LEWA ecoflow®
Variable eccentric pump drive
Type LDB

- **Drive units**
- **Metering pumps**

Performance

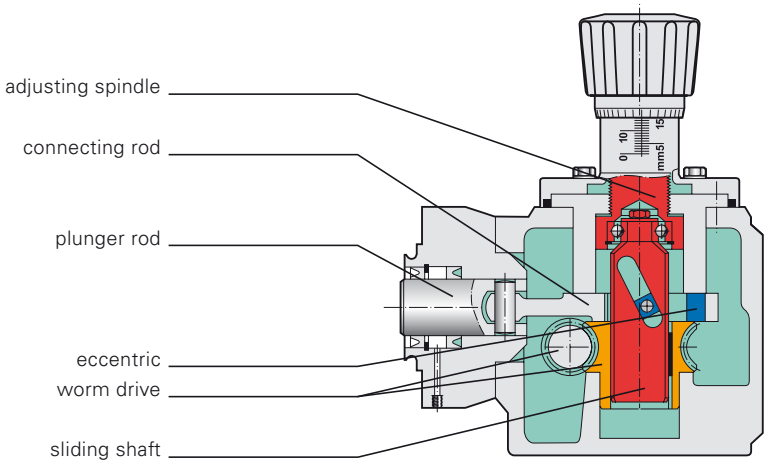
Pressure	up to 700 bar
Flow rate	up to 800 l/h per pump head
Temperature	up to 400° C

Customer advantages

- **Rod thrust:** 2 kN
- **Stroke length:** 15 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 0,05 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:** AC and DC motors, frequency inverter possible
- **Attachable instruments:** contactor

Method of operation

The drive shaft directly turns the **eccentric** via the **worm gear** and the **sliding 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 **sliding shaft**.



