制技术能够同时以最大压力和最大流量进行连续作业。而传统泵想

要连续作业，则无法同时确保压力和流量。

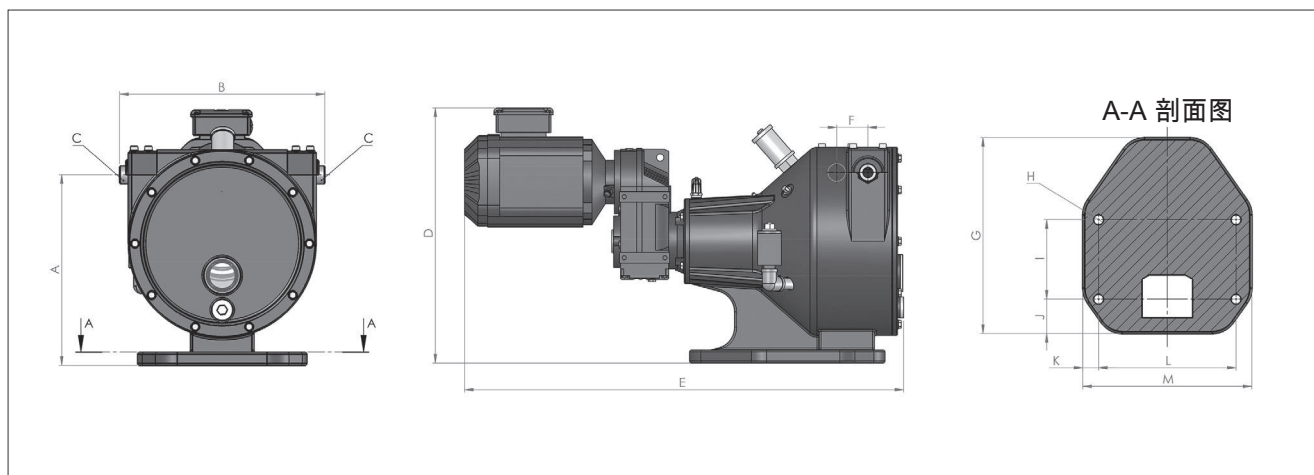
在连续作业时，传统软管泵的流量仅能达到 Flowrox™ (枫诺™) 的一半。

此外，在高温介质的温度高达 95°C/203°F 时，Flowrox™ (枫诺™) 泵仍可运作。



图片：Flowrox™ (枫诺™) 软管泵技术与传统技术的对比

LPP-D 泵尺寸



泵型号	A	B	C	D	E	F	G	H	I	J	K	L	M
LPP-D25 / LPP-D1 (GM : SEW FAF37 , 1.5kW)	360 / 14.17"	388 /15.28"	G1"	482 /18.98"	831 / 32.7"	59 / 2.32"	370 (14.57")	4 X 19 (0.75")	150 (5.91")	65 (2.56")	30 (1.18")	260 (10.24")	320 (12.6")
LPP-D20 / LPP-D3/4 (GM : SEW FF27 1.1kW)	285 / 11.22"	325 / 12.8"	G3/4"	414 / 16.31"	853 / 33.58"	50 / 1.97"	320 / 12.58"	4 X 19 (0.75")	85 / 3.35"	65 / 2.56"	26 / 1"	240 / 9.45"	291 / 11.46"
LPP-D15 / LPP-D½ (GM : SEW FF27 1.1kW)	285 / 11.22"	325 / 12.8"	G1/2"	414 / 16.31"	853 / 33.58"	50 / 1.97"	320 / 12.58"	4 X 19 (0.75")	85 / 3.35"	65 / 2.56"	26 / 1"	240 / 9.45"	291 / 11.46"

尺寸与最大可用电机尺寸

泵选型指南

LPP-D 配料泵

1.	2.	3.	4.	5.	6.	7.	8.	9.
LPP-D	20	GM	7.5	G3/4	3	N	DR	NR

1.	类型
LPP-D	配料

6.	本体材料
3	铝

2.	尺寸 (公称直径)
15	15 mm / 1/2 英寸
20	20 mm / 3/4 英寸
25	25 mm / 1 英寸

7.	逆变器
N	无
II	导线连接 IP55

3.	机动化
GM	齿轮电机
GU	齿轮单元
BS	光轴

8.	辅助设备
D	软管检漏器
R	转数检测器
F	强制冷却风机
T	带显示器的压力变送器
X	特殊

4.	压力类别
7.5	7,5 巴/ 108 psi
16	16 巴/ 232 psi

9.	软管
EPDM	三元乙丙橡胶
NR	天然胶
NBR	丁腈橡胶
NBRF	丁腈橡胶 (FDA 认证)

