



# Hydra-Cell® Seal-less Pumps



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Materials listed throughout this price list are for reference only.

For complete material/alloy specifications, please contact the factory.

## Contents

## Page

Couplings	
Selection Guide .....	3
Motor Shaft Size Reference .....	3
Motors	
Selection Process .....	4
Motors (NEMA 56C Frame) .....	5
Motors (NEMA 56C) Hazardous-duty .....	5
Motors (NEMA 143TC to 326TC Frame) .....	6
Motors (NEMA 143TC to 324TC) Hazardous-duty .....	7
Pump Motor Adapters .....	8
Motor Baseplates & Guards	
Drives .....	8
Pump Models & Frame Sizes .....	9
Controllers	
1 Phase .....	10
3 Phase .....	10
Replacement Parts Kits .....	11
Replacement Hydraulic Ends .....	11
Hydra-Oil Lubricants	
All Grades .....	12
Hydra-Oil Characteristics .....	12
Hydra-Oil Selection Guide	
Oil Recommendation .....	13
How to Order Separately .....	13
Oil Cooler & Filter Systems .....	14
Oil Level Monitoring Mounting Kits .....	17
Oil Reservoir Sight Bottles .....	18
Vacuum Priming Kit .....	18
Priming Plugs .....	18
Tool Kits .....	19
Pulsation Dampeners	
Selection Process & Bladder Options .....	20
Charging Kits .....	20
Standard Models (4-in. <sup>3</sup> /10-in. <sup>3</sup> ) .....	21
Standard Models (36-in. <sup>3</sup> /85-in. <sup>3</sup> ) .....	22
High Pressure Models (8-in. <sup>3</sup> /12-in. <sup>3</sup> ) .....	23
J-Style Control (10-in. <sup>3</sup> /85-in. <sup>3</sup> / 1155-in. <sup>3</sup> ) .....	23
Demonstration (Cutaway) Units .....	24
Testing & Certificates .....	25
Warranty .....	26
Worldwide Sales & Service .....	27

# Couplings



Couplings with sleeves are available in a wide range of motor sizes for Hydra-Cell pumping systems.

## Coupling Selection Guide

When selecting a coupling, note that horsepower (hp) values are for reference only under normal pump operation within rated specification. Please consult factory for critical performance or harsh-duty applications.

Coupling Series	Bore Ø (in.)	Maximum hp @ Designated Speed (rpm)		Part Number
		1750	1150	
<b>M24</b>	5/8 x 5/8	4.0	2.6	A04-024-1201
	5/8 x 7/8			A04-024-1202
	5/8 x 24 mm			A04-024-1203
	7/8 x 24 mm			A04-024-1204
	7/8 x 7/8			A04-024-1205
<b>M28</b>	5/8 x 5/8	9.1	5.8	A04-028-1201
	5/8 x 7/8			A04-028-1202
	5/8 x 1-1/8			A04-028-1203
	7/8 x 7/8			A04-028-1204
	7/8 x 1-1/8			A04-028-1205
	7/8 x 24 mm			A04-028-1206
	7/8 x 28 mm			A04-028-1208
<b>M38</b>	7/8 x 1-1/8	16.1	10.4	A04-038-1202
	7/8 x 1-3/8			A04-038-1203
	1-1/8 x 1-1/8			A04-038-1204
	1-1/8 x 1-3/8			A04-038-1205
<b>M42</b>	1-1/8 x 1-1/8	20.4	13.3	A04-042-1201
	1-1/8 x 1-3/8			A04-042-1202
	1-1/8 x 1-5/8			A04-042-1203
<b>M48</b>	1-1/8 x 1-1/8	28.3	20.2	A04-048-1201
	1-1/8 x 1-3/8			A04-048-1202
	1-1/8 x 1-5/8			A04-048-1203
	1-1/8 x 1-7/8			A04-048-1204
<b>M65</b>	1-1/8 x 2-1/8	84.5	50	A04-065-1201
	1-5/8 x 2			A04-065-1202
	1-7/8 x 2			A04-065-1203
	2 x 2-1/8			A04-065-1204
	1-3/8 x 2			A04-065-1205

## Motor Shaft Size Reference

Pump Model	Pump Shaft Ø	
	Inches	mm
<b>F20</b>	5/8 hollow shaft	-
<b>F21</b>	5/8	15.9
<b>F22</b>	5/8	15.9
<b>M03*</b>	5/8 hollow shaft	-
<b>D03*</b>	7/8	22.2
<b>D04</b>	7/8	22.2
<b>D10</b>	7/8	22.2
<b>D12</b>	7/8	22.2
<b>D15</b>	1-1/8	28.6
<b>D17</b>	1-1/8	28.6
<b>H25</b>	1-1/8	28.6
<b>D35</b>	2	50.8
<b>D66</b>	2	50.8

\* Includes Mono-Block

Nominal Motor hp at Designated Speed (rpm)	Motor Frame Size	Motor Shaft Ø (in.)
1/4 to 1	56C	5/8
1-1/2	143T	7/8
2	145T	7/8
3	182T	1-1/8
5	184T	1-1/8
7-1/2	213T	1-3/8
10	215T	1-3/8
15	254T	1-5/8
20	256T	1-5/8
25	284T	1-7/8
30	286T	1-7/8
-	324T	2-1/8
-	326T	2-1/8

# Motors

Motors provide the rotary action that engages the shaft of a Hydra-Cell pump or operates the gear reducer on a Hydra-Cell Metering Solutions pump. A motor for a specific pump is selected based on the horsepower (hp), revolutions per minute (rpm), and turndown ratio required for the application (performance criteria) in gallons per minute (gpm) or liters per minute (l/min).

## Selection Process

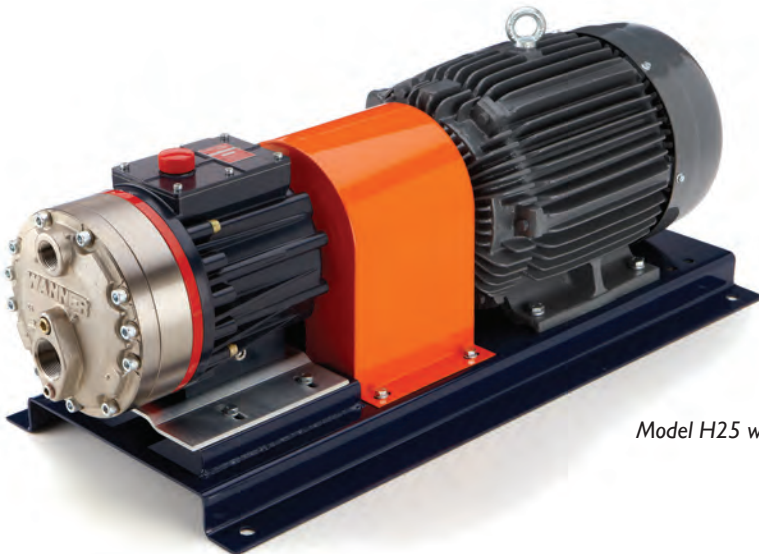
1. On the pump model (e.g. M03, D10, H25) "Performance" page for your pump, locate the Maximum Flow at Designated Pressure (gpm or l/min) for your application.
2. On the pump model "Specifications" page for your pump, locate the formula for Calculating Required Power (hp or kW) and plug in the rpm, gpm (or l/min) and psi (or bar).
3. Using the motor selection charts in this section (based on required hp and corresponding motor frame for your model) match the required rpm (1200 or 1800) with the correct turndown ratio for your pump.



Model M03 with C-face motor.



Model H25 with C-face motor and flanged adapter.



Model H25 with motor and coupling guard.

Note: Contact factory for hazardous-location motors.

