CENTRIFUGAL PUMPS

EMM Slurry Pump



EMW[®] Heavy Duty Slurry Pump

A Legacy of Continuous Innovation

Arthur Redman (A.R.) Wilfley was an inventor and entrepreneur, whose sheer hard work and determination fueled the prosperity of his silver and lead mine near Leadville, Colorado in the late 19th century. Interest in centrifugal pumps arose as he applied ingenuity toward solving the hardships of pumping slurries in his mine, resulting in the first packing-less pump.

Wilfley's first commercially available pump was sold in 1919 and was built around his ingenious concept of utilizing an expeller to generate a dynamic (centrifugal) shaft seal. He continued to perfect the expeller design and received a patent in 1920. The dynamic seal continues to be the unique hallmark of Wilfley pumps.

The Path to Pumps

Wilfley pumps were borne from the needs of a miner and inventor. Bearing our founder's name, the Wilfley Concentrating Table revolutionized the worldwide mining industry and is still manufactured today. Following on the heels of that early invention were a roasting furnace, gravity slime table and the previously described packingless pump that became the cornerstone of A.R. Wilfley and Sons, Inc.

It did not take long for the Company's first slurry pump model to be recognized by mining companies outside of the United States and it was exported for a major project in Chile, South America in November of 1921. From those humble roots, the company quickly grew and expanded to incorporate the dynamic sealing principle within chemical as well as slurry centrifugal pumps.

Today's Solutions

Direct descendants of A.R. Wilfley's original slurry pump are still manufactured today and successfully used throughout the world. In response to customer requests, however, EMW[®] pumps were developed to complement other Wilfley products and represent our latest solution for the slurry pump marketplace.

EMW[®] is organized to be a comprehensive end-suction centrifugal pump product line configured in both hard iron and replaceable elastomer liner designs. Utilizing the most current hydraulic design tools and materials' advancements, EMW[®] delivers best-in-class operational performance and maintenance ease meeting today's most stringent requirements. Consistent with our history, count on Wilfley Pumps to advance further in anticipation of our customers' ever changing needs.



Materials

Materials' development was important to our founder, A.R. Wilfley, and remains a core competency of the A.R. Wilfley and Sons, Inc. business today. In the face of an eighty percent reduction in the number of foundries located in North America, we are committed to actively expanding upon the viability of our low volume-highly flexible foundry in Colorado. To that end, consistent capital investments have been made over the years to improve operational capabilities, efficiency, quality and planning at the foundry. Ownership of a foundry offers us the ability to quickly respond to special customer needs as well as providing a reliable platform for research and development activities with metals. Wilfley scientists and engineers have developed numerous proprietary materials and processes to meet demanding pump application needs with hard iron and alloy steel metallurgies. Prominent among that portfolio are MAXALLOY[®] high-chrome iron materials that are specifically designed to address the needs of slurry pumps. Correspondingly, the standard material of choice for our EMW[®] metal configuration pump is MAXALLOY[®] 5A which provides unparalleled wear and corrosion resistance to meet the most demanding slurry handling needs.

The table below identifies standard materials of construction for major components within EMW[®] pumps. Faithful to our legacy of INNOVATIVE CEN-TRIFUGAL PUMP SOLUTIONS SINCE 1919, we are committed to proactively assessing the optimum choice of materials and will adapt our solution to meet your most challenging slurry handling duties.



Standard Materials of Construction

Configuration		Components													
	Casing	Case Liner	Impeller	Expeller	Shaft	Shaft Sleeve	Stuffing Box	Bearing Frame							
Metal	High Chrome Iron ¹	Integral	High Chrome Iron ¹	High Chrome Iron ¹	4140 Carbon Steel	Hardened 400 Series Stainless Steel ³	Ductile Iron ⁴	Ductile Iron							
Lined	Ductile Iron	Ductile Iron Natural Rubber ² Natural steel insert		High Chrome Iron ¹	4140 Carbon Steel	Hardened 400 Series Stainless Steel ³	Ductile Iron⁴	Ductile Iron							

¹Proprietary material MAXALLOY® 5A

²Contact factory for elastomer alternatives

³Optional material MAXALLOY[®] 5A (high chrome iron)

