

Orlita[®] Mf Series

High Accuracy Metering

The ProMinent[®] Orlita[®] Mf is a hydraulically-actuated metering pump capable of reaching flows up to **2,200 gph (8,325 l/h)** per head and pressures up to **11,350 psi (783 bar)**. A double PTFE diaphragm seals the liquid end from the hydraulic chamber while a unique cone valve design in the suction and discharge valve guarantees optimum accuracy.

The hydraulic chamber is equipped with internal pressure relief along with an automatic vent valve. These features allow the Mf to operate at high conditions and many different applications.



Applications

- Glycol injection
- Catalyst injection
- Methanol injection
- Molten Sulfur
- LDPE Production
- Drag Reducers

Markets

- Oil & Gas Production
- Refineries
- Chemicals
- Petrochemical
- Environmental
- Water treatment

Features & Benefits

- In Accordance with API 675
- Accuracy +/- 0.5%
- Multiplexing Available
- Flow rates to 2,200 gph per head
- Temperatures from -40 to 300°F (-40 to 150°C)
- Unique cone valves
- PTFE double diaphragm
- Diaphragm rupture control
- Operating Pressures to 11,350 psi
- Special connections as requested
- Heating or Cooling jackets

Capacity data

MfS 18 - 60Hz

Plunger ø mm	Stroke Volume cm ³ / stroke	Pump capacity Q _{th} in gph per pump head at a stroke rate n in rpm.				Max pressure psig	Efficiency at		Standard type & size of valve	Standard connection Suction/Discharge side		
		88	109	134	174		100% Pressure	50% Pressure		DIN/ISO	ANSI/SME	
7	0.58	0.8	1.0	1.2	1.6	5800	0.50	0.70	Double Ball	DN 3	G1/4 internal	1/4" FNPT
8	0.75	1.0	1.3	1.6	2.1	5045	0.55	0.72	Double Ball	DN 3	G1/4 internal	1/4" FNPT
10	1.18	1.6	2.0	2.5	3.2	3215	0.67	0.79	Cone	DN 6	G3/8 internal	1/4" FNPT
12	1.70	2.3	2.9	3.6	4.7	2230	0.84	0.88	Cone	DN 6	G3/8 internal	1/4" FNPT
16	3.02	4.2	5.2	6.4	8.3	1260	0.86	0.88	Cone	DN 6	G3/8 internal	1/4" FNPT
20	4.71	6.5	8.1	10.0	13.0	795	0.88	0.89	Cone	DN 6	G3/8 internal	1/4" FNPT
22	5.70	7.9	9.8	12.1	15.7	665	0.88	0.89	Cone	DN 10 / DN 6	G3/8 internal	1/2" x 1/4" FNPT
25	7.36	10.1	12.7	15.6	20.3	505	0.89	0.89	Cone	DN 10	G3/8 internal	1/2" FNPT
27	8.59	11.8	14.8	18.2	23.7	435	0.89	0.89	Cone	DN 10	G3/8 internal	1/2" FNPT
30	10.60	14.6	18.3	22.5	29.2	345	0.89	0.89	Cone	DN 10	DN 10 PN 40	1/2" #300RF
36	15.27	21.1	26.3	32.4	42.1	245	0.89	0.89	Cone	DN 16	DN 15 PN 40	3/4" #150RF
40	18.85	26.0	32.5	40.0	52.0	185	0.89	0.89	Cone	DN 16	DN 15 PN 40	3/4" #150RF
44	22.81	31.5	39.3	48.4	62.9	155	0.89	0.90	Cone	DN 16	DN 15 PN 40	3/4" #150RF
50	29.45	40.6	50.8	62.5	81.2	115	0.89	0.90	Cone	DN 16	DN 15 PN 40	3/4" #150RF

