

# LEWA ecoflow®

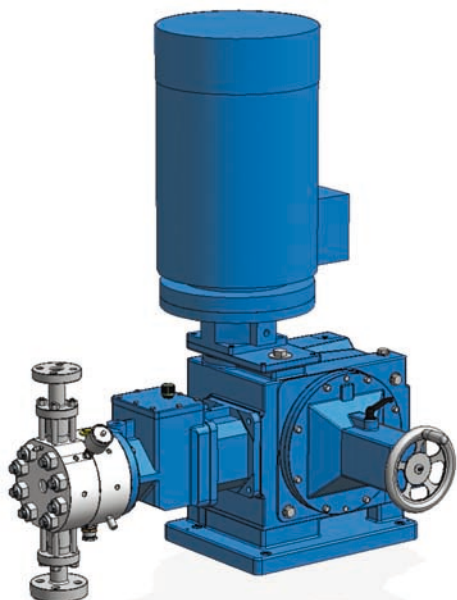
## Variable eccentric pump drive

### Type LDG

- Drive units
- Process pumps

#### Performance

<b>Pressure</b>	up to 1200 bar
<b>Flow rate</b>	up to 25 m <sup>3</sup> /h per pump head
<b>Temperature</b>	up to 400°C



#### Customer advantages

- **Rod thrust:** 35 kN
- **Stroke length:** 60 mm
- **Stroke adjustment:** available with fixed stroke length or with stroke length adjustment. Setting of stroke length is carried out manually or electrically
- **Linear stroke adjustment** in steps of 0,05 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:** three phase motor, 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**.