5.	接头
G1/2	G1/2 英寸公螺纹
G3/4	G3/4 英寸公螺纹
G1	G1 英寸公螺纹

维美德流体控制公司
Marssitie 1, 53600 Lappeenranta, Finland.
电话：+358 10 417 5000.
www.valmet.com/flowcontrol

如有变更，恕不另行通知。
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Jamesbury™ (詹姆斯伯雷™)、Stonel™ (斯动耐尔™)、
Valvcon™和 Flowrox™ (枫诺™) 以及其他一些商标均为维美德或其子公司
在美国和/或其他国家的注册商标或商标。



Flowrox™ pumps

Dosing LPP-D hose pumps

Flowrox™ LPP-D pumps are designed for heavy industrial duties and are ideal for dosing and flow control of abrasive, corrosive, viscous or crystallizing media. They provide accurate dosing in all process conditions as the pump discharge flow does not depend on the pipeline pressure. There is no variation due to the discharge pressure condition, output remains the same on every cycle. Flowrox hose pumps provide exact flow per revolution. They also incorporate an advanced rolling design, which eliminates friction, maximizes hose life and lowers energy consumption. Lifetime of Flowrox pumps' hoses is 3-5 times longer than conventional hose pumps.



Benefits

- Accurate dosing
- Capability to pump 24/7
- Energy efficiency
- Long service intervals
- Low operating costs

Features

- Accurate dosing enabled by positive displacement pumping which also minimizes back flow.
- No overheating at high continuous flow rates due to the advanced roller design that minimizes friction and heat.
- Wear resistant hose and hose inserts are the only parts in contact with the medium
- Ideal for pumping diverse slurries and dosing a wide range of abrasive, corrosive, viscous or crystallizing media.

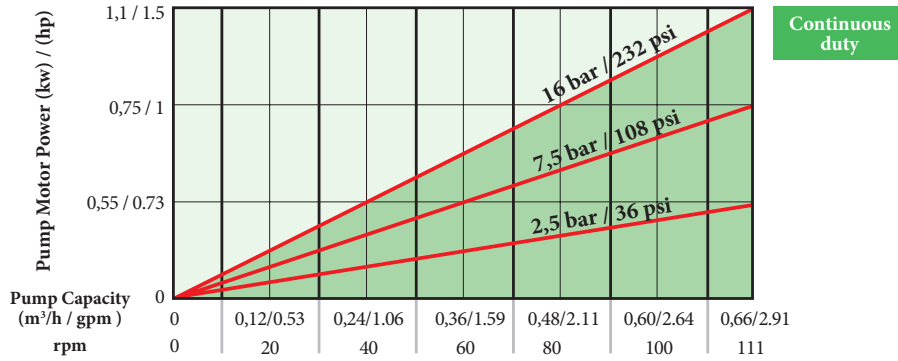
Ideal applications:

- Chemical dosing (e.g. lime milk, Flocculants)
- Flotation
- Process analyser sample transfer