# Motors

## Motors, NEMA 56C Frame, Footed, 1 Phase

HP	RPM	Frame	Part Number	Enclosure	Voltage/Hz	Shipping Weight (lbs.)
1/2	1800	56C	M50TE18F1P56CLO	TEFC	115-230/60	23
3/4	1800	56C	M75TE18F1P56CLO	TEFC	115-230/60	30
1	1800	56HC	M100TE18F1P56CLO	TEFC	115-230/60	31
1-1/2	1800	56HC	M150TE18F1P56CLO	TEFC	115-230/60	40

## Motors, NEMA 56C Frame, Footed, 3 Phase

HP	RPM	Frame	Part Number	Turndown Ratio (CT)	Enclosure	Voltage/Hz	Shipping Weight (lbs.)
1/2	1800	56C	M50TE18F3P56CA3	10:1	TEFC	230-460/60	35
	1800	56C	M50TN18F3P56CA5	1000:1*	TENV	230-460/60	24
	1200	56C	M50TE12F3P56CA3	10:1	TEFC	230-460/60	42
3/4	1800	56C	M75TE18F3P56CA3	10:1	TEFC	230-460/60	35
	1200	56C	M75TE12F3P56CA3	10:1	TEFC	230-460/60	42
1	1800	56C	M100TE18-3P56C	0	TEFC	230-460/60	28
	1800	56C	M100TE18F3P56CA3	10:1	TEFC	230-460/60	29
	1800	56C	M100TN18F3P56CA5	1000:1*	TENV	230-460/60	41
	1200	56C	M100TE12-3P56C	10:1	TEFC	230-460/60	42
1-1/2	1800	56C	M150TE18F3P56CA3	10:1	TEFC	230-460/60	48
	1800	56C	M150WD18F3P56CA5	1000:1*	TENV	230-460/60	34
2	1800	56C	M200TE18F3P56CA3	10:1	TEFC	230-460/60	49

\* If operating under 6HZ (greater than 10:1 turndown), or not operating with a VFD, consult factory.

## Motors, Hazardous-duty Location, Explosion Proof, NEMA 56C Frame, Footed, 3 Phase

- Class I and II, Groups C, D, F & G.
- CSA certified.
- UL listed.
- Continuous duty at 104°F (40°C) ambient.
- Consult the National Electric Code and your local regulations for proper selection of motors in hazardous locations.

HP	RPM	Frame	Part Number	Turndown Ratio (CT)	Enclosure	Voltage/Hz	Shipping Weight (lbs.)
1/4	1800	56C	M25EX18F3P56CA5	1000:1*	TENV	230-460/60	26
1/2	1800	56C	M50EX18F3P56CA5	1000:1*	TENV	230-460/60	31
3/4	1800	56C	M75EX18F3P56CA5	1000:1*	TENV	230-460/60	38
1	1800	56C	M100EX18F3P56CA5	1000:1*	TENV	230-460/60	43

\* If operating under 6HZ (greater than 10:1 turndown), or not operating with a VFD, consult factory.

# Motors

## Motors, C-Face, Footed, 3 Phase

- Totally-enclosed, fan-cooled (TEFC), continuous-duty, 230/460V, 60Hz, 3P.
- 1.15 service factor (1.0 when operated with a VFD).
- Cast Iron construction.
- 10:1 rated motors are NEMA premium efficiency.
- Class “F” insulation with Class “B” rise.
- 50Hz data on nameplate - 190/380V at 1.0 service factor.
- UL recognized with CE mark on label.

HP	RPM	Frame	Part Number	Turndown Ratio (CT)	Shipping Weight (lbs.)
1	1800	143TC	M100TE18F3P143TCA3	10:1	50
	1200	145TC	M100TE12F3P145TCA3	10:1	92
1-1/2	1800	145TC	M150TE18F3P145TCA3	10:1	80
	1200	182TC	M150TE12F3P182TCA3	10:1	122
2	1800	145TC	M200TE18F3P145TCA3	10:1	85
	1200	184TC	M200TE12F3P184TCA3	10:1	134
3	1800	182TC	M300TE18F3P182TCA3	10:1	137
	1200	213TC	M300TE12F3P213TCA3	10:1	166
5	1800	184TC	M500TE18F3P184TCA3	10:1	135
	1200	215TC	M500TE12F3P215TCA3	10:1	212
7-1/2	1800	213TC	M750TE18F3P213TCA3	10:1	202
	1200	254TC	M750TE12F3P254TCA3	10:1	317
10	1800	215TC	M1000TE18F3P215TCA3	10:1	221
	1200	256TC	M1000TE12F3P256TCA3	10:1	342
15	1800	254TC	M1500TE18F3P254TCA3	10:1	318
	1200	284TC	M1500TE12F3P284TCA3	10:1	532
20	1800	256TC	M2000TE18F3P256TCA3	10:1	397
	1200	286TC	M2000TE12F3P286TCA3	10:1	522
25	1800	284TC	M2500TE18F3P284TCA3	10:1	512
	1200	324TC	M2500TE12F3P324TCA3	10:1	747
30	1800	286TC	M3000TE18F3P286TCA3	10:1	547
	1200	326TC	M3000TE12F3P326TCA3	10:1	777

## Motors, Footed, 3 Phase

- Totally enclosed, fan-cooled (TEFC), continuous-duty, 230/460V, 60Hz, 3P.
- 1.15 service factor (1.0 when operated with a VFD).
- Cast Iron construction.
- 10:1 rated motors are NEMA premium efficiency.
- Class “F” insulation with Class “B” rise.
- 50Hz data on nameplate - 190/380V at 1.0 service factor.
- UL recognized with CE mark on label.

HP	RPM	Frame	Part Number	Turndown Ratio (CT)	Shipping Weight (lbs.)
1	1800	143T	M100TE18F3P143TA3	10:1	48
	1200	145T	M100TE12F3P145TA3	10:1	90
	900	182T	M100TE9F3P182TA3	10:1	105
1-1/2	1800	145T	M150TE18F3P145TA3	10:1	78
	1200	182T	M150TE12F3P182TA3	10:1	120
2	1800	145T	M200TE18F3P145TA3	10:1	90
	1200	184T	M200TE12F3P184TA3	10:1	132
	900	213T	M200TE9F3P213TA3	10:1	173
3	1800	182T	M300TE18F3P182TA3	10:1	135
	1200	213T	M300TE12F3P213TA3	10:1	164
5	1800	184T	M500TE18F3P184TA3	10:1	133
	1200	215T	M500TE12F3P215TA3	10:1	210
7-1/2	1800	213T	M750TE18F3P213TA3	10:1	200
	1200	254T	M750TE12F3P254TA3	10:1	315
	900	256T	M750TE9F3P256TA3	10:1	365
10	1800	215T	M1000TE18F3P215TA3	10:1	219
	1200	256T	M1000TE12F3P256TA3	10:1	340
	900	284T	M1000TE9F3P284TA3	10:1	445
15	1800	254T	M1500TE18F3P254TA3	10:1	316
	1200	284T	M1500TE12F3P284TA3	10:1	530
	900	286T	M1500TE9F3P286TA3	10:1	510
20	1800	256T	M2000TE18F3P256TA3	10:1	395
	1200	286T	M2000TE12F3P286TA3	10:1	520
	900	324T	M2000TE9F3P324TA3	10:1	585
25	1800	284T	M2500TE18F3P284TA3	10:1	510
	1200	324T	M2500TE12F3P324TA3	10:1	745
30	1800	286T	M3000TE18F3P286TA3	10:1	545
	1200	326T	M3000TE12F3P326TA3	10:1	775
	900	364T	M3000TE9F3P364TA3	10:1	898
40	1800	324T	M4000TE18F3P324TA3	10:1	710

# Motors

## Standard Features

- Totally enclosed, fan-cooled, explosion proof, premium efficiency, continuous-duty, 230/460V, 60Hz, 3P.
- Class I, Div. I, Group C & D up to 256T frame; ONLY Group D above 256T frame.
- 1.15 service factor (1.0 when operated with a VFD).
- Cast Iron construction.
- Class “F” insulation.
- NEMA Design B.
- Inverter-duty rated, constant torque.
- Consult factory if operating above 3,300-ft. elevation.
- Consult the National Electric Code and your local regulations for proper selection of motors in hazardous locations.
- UL and CSA listed or certified for hazardous locations.

