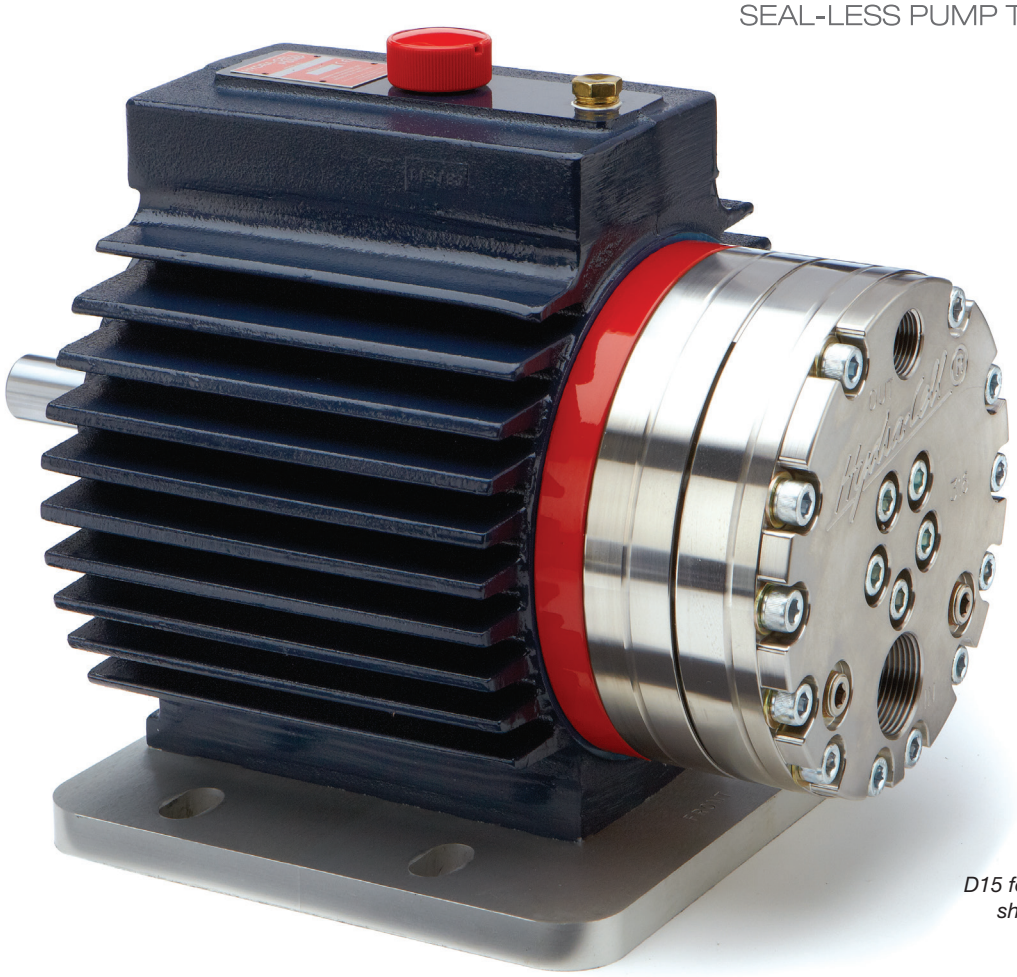
D15/17 PRO SERIES

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

WANNER™ HYDRA-CELL® PRO
SEAL-LESS PUMP TECHNOLOGIES



UK CA CE

D15 for horizontal installations shown with 316L Stainless Steel pump head.

A higher standard of pump performance and efficiency.