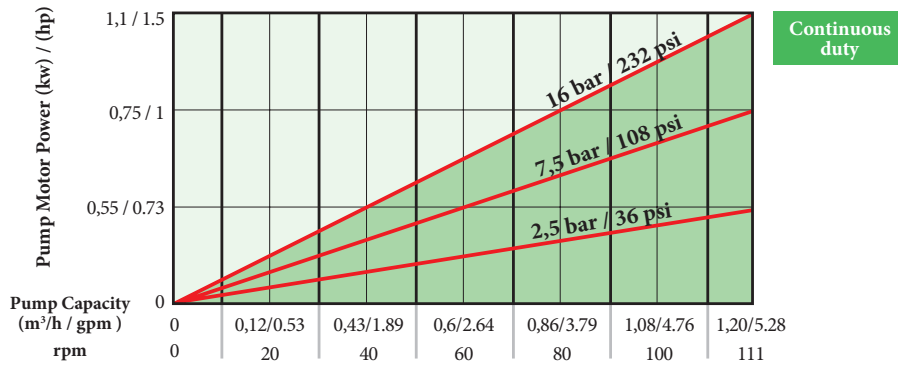
Technical data	LPP-D15 / LPP-D½	LPP-D20 / LPP-D¾	LPP-D25 / LPP-D1
Weight	47 kg / 104 lb	47 kg / 104 lb	60 kg / 132 lb
Flow/revolution	0,1 l / 0.026 gal	0,18 l / 0.047 gal	0,3 l / 0.079 gal
Maximum flow	0.66 m³/h / 2.91 gpm	1,2 m³/h / 5.28 gpm	2,0 m³/h / 8.8 gpm
Maximum pressure (standard)	7.5 bar / 108 psi	7.5 bar / 108 psi	7.5 bar / 108 psi
Maximum pressure (high pressure)	16 bar / 232 psi	16 bar / 232 psi	16 bar / 232 psi
Maximum fluid temperature	95 °C / 203 °F (NR-hose: 75 °C / 167 °F)		
Lubricant volume (standard)	0.41 / 0.1 gal	0.41 / 0.1 gal	0.41 / 0.1 gal
Lubricant volume (high pressure)	1 l / 0.26 gal	1 l / 0.26 gal	1 l / 0.26 gal
Hose bore	15 mm / ½"	20 mm / ¾"	25 mm / 1"
Motor power	0,55-1,1 kW / 0.75-1.5 hp	0,55-1,1 kW / 0.75-1.5 hp	0,75-1,5 kW / 0.75-2.0 hp

Pump curves

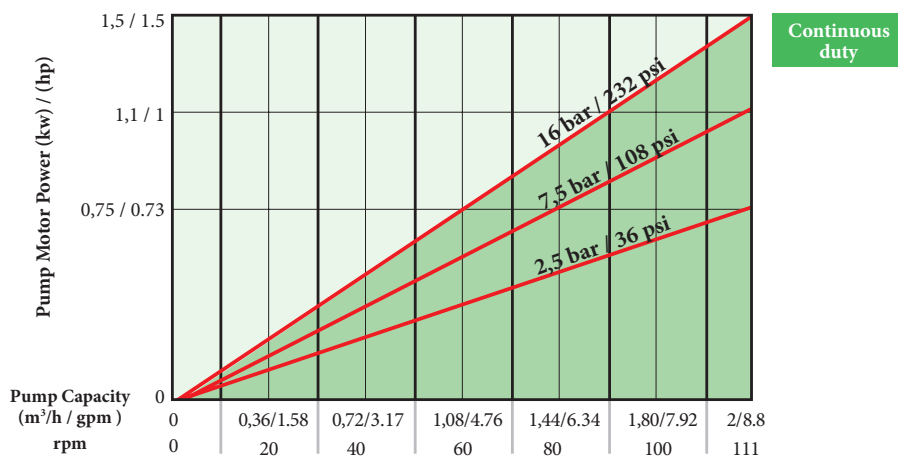
LPP-D15 CAPACITY CHART, CONTINUOUS DUTY, UP TO 95°C / 203°F
(24 h/day/7 days per week)



