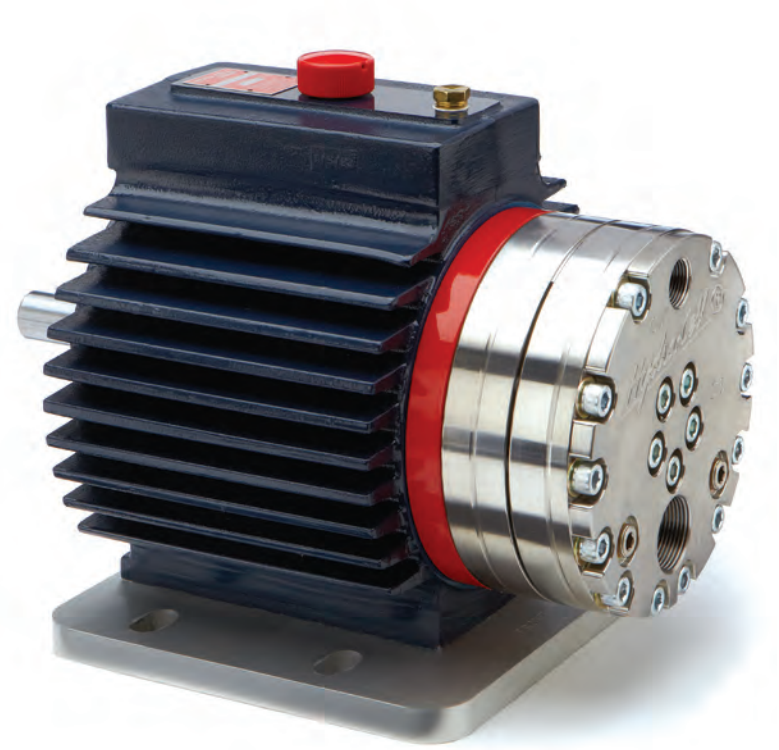
Hydra-Cell® Seal-less Pumps

Versatile, Reliable Pumps for a Wide Range of Applications



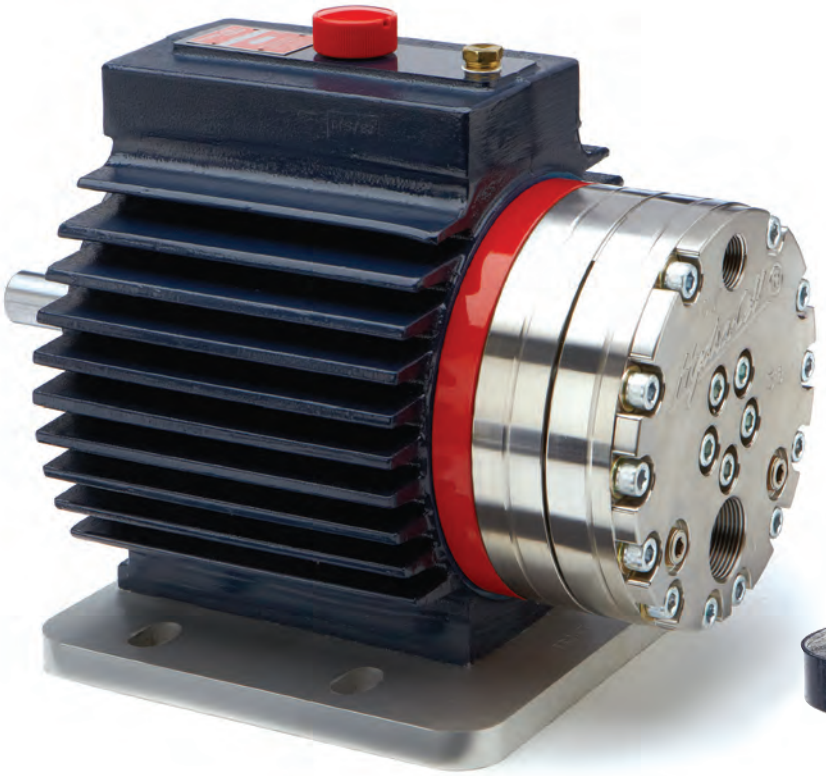
D15/D17 Series

- Pumps the full spectrum of low-to-high viscosity fluids.
- Features a seal-less design and horizontal disk check valves that enable the pump to handle abrasives and particulates that might damage or destroy other types of pumps.
- Simple, compact design reduces initial investment and lowers maintenance costs.
- Operational efficiencies reduce energy costs.
- Able to run dry without damage (or additional maintenance) to the pump in case of accident or operator error.
- Tolerates non-ideal operating conditions.
- Minimizes maintenance and downtime because there are no seals, packing or cups to leak or replace.

Wanner Engineering, Inc.

D15/D17 Series

Maximum Flow Rate: 15.5 gpm (58.7 l/min)
Maximum Pressure: 2500 psi (172 bar) for Metallic Pump Heads



D15 for horizontal installations shown with Stainless Steel pump head.



D17 for vertical mounting (including motor adapter, base plate and oil reservoir) shown with Brass pump head.