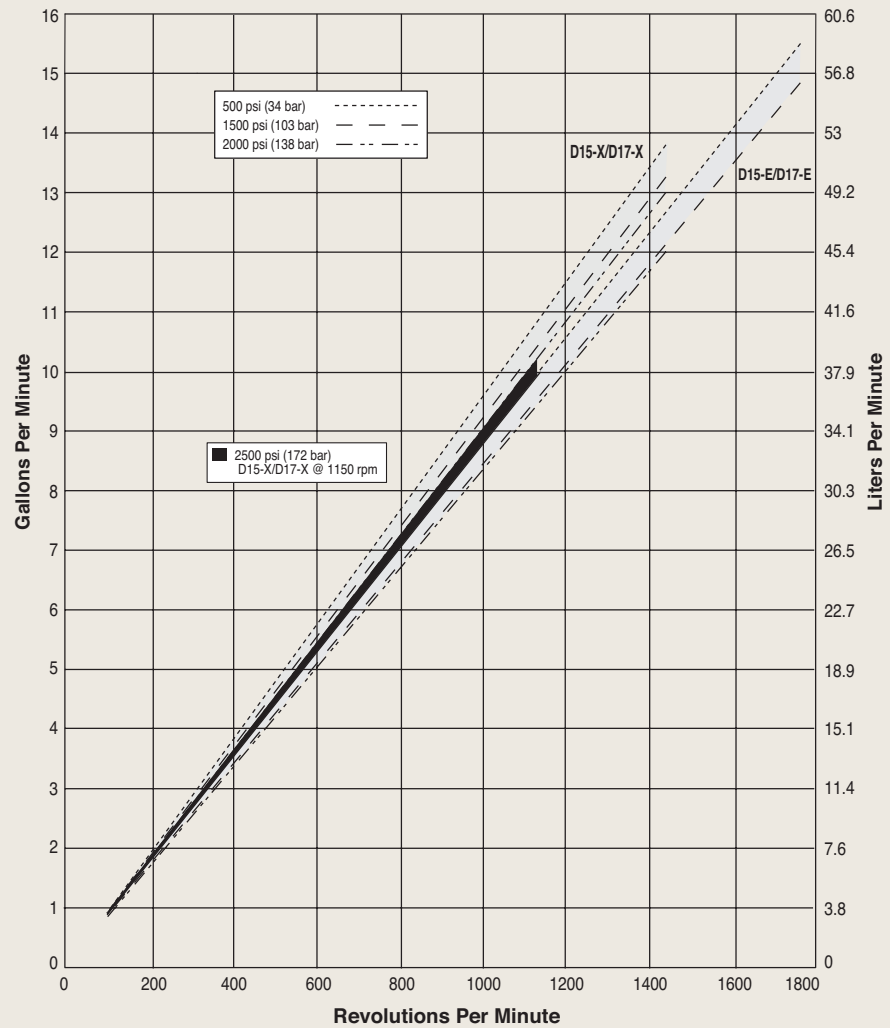
- Integrates **Wanner Hydra-Cell® Pro** seal-less pump technologies for the highest levels of volumetric and energy efficiencies across a full rpm range.
- Seal-less design API 674 pumps that also exceed API 675 standards for accuracy, linearity and repeatability.
- True positive displacement pumping action achieves overall efficiency of >90%, targeting improvements at lower speeds and higher pressures.
- No mechanical dynamic seals, packing, or cups to leak, wear or replace – reduces maintenance, costs and downtime.
- Pumped liquid is 100% contained – prevents degradation, contamination and environmental risks.
- Patented ADPC (Advanced Diaphragm Position Control) and hydraulic oil management system protects diaphragms under closed or restricted inlet conditions.
- Can run dry indefinitely without damage to the pump.
- Reliably handles a wide range of viscosities and shear sensitivities, corrosive liquids, abrasives, slurries and particulates.
- Reduced ownership costs in acquisition, operation, service, maintenance, and energy use.

Capacities

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

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

Maximum Flow at Designated Pressure



Due to the Wanner Engineering Continuous Improvement Program, specifications and other data are subject to change.

