

# Standard Gear Pumps (MSDP)

- Signifcant material savings
- Higher product quality
- Reduced scrap
- Regrind running
- Reduced load on extruder

Extrusion line synchronization made easy. With a pump between your extruder and die you can directly dial in gauge control, eliminating extruder surge and screw beat at the die. Extruder screws efficiently melt, mix and convey polymer, but are not as efficient at providing a consistent pressure and volume to the die. A gear pump, while not a mixing or melting device, is extremely efficient at building pressure and metering the polymer output.

The additional control of a Gear Pump installation also provides you with more production line flexibility, first by shortening start-up times on difficult materials and second, by processing multiple polymers with the same screw. The EMPAC Control closes the loop from pump inlet pressure to extruder drive while monitoring downstream pressure to eliminate any problems due to downstream line stoppage.

## Features and Benefits

### Benefits

- Material Savings
- Increased Output
- Increased Extruder Life
- Faster Start Ups
- Lower Processing Temperature
- More Accurate Gauge Control
- Reduced Scrap
- Lower Shear Stress
- Process Recycled Materials
- Fast Paybacks

### Features

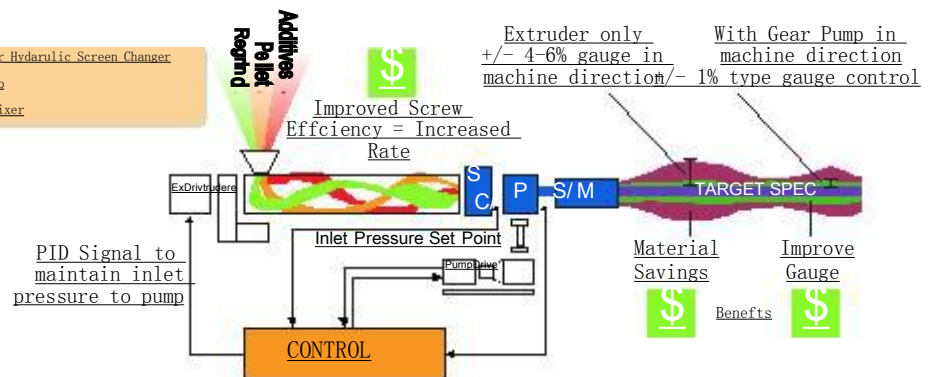
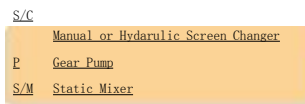
- Sizes available for all Products/Extruders



The Gear Pump is a positive displacement device which provides a linear output over a wide range of operating conditions.

A closed-loop drive control varies extruder screw speed to assure an adequate amount of polymer to the pump regardless of inlet

pressure variations due to extruder surge and screw beat. Precise construction makes Gear Pumps extremely accurate volumetric metering devices. Each gear tooth "bucket" carries a precise, repeatable amount of polymer melt to the output side of the pump.



### Integrate the Systems

Put a Screen Changer in front of the Gear Pump and further increase the productivity of the extrusion line, all from one company. Diverter Valves

### Gear Pump Options

- Adapters
- Controls
- Drive Systems
- Mounting Stands
- Internal Fluid Channels (Heat/Cool)
- Manual Screen Changers
- Hydraulic Screen Changers
- Continuous Screen Changers
- Static Mixers

# Standard Gear Pumps (MSDP)

## Specifications

	Model MSDP 050/006	MSDP 050/012	MSDP 050/025	MSDP 090/020	MSDP 090/039	MSDP 110/022	MSDP 110/043	MSDP 110/078	MSDP 110/110	MSDP 155/080	MSDP 155/155	MSDP 183/183
CC/REV	0.11	0.21	0.43	0.59	1.2	2.1	3.9	7.1	10.1	16.7	33.1	58.0
kg/rpm @ S.G. = 1.0	0.007	0.013	0.026	0.035	0.070	0.123	0.236	0.427	0.604	1.0	2.0	3.5
lb/rpm @ S.G. = 1.0	0.015	0.028	0.057	0.078	0.155	0.272	0.519	0.942	1.3	2.2	4.4	7.7
Thruput/min. 1.0 S.G. @ 5 rpm (kg/hr)	0.03	0.06	0.13	0.18	0.35	0.62	1.2	2.1	3.0	5.0	9.9	17.4
Thruput/min. 1.0 S.G. @ 5 rpm (lb/hr)	0.07	0.14	0.28	0.39	0.77	1.4	2.6	4.7	6.7	11.0	21.9	38.3
Thruput/max. 1.0 S.G. @ 100 rpm (kg/hr)	0.66	1.3	2.6	3.5	7.0	12.3	23.6	42.7	60.4	100.0	198.4	347.5
Thruput/max. 1.0 S.G. @ 100 rpm (lb/hr)	1.5	2.8	5.7	7.8	15.5	27.2	51.9	94.2	133.2	221.0	437.6	766.3
Total kW	0.8	0.8	0.8	0.8	0.8	0.6	0.6	0.68	0.68	1	1.6	1.6
Weight kg	3	3	3	3	3	10	10	10	10	22	22	29
Weight lb	7	7	7	7	7	22	22	22	22	49	48	65