## Motors, NEMA C-Face, Hazardous-duty Location, Explosion Proof, Footed, 3 Phase

HP	RPM	Frame	Part Number	Turndown Ratio (CT) <sup>(1)</sup>	Shipping Weight (lbs.)
1	1800	143TC	M100EX18F3P143TCA2	4:1	64
2	1800	145TC	M200EX18F3P145TCA2	4:1	80
3	1800	182TC	M300EX18F3P182TCA2	4:1	136
	1200	213TC	M300EX12F3P213TCA2	4:1	240
5	1800	184TC	M500EX18F3P184TCA2	4:1	145
	1200	215TC	M500EX12F3P215TCA2	4:1	235
7-1/2	1800	213TC	M750EX18F3P213TCA2	4:1	200
	1200	254TC	M750EX12F3P254TCA2	4:1	365
10	1800	215TC	M1000EX18F3P215TCA2	4:1	265
	1200	256TC	M1000EX12F3P256TCA2	4:1	420
15	1800	254TC	M1500EX18F3P254TCA2	4:1	390
	1200	284TC	M1500EX12F3P284TCA2	4:1	575
20	1800	256TC	M2000EX18F3P256TCA2	4:1	455
	1200	286TC	M2000EX12F3P286TCA2	4:1	600

(1) Consult factory if higher turndown ratios are required.

## Motors, Hazardous-duty Location, Explosion Proof, Footed, 3 Phase

HP	RPM	Frame	Part Number	Turndown Ratio (CT) <sup>(1)</sup>	Shipping Weight (lbs.)
1	1800	143T	M100EX18F3P143TA2	4:1	64
2	1800	145T	M200EX18F3P145TA2	4:1	80
3	1800	182T	M300EX18F3P182TA2	4:1	136
	1200	213T	M300EX12F3P213TA2	4:1	240
5	1800	184T	M500EX18F3P184TA2	4:1	145
	1200	215T	M500EX12F3P215TA2	4:1	235
7-1/2	1800	213T	M750EX18F3P213TA2	4:1	200
	1200	254T	M750EX12F3P254TA2	4:1	365
10	1800	215T	M1000EX18F3P215TA2	4:1	265
	1200	256T	M1000EX12F3P256TA2	4:1	420
15	1800	254T	M1500EX18F3P254TA2	4:1	390
	1200	284T	M1500EX12F3P284TA2	4:1	575
20	1800	256T	M2000EX18F3P256TA2	4:1	455
	1200	286T	M2000EX12F3P286TA2	4:1	600
25 <sup>(2)</sup>	1800	284T	M2500EX18F3P284TA2	4:1	565
	1200	324T	M2500EX12F3P324TA2	4:1	825
30 <sup>(2)</sup>	1200	326T	M3000EX12F3P326TA2	4:1	787
40 <sup>(2)</sup>	1800	324T	M4000EX18F3P324TA2	4:1	708

(1) Consult factory if higher turndown ratios are required.

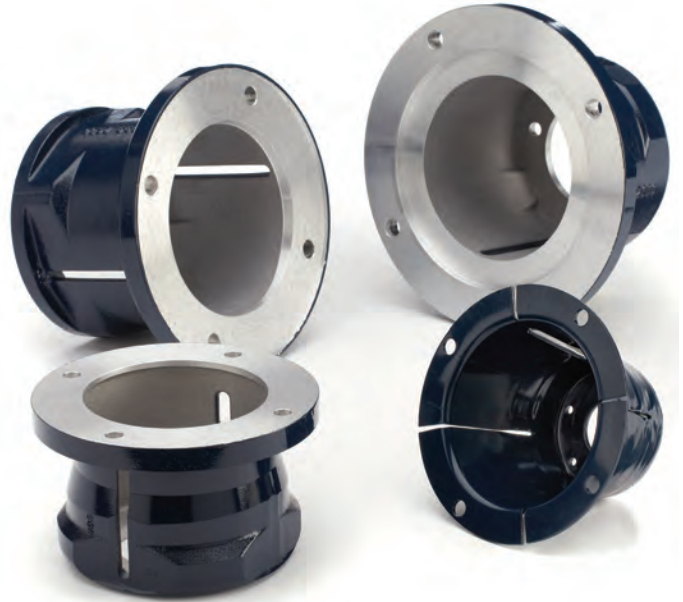
(2) Greater than 20hp available as Group D only.

# Pump Motor Adapters

## Pump/Motor Adapters, NEMA

Part Number	Pump Model	Motor Size
A04-005-1200	F22	56C-145TC
A04-001-1202	D03 & D04	56C-145TC
A04-002-1202	D03 & D04	182TC-215TC
A04-001-1200	D10	56C-143/145TC
A04-002-1200	D10	182/184TC-213/215TC
A04-041-1200	D15/D17 & H25	182TC-256TC
A04-041-1202	D15/D17 & H25	284TC-286TC

**Note:** Dimensional drawings are shown in each pump model section.



## Pump Motor Baseplates and Guards

- Feature heavy-gauge construction.
- Ready to assemble - all mounting holes are fully threaded.
- Complete package includes all mounting hardware, guards, and shims.
- Available for size 56 through 326 NEMA motor frames.
- Choice of blue epoxy-powder-coated steel or Grade 304 Stainless Steel baseplates.
- Pump, motor, adjustable motor base (for HBD Series), coupling, flange adapter, pulleys, and belt ordered separately.
- Customized versions available.

### HDD Series

Horizontal Direct Drive with Orange Coupling Guard



Designed for Hydra-Cell models D10, D15, H25 and D35. (D10 shown)

### HFD Series

Horizontal Flanged Adapter Drive



Designed for Hydra-Cell models D10, D15 and H25. (D10 shown)

### HBD Series

Horizontal Belt Drive with Belt Pulley Guard



Designed for Hydra-Cell models D10, D15, H25 and D35. (D35 shown)