⁴Optional alloy materials

THE EMW[®] HEAVY DUTY SLURRY PUMP

Power End

(1)

 $(\mathbf{2})$

(3)

 $(\mathbf{4})$

(5)

(6)

(7)

(8)

(9)

10

(11)

(12)

(13)

(14)



(15) (metal wet end)

Adjustable suction cover on sizes 200 and larger to optimize efficiency and minimize wear (not shown)

Designed for Class III and IV services, H.I. Standard 12.1-12.6 (2011)

Seal Options



Packed Box Arrangement

- Grease and liquid lubricated configurations
- Optional gland flushing arrangements to optimize seal water supply and product dilution requirements

Dynamic (Centrifugal) Seal Option - see page 4

- Supplementary expeller generates high head to overcome normal suction conditions
- Extend packing life by restricting the presence of solids at the shaft

Mechanical Seal Arrangement

- Cartridge style mechanical seals to simplify maintenance by negating seal settings
- Generous mechanical seal gland sizes to accept nearly all seal manufacturers' designs
- Single and double configurations to focus on environmental and process needs
- Flushed and non-flushed primary seal arrangements to promote optimized reliability



EMW[®] pump with overhead assembly



Metal Pump Dimensions¹

Size	Suction Flange ²		Discharge Flange ²		СР	D		E		F		L		x		Y		Z	
50M	50	(2.0)	50	(2.0)	684 (27.0)	254	(10.0)	161	(6.4)	197	(7.8)	335	(13.2)	215	(8.5)	114	(4.5)	122	(4.9)
75M	75	(3.0)	75	(3.0)	769 (30.3)	254	(10.0)	161	(6.4)	197	(7.8)	404	(16.0)	209	(8.3)	152	(6.0)	160	(6.3)
100M	100	(4.0)	75	(3.0)	837 (33.0)	254	(10.0)	173	(6.9)	215	(8.5)	457	(18.0)	255	(10.1)	173	(6.9)	172	(6.8)
150M	150	(6.0)	100	(4.0)	1004 (39.6)	335	(13.2)	210	(8.3)	227	(9.0)	553	(21.8)	336	(13.3)	230	(9.1)	242	(9.6)
200M	200	(8.0)	150	(6.0)	1291 (50.9)	457	(18.0)	281	(11.1)	316	(12.5)	687	(27.1)	414	(16.3)	278	(11.0)	315	(12.5)
250M	250	(10.0)	200	(8.0)	1715 (67.6)	610	(24.1)	454	(17.9)	548	(21.6)	793	(31.3)	484	(19.1)	310	(12.3)	378	(14.9)

Lined Pump Dimensions¹

Size	Suction Flange ³		Discharge Flange ³		СР	D		E		F		L		x		Y		z	
50R	50	(2.0)	50	(2.0)	678 <mark>(26.7</mark>)	254	(10.0)	161	(6.4)	197	(7.8)	321	(12.7)	175	(6.9)	90	(3.6)	123	(4.9)
75R	75	(3.0)	75	(3.0)	740 (29.2)	254	(10.0)	161	(6.4)	197	(7.8)	365	(14.4)	215	(8.5)	121	(4.8)	160	(6.3)
100R	100	(4.0)	75	(3.0)	825 (32.5)	254	(10.0)	173	(6.9)	215	(8.5)	435	(17.2)	283	(11.2)	145	(5.8)	175	(6.9)
150R	150	(6.0)	100	(4.0)	976 (38.5)	335	(13.2)	210	(8.3)	227	(9.0)	525	(20.7)	358	(14.1)	178	(7.1)	242	(9.6)
200R	200	(8.0)	150	(6.0)	1232 (48.6)	457	(18.0)	281	(11.1)	316	(12.5)	618	(24.4)	440	(17.4)	221	(8.8)	315	(12.5)
250R	250	(10.0)	200	(8.0)	1663 (65.5)	610	(24.1)	454	(17.9)	548	(21.6)	740	(29.2)	510	(20.1)	263	(10.4)	378	(14.9)

¹Dimensions in millimeters (inches) ²ASME/ANSI & ISO/DIN Flanges available ³ISO/DIN Flanges available Not for construction

VISIT

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TO SEE OUR FULL RANGE OF PUMPING SOLUTIONS



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