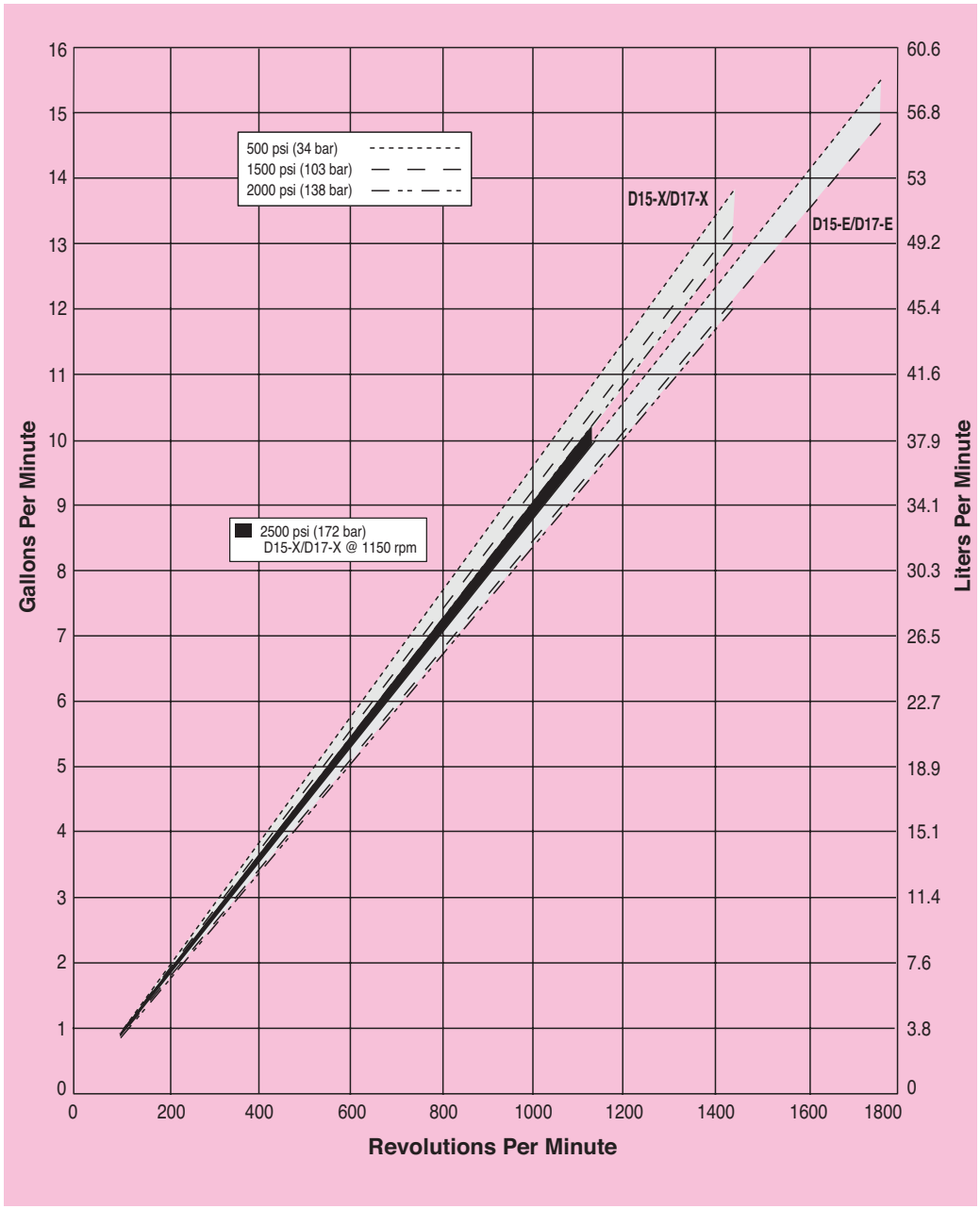
D15/D17 Series Performance

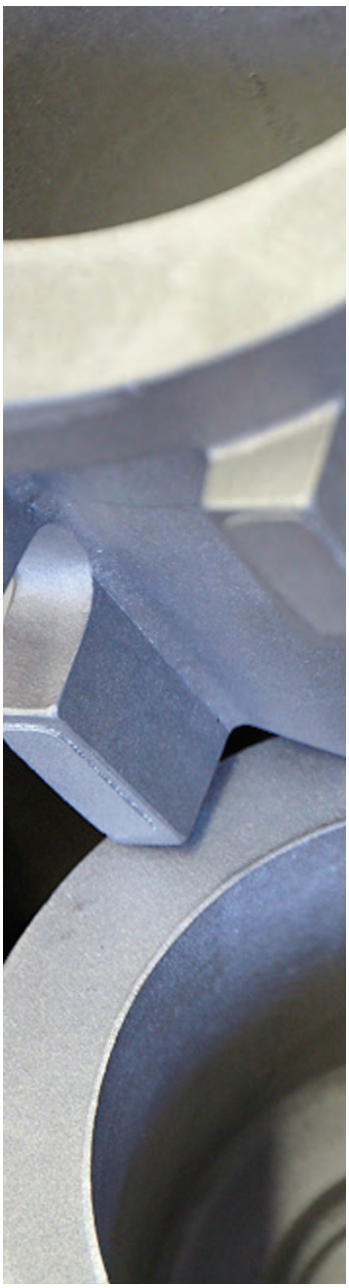
Capacities

Model	Max. Input rpm	Flow gpm	Flow l/min	Pressure Max. Inlet Pressure	Pressure Max. Discharge Pressure
D15-X/D17-X	1450	13.8	52.3	500 psi (34 bar)	500 psi (34 bar)
	1450	13.3	50.2	500 psi (34 bar)	1500 psi (103 bar)
	1450	13.0	49.2	500 psi (34 bar)	2000 psi (138 bar)
	1150	10.1	38.1	500 psi (34 bar)	2500 psi (172 bar)
D15-E/D17-E	1750	15.5	58.7	500 psi (34 bar)	500 psi (34 bar)
	1750	14.8	56.2	500 psi (34 bar)	1500 psi (103 bar)
	1450	12.0	45.5	500 psi (34 bar)	2000 psi (138 bar)

Performance and specification ratings apply to D15/D17 configurations unless specifically noted otherwise.

