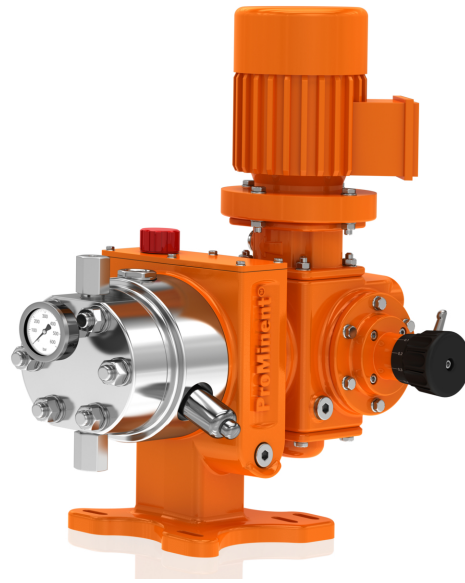


Hydraulic Diaphragm Metering Pump Orlita® Evolution

Maximum process reliability and flexibility.



Capacity range of single head pump: 3 – 7,400 l/h, 400 – 8 bar

The Orlita® Evolution hydraulic diaphragm metering pump range of EF1a, EF2a, EF3a and EF4a form an integrated product range with stroke lengths of 15 to 40 mm. This covers the capacity range of 3 to 7,400 l/h at 400 – 10 bar.

A wide range of drive versions is available, including some with ATEX certification for use in Zone 1 or Zone 2 areas at risk from explosion. The Orlita® Evolution product range is designed to comply with API 675.

Your benefits

Maximum process reliability:

- PTFE multi-layer diaphragm with integral diaphragm rupture warning system
- Integral hydraulic relief valve
- The new diaphragm position control protects against impermissible operating statuses (e.g. no damage in the event of a blockage on the suction or discharge side)
- Metering reproducibility is better than $\pm 1\%$ within the 10-100% stroke length adjustment range under certain defined conditions and with proper installation

- Continuous bleeding of the oil chamber ensures reliable operation

Excellent flexibility:

- The modular and compact construction with single and multiple pump versions permits a wide range of applications. In multiple pump systems up to 5 metering units can be combined, including units with different pump capacities

Field of application

- Oil and gas industry
- Metering of reactants and catalysts in the chemical industry
- Volume-proportional metering of chemicals/additives in the treatment of boiler feed water
- Level-dependent metering of auxiliary agents in industrial production engineering, for instance hot wax metering in the production of adhesive strips

Hydraulic Diaphragm Metering Pump Orlita® Evolution

Maximum process reliability and flexibility.

Technical Data

Technical data for EF1a single head pump 50 Hz SST

Plunger Ø	Theor. stroke volume	Theoretical pump capacity in l/h at strokes/min (50 Hz)							Max. pressure	Efficiency at	Efficiency at	Standard type of valve
		73 [2]	97 [3]	116 [4]	145 [5]	165 [6]	181 [7]	201 [8]				
mm	ml/stroke	l/h	l/h	l/h	l/h	l/h	l/h	l/h	bar	100% pressure	50% pressure	
8	0.80	3.5	4.7	5.6	7.0	8.0	8.7	9.7	400	0.43	0.75	DN 3
10	1.26	5.5	7.3	8.7	10.9	12.4	13.6	15.2	337	0.61	0.79	DN 3
12	1.81	7.9	10.5	12.6	15.7	17.9	19.7	21.8	234	0.77	0.86	DN 6
14	2.46	10.8	14.3	17.1	21.4	24.4	26.7	29.7	172	0.62	0.80	DN 6
17	3.63	15.9	21.1	25.3	31.6	36.0	39.4	43.8	117	0.77	0.88	DN 6
21	5.54	24.3	32.3	38.6	48.2	54.9	60.2	66.8	76	0.85	0.90	DN 10
25	7.85	34.4	45.7	54.7	68.3	77.8	85.3	94.7	54	0.90	0.93	DN 10
29	10.57	46.3	61.5	73.6	91.9	104.6	114.8	127.5	40	0.95	0.96	DN 10
32	12.87	56.4	74.9	89.6	112.0	127.4	139.7	155.2	33	0.89	0.93	DN 16
38	18.15	79.5	105.6	126.3	157.9	179.6	197.1	218.8	23	0.93	0.95	DN 16
44	24.33	106.6	141.6	169.3	211.7	240.9	264.2	293.4	17	0.94	0.96	DN 16
50	31.42	137.6	182.8	218.7	273.3	311.0	341.2	378.9	13	0.95	0.96	DN 16
58	42.27	185.2	246.0	294.2	367.8	418.5	459.1	509.8	10	0.95	0.97	DN 16

