

# LEWA ecoflow®

## Variable eccentric pump drive

### Type LDD

- Drive units
- Metering pumps

#### Performance

<b>Pressure</b>	up to 700 bar
<b>Flow rate</b>	up to 4,5 m <sup>3</sup> /h per pump head
<b>Temperature</b>	up to 400° C



#### Customer advantages

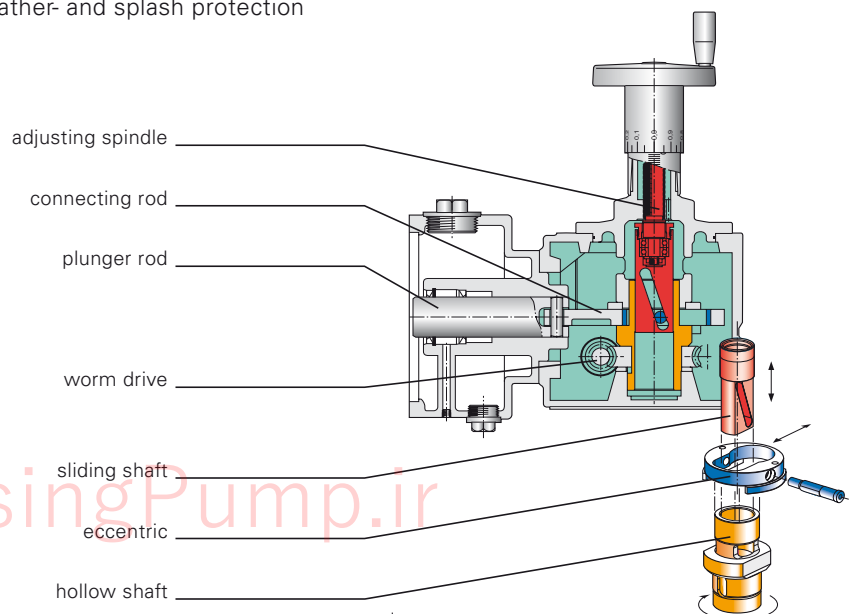
- **Rod thrust:** 6 kN
- **Stroke length:** 30 mm
- **Stroke adjustment:** available with fixed stroke length or with stroke length adjustment. Setting of stroke length is carried out manually, electrically or pneumatically
- **Linear stroke adjustment** in steps of 0,01 mm via hand wheel while pump is stopped or in operation. Proven variable eccentric drive principle, that means stroke length is adjusted where it arises: at the eccentric
- **Multiplex drive units** also in different frame sizes with motor mounted horizontally. Common oil bath without radial shaft seal ring between the drive units (thus less wear parts)
- **Harmonic plunger motion** also at partial stroke
- **API 675 specification** is met
- **Differing stroke rates** make it possible to meet requirements for different fluids and process conditions
- **Long life** due to solid construction, best materials, oil bath lubrication, weather- and splash protection

#### ■ Simple operation, easy maintenance

- **Pump head types:** plunger- and diaphragm pump heads can be mounted
- **Drive:** AC and DC motors, frequency inverter possible
- **Attachable instruments:** contactor

#### Method of operation

The drive shaft turns the **eccentric** via the **worm gear** and the **hollow shaft**. The **connecting rod** converts the rotary motion of the eccentric into a reciprocating motion of the **plunger rod**. The stroke length for the displacer movement is set (with the pump stopped or in operation) through radial shifting of the **eccentric**. For this the **sliding shaft** is axially shifted via the **adjusting spindle**. The axial movement of the sliding shaft is converted into a radial movement of the **eccentric** via the skew-slotted groove in the **hollow shaft**.