Maximum Flow at Designated Pressure





D15/D17 Series Specifications

Flow Capacities

Model	@ max rpm	psi	bar	gpm	l/min
D15-X/D17-X	1450	500	34	13.8	52.3
	1450	1500	103	13.3	50.2
	1450	2000	138	13.0	49.2
	1150	2500	172	10.1	38.1
D15-E/D17-E	1750	500	34	15.5	58.7
	1750	1500	103	14.8	56.2
	1450	2000	138	12.0	45.5

Delivery

Model	psi	bar	gal/rev	liters/rev
D15-X/D17-X	500	34	0.0095	0.0360
	1500	103	0.0092	0.0346
	2000	138	0.0090	0.0339
	2500	172	0.0088	0.0331
D15-E/D17-E	500	34	0.0089	0.0335
	1500	103	0.0085	0.0321
	2000	138	0.0083	0.0314

Maximum Discharge Pressure	
Metallic Heads:	1500 psi (103 bar) @1750 rpm (D15-E & D17-E only)
	2000 psi (138 bar) @1450 rpm
	2500 psi (172 bar) @1150 rpm
Maximum Inlet Pressure	500 psi (34 bar)
Maximum Operating Temperature	
Metallic Heads:	250° F (121° C) - Consult factory for correct component selection for temperatures from 160° F (71° C) to 250° F (121° C).
Maximum Solids Size	500 microns
Inlet Port	1-1/4 inch NPT
Discharge Port	3/4 inch NPT
Shaft Diameter	1-1/8 inch (28.6 mm)
Shaft Rotation	Reverse (bi-directional)
Bearings	Tapered roller bearings
Oil Capacity	2.2 US quarts (2.1 liters)
Weight	
Metallic Heads:	145 lbs. (66 kg)

Calculating Required Power

$$\frac{80 \times \text{rpm}}{63{,}000} + \frac{\text{gpm} \times \text{psi}}{1{,}460 - \left(\frac{\text{psi} - 500}{20}\right)} = \text{electric motor hp}$$

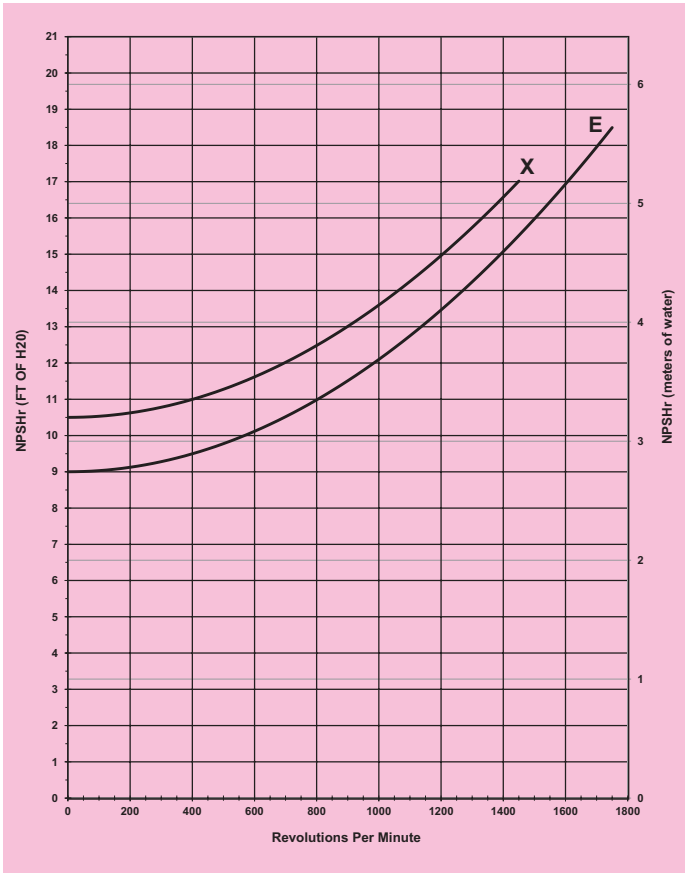
$$\frac{80 \times \text{rpm}}{84{,}428} + \frac{\text{l/min} \times \text{bar}}{511 - \left(\frac{\text{bar} - 35}{4}\right)} = \text{electric motor kW}$$

Calculating Pulley Size

$$\frac{\text{motor pulley OD}}{\text{pump rpm}} = \frac{\text{pump pulley OD}}{\text{motor rpm}}$$

When using a variable frequency controller (VFD) calculate the hp or kW at minimum and maximum pump speed to ensure the correct hp or kW motor is selected. Note that motor manufacturers typically de-rate the service factor to 1.0 when operating with a VFD.