Technical data for EF1a single head pump 60 Hz SST

Plunger Ø	Theor. stroke volume	Theoretical pump capacity in l/h at strokes/min (60 Hz)					Max. pressure	Efficiency at	Efficiency at	Standard type of valve
		88 [2]	117 [3]	140 [4]	175 [5]	199 [6]				
mm	ml/stroke	l/h	l/h	l/h	l/h	l/h	bar	100% pressure	50% pressure	
8	0.80	4.2	5.6	6.8	8.4	9.6	400	0.43	0.69	DN 3
10	1.26	6.6	8.8	10.6	13.2	15.0	337	0.61	0.79	DN 3
12	1.81	9.6	12.7	15.2	19.0	21.6	234	0.77	0.86	DN 6
14	2.46	13.0	17.3	20.7	25.9	29.4	172	0.62	0.80	DN 6
17	3.63	19.2	25.5	30.5	38.1	43.4	117	0.77	0.88	DN 6
21	5.54	29.3	38.9	46.6	58.2	66.2	76	0.85	0.90	DN 10
25	7.85	41.5	55.1	66.0	82.5	93.8	54	0.90	0.93	DN 10
29	10.57	55.8	74.2	88.8	111.0	126.2	40	0.95	0.96	DN 10
32	12.87	67.9	90.3	108.1	135.1	153.6	33	0.89	0.93	DN 16
38	18.15	95.8	127.4	152.4	190.5	216.7	23	0.93	0.95	DN 16
44	24.33	128.5	170.8	204.4	255.4	290.5	15	0.94	0.96	DN 16
50	31.42	165.9	220.5	263.9	329.9	375.1	13	0.95	0.96	DN 16
58	42.27	223.2	296.8	355.1	443.9	504.7	10	0.95	0.97	DN 16

Note:

Abridged presentation of our complete product range. Other piston diameters (8–60 mm) on request

Hydraulic Diaphragm Metering Pump Orlita® Evolution

Maximum process reliability and flexibility.

Materials in Contact With the Medium

Dosing head complete

Dosing head	Diaphragm retaining screw	Diaphragm
Stainless steel	Stainless steel 1.4462	PTFE multi-layer diaphragm

Ball valve DN 3 – DN 10

	Suction/ pressure connector	Valve/head seal	Valve ball	Valve seat	Valve housing	Clamp ring
DN 3 (double ball)	Stainless steel 1.4404	Stainless steel 1.4404	Al ₂ O ₃ ceramic	Stainless steel 1.4404	Stainless steel 1.4404	Hastelloy C4
DN 6 (double ball)	Stainless steel 1.4404	Stainless steel 1.4404	SiN ceramic	Stainless steel 1.4404	Stainless steel 1.4404	Hastelloy C4
DN 10 (single ball)	Stainless steel 1.4404	Stainless steel 1.4404	Al ₂ O ₃ ceramic	Stainless steel 1.4404	Stainless steel 1.4404	Hastelloy C4

Plate valve DN 16

	Suction/pressure connector	Valve/head seal	Valve plate	Valve seat	Valve housing
DN 16	Stainless steel 1.4404	Stainless steel 1.4571	Stainless steel 1.4462	Stainless steel 1.4404	Stainless steel 1.4404

Further material versions and details available on request.

Technical data for EF2a single head pump 50 Hz SST

Plunger Ø	Theor. stroke volume	Theoretical pump capacity in l/h at strokes/min (50 Hz)							Max. pressure	Efficiency at	Efficiency at	Standard type of valve
		73 [2]	97 [3]	116 [4]	145 [5]	165 [6]	181 [7]	201 [8]				
mm	ml/stroke	l/h	l/h	l/h	l/h	l/h	l/h	l/h	bar	100% pressure	50% pressure	
12	1.81	7.9	10.5	12.6	15.7	17.9	20.3	21.8	400	0.69	0.82	DN 6
14	2.46	10.8	14.3	17.1	21.4	24.4	27.6	29.7	400	0.35	0.67	DN 6
17	3.63	15.9	21.1	25.3	31.6	36.0	40.7	43.8	274	0.60	0.79	DN 6
21	5.54	24.3	32.3	38.6	48.2	54.9	62.2	66.8	179	0.75	0.85	DN 10
25	7.85	34.4	45.7	54.7	68.3	77.8	88.1	94.7	127	0.83	0.89	DN 10
29	10.57	46.3	61.5	73.6	91.9	104.6	118.6	127.5	94	0.90	0.93	DN 10
32	12.87	56.4	74.9	89.6	112.0	127.4	144.4	155.2	77	0.76	0.87	DN 16
38	18.15	79.5	105.6	126.3	157.9	179.6	203.6	218.8	55	0.87	0.92	DN 16
44	24.33	106.6	141.6	169.3	211.7	240.9	273.0	293.4	41	0.90	0.94	DN 16
50	31.42	137.6	182.8	218.7	273.3	311.0	352.5	378.9	32	0.91	0.95	DN 16
58	42.27	185.2	246.0	294.2	367.8	418.5	474.3	509.8	24	0.93	0.96	DN 16
70	61.58	269.7	358.4	428.6	535.7	609.6	690.9	742.6	16	0.94	0.96	DN 20