Performance data

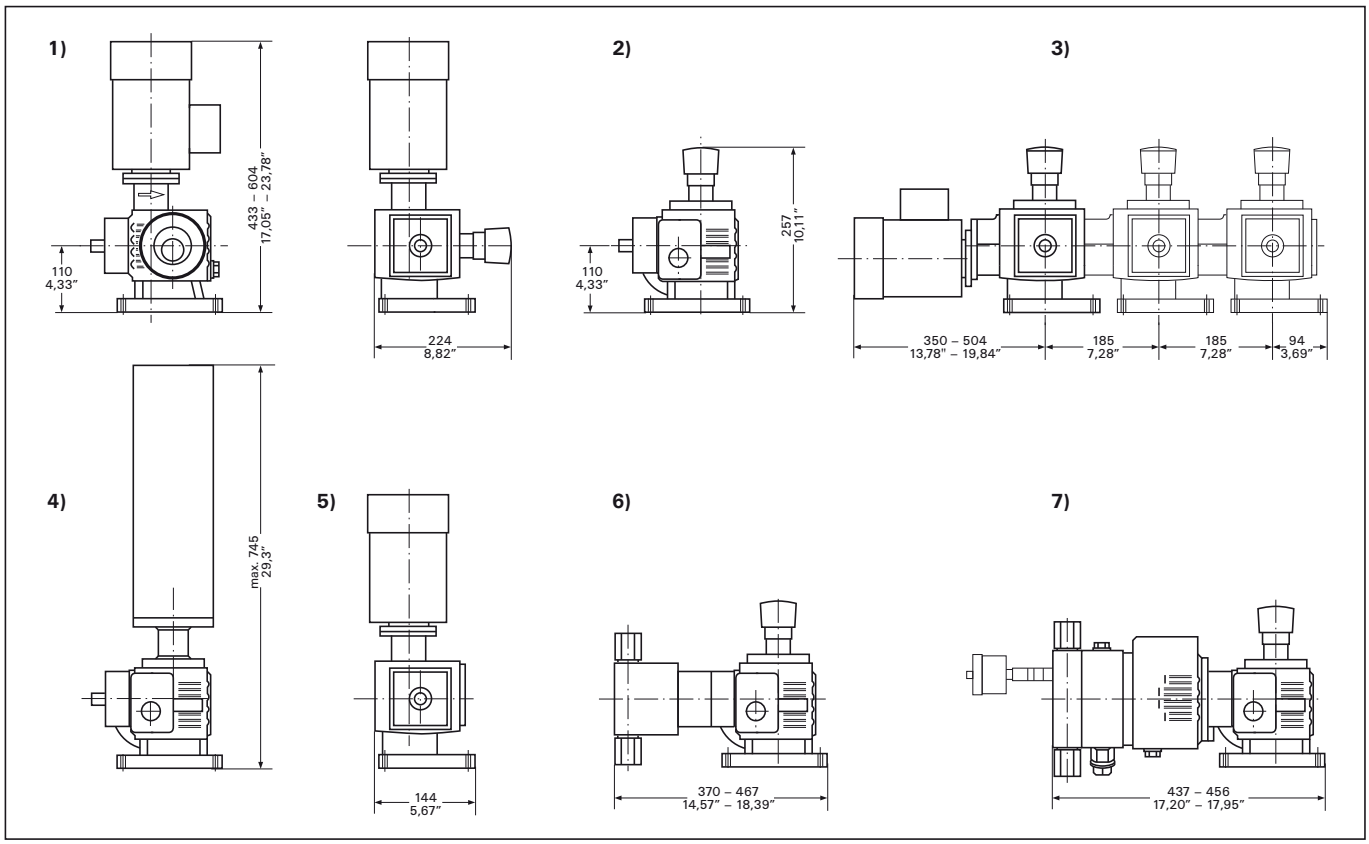
Standard plunger ø [mm]	$Q_{theor.}$ [l/h] [1] Calc. flow rate per pump head at max. stroke length and stroke frequency n [min^{-1}]						Permissible operating pressure of standard pump heads [barg]					
							Type	Diaphragm pump heads			Plunger pump heads	
							Model [3]	M900	M200		K	
	72	80	110	140	165	220	Material [2]	3	2,3		2,3	
3	0,458	0,509	0,700	0,891	1,050	1,400		---	700		160	
5	1,272	1,414	1,944	2,474	2,916	3,888		---	700		500	
8	3,257	3,619	4,976	6,333	7,464	9,95		395	398		398	
10	5,089	5,655	7,775	9,90	11,66	15,55		252	255		255	
12	7,329	8,14	11,20	14,25	16,79	22,39		174	177		177	
14	9,98	11,08	15,24	19,40	22,86	30,48		127,4	---		---	
16	13,03	14,48	19,91	25,33	29,86	39,81		---	99,5		99,5	
17	14,71	16,34	22,47	28,60	33,71	44,94		85,6	---		---	
20	20,36	22,62	31,10	39,58	46,65	62,20		---	63,7		63,7	
21	22,44	24,94	34,29	43,64	51,43	68,6		55,2	---		---	
25	31,81	35,34	48,60	61,85	72,89	97,2		38,2	40,7		40,7	
30	45,80	50,89	69,98	89,1	105,0	140,0		25,8	28,3		28,3	
34	58,83	65,37	89,9	114,4	134,8	179,8		19,5	---		---	
36	65,96	73,3	100,8	128,3	151,2	201,5		---	19,6		19,6	
38	73,49	81,7	112,3	142,9	168,4	224,6		15,1	---		---	
42	89,78	99,8	137,2	174,6	205,7	274,3		11,9	---		---	
44	98,5	109,5	150,5	191,6	225,8	301,1		---	13,2		13,2	
46	107,7	119,7	164,5	209,4	246,8	329,1		9,5	---		---	
52	137,6	152,9	210,2	267,6	315,4	420,5		6,9	---		9,4	
58	171,2	190,2	261,6	332,9	392,3	523,1		5,1	---		---	
60	183,2	203,6	279,9	356,3	419,9	559,8		---	---		7,1	
70	249,4	277,1	381,0	484,9	571,5	762,0		---	---		5,2	

1) $Q_{theor.}$ from stroke volume x stroke frequency. $Q_{eff.}$ (= $Q_{theor.}$ x η_F) 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

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Creating Fluid Solutions