**Note:** Consult factory for specific model-based drawings and dimensions.



# Pump Motor Baseplates and Guards



Required Motor Information		HDD Series Horizontal Direct Drive		HFD Series Horizontal Flanged Adapter Drive		HBD Series Horizontal Belt Drive	
Frame Size	Motor Shaft (in.)	Part Number		Part Number		Part Number	
		Steel	304 SST	Steel	304 SST	Steel	304 SST
<b>D10 Pump Shaft Ø: 7/8"</b> Bases and guards are contour-formed for maximum strength and safety. Steel thickness from 10 to 7 gauge.							
56C	5/8	104-050	104-051	104-052	104-053	104-150	104-151
143T	7/8	104-050	104-051	104-052	104-053	104-150	104-151
145T	7/8	104-050	104-051	104-052	104-053	104-150	104-151
182T	1-1/8	104-000	104-001	104-002	104-003	104-100	104-101
184T	1-1/8	104-000	104-001	104-002	104-003	104-100	104-101
213T	1-3/8	104-030	104-031	104-032	104-033	104-100	104-101
215T	1-3/8	104-030	104-031	104-032	104-033	104-100	104-101
<b>D15 Pump Shaft Ø: 1-1/8"</b> Heavy-duty contour-formed and welded reinforced design. All steel plates 3/16" thick.							
182T	1-1/8	104-830	104-831	104-870	104-871	-	-
184T	1-1/8	104-830	104-831	104-870	104-871	-	-
213T	1-3/8	104-820	104-821	104-860	104-861	104-890	104-891
215T	1-3/8	104-820	104-821	104-860	104-861	104-890	104-891
254T	1-5/8	104-810	104-811	104-850	104-851	104-880	104-881
256T	1-5/8	104-810	104-811	104-850	104-851	104-880	104-881
284T	1-7/8	104-800	104-801	104-840	104-841	-	-
286T	1-7/8	104-800	104-801	104-840	104-841	-	-
<b>H25 Pump Shaft Ø: 1-1/8"</b> Heavy-duty contour-formed and welded reinforced design. All steel plates 3/16" thick.							
143T	7/8	-	-	-	-	104-480	104-481
145T	7/8	-	-	-	-	104-480	104-481
182T	1-1/8	104-350	104-351	104-380	104-381	104-450	104-451
184T	1-1/8	104-350	104-351	104-380	104-381	104-450	104-451
213T	1-3/8	104-375	104-376	104-380	104-381	104-440	104-441
215T	1-3/8	104-375	104-376	104-380	104-381	104-440	104-441
254T	1-5/8	104-330	104-331	104-304	104-309	104-400	104-401
256T	1-5/8	104-330	104-331	104-304	104-309	104-400	104-401
284T	1-7/8	104-300	104-301	104-304	104-309	-	-
286T	1-7/8	104-300	104-301	104-304	104-309	-	-
<b>D35 Pump Shaft Ø: 2"</b> Heavy-duty contour-formed and welded reinforced design. All steel plates 1/4" thick.							
182T	1-1/8	-	-	-	-	104-750	104-751
184T	1-1/8	-	-	-	-	104-750	104-751
213T	1-3/8	104-660	104-661	-	-	104-740	104-741
215T	1-3/8	104-660	104-661	-	-	104-740	104-741
254T	1-5/8	104-650	104-651	-	-	104-730	104-731
256T	1-5/8	104-650	104-651	-	-	104-730	104-731
284T	1-7/8	104-640	104-641	-	-	104-700	104-701
286T	1-7/8	104-640	104-641	-	-	104-700	104-701
324T	2-1/8	104-600	104-601	-	-	-	-
326T	2-1/8	104-600	104-601	-	-	-	-

# Controllers

Controllers regulate the motor speed and strokes per minute, providing a flow that is proportional to the motor speed.

## Selection Process

1. Ensure that the phase and enclosure match your application.
2. Using the appropriate chart below, select the controller hp based on the hp of your motor.
3. Match the output voltage to the output voltage of your motor.
4. Match the input voltage to your electrical source.



## 1 Phase

HP	Type	Input Voltage/Phase	Output Voltage/Phase	Enclosure	Part Number	Weight (lbs.)
1/2	Sensorless Vector	230 volt / 1-phase	230 volt / 3-phase	NEMA 1	C50N1-1P3P-230	2.2
1	Sensorless Vector	115 volt / 1-phase	230 volt / 3-phase	IP-20	C100IP-1P3P-115	3.5
1	Micro AC Inverter	115 volt / 1-phase	230 volt / 3-phase	NEMA 4	C100N4-1P3P-115	8.0
1	Sensorless Vector	230 volt / 1-phase	230 volt / 3-phase	NEMA 1	C100N1-1P3P-230	2.2
1	Sensorless Vector	230 volt / 1-phase	230 volt / 3-phase	NEMA 4	C100N4-1P3P-230	8.0
2	Sensorless Vector	230 volt / 1-phase	230 volt / 3-phase	NEMA 1	C200N1-1P3P-230	4.4
3	Sensorless Vector	230 volt / 1-phase	230 volt / 3-phase	NEMA 1	C300N1-1P3P-230	4.4

## 3 Phase

HP	Type	Input Voltage/Phase	Output Voltage/Phase	Enclosure	Part Number	Weight (lbs.)
1/2	Sensorless Vector	230 volt / 3-phase	230 volt / 3-phase	NEMA 1	C50N1-3P3P-230	2.2
1	Sensorless Vector	230 volt / 3-phase	230 volt / 3-phase	NEMA 1	C100N1-3P3P-230	2.2
2	Sensorless Vector	230 volt / 3-phase	230 volt / 3-phase	NEMA 1	C200N1-3P3P-230	4.4
2	Sensorless Vector	230 volt / 3-phase	230 volt / 3-phase	NEMA 4	C200N4-3P3P-230	14.0
3	Sensorless Vector	230 volt / 3-phase	230 volt / 3-phase	NEMA 1	C300N1-3P3P-230	4.4
5	Sensorless Vector	230 volt / 3-phase	230 volt / 3-phase	NEMA 1	C500N1-3P3P-230	5.0
7-1/2	Sensorless Vector	230 volt / 3-phase	230 volt / 3-phase	NEMA 1	C750N1-3P3P-230	13.0
10	Sensorless Vector	230 volt / 3-phase	230 volt / 3-phase	NEMA 1	C1000N1-3P3P-230	13.0
1	Sensorless Vector	460 volt / 3-phase	460 volt / 3-phase	NEMA 1	C100N1-3P3P-460	2.2
1	Sensorless Vector	460 volt / 3-phase	460 volt / 3-phase	NEMA 4	C100N4-3P3P-460	13.0
2	Sensorless Vector	460 volt / 3-phase	460 volt / 3-phase	NEMA 1	C200N1-3P3P-460	2.2
2	Sensorless Vector	460 volt / 3-phase	460 volt / 3-phase	NEMA 4	C200N4-3P3P-460	14.0
3	Sensorless Vector	460 volt / 3-phase	460 volt / 3-phase	NEMA 1	C300N1-3P3P-460	4.4
5	Sensorless Vector	460 volt / 3-phase	460 volt / 3-phase	NEMA 1	C500N1-3P3P-460	4.4
7-1/2	Sensorless Vector	460 volt / 3-phase	460 volt / 3-phase	NEMA 1	C750N1-3P3P-460	14.0
10	Sensorless Vector	460 volt / 3-phase	460 volt / 3-phase	NEMA 1	C1000N1-3P3P-460	14.0
15	Sensorless Vector	460 volt / 3-phase	460 volt / 3-phase	NEMA 1	C1500N1-3P3P-460	14.0
20	Sensorless Vector	460 volt / 3-phase	460 volt / 3-phase	NEMA 1	C2000N1-3P3P-460	28.0
30	Sensorless Vector	460 volt / 3-phase	460 volt / 3-phase	NEMA 1	C3000N1-3P3P-460	30.0

# Replacement Parts Kits

Convenient replacement part kits for all models of Hydra-Cell pumps are prepackaged with all necessary components to make pump service quick and easy.

Three types of kits are available depending on the level of replacement service required:

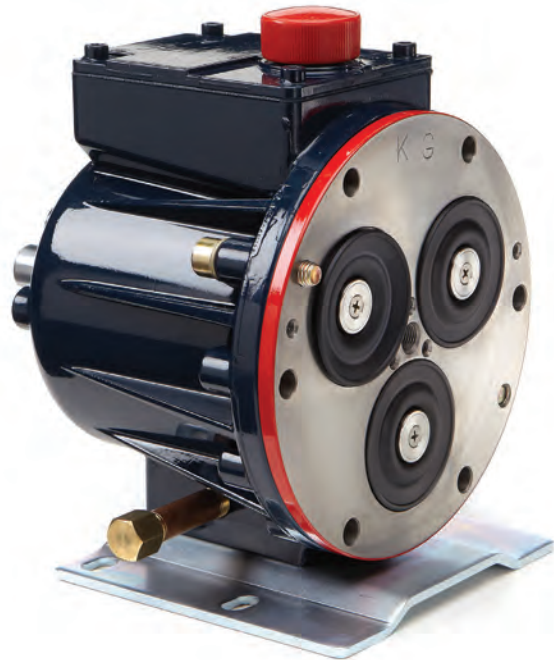
- Diaphragm Kit
- Valve Kit
- Complete Fluid-end Kit

Every kit has the correct components matching your specific pump configuration and materials (based on your original model number designed in Order Code Digits 7, 8, 9, 10 & 11). Contact us or your Hydra-Cell distributor to select your correct kit.