Hydraulic Diaphragm Metering Pump Orlita® Evolution

Maximum process reliability and flexibility.

Technical data for EF2a single head pump 60 Hz SST

Plunger Ø mm	Theor. stroke volume ml/stroke	Theoretical pump capacity in l/h at strokes/min (60 Hz)					Max. pressure bar	Efficiency at 100% pressure	Efficiency at 50% pressure	Standard type of valve
		88 [2] l/h	117 [3] l/h	140 [4] l/h	175 [5] l/h	199 [6] l/h				
12	1.81	9.6	12.7	15.2	19.0	21.6	400	0.69	0.82	DN 6
14	2.46	13.0	17.3	20.7	25.9	29.4	400	0.35	0.67	DN 6
17	3.63	19.2	25.5	30.5	38.1	43.4	274	0.60	0.79	DN 6
21	5.54	29.3	38.9	46.6	58.2	66.2	179	0.75	0.85	DN 10
25	7.85	41.5	55.1	66.0	82.5	93.8	127	0.83	0.89	DN 10
29	10.57	55.8	74.2	88.8	111.0	126.2	94	0.90	0.93	DN 10
32	12.87	67.9	90.3	108.1	135.1	153.6	77	0.76	0.87	DN 16
38	18.15	95.8	127.4	152.4	190.5	216.7	55	0.87	0.92	DN 16
44	24.33	128.5	170.8	204.4	255.4	290.5	41	0.90	0.94	DN 16
50	31.42	165.9	220.5	263.9	329.9	375.1	32	0.91	0.95	DN 16
58	42.27	223.2	296.8	355.1	443.9	504.7	24	0.93	0.96	DN 16
70	61.58	325.1	432.3	517.2	646.5	735.2	16	0.94	0.96	DN 20

Note:

Abridged presentation of our complete product range. Other piston diameters (11 – 80 mm) on request.

Materials in Contact With the Medium

Dosing head complete

Dosing head	Diaphragm retaining screw	Diaphragm
Stainless steel 1.4404	Stainless steel 1.4462	PTFE multi-layer diaphragm

Ball valve DN 3 – DN 10

	Suction/ pressure connector	Valve/head seal	Valve ball	Valve seat	Valve housing	Clamp ring
DN 3 (double ball)	Stainless steel 1.4404	Stainless steel 1.4404	Al ₂ O ₃ ceramic	Stainless steel 1.4404	Stainless steel 1.4404	Hastelloy C4
DN 6 (double ball)	Stainless steel 1.4404	Stainless steel 1.4404	SiN ceramic	Stainless steel 1.4404	Stainless steel 1.4404	Hastelloy C4
DN 10 (double ball)	Stainless steel 1.4404	Stainless steel 1.4404	Al ₂ O ₃ ceramic	Stainless steel 1.4404	Stainless steel 1.4404	Hastelloy C4

Plate valve DN 16 – DN 20

	Suction/pressure connector	Valve/head seal	Valve plate	Valve seat	Valve housing
DN 16/DN 20	Stainless steel 1.4404	Stainless steel 1.4571	Stainless steel 1.4462	Stainless steel 1.4404	Stainless steel 1.4404

Further material versions and details available on request.

Hydraulic Diaphragm Metering Pump Orlita® Evolution

Maximum process reliability and flexibility.