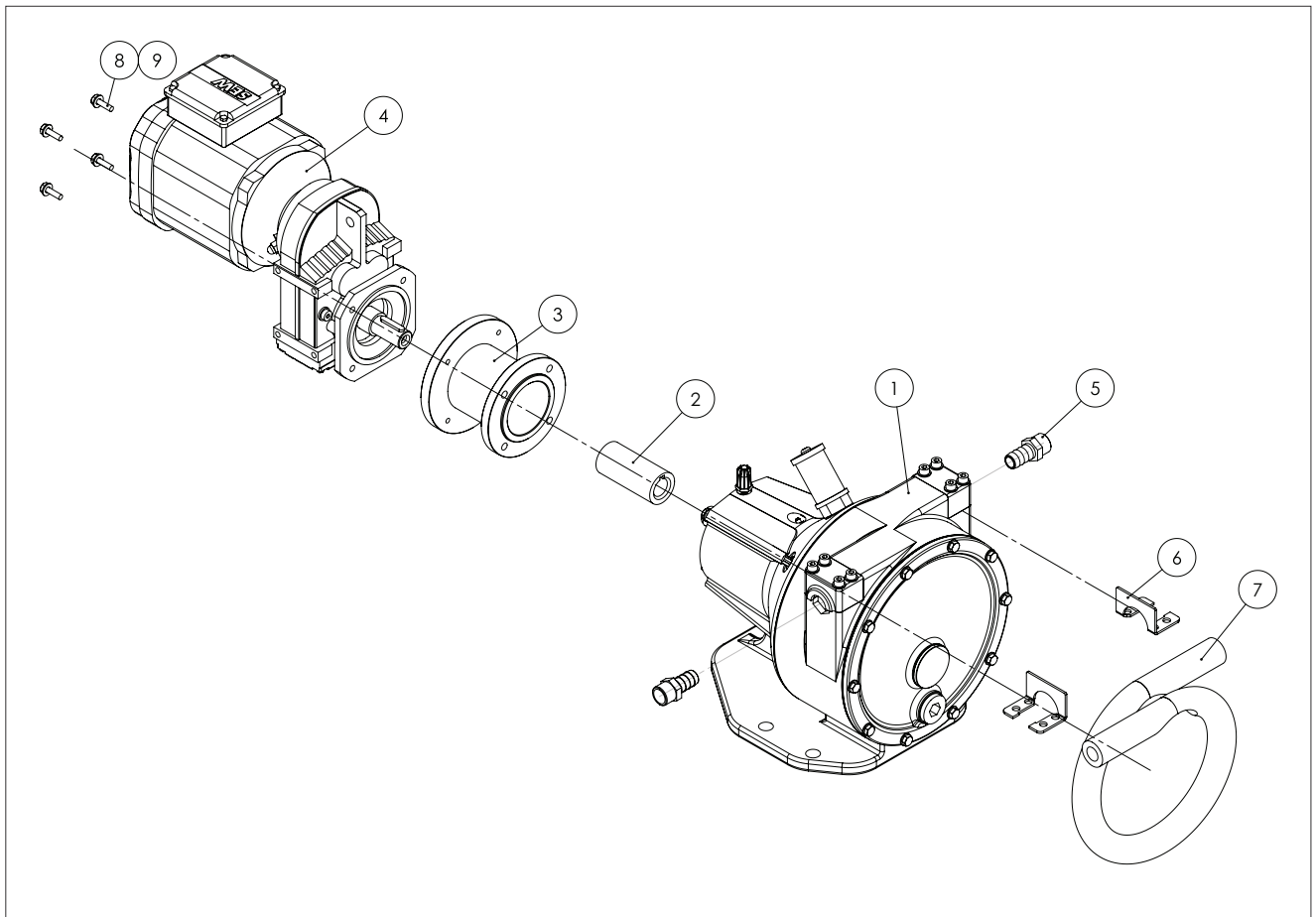
LPP-D20 CAPACITY CHART, CONTINUOUS DUTY, UP TO 95°C / 203°F
(24 h/day/7 days per week)



LPP-D25 CAPACITY CHART, CONTINUOUS DUTY, UP TO 95°C / 203°F
(24 h/day/7 days per week)