# Replacement Hydraulic Ends

Complete hydraulic end assemblies are available as replacement items. The hydraulic end contains all drive end components from the drive shaft up to and including the diaphragms. All hydraulic ends are factory-tested and shipped with oil. To order a replacement hydraulic end, refer to the appropriate pump ordering page and specify the desired cam, diaphragm and o-ring material, and Hydra-Oil.



# Hydra-Oil Lubricants

Hydra-Oil is specially formulated to maximize performance of Hydra-Cell pumps:

- Reduce wear.
- Withstand extreme temperature changes.
- Improve pump performance.
- Extend pump life.
- Maintain consistent viscosity.
- Withstand extreme pressures.

## Standard Grades

### 10W30-weight (Order Code A)

For lower temperatures and lighter loads; maintains viscosity over a wide temperature range and with repeated startups.

### 40-weight (Order Code B)

For continuous use at higher loads and temperatures; provides exceptional wear resistance and film thickness.

## Synthetic Grades

Hydra-Oil synthetic grades are a blend of synthesized hydrocarbon fluids that provide pure chemicals and a heavier, more protective oil film for bearings and pistons.

### 5W30 (Order Code G)

For stable protection in cold temperatures or severe duty.

### 15W50 (Order Code H)

For stable protection in high temperatures or severe duty.

## Food-contact Grade

The Hydra-Oil food contact grade is specially formulated for food service industry applications. Hydra-Oil SFGO grade 100 is USDA H-1 authorized, certified OU Kosher, and complies with the requirements of FDA 21 CFR 178.3570 and FDA 21 CFR 172.882. This lubricant is a polyalphaolephin based synthetic (PAO) and is suggested for use on equipment in which there may be incidental contact with an edible product.

## EPDM-compatible Grades

Hydra-Oil EPDM-compatible grades must be used in all Hydra-Cell pumps containing EPDM diaphragms. These CP-100/150 F lubricants are a custom blend of polyalkylene glycols with additives for oxidation stability, corrosion protection, and high-viscosity index. Low solubility with many different hydrocarbons provides for excellent lubricity. Hydra-Oil EPDM-compatible grades are available in 20-weight (Order Code J) and 30/40-weight (Order Code C or D).



Hydra-Oil Characteristics	Standard Grade		Synthetic Grade		Food Grade	EPDM Compatible
	10W30	40W	5W30	15W50	SFGO-100	20W
Order Code Letter	A	B	G	H	E/F or K	J/C/D
Gravity, API @60°F (16°C)	31.1	28.7	30.4	30.2	36.9	N/A
Flash Point °F (°C)	400 (204)	430 (221)	445 (229)	470 (243)	450 (232)	500 (260)
Fire Point °F (°C)	440 (227)	470 (243)	N/A	N/A	500 (260)	530 (277)
Pour Point °F (°C)	-30 (-34)	10 (-12)	-65 (-54)	-55 (-48)	-45 (-43)	-40 (-40)
Viscosity: SUS @ 100°F (38°C)	360	811	265	556	570	464
SUS @ 210°F	63	85	60	90	71	94.3
Viscosity Index (99°)	148	107	165	170	120	223
Specific Gravity	0.88	0.89	N/A	N/A	N/A	0.992

# Hydra-Oil Selection Guide

## How to Order with Pump Selection

Hydra-Cell pumps are shipped with the oil reservoir filled with the appropriate Hydra-Oil selected by the customer.

1. Use the Hydra-Oil Characteristics chart on page 12 to select the Hydra-Oil best suited to your application requirements.
2. Use the chart below to select the appropriate oil letter code which corresponds to the 12th digit of the pump model ordering number. (Refer to the How to Order page in the appropriate pump product section.)
3. NOTE: All pumps equipped with EPDM diaphragms must use EPDM-compatible oil.

## Oil Recommendation

Pump Model	F20 <sup>1</sup>	M03 <sup>2</sup>	D04	D10	D12	D15/D17	H25	D35	D66
<b>Oil Reservoir Capacity</b>									
US Quarts	0.125	1.00	1.10	1.10	1.5	2.2	3.3	7.75	8.0
Liters	0.120	0.95	1.05	1.05	1.4	2.1	3.1	7.3	7.5
<b>Metallic Pump Head Material</b>									
Standard-duty	G	A	G	A	A	A	A	A	-
Continuous-duty	G	G	G	B	B	B	B	B	-
Cold-temperature/Severe-duty	G	G	G	G	G	G	G	G	-
High-temperature/Severe-duty	G	G	G	H	G	H	H	H	H
Food-contact	K	K	K	E	E	E	E	F	-
EPDM-compatible	J	J	J	C	C	-	C	D	-
<b>Non-metallic Pump Head Material</b>									
Standard-duty	G	A	-	A	-	-	A	-	-
Continuous-duty	G	G	-	B	-	-	B	-	-
Cold-temperature/Severe-duty	G	G	-	G	-	-	G	-	-
High-temperature/Severe-duty	G	G	-	H	-	-	G	-	H
Food-contact	K	K	-	E	-	-	E	-	-
EPDM-compatible	J	J	-	C	-	-	C	-	-

<sup>1</sup> Includes all F20, F21 and F22 models

<sup>2</sup> Includes all D03, M03, and M03 Mono-Block models

## How to Order Separately

Replacement Hydra-Oil is available in quart and 2-1/2 gallon packages.

1. Consult your Hydra-Cell Pump Installation/Service Manual for oil change interval specifications.
2. Use the part numbers in the chart below.

Code Letter	Oil Description	Quart		2-1/2 Gallon	
		Single	6-Pack	Single	Twin-Pack
<b>A</b>	10W30 for standard-duty	A01-114-3430	A01-114-3431	A01-114-3432	A01-114-3433
<b>B</b>	40-wt for continuous-duty	A01-114-3440	A01-114-3441	A01-114-3442	A01-114-3443
<b>C</b>	30/40-wt EPDM-compatible oil	A01-114-3402	-	A01-114-3403	-
<b>D</b>	30/40-wt EPDM-compatible oil	A01-114-3402	-	A01-114-3403	-
<b>E</b>	Food-contact oil	A01-114-3410	-	A01-114-3411	-
<b>F</b>	Food-contact oil	A01-114-3410	-	A01-114-3411	-
<b>G</b>	5W30 cold-temp severe-duty synthetic oil	A01-114-3415	-	A01-114-3420	-
<b>H</b>	15W50 high-temp severe-duty synthetic oil	A01-114-3416	-	A01-114-3421	-
<b>J</b>	20-wt EPDM-compatible oil	A01-114-3407	-	A01-114-3408	-
<b>K</b>	Food-contact oil	A01-114-3410	-	A01-114-3411	-

# Hydraulic Air-cooled Oil Filters

- Reduces wear and tear on the Hydra-Oil to help prolong Hydra-Cell pump life.
- Cools Hydra-Oil from 250°F to 185°F using up to 110°F ambient air.

- Oil cooler capacity of 0.84 gallons @ 1 gpm.\*
- Oil cooler capacity of 1.07 gallons @ 2 gpm.\*

\* Does not include oil volume for inlet and outlet hoses or individual pump capacity.