Technical data for EF3a single head pump 50 Hz SST

Plunger Ø	Theor. stroke volume	Theoretical pump capacity in l/h at strokes/min (50 Hz)							Max. pressure	Efficiency at	Efficiency at	Standard type of valve
		73 [2]	97 [3]	116 [4]	145 [5]	165 [6]	181 [7]	201 [8]				
mm	ml/stroke	l/h	l/h	l/h	l/h	l/h	l/h	l/h	bar	100% pressure	50% pressure	
17	5.67		33	39	49	56	61	68	397	0.72	0.77	DN 6
17	5.67	24							397	0.72	0.80	DN 6
22	9.50	41	55	66	82	94	103	114	237	0.87	0.93	DN 6
25	12.27	53	71	85	106	121	133	148	183	0.83	0.85	DN 10
30	17.67	77	102	123	153	174	191	213	127	0.92	0.95	DN 10
34	22.70	99	132	158	197	224	246	273	99	0.90	0.94	DN 16
38	28.35	124	165	197	246	280	307	341	79	0.93	0.95	DN 16
44	38.01	166	221	264	330	376	412	458	59	0.95	0.97	DN 20
50	49.09	215	285	341	427	486	533	592	46	0.97	0.98	DN 20
58	66.05	289	384	459	574	653	717	796	34	0.98	0.99	DN 20
63	77.93	341	453	542	678	771	846	939	29	0.97	0.98	DN 25
70	96.21	421	559	669	837	952	1,044	1,160	23	0.97	0.98	DN 25
75	110.45	483	642	768	960	1,093	1,199	1,332	20	0.98	0.98	DN 25
100	196.35	860	1,142	1,366	1,708	1,943	2,132	2,368	11	0.99	0.98	DN 40

Technical data for EF3a single head pump 60 Hz SST

Plunger Ø	Theor. stroke volume	Theoretical pump capacity in l/h at strokes/min (60 Hz)					Max. pressure	Efficiency at	Efficiency at	Standard type of valve
		88 [2]	117 [3]	140 [4]	175 [5]	199 [6]				
mm	ml/stroke	l/h	l/h	l/h	l/h	l/h	bar	100% pressure	50% pressure	
17	5.67	30	39	47	59	67	397	0.72	0.77	DN 6
22	9.50	50	66	79	99	113	237	0.83	0.85	DN 6
25	12.27	64	86	103	128	146	183	0.83	0.85	DN 10
30	17.67	93	124	148	185	211	127	0.87	0.89	DN 10
34	22.70	119	159	190	238	271	99	0.88	0.89	DN 16
38	28.35	149	199	238	297	338	79	0.89	0.90	DN 16
44	38.01	200					59	0.90	0.91	DN 20
44	38.01		266	319	399	453	59	9.00	0.91	DN 20
50	49.09	259	344	412	515	586	46	0.91	0.91	DN 20
58	66.05	348	463	554	693	788	34	0.92	0.92	DN 20
63	77.93	411	547	654	818	930	29	0.92	0.93	DN 25
70	96.21	508	675	808	1,010	1,148	23	0.93	0.94	DN 25
75	110.45	583	775	927	1,159	1,318	20	0.94	0.95	DN 25
100	196.35	1,036	1,378	1,649	2,061	2,344	11	0.96	0.96	DN 40

Note:

Abridged presentation of our complete product range. Additional plunger diameters (14-100 mm) on request.

Hydraulic Diaphragm Metering Pump Orlita® Evolution

Maximum process reliability and flexibility.

Materials in Contact With the Medium

Dosing head complete

Dosing head	Diaphragm retaining screw	Diaphragm
Stainless steel 1.4404	Stainless steel 1.4462	PTFE multi-layer diaphragm

Ball valve DN 6 – DN 10

	Suction/ pressure connector	Valve/head seal	Valve ball	Valve seat	Valve housing	Clamp ring
DN 6 (double ball)	Stainless steel 1.4404	Stainless steel 1.4404	SIN ceramic	Stainless steel 1.4404	Stainless steel 1.4404	Hastelloy C4
DN 10 (single ball)	Stainless steel 1.4404	Stainless steel 1.4404	Al ₂ O ₃ ceramic	Stainless steel 1.4404	Stainless steel 1.4404	Hastelloy C4

Plate valve DN 16 – DN 25

	Suction/pressure connector	Valve/head seal	Valve plate	Valve seat	Valve housing
DN 16/DN 25	Stainless steel 1.4404	Stainless steel 1.4571	Stainless steel 1.4462	Stainless steel 1.4404	Stainless steel 1.4404

Further material versions and details available on request.