Net Positive Suction Head (NPSHr)

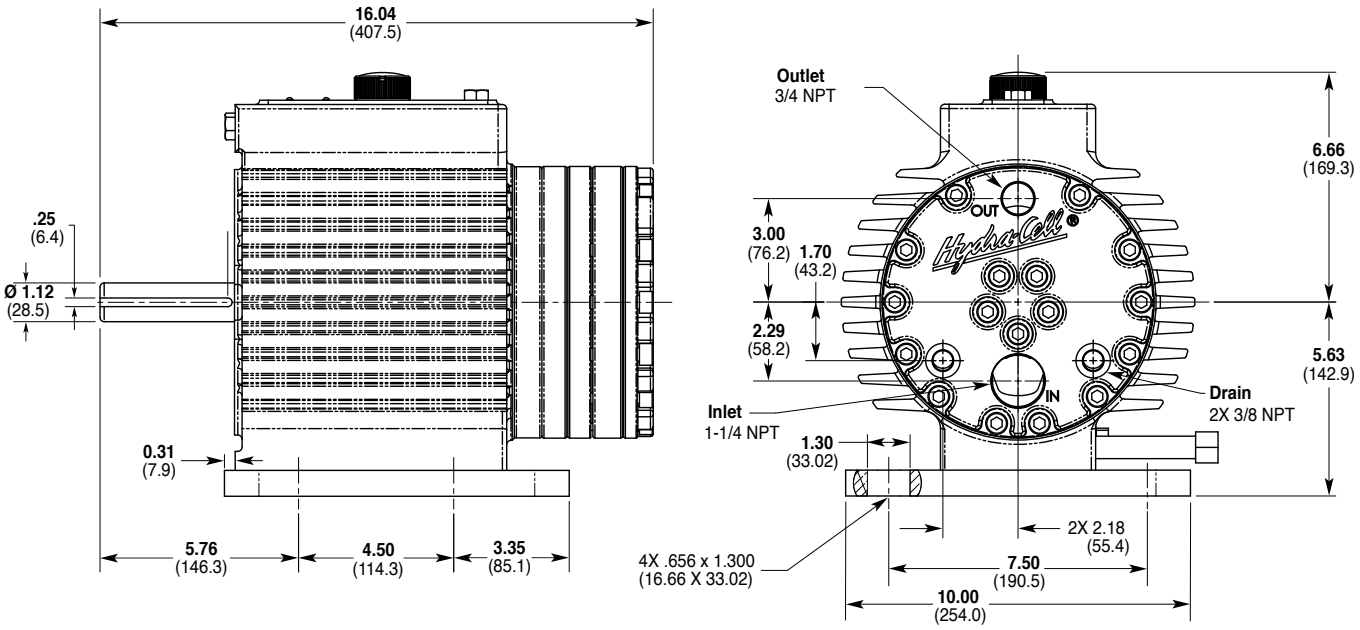


Self-priming:

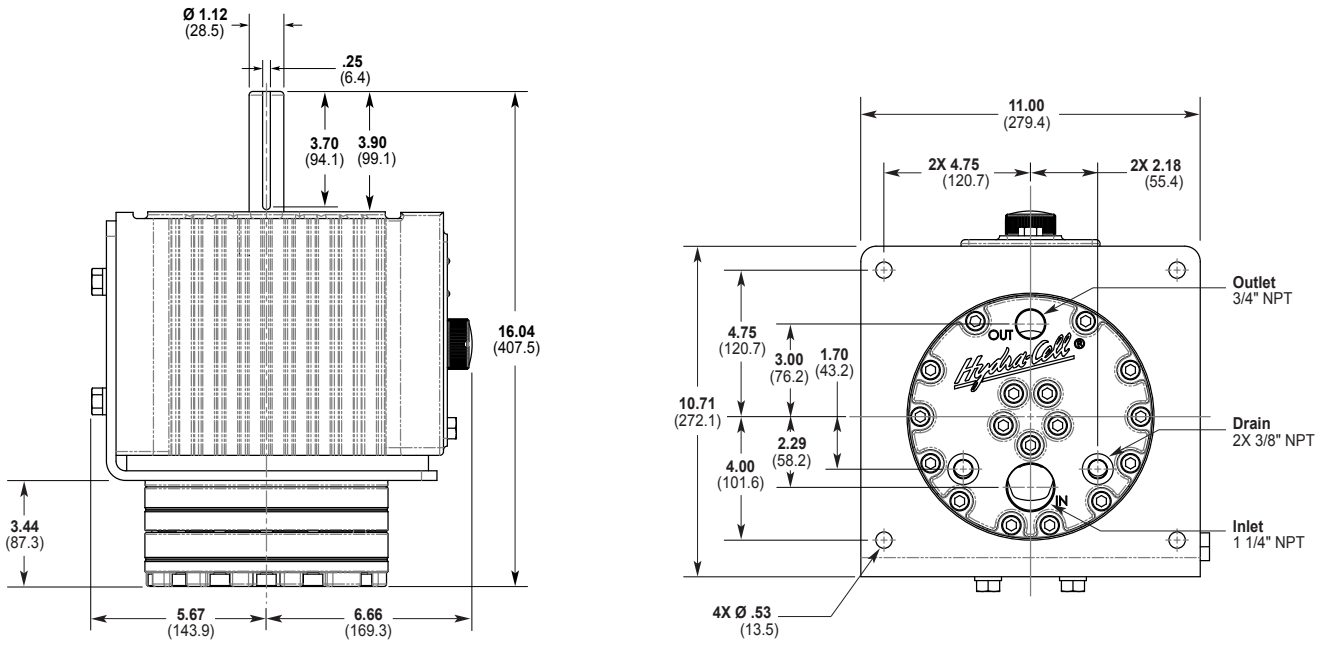
Each Hydra-Cell pump has different lift capability depending on model size, cam angle, speed, and fluid characteristics. To ensure that your specific lift characteristics are met, refer to the inlet calculations regarding friction, and acceleration head losses in your Hydra-Cell Installation & Service Manual. Compare those calculations to the NPSHr curves above.

D15/D17 Series Representative Drawings

D15 Models for Horizontal Mounting Inches (mm)



D17 Models for Vertical Mounting Inches (mm)



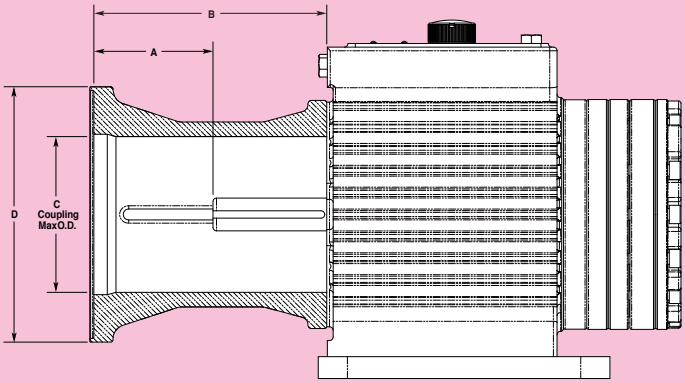
Note: *Contact factory for additional drawings of specific models and configurations.*

D15/D17 Series Representative Drawings

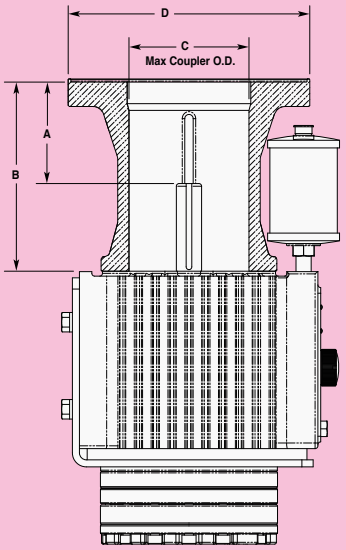
Pump/Motor Adapter Inches (mm)

Pump/Motor Adapters are designed to fit several NEMA frame sizes.