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:
D15-X & D17-X only:
2000 psi (138 bar) @1450 rpm
2500 psi (172 bar) @ 1150 rpm

D15-E & D17-E only:
1500 psi (103 bar) @1750 rpm
2000 psi (138 bar) @ 1450 rpm

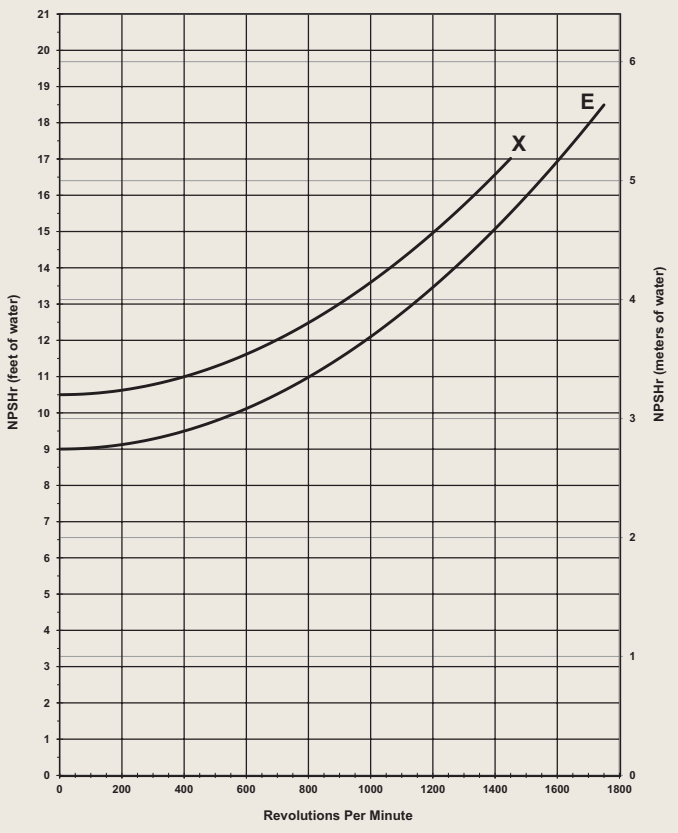
Maximum Inlet Pressure 500 psi (34 bar)

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)

Net Positive Suction Head (NPSHr)



Calculating Required Power

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

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

Attention!
When using a variable frequency drive (VFD) controller, 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.

Calculating Pulley Size

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

Suction Lift

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 Product Manual. Compare those calculations to the NPSHr curves above.