Technical data for EF4a single head pump 50 Hz SST

Plunger Ø	Theor. stroke volume	Theoretical pump capacity in l/h at strokes/min (50 Hz)							Max. pressure	Efficiency at	Efficiency at	Standard type of valve
		73 [2]	97 [3]	116 [4]	145 [5]	165 [6]	181 [7]	201 [8]				
mm	ml/stroke	l/h	l/h	l/h	l/h	l/h	l/h	l/h	bar	100% pressure	50% pressure	
22	15.21	66	88	105	132	150	165	183	400	0.64	0.67	DN 16
25	19.63	86	114	136	170	194	213	236	368	0.67	0.74	DN 16
30	28.27	123	164	196	246	279	307	341	255	0.70	0.76	DN 16
34	36.32	159	211	252	316	359	394	438	199	0.81	0.84	DN 16
38	45.36	198	264	315	394	449	492	547	159	0.82	0.84	DN 20
44	60.82	266	354	423	529	602	660	733	119	0.87	0.88	DN 20
50	78.54	344	457	546	683	777	852	947	92	0.90	0.92	DN 25
60	113.10	495	658	787	983	1,119	1,228	1,364	64	0.91	0.93	DN 32
70	153.94	674	895	1,071	1,339	1,524	1,671	1,856	47	0.91	0.93	DN 40
75	176.71	774	1,028	1,229	1,537	1,749	1,919	2,131	41	0.91	0.93	DN 40
86	232.35	1,017	1,352	1,617	2,021	2,300	2,523	2,802	31	0.93	0.94	DN 50
90	254.47	1,114	1,481	1,771	2,213	2,519	2,763	3,068	28	0.93	0.94	DN 50
100	314.16	1,376	1,828	2,186	2,733	3,110	3,411	3,788	23	0.94	0.94	DN 50
110	380.13	1,665	2,212	2,645	3,307	3,763	4,128	4,584	19	0.95	0.95	DN 50
115	415.48	1,819	2,418	2,891	3,614	4,113	4,512	5,010	17	0.93	0.95	DN 65
130	530.93	2,325	3,090	3,695	4,619	5,256	5,765	6,403	14	0.94	0.95	DN 65
140	615.75	2,697	3,583	4,285	5,357	6,095	6,687	7,426	12	0.95	0.96	DN 65

Hydraulic Diaphragm Metering Pump Orlita® Evolution

Maximum process reliability and flexibility.

Technical data for EF4a single head pump 60 Hz SST

Plunger Ø	Theor. stroke volume	Theoretical pump capacity in l/h at strokes/min (60 Hz)					Max. pressure	Efficiency at	Efficiency at	Standard type of valve
		88 [2]	117 [3]	140 [4]	175 [5]	199 [6]				
mm	ml/stroke	l/h	l/h	l/h	l/h	l/h	bar	100% pressure	50% pressure	
22	15.21	80	106	127	159	181	400	0.67	0.81	DN 16
25	19.63	103	137	164	206	234	368	0.74	0.85	DN 16
30	28.27	149	198	237	269	337	255	0.76	0.85	DN 16
34	36.32	191	254	305	381	433	199	0.84	0.87	DN 16
38	45.36	239	318	381	476	541	159	0.84	0.90	DN 20
44	60.82	321	427	510	638	726	119	0.88	0.87	DN 20
50	78.54	414	551	659	824	937	92	0.92	0.90	DN 25
60	113.10	597	793	950	1,187	1,350	64	0.93	0.91	DN 32
70	153.94	812	1,080	1,293	1,616	1,838	47	0.93	0.91	DN 40
75	176.71	933	1,240	1,484	1,855	2,110	41	0.93	0.91	DN 40
86	232.35	1,226	1,631	1,951	2,439	2,774	31	0.94	0.93	DN 50
90	254.47	1,343	1,786	2,137	2,671	3,038	28	0.94	0.93	DN 50
100	314.16	1,658	2,205	2,638	3,298	3,751	23	0.94	0.94	DN 50
110	380.13	2,007	2,668	3,193	3,991	4,538	19	0.95	0.95	DN 50
115	415.48	2,193	2,916	3,490	4,362	4,960	17	0.95	0.93	DN 65
130	530.93	2,803	3,727	4,459	5,574	6,339	14	0.95	0.94	DN 65
140	615.75	3,251	4,322	5,172	6,465	7,352	12	0.96	0.96	DN 65

Note:

Abridged presentation of our complete product range. Additional plunger diameters (22 – 140 mm) on request.