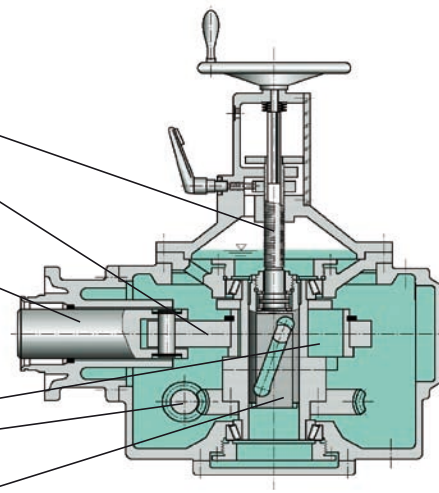
adjusting spindle

connecting rod

plunger rod

eccentric  
worm drive

sliding shaft



## Performance data

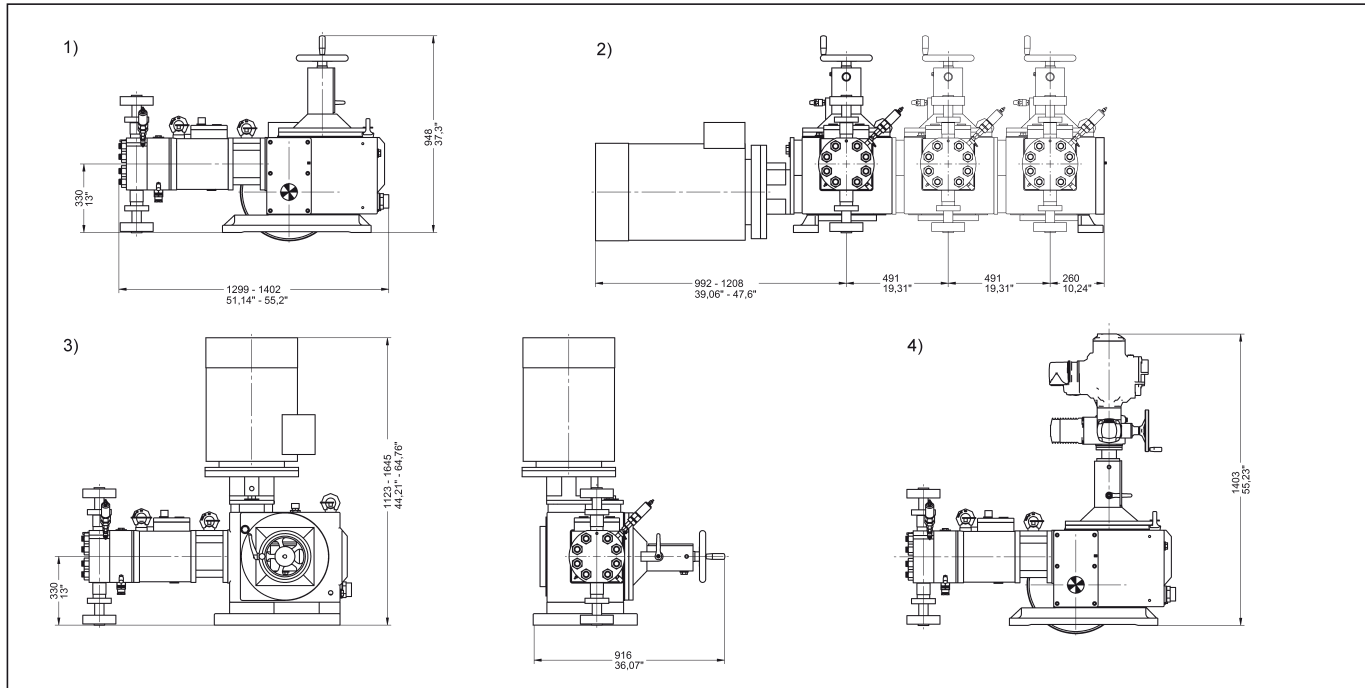
Standard plunger ø [mm]	Q <sub>theor.</sub> [l/h] <sup>1)</sup> Calc. flow rate per pump head at max. stroke length and stroke frequency n [min <sup>-1</sup> ]					Permissible operating pressure of standard pump heads [barg]						
	72	113	141	170	225	Type	Diaphragm pump heads					
						Model <sup>3)</sup>	M 900	M 200/M 400	M 500			
						Material <sup>2)</sup>	3	2, 3				
16	52,12	81,79	102,1	123,0	162,9	---	1200	---				
20	81,43	127,8	159,5	192,3	254,5	---	1000	---				
25	127,2	199,7	249,2	300,4	397,6	---	710	---				
27	148,4	232,9	290,6	350,4	463,8	500	---	---				
28	159,6	250,5	312,6	376,8	498,8	500	---	---				
29	171,2	268,7	335,3	404,2	535,0	500	---	---				
30	183,2	287,5	358,8	432,6	572,6	493	495	---				
32	208,5	327,2	408,2	492,2	651,4	310	---	350				
34	235,3	369,3	460,9	555,6	735,4	310	---	---				
36	263,8	414,1	516,7	622,9	824,5	310	---	344				
38	294,0	461,4	575,7	694,1	918,6	306	---	---				
42	359,1	563,6	703,3	847,9	1122	250	---	---				
44	394,1	618,6	771,8	930,6	1232	228	---	---				
46	430,8	676,1	843,6	1017	1346	208	---	---				
48	469,0	736,1	918,5	1107	1466	191	---	---				
50	508,9	798,7	996,7	1202	1590	176	---	---				
52	550,5	863,9	1078	1300	1720	162	---	---				
54	593,6	931,7	1163	1402	1855	150	---	---				
58	684,8	1075	1341	1617	2140	130	---	---				
62	782,5	1228	1532	1848	2445	113	---	---				
66	886,8	1392	1737	2094	2771	100	---	---				
70	997,5	1566	1953	2355	3117	88,4	---	---				
74	1115	1750	2183	2632	3484	78,9	---	---				
78	1239	1944	2425	2924	3870	70,7	---	---				
82	1369	2148	2681	3232	4278	63,8	---	---				
85	1471	2308	2880	3473	4596	---	---	61,7				
92	1723	2704	3374	4068	5385	---	---	52,7				
100	2036	3195	3987	4807	6362	---	---	44,6				
120	2931	4601	5741	6922	9161	---	---	30,9				
140	3990	6262	7814	9421	12469	---	---	22,7				
175	6234	9785	12209	14720	19483	---	---	14,6				
200	8143	12780	15947	19227	25447	---	---	11,1				

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



A MEMBER OF **NIKKISO**  
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### Drive units

- 1) Simplex drive unit with manual stroke adjustment/motor mounted horizontally
- 2) Multiplex drive unit with manual stroke adjustment/motor mounted horizontally
- 3) Simplex drive unit with manual stroke adjustment/motor mounted vertically
- 4) Simplex drive unit with electric stroke adjustment/motor mounted horizontally