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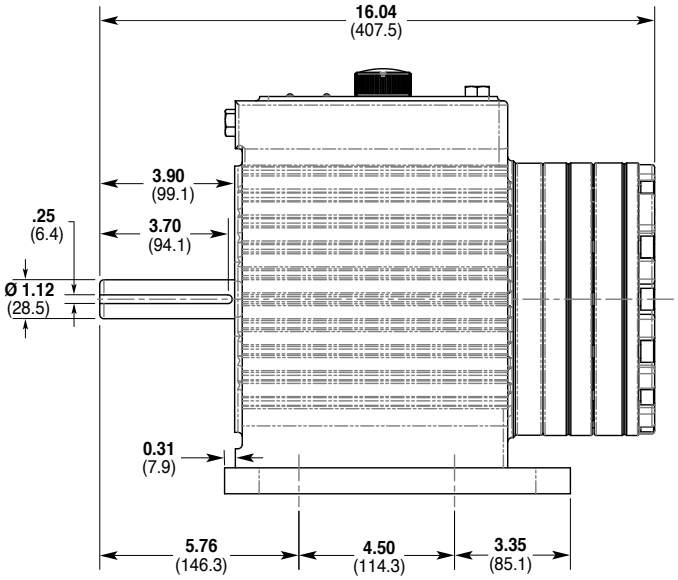
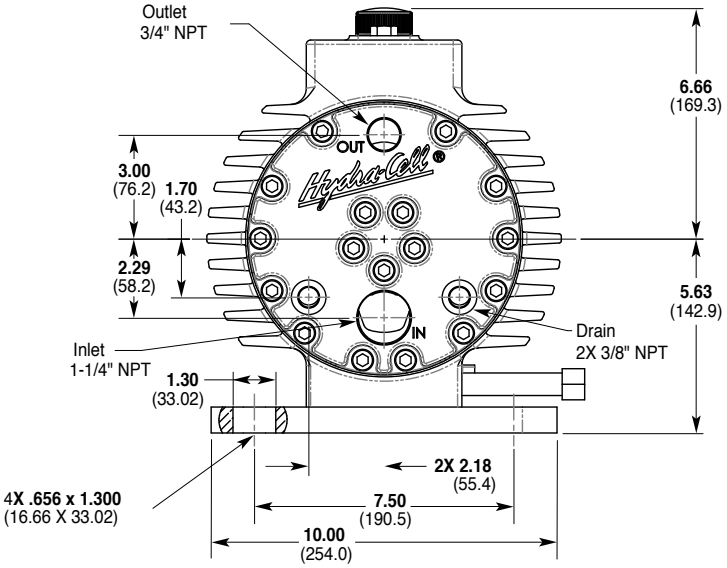
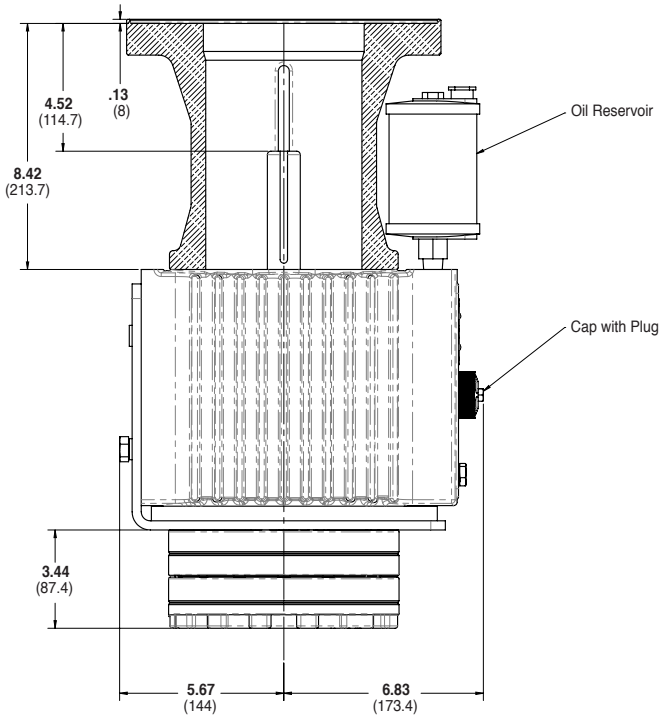
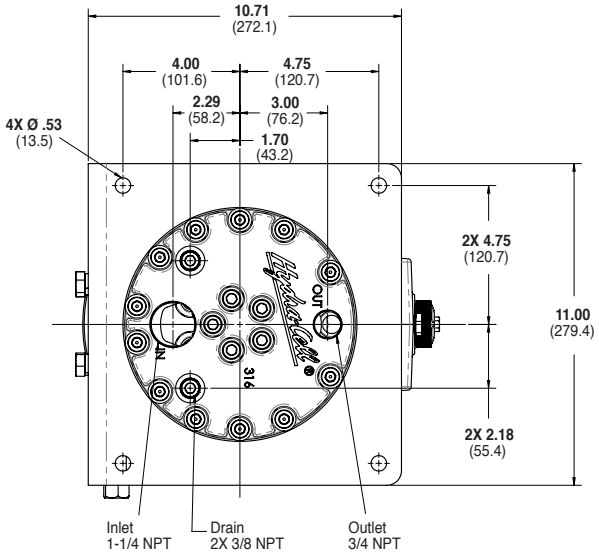
D15 Models for Horizontal Mounting (Metallic Pump Heads) Inches (mm)





D17 Models for Vertical Mounting (Metallic Pump Heads) Inches (mm)



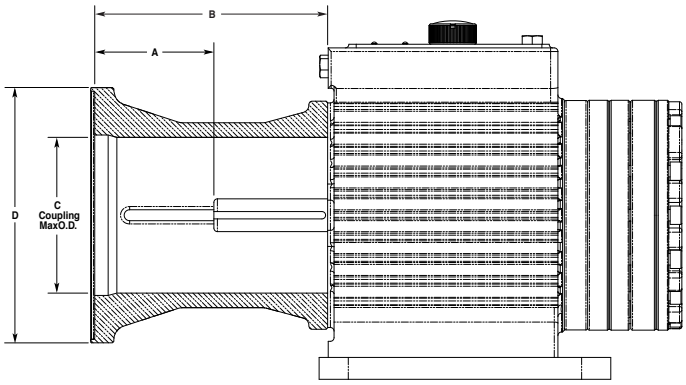


Note: Dimensions are for reference only. Contact factory for certified drawings.