Materials in Contact With the Medium

Dosing head complete

Dosing head	Diaphragm retaining screw	Diaphragm
Stainless steel 1.4404	Stainless steel 1.4462	PTFE multi-layer diaphragm

Plate valve

	Suction/ pressure connector	Valve/ head seal	Valve plate	Valve seat	Valve housing
DN 16 – DN 65	Stainless steel 1.4404	Stainless steel 1.4571	Stainless steel 1.4462	Stainless steel 1.4404	Stainless steel 1.4404

Further material versions and details available on request.

Hydraulic Diaphragm Metering Pump Orlita® Evolution

Maximum process reliability and flexibility.

Technical data for EF1a single head pump 50 Hz PVC/PVDF

Plunger Ø	Theor. stroke volume	Theoretical pump capacity in l/h at strokes/min (50 Hz)							Max. pressure	Efficiency at	Efficiency at	Standard type of valve
		73 [2]	97 [3]	116 [4]	145 [5]	165 [6]	181 [7]	201 [8]				
mm	ml/stroke	l/h	l/h	l/h	l/h	l/h	l/h	l/h	bar	100% pressure	50% pressure	
8	0.80	3.5	4.7	5.6	7.0	8.0	8.7	9.7	16	0.67	0.77	DN 3
10	1.26	5.5	7.3	8.7	10.9	12.4	13.6	15.2	16	0.73	0.82	DN 3
12	1.81	7.9	10.5	12.6	15.7	17.9	19.7	21.8	16	0.71	0.77	DN 6
21	5.54	24.3	32.3	38.6	48.2	54.9	60.2	66.8	16	0.78	0.85	DN 10
25	7.85	34.4	45.7	54.7	68.3	77.8	85.3	94.7	16	0.81	0.87	DN 10
29	10.57	46.3	61.5	73.6	91.9	104.6	114.8	127.5	16	0.84	0.89	DN 10
44	24.33	106.6	141.6	169.3	211.7	240.9	264.2	293.4	15	0.94	0.96	DN 16
50	31.42	137.6	182.8	218.7	273.3	311.0	341.2	378.9	12	0.95	0.96	DN 16
58	42.27	185.2	246.0	294.2	367.8	418.5	459.1	509.8	9	0.95	0.96	DN 16

Technical data for EF1a single head pump 60 Hz PVC/PVDF

Plunger Ø	Theor. stroke volume	Theoretical pump capacity in l/h at strokes/min (60 Hz)					Max. pressure	Efficiency at	Efficiency at	Standard type of valve
		88 [2]	117 [3]	140 [4]	175 [5]	199 [6]				
mm	ml/stroke	l/h	l/h	l/h	l/h	l/h	bar	100% pressure	50% pressure	
8	0.80	4.2	5.6	6.8	8.4	9.6	16	0.67	0.77	DN 3
10	1.26	6.6	8.8	10.6	13.2	15.0	16	0.73	0.82	DN 3
12	1.81	9.6	12.7	15.2	19.0	21.6	16	0.71	0.77	DN 6
21	5.54	29.3	38.9	46.6	58.2	66.2	16	0.78	0.85	DN 10
25	7.85	41.5	55.1	66.0	82.5	93.8	16	0.81	0.87	DN 10
29	10.57	55.8	74.2	88.8	111.0	126.2	16	0.84	0.89	DN 10
44	24.33	128.5	170.8	204.4	255.4	290.5	15	0.94	0.96	DN 16
50	31.42	165.9	220.5	263.9	329.9	375.1	12	0.95	0.96	DN 16
58	42.27	223.2	296.8	355.1	443.9	504.7	9	0.95	0.96	DN 16

Note:

Abridged presentation of our complete product range. Other plunger diameters (8 - 60 mm) on request. Other pressures (e.g. 21 bar) on request.

Hydraulic Diaphragm Metering Pump Orlita® Evolution

Maximum process reliability and flexibility.

Materials in Contact With the Medium

Dosing head complete

Dosing head	Diaphragm retaining screw	Diaphragm
PVC	Hastelloy C	PTFE
PVDF	Hastelloy C	PTFE

Ball valve DN 6 – DN 10

	Suction/ pressure connector	Valve/head seal	Valve ball	Valve seat	Valve housing	Clamp ring
DN 6 (single ball)	PVDF	PTFE moulded composite	Al ₂ O ₃ ceramic	PTFE	PVDF	PVDF
DN 10 (single ball)	PVDF	PTFE moulded composite	Al ₂ O ₃ ceramic	PTFE	PVDF	PVDF

Plate valve DN 16

	Suction/ pressure connector	Valve/head seal	Valve ball	Valve seat	Valve housing
DN 16	PVDF	PTFE	ZrO ₂ ceramic	PTFE	PVDF

Further material versions and details available on request.