## Gear Pump Options

- 1 gpm for Hydra-Cell Model D03, D04, D10, D15 & H25 pumps.
- 2 gpm Hydra-Cell Model D35, D40, D66, T100 & Q155 pumps.

## Assembly Components

- Spin-on oil filter.
- 2-gallon oil reservoir.
- 65-psi check valve.
- 200-psi gauge.
- Dirty filter indicator - holds up to 130 grams of dirt.\*
- Inlet: 1/2" NPT.
- Outlet: 1-1/2" NPT.

\* Filter replacement using Wanner Engineering's standard motor oil replacement protocol recommended after 500 hours of service.



Air-cooled Oil Filter shown with complete kit.

Part Number	Motor Type	Oil Code	Oil Description
<b>1 gpm Units</b>			
142-500	TE	A	10W30 standard-duty oil
142-501	TE	H	15W50 high-temp severe-duty synthetic oil
142-502	TE	B	40-wt for continuous-duty oil
142-503	TE	E	SFGO-100 Food-contact oil
142-504	TE	D	20W-wt EPDM-compatible oil
142-505	XP	A	10W30 standard-duty oil
142-506	XP	H	15W50 high-temp severe-duty synthetic oil
142-507	XP	B	40-wt for continuous-duty oil
142-508	XP	E	SFGO-100 Food-contact oil
142-509	XP	D	20W-wt EPDM-compatible oil
<b>2 gpm Units</b>			
142-510	TE	A	10W30 standard-duty oil
142-511	TE	H	15W50 high-temp severe-duty synthetic oil
142-512	TE	B	40-wt for continuous-duty oil
142-513	TE	E	SFGO-100 Food-contact oil
142-514	TE	D	20W-wt EPDM-compatible oil
142-515	XP	A	10W30 standard-duty oil
142-516	XP	H	15W50 high-temp severe-duty synthetic oil
142-517	XP	B	40-wt for continuous-duty oil
142-518	XP	E	SFGO-100 Food-contact oil
142-519	XP	D	20W-wt EPDM-compatible oil
<b>Motor Type</b>		<b>Description</b>	
TE		TEFC 230/460V, 60Hz, 3P & 190/380V, 50Hz, 3P: 1/2-hp pump; 1/4-hp fan	
XP		Explosion proof, 230/460V, 60Hz, 3P, DIV 1, Class I Gr. D & Class II Gr. F & G: 1/2-hp pump; 1/4-hp fan	

# Hydraulic Water-cooled Oil Filters

- Reduces wear and tear on the Hydra-Oil to help prolong Hydra-Cell pump life.
- Cools Hydra-Oil from 250°F to 185°F using 3 gpm of up to 80°F water.
- Water cooler capacity of approximately 1 quart.\*

\*Does not include oil volume for inlet and outlet hoses or individual pump capacity.

## Gear Pump Options

- 1 gpm for Hydra-Cell Model D03, D04, D10, D15 & H25 pumps.
- 2 gpm Hydra-Cell Model D35, D40, D66, T100 & Q155 pumps.

## Assembly Components

- Spin-on oil filter.
- 2-gallon oil reservoir.
- 65-psi check valve.
- 200-psi gauge.
- Dirty filter indicator - holds up to 130 grams of dirt.\*
- Water modulating valve.
- Bulb well.
- Inlet: 1/2" NPT.
- Outlet: 1-1/2" NPT.

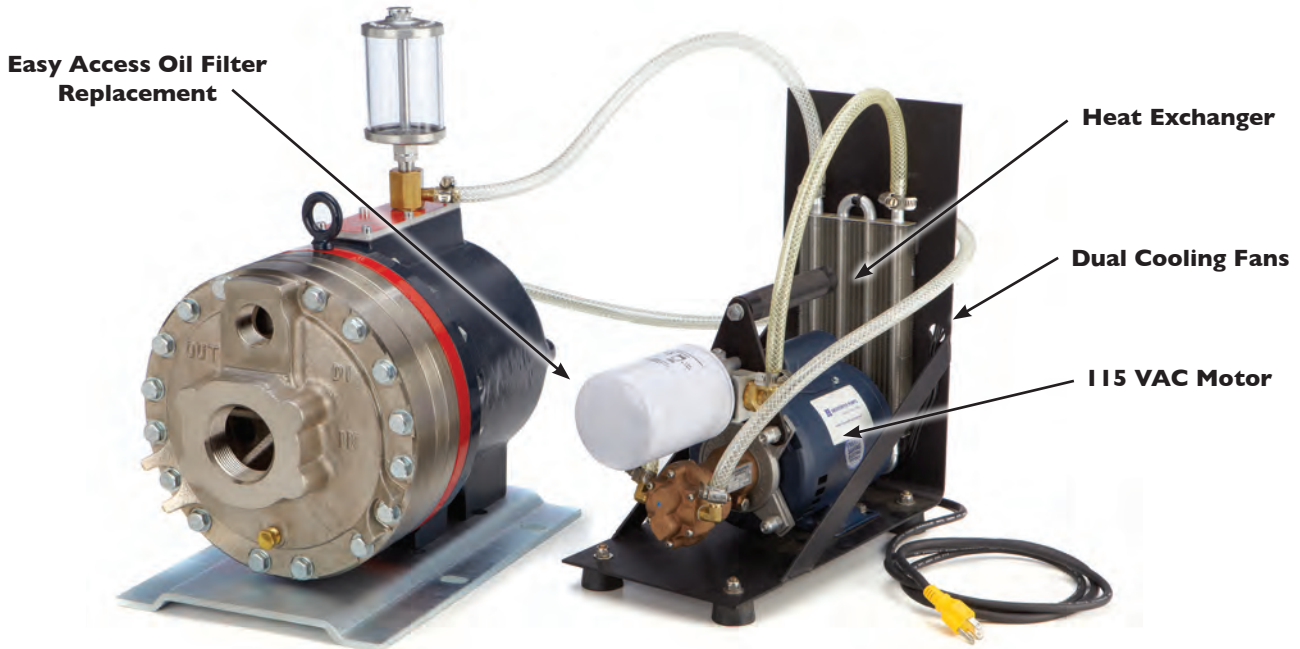
\*Filter replacement using Wanner Engineering's standard motor oil replacement protocol recommended after 500 hours of service.



Water-cooled Oil Filter shown with complete kit.

Part Number	Motor Type	Oil Code	Oil Description
<b>1 gpm Units</b>			
142-600	TE	A	10W30 standard-duty oil
142-601	TE	H	15W50 high-temp severe-duty synthetic oil
142-602	TE	B	40-wt for continuous-duty oil
142-603	TE	E	SFGO-100 Food-contact oil
142-604	TE	D	20W-wt EPDM-compatible oil
142-605	XP	A	10W30 standard-duty oil
142-606	XP	H	15W50 high-temp severe-duty synthetic oil
142-607	XP	B	40-wt for continuous-duty oil
142-608	XP	E	SFGO-100 Food-contact oil
142-609	XP	D	20W-wt EPDM-compatible oil
<b>2 gpm Units</b>			
142-610	TE	A	10W30 standard-duty oil
142-611	TE	H	15W50 high-temp severe-duty synthetic oil
142-612	TE	B	40-wt for continuous-duty oil
142-613	TE	E	SFGO-100 Food-contact oil
142-614	TE	D	20W-wt EPDM-compatible oil
142-615	XP	A	10W30 standard-duty oil
142-616	XP	H	15W50 high-temp severe-duty synthetic oil
142-617	XP	B	40-wt for continuous-duty oil
142-618	XP	E	SFGO-100 Food-contact oil
142-619	XP	D	20W-wt EPDM-compatible oil
<b>Motor Type</b>		<b>Description</b>	
TE		TEFC 230/460V, 60Hz, 3P & 190/380V, 50Hz, 3P: 1/2-hp pump	
XP		Explosion proof, 230/460V, 60Hz, 3P, DIV 1, Class I Gr. D & Class II Gr. F & G: 1/2-hp pump	

# Oil Cooler and Filter System



Hydra-Cell Oil Cooler and Filter Systems enable Hydra-Cell pumps to operate cooler in order to extend oil life and reduce bearing wear. This helps maximize performance and reliability in some of the toughest industrial and process applications. They are easy to install and available with all Hydra-Cell models except the F20, P100, MT8, and T & Q Series models. (D35 shown)

- Reduces the typical oil operating temperature by up to 30°F (16°C).
- Lessens the impact of pumping high-temperature fluids.
- Offers greater longevity for pump components when combined with a filtration system built into the cooling loop.
- Extends oil life, reducing the need for oil changes.
- Packaged system includes a hardware kit (see chart) with all necessary fittings, hoses, adapters, hardware, and mounting materials for installation.