	Model MSDP 240/240	MSDP 275/275	MSDP 300/300	MSDP 350/350	MSDP 430/430	MSDP 550/550	MSDP 600/300	MSDP 600/400	MSDP 600/500	MSDP 700/525	MSDP 880/660
CC/REV	114.7	179.3	282.5	376.7	728	1150	1103	1471	1838	2407	4665
kg/rpm @ S.G. = 1.0	6.9	10.7	16.9	22.6	44	69	66	88	110	144	280
lb/rpm @ S.G. = 1.0	15.2	23.7	37.3	49.8	96	152	146	194	243	318	617
Thruput/min. 1.0 S.G. @ 5 rpm (kg/hr)	34.4	53.7	84.7	112.9	218	344.7	331	441	551	721	1398
Thruput/min. 1.0 S.G. @ 5 rpm (lb/hr)	75.8	118.5	186.7	248.9	481	760	729	972	1215	1591	3083
Thruput/max. 1.0 S.G. @ 100 rpm (kg/hr)	687.3	1074.9	1693.0	2257.5	-	-	-	-	-	-	-
Thruput/max. 1.0 S.G. @ 100 rpm (lb/hr)	1515.6	2370.1	3733.1	4977.9	-	-	-	-	-	-	-
Thruput/max. 1.0 S.G. @ 50 rpm (kg/hr)	-	-	-	-	2181	344.7	3305	4408	5508	7213	13980
Thruput/max. 1.0 S.G. @ 50 rpm (lb/hr)	-	-	-	-	4809	7600	7288	9720	12146	15905	30826
Total kW	3	4	4	4	9	14	16	(consult factory)			
Weight kg	61	85	109	141	317	608	680	737	794	1043	1315
Weight lb	135	188	240	310	700	1340	1500	1625	1750	2300	2900

Maximum Operating Pressure: 345 bar (5,000 psi)

Maximum Differential Pressure: 276 bar (4,000 psi)

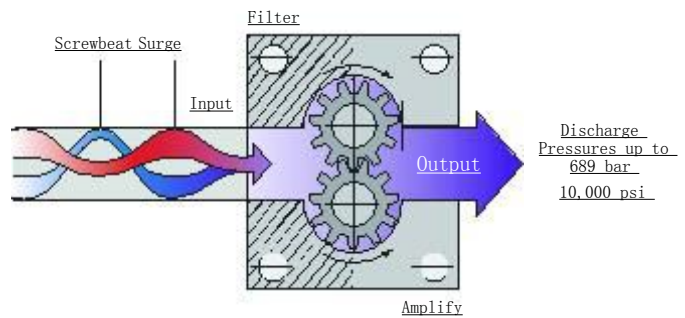
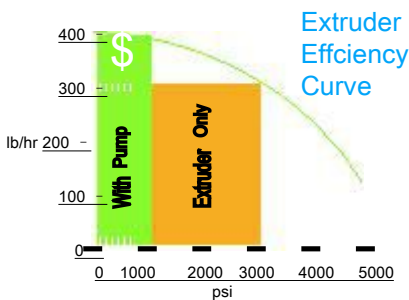
Maximum Temperature: 343°C (650°F)

Transducer Ports: 4 locations in body for 155 size and larger pumps

Note: The MJEP model is an option for both the MSDP and PCP models. The pump body has internal channels to accept a heat/cool fluid media. The MJEP option is utilized for heat sensitive polymers when very accurate temperature regulation is required.

## Accurate Metering = Tighter Product Spec and Material Savings

Gear Pumps operate at a constant speed and precisely meter polymer to die.



## Improve Screw Efficiency and Increase Output

Gear Pumps efficiently build pressure, thereby reducing extruder head pressure. By reducing extruder pressure, a screw can operate more efficiently and can convey more material.