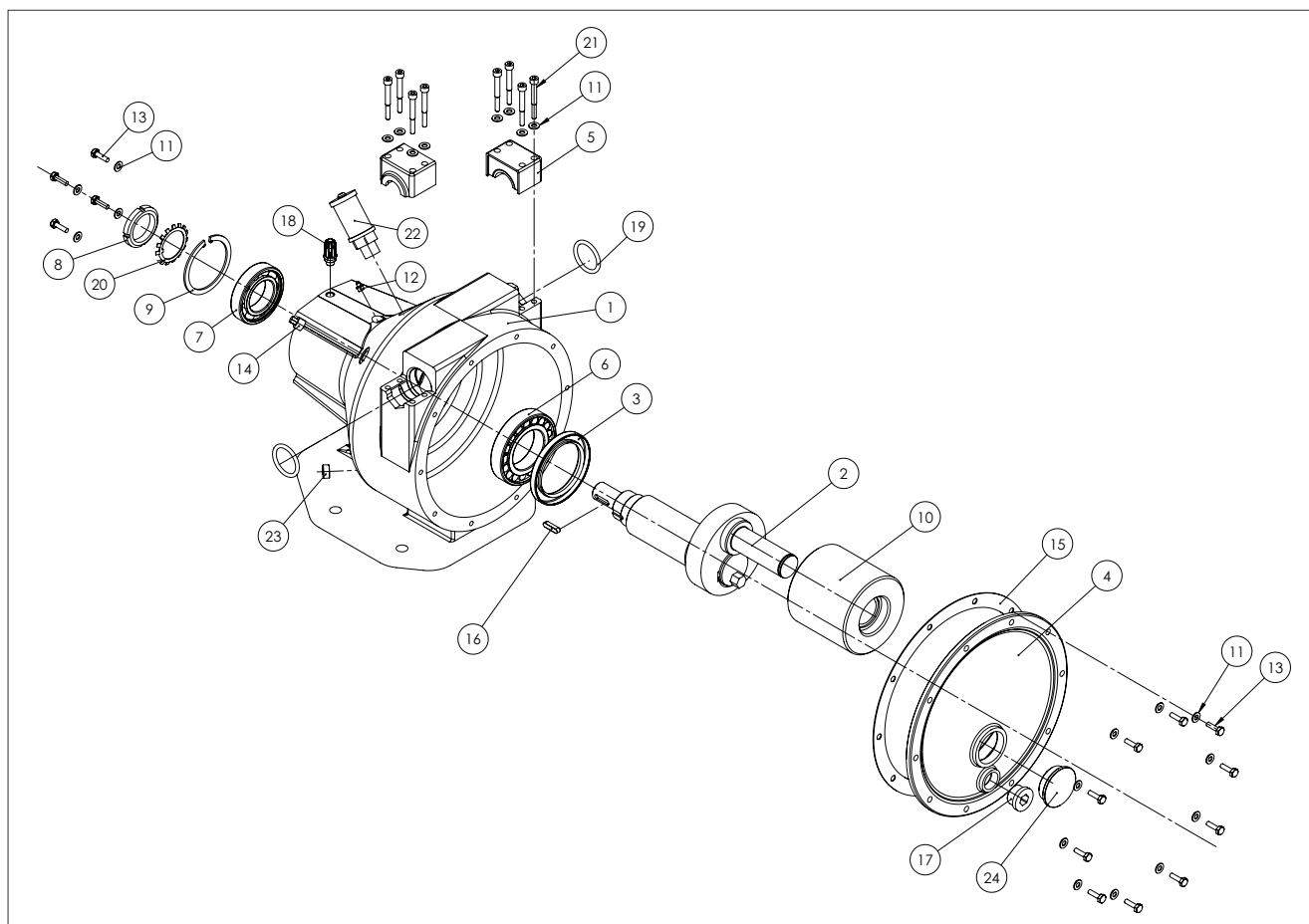
Exploded view of complete LPP-D pump



ITEM NO.	DESCRIPTION	QTY.
1	PUMP HEAD	1
2	COUPLING	1
3	ADAPTER FLANGE	1
4	GEAR MOTOR	1
5	HOSE INSERT	2
6	STICKER SEAL	1
7	HOSE	2
8	SCREW	4
9	WASHER	4

All exploded parts are modular and order specific. Adapter parts vary depending on the selected gear motor.

Exploded view of LPP-D pump head



ITEM NO.	DESCRIPTION	QTY
1	BODY	1
2	CRANKSHAFT	1
3	RADIAL SHAFT SEAL	1
4	FRONT COVER	1
5	HOSE BRACKET	2
6	ROLLER BEARING	1
7	BALL BEARING	1
8	SHAFT NUT	1
9	RETAINING RING	1
10	ROTOR ASSEMBLY	1
11	WASHER	22
12	GREASE NIPPLE	1
13	HEX SCREW	14
14	PLUG	1
15	FRONT COVER SEAL	1
16	PARALLEL KEY	1
17	PLUG	1
18	SILENCER	1
19	O-RING	2
20	LOCK PLATE	1
21	HEX SOCKET SCREW	8
22	BREATHER	1
23	HEX SOCKET PLUG	1
24	OIL EYE	1

Standard construction. In high pressure pumps support rollers are used in addition with rotor assembly:

LPP-D15/20: 3 support rollers

LPP-D25: 2 support rollers

Technical specifications

Sizes:

DN 15, 20, 25 / ½", ¾", 1"

Connections:

- G½" male threads (LPP-D15 / LPP-D½)
- G¾" male threads (LPP-D20 / LPP-D¾)
- G1" male threads (LPP-D25 / LPP-D1)

