

**HD Series  
Piston Pump  
Specifications**

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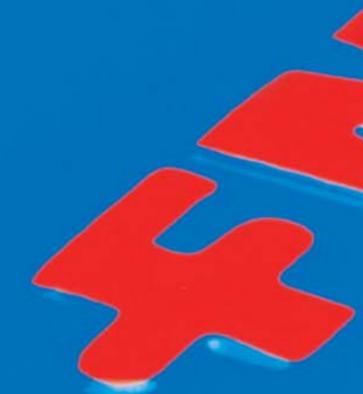
**www.fmc pumps.com**  
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Pump Model	Maximum Flow		Rated Pressure		Maximum Speed rpm	Piston Size Inches	Displacement GAL/REV
	GPM	LPM	psi	bar			
A0410-HD	5.3	20	1,300	90	500	1.25	0.011
A0411-HD	6.4	24	1,100	76	500	1.375	0.013
A0413-HD	9.0	34	800	55	500	1.625	0.018
E0410-HD	14.9	56	1,500	103	700	1.25	0.021
E0411-HD	18.0	68	1,250	86	700	1.375	0.026
E0413-HD	25.1	95	1,000	69	700	1.625	0.036
L0614-HD	28.1	106	2,000	138	600	1.75	0.047
L0618-HD	46.5	176	1,500	103	600	2.25	0.077
L0914-HD	42.2	160	2,200	152	600	1.75	0.070
L0918-HD	69.7	264	1,500	103	600	2.25	0.116
L1118-HD	50.3	190	2,200	152	1,275	2.25	0.039
L1122-HD	75.1	284	1,500	103	1,275	2.75	0.059
L1218-HD	77.5	293	2,200	152	500	2.25	0.155
L1222-HD	115.7	438	1,500	103	500	2.75	0.231
L1618-HD	92	347	2,200	138	1,750	2.25	0.052
L1622-HD	137	519	1,300	90	1,750	2.75	0.078
M1220-HD	96	362	2,000	138	500	2.5	0.191
M1222-HD	116	438	1,700	117	500	2.75	0.231
M1224-HD	138	521	1,400	97	500	3	0.275
M1422-HD	122	460	2,000	138	450	2.75	0.270
M1424-HD	145	547	1,700	117	450	3	0.321
M1426-HD	170	642	1,400	97	450	3.25	0.377
M1428-HD	197	745	1,200	83	450	3.5	0.437
M1430-HD	226	855	1,100	76	450	3.75	0.502
M1432-HD	257	973	1,000	69	450	4	0.571
M1622-HD	131	496	2,000	138	425	2.75	0.309
M1624-HD	156	591	1,700	117	425	3	0.367
M1626-HD	183	693	1,400	97	425	3.25	0.431
M1628-HD	212	804	1,200	83	425	3.5	0.500
M1630-HD	244	923	1,100	76	425	3.75	0.574
M1632-HD	277	1,050	1,000	69	425	4	0.653
M1634-HD	313	1,186	850	59	425	4.25	0.737
M1636-HD	351	1,329	800	55	425	4.5	0.826
M1822-HD	139	525	2,400	165	400	2.75	0.347
M1824-HD	165	625	2,000	138	400	3	0.413
M1826-HD	194	734	1,700	117	400	3.25	0.485
M1828-HD	225	851	1,500	103	400	3.5	0.562
M1830-HD	258	977	1,300	90	400	3.75	0.645
M1832-HD	294	1,112	1,100	76	400	4	0.734
M1834-HD	332	1,255	1,000	69	400	4.25	0.829
M1836-HD	372	1,407	900	62	400	4.5	0.929
Q1622-HD	219	827	2,100	145	425	2.75	0.514
Q1624-HD	260	985	1,800	124	425	3	0.612
Q1626-HD	305	1,156	1,500	103	425	3.25	0.718
Q1628-HD	354	1,340	1,300	90	425	3.5	0.833
Q1630-HD	406	1,538	1,100	76	425	3.75	0.956
Q1632-HD	462	1,750	1,000	69	425	4	1.088
Q1634-HD	522	1,976	900	62	425	4.25	1.225
Q1636-HD	585	2,215	800	55	425	4.5	1.377
Q1822-HD	231	876	2,500	172	400	2.75	0.579
Q1824-HD	275	1,042	2,100	145	400	3	0.688
Q1826-HD	323	1,223	1,800	124	400	3.25	0.808
Q1828-HD	375	1,419	1,600	110	400	3.5	0.937
Q1830-HD	430	1,629	1,400	97	400	3.75	1.076
Q1832-HD	490	1,853	1,200	83	400	4	1.224
Q1834-HD	553	2,092	1,100	76	400	4.25	1.382
Q1836-HD	620	2,345	1,000	69	400	4.5	1.549
M2830-HD	301	1,140	2,490	172	300	3.75	1.004
M2832-HD	343	1,297	2,190	151	300	4	1.142
M2834-HD	387	1,465	1,940	134	300	4.25	1.290
M2836-HD	434	1,642	1,730	119	300	4.5	1.446
M2838-HD	483	1,829	1,550	107	300	4.75	1.611
M2840-HD	536	2,027	1,400	97	300	5	1.785
M2842-HD	590	2,235	1,270	88	300	5.25	1.968
M2844-HD	648	2,453	1,160	80	300	5.5	2.160
M2846-HD	708	2,681	1,060	73	300	5.75	2.361
M2848-HD	771	2,919	970	67	300	6	2.570
M2850-HD	837	3,167	900	62	300	6.25	2.789
M2852-HD	905	3,426	830	57	300	6.5	3.017