Technical data for EF2a single head pump 50 Hz PVC/PVDF

Plunger Ø	Theor. stroke volume	Theoretical pump capacity in l/h at strokes/min (50 Hz)							Max. pressure	Efficiency at	Efficiency at	Standard type of valve
		73 [2]	97 [3]	116 [4]	145 [5]	165 [6]	181 [7]	201 [8]				
mm	ml/stroke	l/h	l/h	l/h	l/h	l/h	l/h	l/h	bar	100% pressure	50% pressure	
12	1.81	7	10	12	15	17	19	21	16	0.71	0.77	DN 6
21	5.54	24	32	38	48	54	60	66	16	0.78	0.85	DN 10
25	7.85	34	45	54	68	77	85	94	16	0.81	0.87	DN 10
29	10.57	46	61	73	91	104	114	127	16	0.84	0.89	DN 10
44	24.33	106	141	169	211	240	264	293	16	0.94	0.96	DN 16
50	31.42	137	182	218	273	311	341	378	16	0.95	0.96	DN 16
58	42.27	185	246	294	367	418	459	509	16	0.95	0.96	DN 16

Hydraulic Diaphragm Metering Pump Orlita® Evolution

Maximum process reliability and flexibility.

Technical data for EF2a single head pump 60 Hz PVC/PVDF

Plunger Ø	Theor. stroke volume	Theoretical pump capacity in l/h at strokes/min (60 Hz)					Max. pressure	Efficiency at	Efficiency at	Standard type of valve
		88 [2]	117 [3]	140 [4]	175 [5]	199 [6]				
mm	ml/stroke	l/h	l/h	l/h	l/h	l/h	bar	100% pressure	50% pressure	
12	1.81	9	12	15	19	21	16	0.71	0.77	DN 6
21	5.54	29	38	46	58	66	16	0.78	0.85	DN 10
25	7.85	41	55	66	82	93	16	0.81	0.87	DN 10
29	10.57	55	74	88	111	126	16	0.84	0.89	DN 10
44	24.33	128	170	204	255	290	16	0.94	0.96	DN 16
50	31.42	165	220	263	329	375	16	0.95	0.96	DN 16
58	42.27	223	296	355	433	504	16	0.95	0.96	DN 16

Note:

Abridged presentation of our complete product range. Other piston diameters on request. Other pressure stages (e.g. 21 bar) on request.

Materials in Contact With the Medium

Dosing head complete

Dosing head	Diaphragm retaining screw	Diaphragm
PVC	Hastelloy C	PTFE
PVDF	Hastelloy C	PTFE

Ball valve DN 6 – DN 10

	Suction/ pressure connector	Valve/head seal	Valve ball	Valve seat	Valve housing	Clamp ring
DN 6 (single ball)	PVDF	PTFE moulded composite	Al ₂ O ₃ ceramic	PTFE	PVDF	PVDF
DN 10 (single ball)	PVDF	PTFE moulded composite	Al ₂ O ₃ ceramic	PTFE	PVDF	PVDF

Plate valve DN 16

	Suction/ pressure connector	Valve/head seal	Valve plate	Valve seat	Valve housing
DN 16	PVDF	PTFE	ZrO ₂ ceramic	PTFE	PVDF

Further material versions and details available on request.

Hydraulic Diaphragm Metering Pump Orlita® Evolution

Maximum process reliability and flexibility.

Technical data for EF3a single head pump 50 Hz PVC/PVDF

Plunger Ø	Theor. stroke volume	Theoretical pump capacity in l/h at strokes/min (50 Hz)							Max. pressure	Efficiency at	Efficiency at	Standard type of valve
		73 [2]	97 [3]	116 [4]	145 [5]	165 [6]	181 [7]	201 [8]				
mm	ml/stroke	l/h	l/h	l/h	l/h	l/h	l/h	l/h	bar	100% pressure	50% pressure	
63	77.93	341	453	542	678	771	846	939	16	0.92	0.93	DN 32
70	96.21	421	559	669	837	952	1,044	1,160	16	0.93	0.96	DN 50
75	110.45	483	642	768	960	1,096	1,199	1,332	16	0.94	0.94	DN 32
100	196.35	860	1,142	1,366	1,708	1,943	2,132	2,368	11	0.96	0.96	DN 50