Temperature range:

Maximum fluid temperature:

95 °C / 203 °F (NR-hose: 75 °C / 167 °F)

Minimum & maximum ambient operating temperature:

0 to 46 °C / 0 to 115 °F

Construction materials:

Body: Cast aluminium

Rotor: Carbon steel / polyurethane

Hose inserts: AISI 316 stainless steel / polypropylene / nylon

Hose material:

- EPDM = Ethylene propylene
- NR = Natural rubber
- NBR = Nitrile
- NBRF = Nitrile (FDA)

Drive unit

- Gear motor
- Gear unit
- Bare shaft

Auxiliaries

- Hose leak detector
- Revolution detector
- Forced cooling fan
- Pressure transmitter
- Frequency inverter

Comparison of Flowrox Technology

Flowrox rolling technology is capable of operating in continuous duty with its maximum pressure and maximum flow in the same point. This is where the conventional pump compromises either on pressure or flow.

Compared to Flowrox pumps, conventional hose pumps can only reach less than half of the flow in continuous duty.

What is more, Flowrox pumps can perform even with high temperature media up to 95°C / 203 °F.

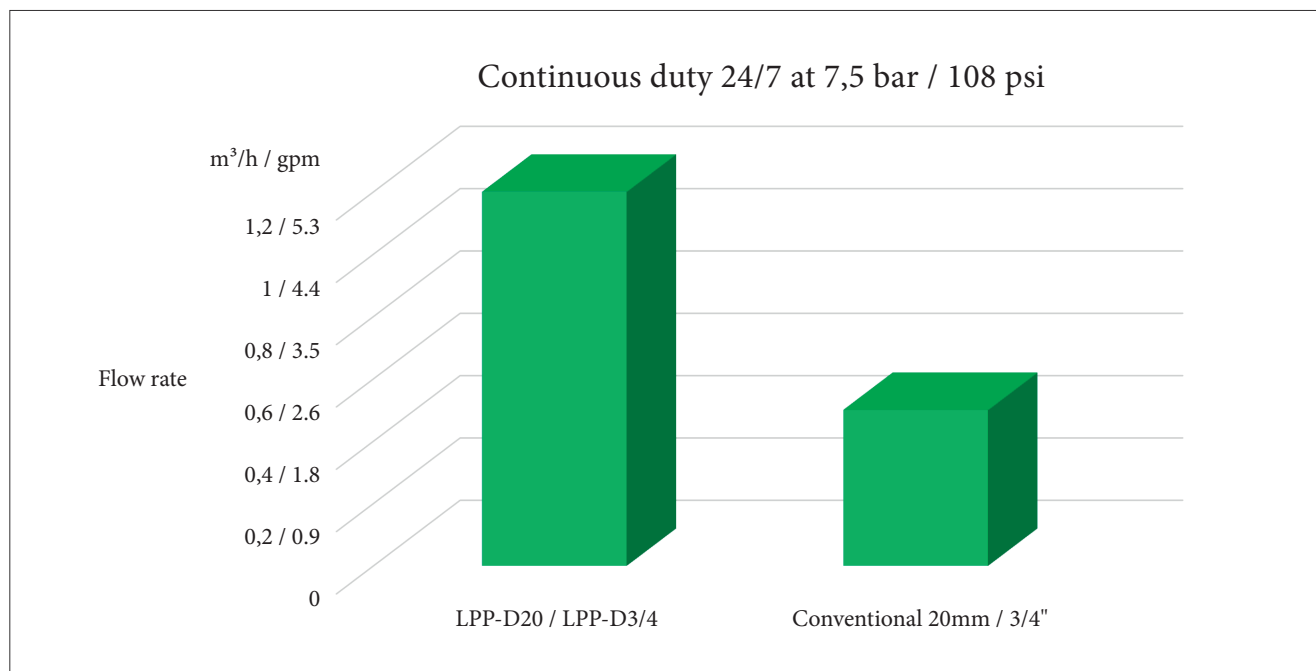
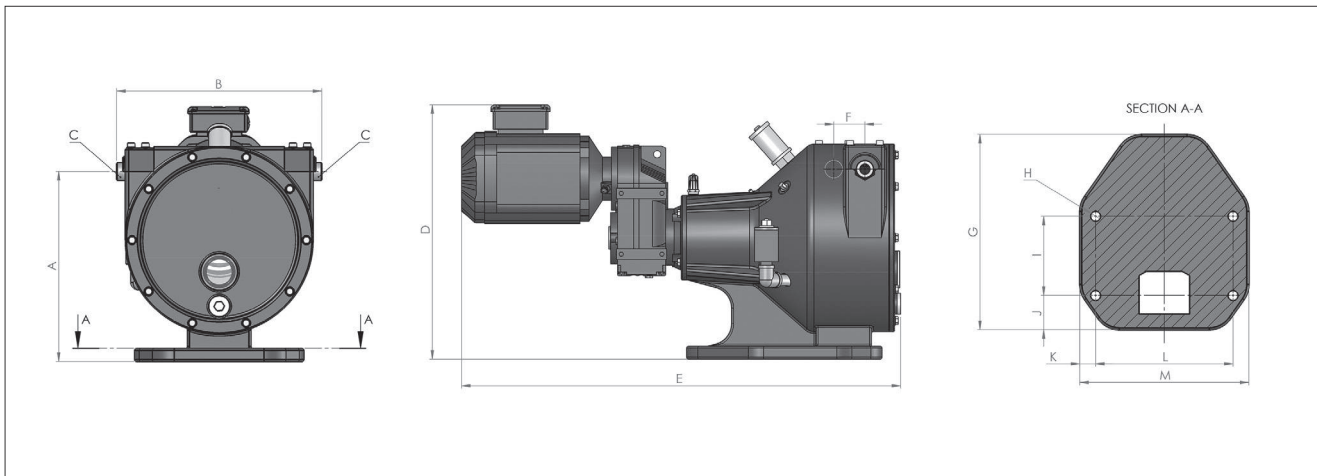