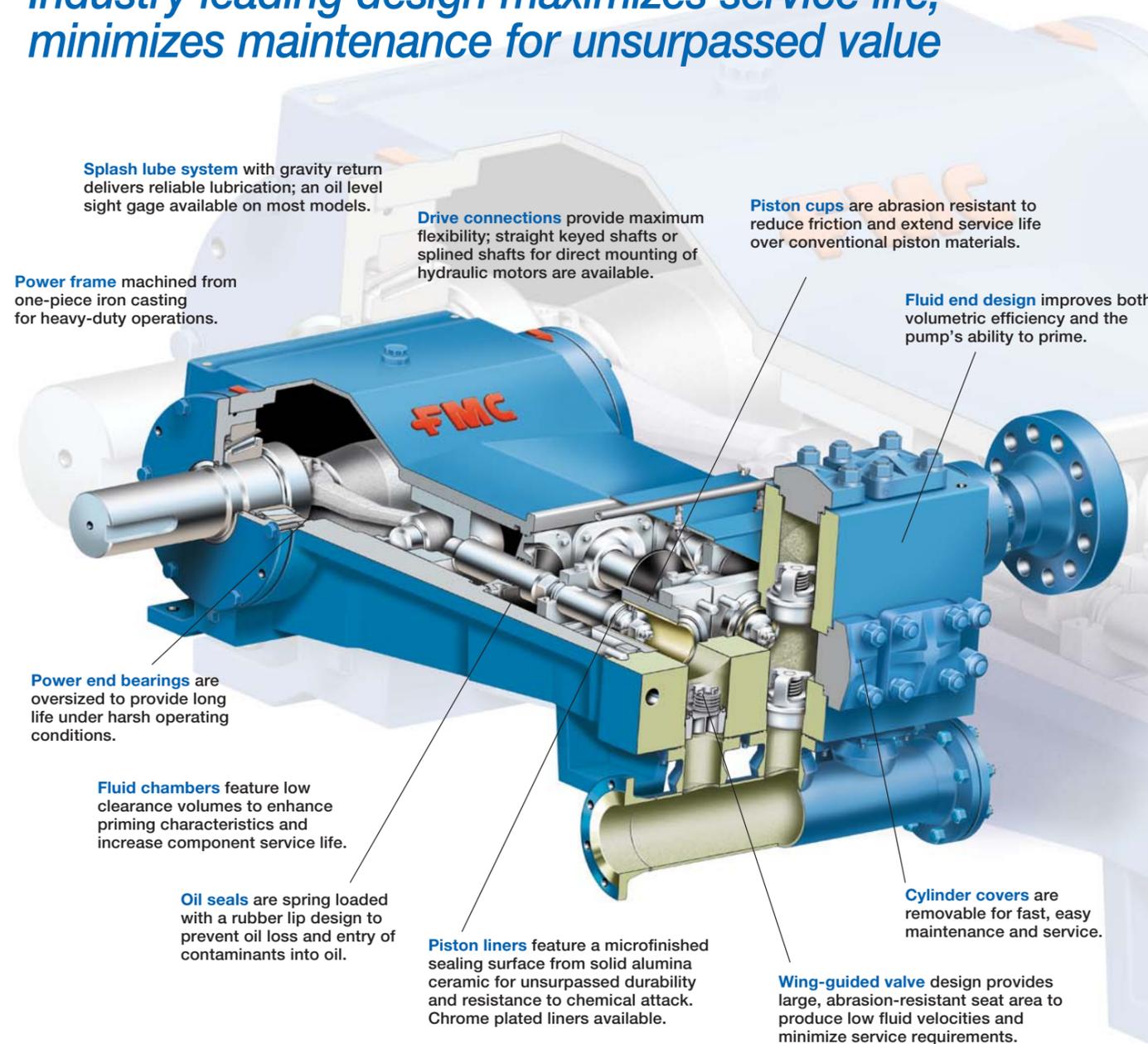
**World Proven HD Series Pumps**

*Reliable solutions for all your directional drilling applications*



# HD Series Pumps...

*Industry leading design maximizes service life, minimizes maintenance for unsurpassed value*



**Splash lube system** with gravity return delivers reliable lubrication; an oil level sight gage available on most models.

**Drive connections** provide maximum flexibility; straight keyed shafts or splined shafts for direct mounting of hydraulic motors are available.

**Piston cups** are abrasion resistant to reduce friction and extend service life over conventional piston materials.

**Fluid end design** improves both volumetric efficiency and the pump's ability to prime.

**Power frame** machined from one-piece iron casting for heavy-duty operations.

**Power end bearings** are oversized to provide long life under harsh operating conditions.

**Fluid chambers** feature low clearance volumes to enhance priming characteristics and increase component service life.

**Oil seals** are spring loaded with a rubber lip design to prevent oil loss and entry of contaminants into oil.

**Piston liners** feature a microfinished sealing surface from solid alumina ceramic for unsurpassed durability and resistance to chemical attack. Chrome plated liners available.

**Wing-guided valve** design provides large, abrasion-resistant seat area to produce low fluid velocities and minimize service requirements.

**Cylinder covers** are removable for fast, easy maintenance and service.

**Model M28-HD Pump**

## FMC Technologies' Bean®

Pumps have been successfully meeting customer demands for performance, endurance, and value since their introduction in 1884. As pioneer and world leader in the development of Piston Pump technology for directional drilling, FMC Technologies has created a line of pumps designed to meet the demanding requirements of the HDD driller. Here are some of the ways HD Series Pumps deliver unsurpassed value to drilling contractors worldwide.

### Models and sizes for all applications

Designed especially for abrasive service applications – including demanding recycled mud operations – HD Pumps are available in the broadest range of capacities and pressures in the industry. Whether your application demands an On-Board or Stand-alone Pump System, there is a HD Pump designed to meet your drilling needs. From 0 to 905 gpm, 0 to 2,500 psi, FMC Technologies stocks proven pumps for your every drilling application. When drilling services call for higher pressures,