MfS 35 - 60Hz

Plunger ø mm	Stroke Volume cm ³ / stroke	Pump capacity Q _{th} in gph per pump head at a stroke rate n in rpm				Max pressure psig	Efficiency at		Standard type & size of valve	Standard connection Suction/Discharge side		
		88	109	134	174		100% Pressure	50% Pressure		DIN/ISO	ANSI/SME	
7	0.77	1.0	1.3	1.6	2.1	5800	0.50	0.70	Double Ball	DN 3	G1/4 internal	1/4" FNPT
8	1.01	1.4	1.7	2.1	2.8	5800	0.50	0.70	Double Ball	DN 3	G1/4 internal	1/4" FNPT
10	1.57	2.2	2.7	3.3	4.3	5800	0.50	0.70	Cone	DN 6	G3/8 internal	1/4" FNPT
12	2.26	3.1	3.9	4.8	6.2	4480	0.79	0.85	Cone	DN 6	G3/8 internal	1/4" FNPT
16	4.02	5.5	6.9	8.5	11.1	2520	0.83	0.86	Cone	DN 6	G3/8 internal	1/4" FNPT
20	6.28	8.7	10.8	13.3	17.3	1605	0.86	0.88	Cone	DN 6	G3/8 internal	1/4" FNPT
22	7.60	10.5	13.1	16.1	21.0	1330	0.86	0.88	Cone	DN 10 / DN 6	G3/8 internal	1/2" x 1/4" FNPT
25	9.82	13.5	16.9	20.8	27.1	1025	0.87	0.88	Cone	DN 10	G3/8 internal	1/2" FNPT
27	11.45	15.8	19.7	24.3	31.6	880	0.87	0.88	Cone	DN 10	G3/8 internal	1/2" FNPT
30	14.14	19.5	24.3	30.0	39.0	710	0.88	0.89	Cone	DN 10	DN 10 PN 40	1/2" #300RF
36	20.36	28.1	35.1	43.2	56.1	490	0.88	0.89	Cone	DN 10	DN 15 PN 40	3/4" #150RF
40	25.13	34.7	43.3	53.3	69.3	390	0.89	0.89	Cone	DN 10	DN 15 PN 40	3/4" #150RF
44	30.41	41.9	52.4	64.5	83.9	330	0.89	0.89	Cone	DN 10	DN 15 PN 40	3/4" #150RF
50	39.27	54.2	67.7	83.3	108.3	245	0.89	0.89	Cone	DN 10	DN 15 PN 40	3/4" #150RF
65	66.37	91.5	114.4	140.9	183.0	145	0.89	0.9	Cone	DN 15 / DN 25	DN 15/25 PN 40	3/4" X 1" #150RF

MfS 80 - 60Hz

Plunger ø mm	Stroke Volume cm ³ / stroke	Pump capacity Q _{th} in gph per pump head at a stroke rate n in rpm				Max pressure psig	Efficiency at		Standard type and size of valve	Standard connection Suction/Discharge side		
		103	118	146	161		100% Pressure	50% Pressure		DIN/ISO	ANSI/SME	
16	4.02	6.6	7.5	9.3	10.3	5800	0.75	0.8	Cone	DN 6	G 3/8	1/4" FNPT
20	6.28	10.3	11.7	14.6	16.0	5800	0.75	0.8	Cone	DN 6	G 3/8	1/4" FNPT
22	7.60	12.5	14.2	17.6	19.4	5220	0.79	0.8	Cone	DN 10 / DN 6	G 3/8	1/2" x 1/4" FNPT
25	9.82	16.1	18.3	22.8	25.1	4130	0.79	0.8	Cone	DN 10	G 3/8	1/2" FNPT
27	11.45	18.8	21.4	26.6	29.3	3535	0.81	0.8	Cone	DN 10	G 3/8	1/2" FNPT
30	14.14	23.2	26.4	32.8	36.1	2870	0.83	0.8	Cone	DN 10	DN 10 PN 250	1/2" 1500RF
36	20.36	33.4	38.0	47.2	52.0	1985	0.85	0.8	Cone	DN 16	DN 15 PN 160	3/4" 1500RF
40	25.13	41.3	46.9	58.3	64.2	1605	0.86	0.8	Cone	DN 16	DN 15 PN 160	3/4" 1500RF
44	30.41	49.9	56.8	70.6	77.7	1420	0.86	0.8	Cone	DN 16	DN 15 PN 100	3/4" 600RF
50	39.27	64.5	73.3	91.1	100.4	1025	0.87	0.8	Cone	DN 16	DN 15 PN 100	3/4" 600RF
65	66.37	109.0	123.9	154.1	169.6	580	0.88	0.8	Cone	DN 16 / DN 25	DN 25 PN 40	1" 300RF
80	100.53	165.1	187.7	233.4	257.0	360	0.89	0.8	Cone	DN 16 / DN 25	DN 25 PN 40	1" 300RF
100	137.06	230.6	263.3	334.7	361.3	245	0.89	0.8	Cone	DN 32	DN 32 PN 40	1 1/2" 150RF
120	226.19	371.6	422.4	525.1	578.2	170	0.89	0.89	Cone	DN 32	DN 32 PN 40	1 1/2" 150RF
140	307.88	505.8	574.9	714.8	787.0	130	0.89	0.9	Cone	DN 40	DN 40 PN 16	1 1/2" 150RF
150	353.43	580.6	660.0	820.6	903.5	100	0.89	0.9	Cone	DN 40	DN 40 PN 16	1 1/2" 150RF