Metric adapter available - consult factory.



D15 (Horizontal)



D17 (Vertical)

		Dimensions in Inches (mm)			
Adapter Motor Size	**Part Number**	**A**	**B**	**C**	**D**
D15/D17 NEMA 182TC - 256TC	A04-041-1200	4.1 (103.8)	8.0 (202.8)	4.75 (120.7)	8.75 (222.3)
D15/D17 NEMA 284TC - 286TC	A04-041-1202	4.5 (114.7)	8.4 (213.7)	4.75 (120.7)	10.75 (273.1)

Valve Selection

A Hydra-Cell D15/D17 Series pumping system uses a C62 Pressure Regulating Valve.



For complete specifications and ordering information, consult the Hydra-Cell Master Catalog.

D15/D17 Series How to Order

Ordering Information

1	2	3	4	5	6	7	8	9	10	11	12

A complete D15/D17 Series Model Number contains 12 digits including 9 customer-specified design and materials options, for example: D15XABTHFECG.

Digit	Order Code	Description
1-3		**Pump Configuration**
	D15	Horizontal shaft-driven (NPT Ports)
	D17	Vertical shaft-driven (NPT Ports)
		*Pump/motor adapters ordered separately. See previous page.
4		**Hydraulic End Cam**
	X	Max 13.8 gpm (52.3 l/min) @ 1450 rpm
	E	Max 15.5 gpm (58.7 l/min) @ 1750 rpm
5		**Pump Head Version**
	A	NPT Ports
6		**Pump Head Material**
	B	Brass
	S	316L Stainless Steel
7		**Diaphragm & O-ring Material**
	G	FKM
	T	Buna-N
8		**Valve Seat Material**
	D	Tungsten Carbide
	H	17-4 Stainless Steel
	N	Nitronic 50
9		**Valve Material**
	D	Tungsten Carbide
	F	17-4 Stainless Steel
	N	Nitronic 50
10		**Valve Springs**
	E	Elgiloy
	H	17-7 Stainless Steel
	T	Hastelloy C
11		**Valve Spring Retainers**
	C	Celcon
	H	17-7 Stainless Steel
	M	PVDF
	P	Polypropylene
	Y	Nylon (Zytel)

Digit	Order Code	Description
12		**Hydra-Oil**
	A	10W30 standard-duty oil
	B	40-wt for continuous-duty (use with 316L SST pump head - standard)
	E	Food-contact oil
	G	5W30 cold-temp severe-duty synthetic oil
	H	15W50 high-temp severe-duty synthetic oil

Consult the Hydra-Cell Master Catalog for:

- Motors, bases, couplings and other pump accessories
- Hydra-Oil selection and specification information
- Design considerations, installation guidelines, and other technical assistance in pump selection

Hydra-Cell®
Seal-less Pumps

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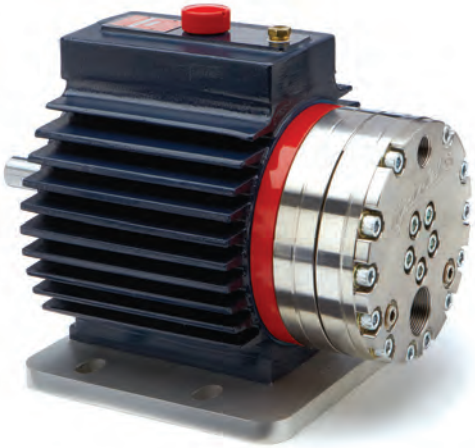
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