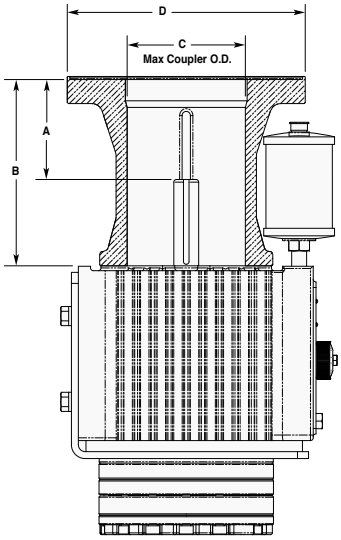
Pump/Motor Adapter Inches (mm)

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

Metric adapter available - consult factory.



D15 (Horizontal)



D17 (Vertical)

Adapter Motor Size	Part Number	Dimensions in Inches (mm) 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)

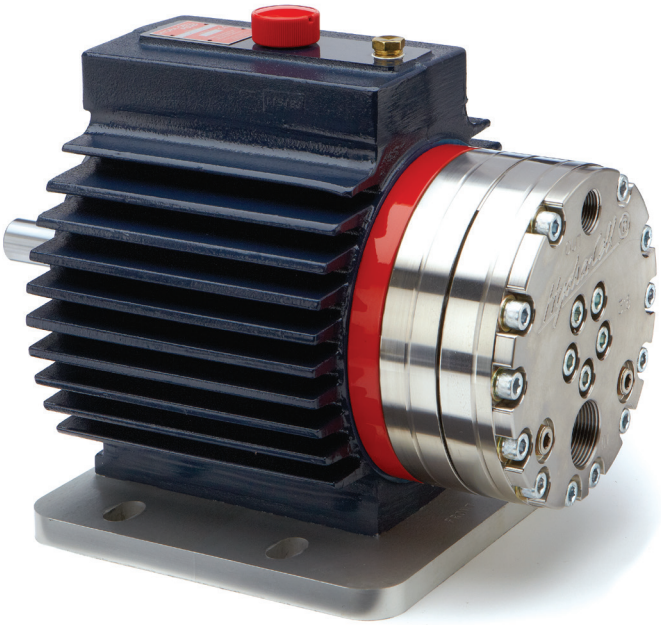
Valve Selection

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

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

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



D15 for horizontal installations shown with 316L Stainless Steel pump head.