Capacity data

MfS 180 - 60Hz

Plunger ø	Stroke Volume	Pump capacity Q _{th} in gph per pump head at a stroke rate n in rpm				Max pressure	Efficiency at		Standard type and size of valve		Standard connection	
		at a stroke rate n in rpm					100%	50%			Suction/Discharge side	
mm	cm ³ /stroke	86	97	128	161	psig	Pressure	Pressure	DIN/ISO	ANSI/SME		
25	19.63	26.7	30.3	40.0	49.9	5305	0.77	0.83	Cone	DN 16	DN 15 PN 400	3/4" 2500RTJ
30	28.27	38.5	43.6	57.7	71.9	3680	0.81	0.85	Cone	DN 16	DN 15 PN 320	3/4" 1500RF
38	45.36	61.8	70.0	92.5	115.4	2290	0.84	0.87	Cone	DN 16	DN 15 PN 160	1" 1500RF
44	60.82	82.8	93.9	124.1	154.7	1710	0.85	0.87	Cone	DN 25	DN 25 PN 160	1" 1500RF
50	78.54	107.0	121.2	160.2	199.8	1315	0.86	0.88	Cone	DN 25	DN 25 PN 100	1" 600RF
60	113.10	154.0	174.6	230.7	287.8	910	0.87	0.89	Cone	DN 25	DN 25 PN 64	1" 600RF
70	153.94	209.7	237.6	314.0	391.7	665	0.88	0.89	Cone	DN 32	DN 40 PN 64	1 1/2" 600RF
75	176.71	240.7	272.7	360.5	449.6	580	0.88	0.89	Cone	DN 32	DN 40 PN 64	1 1/2" 300RF
90	254.47	346.6	392.5	519.1	647.5	405	0.89	0.89	Cone	DN 40	DN 40 PN 40	1 1/2" 300RF
115	415.48	565.9	641.3	847.6	1057.2	245	0.89	0.89	Cone	DN 65	DN 65 PN 40	2 1/2" 150RF
135	572.56	779.9	883.7	1168.1	1456.9	170	0.89	0.9	Cone	DN 65	DN 65 PN 16	2 1/2" 150RF