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## Performance data

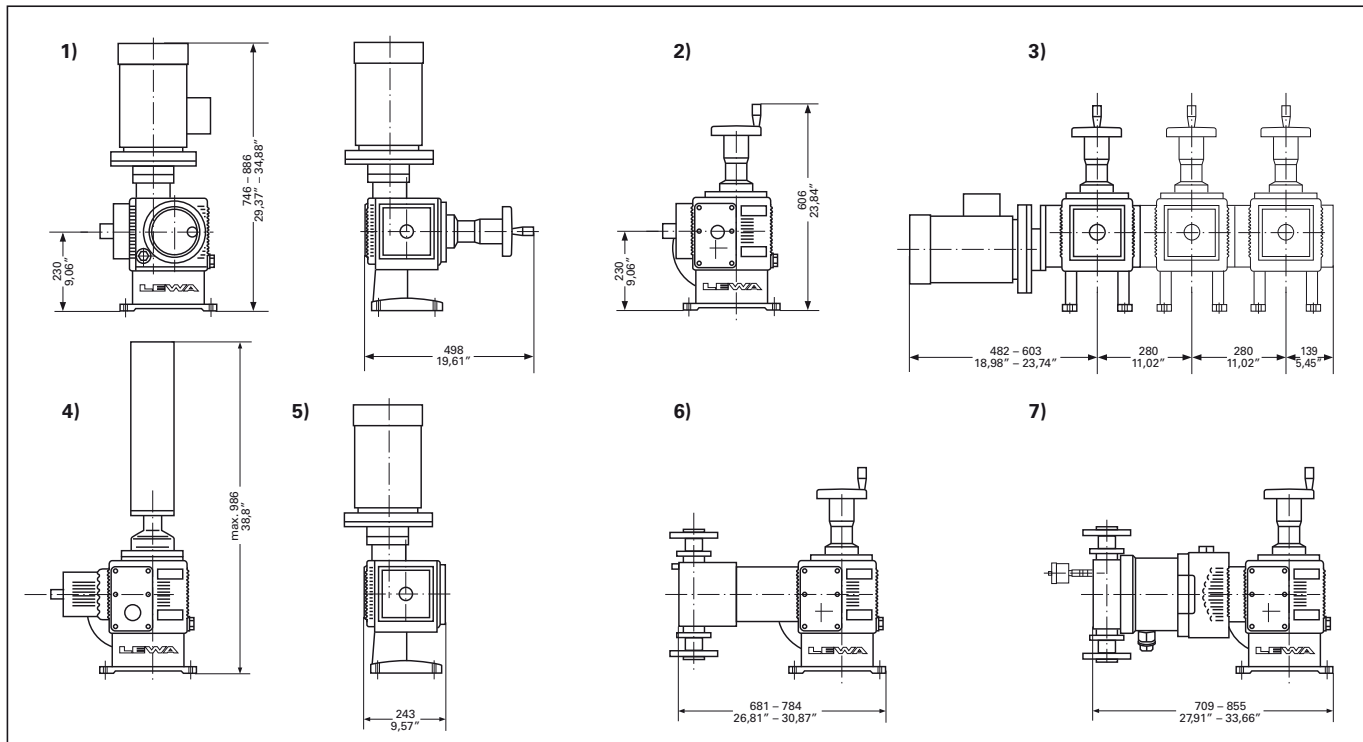
Standard plunger ø [mm]	Q <sub>theor.</sub> [l/h] <sup>1)</sup> Calc. flow rate per pump head at max. stroke length and stroke frequency n [min <sup>-1</sup> ]					Permissible operating pressure of standard pump heads [barg]				
						Diaphragm pump heads		Plunger pump heads		
	72	113	141	170	225	Type	M 900	M 200	M 500	K
						Model <sup>3)</sup>	3	2,3		2,3
8	6,514	10,22	12,76	15,38	20,36		---	700	---	500
10	10,18	15,97	19,93	24,03	31,81		---	700	---	500
12	14,66	23,00	28,70	34,61	45,80		---	531	---	500
14	19,95	31,31	39,07	47,11	62,34		387	---	---	---
16	26,06	40,90	51,03	61,52	81,43		---	298	---	298
17	29,42	46,17	57,61	69,46	91,93		262	---	---	---
20	40,72	63,90	79,73	96,13	127,2		---	191	---	191
21	44,89	70,45	87,91	106,0	140,3		171	---	---	---
25	63,62	99,84	124,6	150,2	198,8		120	122	---	122
30	91,61	143,8	179,4	216,3	286,3		82,4	84,9	---	84,9
34	117,7	184,7	230,4	277,8	367,7		63,6	---	---	---
36	131,9	207,0	258,3	311,5	412,2		---	58,9	---	58,9
38	147,0	230,7	287,8	347,0	459,3		50,4	---	---	---
42	179,6	281,8	351,6	423,9	561,1		40,8	---	---	---
44	197,1	309,3	385,9	465,3	615,8		---	39,5	---	39,5
46	215,4	338,0	421,8	508,5	673,1		33,6	---	---	---
52	275,2	432,0	539,0	649,9	860,1		25,8	28,3	---	28,3
58	342,4	537,4	670,6	808,5	1070		20,2	---	---	---
60	366,4	575,1	717,6	865,2	1145		---	21,2	---	21,2
66	443,4	695,9	868,3	1047	1386		15,0	---	---	---
70	498,8	782,8	976,7	1178	1559		---	15,6	---	15,6
74	557,4	874,8	1092	1316	1742		11,5	---	---	---
82	684,4	1074	1340	1616	2139		8,9	---	---	---
85	735,4	1154	1440	1736	2298		---	---	---	10,6
92	861,5	1352	1687	2034	2692		6,5	---	---	---
100	1018	1597	1993	2403	3181		---	---	---	7,6
104	1101	1728	2156	2599	3440		4,6	---	---	---
116	1370	2150	2682	3234	4280		3,2	---	---	---
120	1466	2300	2870	3461	4580		---	---	5,3	5,3

1) Q<sub>theor.</sub> from stroke volume x stroke frequency. Q<sub>eff.</sub> (= Q<sub>theor.</sub> x η<sub>p</sub>) is stated in technical data sheet. For multiplex pumps, determine total metered flow by multiplying by the number of pump heads

2) 2 = 13 % Cr steel; 3 = stainless steel CrNiMo 18/10/2; other materials, e.g. Hastelloy to special order

3) Standard pump head connections depending on pump head size: internal thread to DIN or NPT resp. flanges to DIN or ANSI

## Dimensions



### Drive units

- 1) Simplex drive unit with manual stroke adjustment/motor mounted vertically
- 2) Simplex drive unit with manual stroke adjustment/motor mounted horizontally
- 3) Multiplex drive unit with manual stroke adjustment/motor mounted horizontally
- 4) Simplex drive unit with electric or pneumatic stroke adjustment/motor mounted horizontally
- 5) Simplex drive unit without stroke adjustment/motor mounted vertically

### Pumps

- 6) Plunger pump
- 7) Diaphragm pump

A MEMBER OF **NIKKISO**  
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