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

Ordering Information

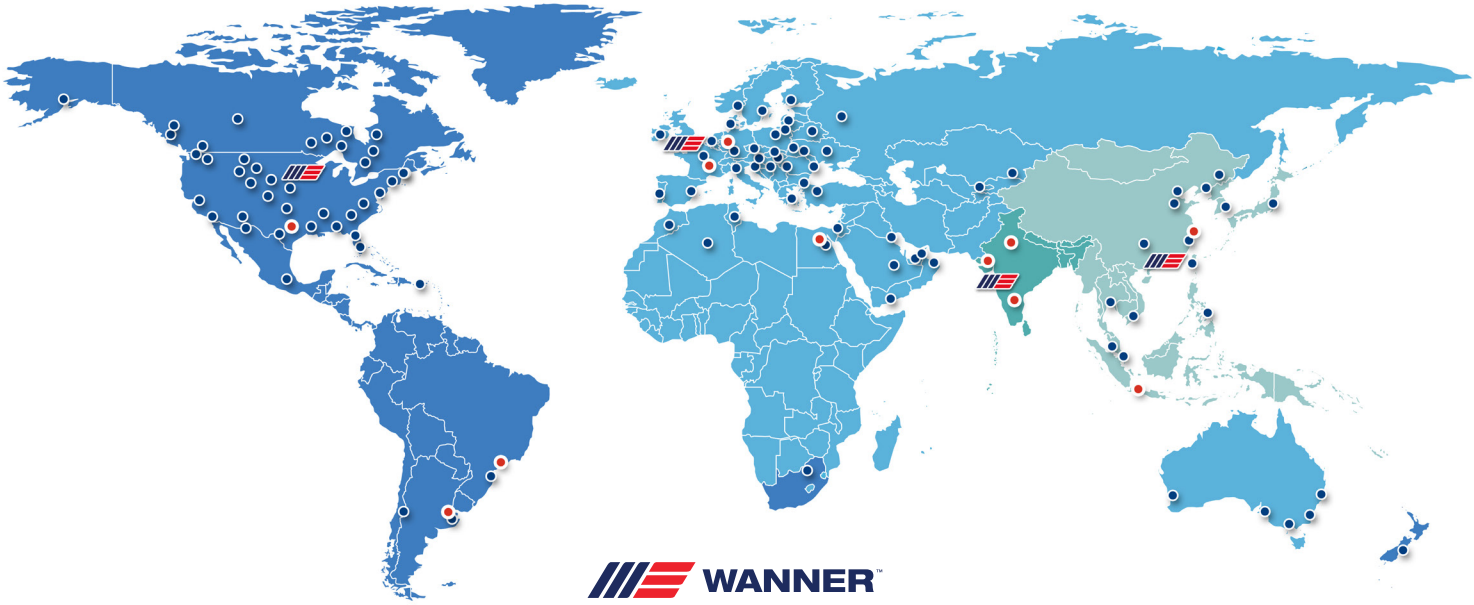
A complete D15/D17 Series Model Number contains 12 digits including 9 customer-specified design and materials options, for example: D15XPBTHFECA.

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

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**
	P	Hydra-Cell Pro
6		**Pump Head Material**
	B	Brass
	S	316L Stainless Steel
	T	Hastelloy C
7		**Diaphragm & O-ring Material**
	A	Aflas diaphragm/PTFE o-ring
	G	FKM
	P	Neoprene
	T	Buna-N
8		**Valve Seat Material**
	D	Tungsten Carbide
	H	17-4 Stainless Steel
	N	Nitronic 50
	T	Hastelloy C
9		**Valve Material**
	D	Tungsten Carbide
	F	17-4 Stainless Steel
	N	Nitronic 50
	T	Hastelloy C
10		**Valve Springs**
	E	Elgiloy
	H	17-7 Stainless Steel (high-viscosity option – requires 50 psi/3.4 bar suction pressure)
	T	Hastelloy C

Digit	Order Code	Description
11		**Valve Spring Retainers**
	C	Celcon
	H	17-7 Stainless Steel
	M	PVDF
	P	Polypropylene
	T	Hastelloy C
	Y	Nylon (Zytel)
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

Partners in over 70 countries



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GLOBAL SALES & TECHNICAL SUPPORT

WANNER ENGINEERING, INC.
WORLD HEADQUARTERS & MANUFACTURING

Minneapolis, Minnesota USA
t: 612-332-5681
e: sales@wannereng.com
Hydra-Cell.com

REGIONAL OFFICE
Wichita Falls, Texas USA
t: 940-322-7111
e: sales@wannereng.com

LATIN AMERICAN OFFICE
São Paulo, Brazil
t: +55 (11) 99582-1969
e: mmagoni@wannereng.com
Hydra-Cell-Pumps.com.br

WANNER INTERNATIONAL, LTD.
UNITED KINGDOM

Church Crookham,
Hampshire UK GU52 8BF

t: +44 (0) 1252 816847
e: support@wannerint.com
Hydra-Cell.co.uk

WANNER PUMPS, LTD.
Kowloon, HONG KONG
t: +852 3428 6534
e: sales@wannerpumps.com
WannerPumps.com

Shanghai, CHINA
t: +86-21-6876 3700
e: sales@wannerpumps.com
WannerPumps.com

WANNER INDIA PVT. LTD.
Mumbai, INDIA
t: +91 (22) 22044766
e: support@wannerindia.com
WannerIndia.com

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