MfS 600 - 60Hz

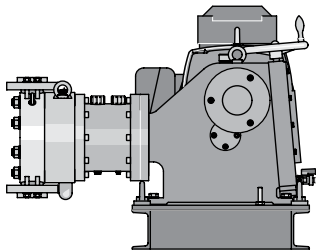
Plunger ø	Stroke Volume	Pump capacity Q _{th} in gph per pump head at a stroke rate n in rpm				Max pressure	Efficiency at		Standard type and size of valve		Standard connection	
		at a stroke rate n in rpm					100%	50%			Suction/Discharge side	
mm	cm ³ /stroke	86	108	140	161	psig	Pressure	Pressure	DIN/ISO	ANSI/SME		
26	20.43	28.0	34.8	45.5	52.0	11350	0.62	0.76	Double Ball	DN 15	by arrangement	to be agreed
30	28.27	38.7	48.2	62.9	72.0	8190	0.69	0.79	Cone	DN 16	by arrangement	to be agreed
36	40.72	55.7	69.4	90.6	103.7	5680	0.76	0.83	Cone	DN 16	DN 15 PN 400	1" 2500RTJ
40	50.27	68.8	85.7	111.9	128.0	4610	0.78	0.84	Cone	DN 16	DN 15 PN 320	1" 2500RTJ
44	60.82	83.3	103.7	135.4	154.9	3810	0.80	0.85	Cone	DN 25	DN 25 PN 320	1" 2500RTJ
46	66.48	91.0	113.4	148.0	169.3	3480	0.81	0.85	Cone	DN 25	DN 25 PN 250	1" 1500RF
50	78.54	107.5	133.9	174.8	200.0	3200	0.83	0.86	Cone	DN 25	DN 25 PN 250	1" 1500RF
55	95.03	130.1	162.1	211.6	242.0	2435	0.84	0.87	Cone	DN 25	DN 25 PN 250	1" 1500RF
65	132.73	181.8	226.4	295.5	338.0	1740	0.85	0.87	Cone	DN 32	DN 40 PN 160	1 1/2" 1500RF
75	176.71	242.0	301.4	393.4	450.0	1305	0.86	0.88	Cone	DN 32	DN 40 PN 100	1 1/2" 600RF
80	201.06	275.3	342.9	447.6	512.1	1145	0.87	0.88	Cone	DN 40	DN 40 PN 100	1 1/2" 600RF
85	226.98	310.9	387.2	505.3	578.1	1015	0.87	0.88	Cone	DN 40	DN 40 PN 100	1 1/2" 600RF
90	254.47	348.5	434.1	566.5	648.1	895	0.87	0.88	Cone	DN 40	DN 40 PN 100	1 1/2" 600RF
115	415.48	569.0	708.7	924.9	1057.2	550	0.88	0.89	Cone	DN 65	DN 65 PN 40	2 1/2" 300RF
125	490.87	672.3	837.3	1092.8	1250.2	460	0.89	0.89	Cone	DN 65	DN 65 PN 40	2 1/2" 300RF
140	615.75	843.3	1050.3	1370.8	1568.2	360	0.89	0.89	Cone	DN 65	DN 65 PN 40	2 1/2" 300RF

MfS 1400 - 60Hz

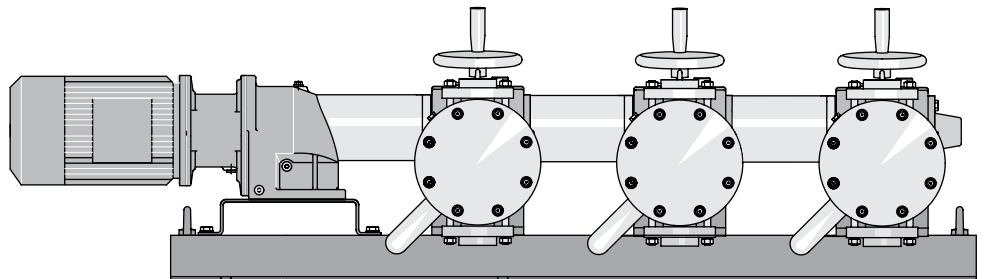
Plunger ø	Stroke Volume	Pump capacity Q _{th} in gph per pump head at a stroke rate n in rpm				Max pressure	Efficiency at		Standard type and size of valve		Standard connection	
		at a stroke rate n in rpm					100%	50%			Suction/Discharge side	
mm	cm ³ /stroke	96	112	127	150	psig	Pressure	Pressure	DIN/ISO	ANSI/SME		
30	42.41	64.2	74.7	85.6	100.9	9135	0.67	0.78	Cone	DN 16	by arrangement	to be agreed
42	83.13	125.9	146.5	167.8	197.8	6305	0.76	0.83	Cone	DN 25	DN 25 PN 400	1" 2500RTJ
46	99.71	151.0	175.7	201.3	237.3	5230	0.77	0.83	Cone	DN 25	DN 25 PN 400	1" 2500RTJ
50	117.81	178.4	207.6	237.9	280.4	4420	0.79	0.84	Cone	DN 25	DN 25 PN 320	1" 2500RTJ
55	142.55	215.9	251.1	287.8	339.2	3625	0.81	0.85	Cone	DN 25	DN 25 PN 250	1" 1500RTJ
60	169.65	257.0	299.0	342.5	403.7	3070	0.82	0.86	Cone	DN 25	DN 25 PN 250	1" 1500RTJ
70	230.91	349.7	407.0	466.2	549.5	2245	0.84	0.87	Cone	DN 40	DN 40 PN 160	1 1/2" 1500RF
80	301.59	456.8	531.5	609.0	717.7	1725	0.85	0.87	Cone	DN 40	DN 40 PN 100	1 1/2" 1500RF
90	381.70	578.2	672.7	770.7	908.4	1360	0.90	0.90	Cone	DN 50	DN 50 PN 100	2" 600RF
100	471.24	713.8	830.5	951.5	1121.5	1100	0.87	0.88	Cone	DN 65	DN 65 PN 100	2 1/2" 600RF
115	623.21	944.0	1098.4	1258.4	1483.1	825	0.88	0.89	Cone	DN 65	DN 65 PN 64	2 1/2" 600RF
140	923.21	1399.0	1627.8	1865.0	2198.1	550	0.88	0.89	Cone	DN 65	DN 65 PN 40	2 1/2" 300RF