## Oil Cooler & Filter System

Power	Part Number
60 Hz, 115 VAC	103-100
50 Hz, 230 VAC	103-150

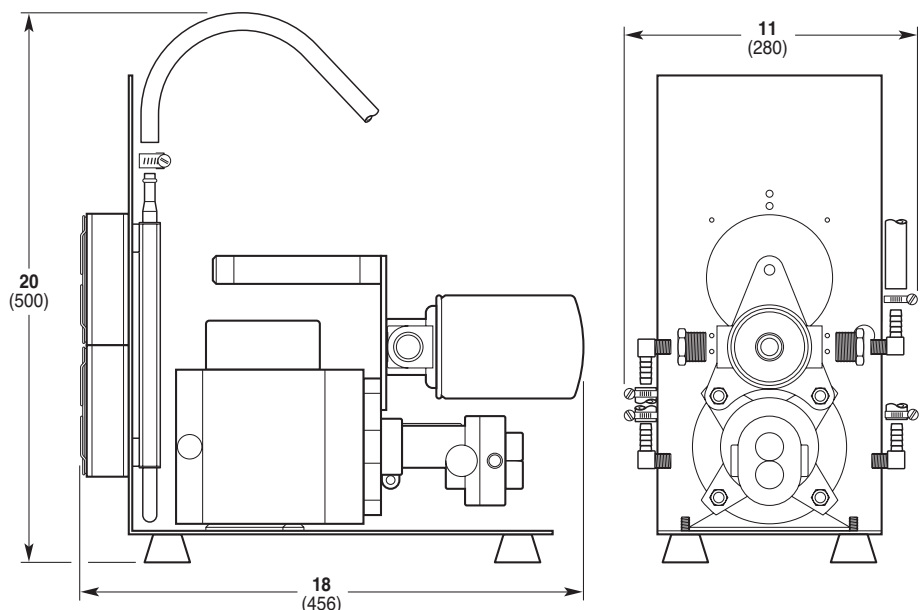
Specify pump when ordering.

## Hardware Kits

A Hardware Kit must be ordered when ordering a 103-100 or 103-150 Oil Cooler and Filter System. Select the Hardware Kit based on the pump series below.

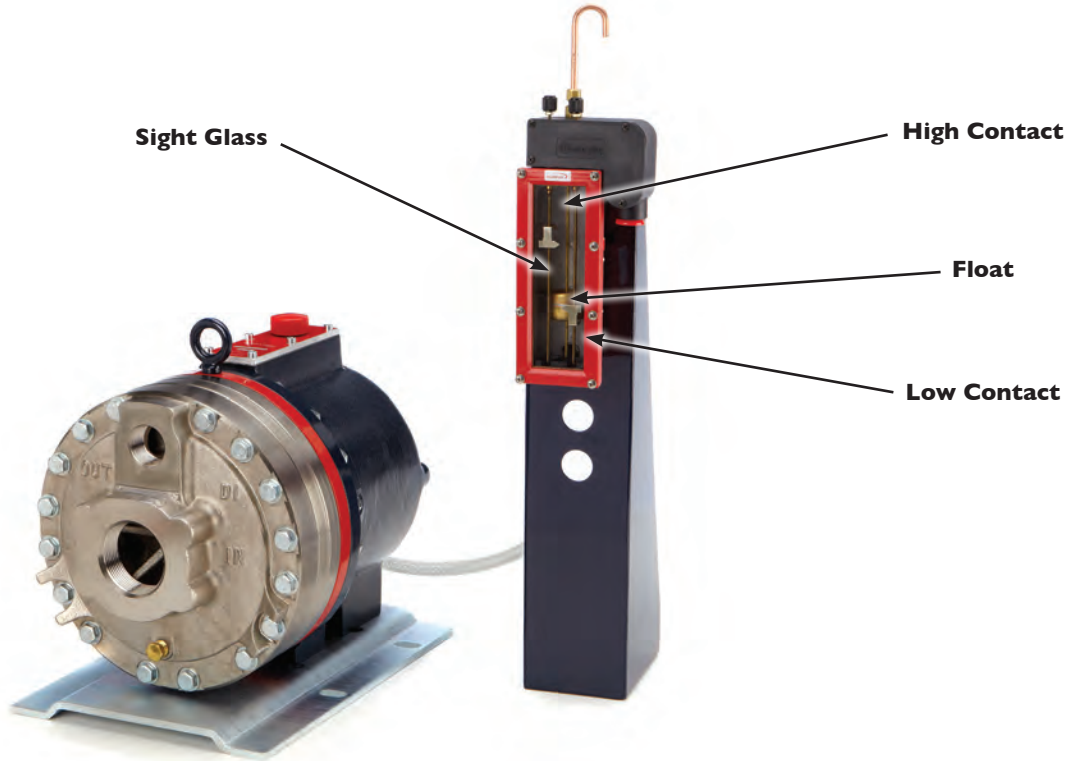
Pump	Part Number
D03, D04, D10, D12, P200, P300, P400	103-180
D15, H25, D35, D66, P500, P600	103-175
D17	103-190

## Dimensions Inches (mm)





# Oil Level Monitoring Mounting Kits



The Hydra-Cell Oil Level Monitoring Kit uses a Murphy SWICHGAGE Model L129CKI, which is field-proven to detect the crank case oil levels and is well-suited to detect oil levels for Hydra-Cell pumps. It is not used with the F20, PI00, and T & Q Series models. (D35 shown)

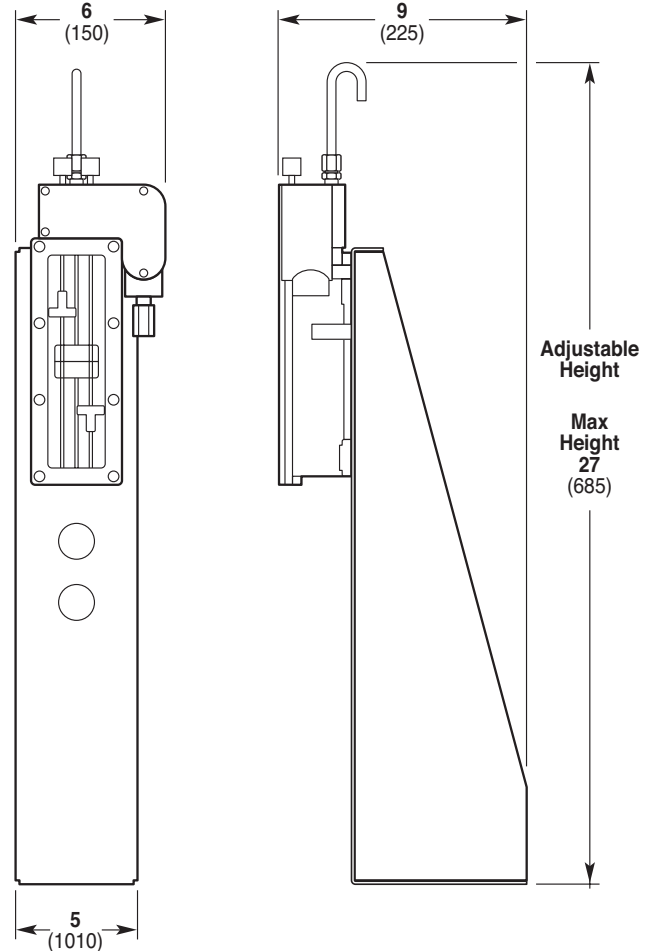
- Detects changes to the oil level in the pump to minimize costly interruptions in the process and avoid potential pump damage
- Ideal for remote or critical industrial applications, such as oil fields, paper mills and automotive plants
- Compact, rugged, and ready to use when supplied with a Murphy SWICHGAGE (ordered separately)
- Adjustable height to accommodate installation options