Image: Flowrox hose pump technology vs. conventional technology.

Dimensions, LPP-D pumps



PUMP MODEL	A	B	C	D	E	F	G	H	I	J	K	L	M
LPP-D25 / LPP-D1 (GM: SEW FAF37, 1.5kW)	360 / 14.17"	388 / 15.28"	G1"	482 / 18.98"	831 / 32.7"	59 / 2.32"	370 (14.57")	4 X 19 (0.75")	150 (5.91")	65 (2.56")	30 (1.18")	260 (10.24")	320 (12.6")
LPP-D20 / LPP-D3/4 (GM: SEW FF27, 1.1kW)	285 / 11.22"	325 / 12.8"	G3/4"	414 / 16.31"	853 / 33.58"	50 / 1.97"	320 / 12.58"	4 X 19 (0.75")	85 / 3.35"	65 / 2.56"	26 / 1"	240 / 9.45"	291 / 11.46"
LPP-D15 / LPP-D½ (GM: SEW FF27, 1.1kW)	285 / 11.22"	325 / 12.8"	G1/2"	414 / 16.31"	853 / 33.58"	50 / 1.97"	320 / 12.58"	4 X 19 (0.75")	85 / 3.35"	65 / 2.56"	26 / 1"	240 / 9.45"	291 / 11.46"

Dimensions with the largest available motor size

Pump Model Selection Guide

Dosing Pumps LPP-D

1.	2.	3.	4.	5.	6.	7.	8.	9.
LPP-D	20	GM	7.5	G3/4	3	N	DR	NR

1.	TYPE
LPP-D	Dosing

6.	BODY MATERIAL
3	Aluminium

2.	SIZE (DN)
15	15 mm / 1/2"
20	20 mm / 3/4"
25	25 mm / 1"

7.	INVERTER
N	None
II	Wire connected IP55

3.	MOTORIZATION
GM	Gear motor
GU	Gear unit
BS	Bare shaft

8.	AUXILIARIES
D	Hose leak detector
R	Revolution detector
F	Forced cooling fan
T	Pressure transmitter with display
X	Special

4.	PRESSURE CLASS
7.5	7,5 bar / 108 psi
16	16 bar / 232 psi

9.	HOSE
EPDM	Ethylene propylene diene rubber
NR	Natural rubber
NBR	Nitrile rubber
NBRF	Nitrile rubber (FDA)

5.	CONNECTIONS
G1/2	G1/2" male threads
G3/4	G3/4" male threads
G1	G1" male threads

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www.valmet.com/flowcontrol

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