Technical data for EF3a single head pump 60 Hz PVC/PVDF

Plunger Ø	Theor. stroke volume	Theoretical pump capacity in l/h at strokes/min (60 Hz)					Max. pressure	Efficiency at	Efficiency at	Standard type of valve
		88 [2]	117 [3]	140 [4]	175 [5]	199 [6]				
mm	ml/stroke	l/h	l/h	l/h	l/h	l/h	bar	100% pressure	50% pressure	
63	77.93	411	547	654	818	930	16	0.92	0.93	DN 32
70	96.21	508	675	802	1,010	1,148	16	0.93	0.94	DN 32
75	110.45	583	775	927	1,159	1,318	16	0.94	0.95	DN 32
100	196.35	1,036	1,378	1,649	2,061	2,344	11	0.99	0.99	DN 50

Note:

Abridged presentation of our complete product range. Other piston diameters on request. Other pressure stages (e.g. 16 bar) on request.

Materials in Contact With the Medium

Dosing head complete

Dosing head	Diaphragm retaining screw	Diaphragm
PVC	Hastelloy C	PTFE
PVDF	Hastelloy C	PTFE

Plate valve

	Suction/ pressure connector	Valve/head seal	Valve plate	Valve seat	Valve housing
DN 25	PVDF	PTFE	ZrO ₂ ceramic	PTFE	PVDF

Further material versions and details available on request.

Hydraulic Diaphragm Metering Pump Orlita® Evolution

Maximum process reliability and flexibility.

Technical data for EF4a single head pump 50 Hz PVC/PVDF

Plunger Ø	Theor. stroke volume	Theoretical pump capacity in l/h at strokes/min (50 Hz)							Max. pressure	Efficiency at	Efficiency at	Standard type of valve
		73 [2]	97 [3]	116 [4]	145 [5]	165 [6]	181 [7]	201 [8]				
mm	ml/stroke	l/h	l/h	l/h	l/h	l/h	l/h	l/h	bar	100% pressure	50% pressure	
70	153.90	674	895	1,071	1,339	1,524	1,671	1,856	10	0.84	0.85	DN 50
75	176.70	774	1,028	1,229	1,537	1,749	1,919	2,131	10	0.85	0.86	DN 50
115	415.50	1,819	2,418	2,891	3,614	4,113	4,512	5,010	10	0.90	0.91	DN 50
140	530.90	2,697	3,583	4,285	5,357	6,095	6,687	7,426	10	0.93	0.94	DN 65
130	530.90	2,325	3,090	3,695	4,619	5,253	5,765	6,403	10	0.93	0.93	DN 65

Technical data for EF4a single head pump 60 Hz PVC/PVDF

Plunger Ø	Theor. stroke volume	Theoretical pump capacity in l/h at strokes/min (60 Hz)					Max. pressure	Efficiency at	Efficiency at	Standard type of valve
		88 [2]	117 [3]	140 [4]	175 [5]	199 [6]				
mm	ml/stroke	l/h	l/h	l/h	l/h	l/h	bar	100% pressure	50% pressure	
70	153.90	812	1,080	1,293	1,616	1,838	10	0.84	0.85	DN 50
75	176.70	933	1,240	1,484	1,855	2,110	10	0.86	0.86	DN 50
115	415.50	2,193	2,916	3,490	4,362	4,960	10	0.90	0.91	DN 50
140	530.90	2,803	3,727	4,459	5,574	6,339	10	0.92	0.93	DN 65
130	530.90	2,803	3,727	4,459	5,574	6,339	10	0.92	0.93	DN 65

Note:

Abridged presentation of our complete product range. Other piston diameters on request. Other pressure stages (16 and/or 21 bar) on request.

Hydraulic Diaphragm Metering Pump Orlita® Evolution

Maximum process reliability and flexibility.

Materials in Contact With the Medium

Dosing head complete

Dosing head	Diaphragm retaining screw	Diaphragm
PVC	Hastelloy C	PTFE
PVDF	Hastelloy C	PTFE

Ball valve DN 3 – DN 10

	Suction/ pressure connector	Valve/head seal	Valve ball	Valve seat	Valve housing	Clamp ring
DN 25 (single ball)	PVDF	PTFE moulded composite	Al ₂ O ₃ ceramic	PTFE	PVDF	PVDF

Plate valve

	Suction/ pressure connector	Valve/head seal	Valve plate	Valve seat	Valve housing
DN 40 – DN 65	PVDF	PTFE	ZrO ₂ ceramic	PTFE	PVDF

Further material versions and details available on request.