Materials in contact with media

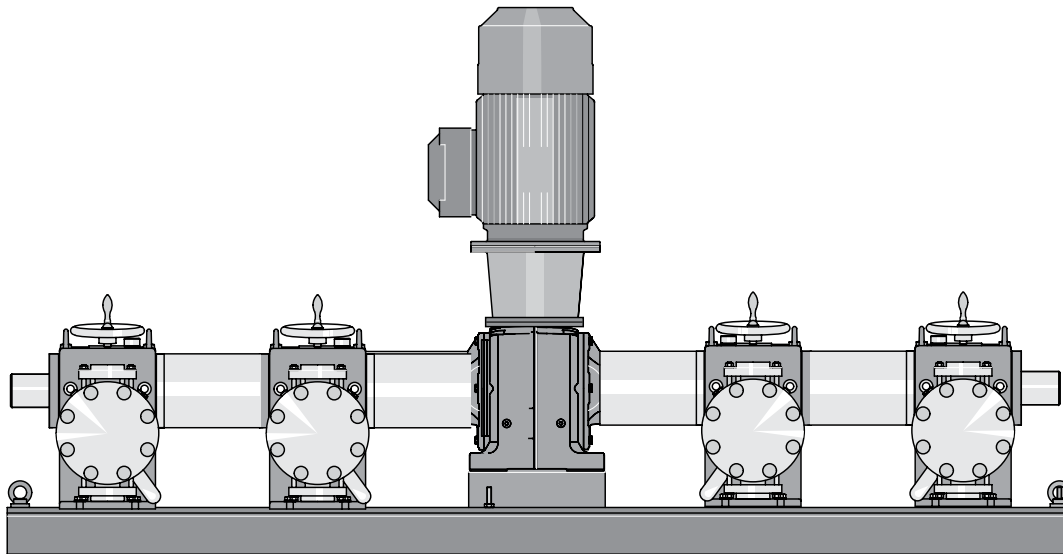
Material Code	Liquid end	Suction/pressure valve housing	Valve Seals	Valve	Valve Seat	Range
S1 (DIN)	1.4404	none	1.4571	Ruby	1.4571	DN 3
S1 (ANSI)	A 316 L	N/A	A 316 Ti	Ruby	A 316 Ti	
S1 (DIN)	1.4404	1.4404	1.4571	1.4462	1.4462	≥ DN6
S1 (ANSI)	A 316 L	A 316 L	A 316 Ti	Duplex SS	Duplex SS	
S2 (DIN)	1.4462	1.4462	1.4571	1.4462	1.4462	≥ DN6
S2 (ANSI)	Duplex SS	Duplex SS	A 316 Ti	Duplex SS	Duplex SS	
S3 (DIN)	1.4539	1.4539	2.461	1.4539	1.4539	≥ DN6
S3 (ANSI)	A904L	A904L	Hastelloy C-4	A904L	A904L	



MFS 600-75



Triplex Metering Pumps



Multiplexed Metering Pumps