FMC Technologies offers a full line of rugged abrasive service plunger pumps.

### Advanced, abrasion-resistant pistons, liners, valves

Drill services and recycling operations are extremely demanding on pump consumables. To insure the longest possible life in severe-service applications, heavy-duty, abrasion-resistant materials are used throughout the HD Pump line. Key material differences between HD Piston Pumps and competitive designs include highly polished alumina-ceramic lined cylinders, proprietary pistons, and hardened carbon-steel abrasion resistant valves. These materials are simply unsurpassed in handling harsh recycled mud.

### Unique design improves performance, extends life

The components of HD Pumps are especially designed to work together, improving performance and extending service life. Large valves with generous flow area decrease flow velocity and cavitation to enhance efficiency and increase the life of the components. The HD Pump's exclusive piston cup design incorporates a unique geometry with a proprietary material for long, leak-tight service in abrasive applications. This proven design puts a very tight squeeze on the ID of the liner, creating a cleaning action that reduces wear on the cylinder and minimizes the amount of residue

that slips behind the piston to significantly extend piston life. The piston works in combination with the ceramic cylinder liners to provide unsurpassed durability.

### Fewer parts, easier maintenance

Piston pumps have fewer parts than plunger pumps, making them inherently easier to maintain. Most HD Pumps have individual, clamped cylinder covers for fast, easy field service. Piston cups can be inspected and replaced without removal of fluid end or piping connections. The bottom line: FMC Technologies' HD Pumps deliver low cost of ownership and high value every time.

### Global customer commitment

HD Pumps are manufactured to precise specifications using advanced materials of construction, specialized machining processes and rigid quality control measures. Every pump is tested prior to shipment to insure that it meets rigorous industry and customer requirements.

As part of its commitment to continuous improvement, FMC Technologies operates the most complete research and development program in the industry. Additionally, FMC Technologies provides custom pumps built to specific customer requirements, comprehensive technical engineering support and global service.