## Oil Level Monitoring Mounting Kit

Description	Part Number
Mounting Kit	103-000
Murphy SWICHGAGE®	103-010

SWICHGAGE® is a registered trademark of Frank W. Murphy MFR.

### Dimensions Inches (mm)



# Oil Reservoir Sight Bottles

Oil reservoir assemblies screw in easily where the oil fill cap is located on all Hydra-Cell pumps models except the F20, P100, and T & Q Series models.

Hydra-Cell pumps equipped with an oil reservoir provide additional volume for oil expansion and allow for quick visual monitoring of the oil level and its condition.

Three different bottles are available, including a 12-oz bottle with a low-level float switch that outputs a low voltage signal if the oil level in the pump housing drops.

## Bottle Assemblies

Description	Part Number
12-oz (474 ml) volume sight bottle	A01-116-3400
12-oz (474 ml) volume sight bottle with low-level float switch	A01-116-3410
4-oz (119 ml) volume sight bottle	A01-116-3500



# Vacuum Priming Kit

The Hydra-Cell Vacuum Priming Kit provides for a quick and easy way to prime the hydraulic pistons after diaphragm replacement. The tool assembly is attached to the hydraulic end housing through the oil cap and pulls a vacuum, removing air from behind the diaphragms. Priming can be accomplished while the pump remains in place.

Description	Part Number
Vacuum Priming Kit	A03-130-1200



# Priming Plugs

PVC priming plugs are used to assist in priming the hydraulic cells in Hydra-Cell pumps equipped with Kel-Cell technology. They are available in a variety of sizes with and without air valves.

Description	Part Number
NPT, solid 3/4"	A03-100-0000
NPT, solid 1"	A03-100-0001
NPT, solid 1-1/4"	A03-100-0002
NPT, solid 1-1/2"	A03-100-0003
NPT, solid 2-1/2"	A03-100-0004
NPT, solid 3/4", with air valve	A03-100-0040
NPT, solid 1", with air valve	A03-100-0041
NPT, solid 1-1/4", with air valve	A03-100-0042
NPT, solid 1-1/2", with air valve	A03-100-0043
NPT, solid 2-1/2", with air valve	A03-100-0044
BSPT, solid 2-1/2", with air valve	A03-100-0144



# Tool Kits



## Complete Tool Kits

Customized for your specific pump model, Hydra-Cell Tool Kits provide specialty tools to facilitate maintenance and servicing of your Hydra-Cell pump. Each kit is packaged in a durable plastic case and includes a shaft rotator, valve seat remover, plunger guide lifter, plunger holder, protector seal, seal inserter, and assembly studs.

Pump Model	Tool Kit Part Number
Master Tool Kit for all Pump Models	A03-175-1107
F20, F21, F22	A03-175-1105
M03, D03, D04	A03-175-1106
D10, D12	A03-175-1101
D15/D17	A03-175-1103
H25	A03-175-1102
D35	A03-200-1100
D40/D66	A03-191-1100
T100 & Q155 Low Pressure	177-811
T100 & Q155 Medium Pressure	177-800
T100 High Pressure	177-807
T200 Medium Pressure	211-800
T200 Crankshaft	211-812

**Note:** Since Mono-Block pumps feature the valve plate and manifold combined into one component for servicing, consult factory regarding tool kit needs.

## Specialty Tools

For your convenience individual specialty tools are available for all Hydra-Cell pumps.

Ref #	Part Number	Description
1	A03-126-1500	Toolbox
2	A03-159-1200	Inserter/Rotator (D10)
	A03-160-1200	Inserter/Rotator (D15/D17, H25)
	A03-185-1200	Inserter/Rotator (D35, D40, D66)
3	A03-124-1200	Lever Assembly
4	A03-117-1000	Seat Puller (M03, D03, D04)
	A03-118-1000	Seat Puller (D10, D12)
	A03-119-1000	Seat Puller (H25, D35)
5	A03-157-1000	Seal Protector (D10, D12)
	A03-158-1002	Seal Protector (D15/D17)
	A03-158-1001	Seal Protector (H25)
6	A03-125-1020	Plunger Holder (F20, M03, D03, D04)
	A03-125-1010	Plunger Holder (D10, D12, D15/D17)
	A03-125-1000	Plunger Holder (H25, D35)
	A03-125-1030	Plunger Holder (D40, D66)
7	A03-195-1200	Shaft Rotator (F20, M03, D03, D04)
8	A03-196-1000	Plunger Guide Lifter (F20, M03, D03, D04)
9	A03-162-1200	Plunger Guide Lifter (D10, D12)
	A03-162-1201	Plunger Guide Lifter (H25, D35)
	A03-162-1202	Plunger Guide Lifter (D40, D66)
10	A03-156-1200	Assembly Studs (D10, D12, D15/D17, H25, D35, D40, D66)
	A03-182-1200	Seat Removal Tool (D40, D66)

# Pulsation Dampeners

Pulsation dampeners protect your pumping system and its components by removing virtually all hydraulic shock and vibration resulting from the reciprocating stroking action of a positive displacement pump.

They control pulsations by allowing fluid to enter a wetted chamber of the dampener during the discharge stroke. This displaces a flexible bladder, which compresses gas in an air chamber, thus absorbing the shock. During the inlet stroke, liquid pressure decreases as the dampener gas expands, allowing fluid to re-enter the process line.

Since Hydra-Cell multiple-diaphragm model pumps provide smooth, virtually pulse-less linear flow, pulsation dampeners are recommended for F20 and P100 models, but are optional for all other models.



## Selection Process

### Determine application

- Discharge pulsation <1000 psi or >1000 psi (<69 bar or >69 bar)
- Inlet stabilization:  
 For flooded suction, use “Chargeable.”  
 For suction lift, use “J Style.”

### Select dampener size (cu. in. volume)

Based on the Hydra-Cell pump model and application, select the appropriate cubic inch size from the chart at right.

### Select dampener model

Use the appropriate dampener size chart on pages 21 to 23 to select the specific model with the desired housing materials, bladder material, and pressure and temperature performance. (Consult factory for special order units with other construction materials and temperature limits.)

Air Control Pump Model	Application			
	Discharge Pulsation		Inlet Stabilization	
	Chargeable <1000 psi <69 bar	Chargeable >1000 psi >69 bar	Chargeable Flooded Suction	J-Style Suction Lift
<b>MT8</b>	4 or 8 cu. in.	8 or 12 cu. in.	N/A	N/A
<b>F20 (P100)</b>	4 cu. in.	8 or 12 cu. in.	10 cu. in.	10 cu. in.
<b>M03 (P200)</b>	4 cu. in.	8 or 12 cu. in.	10 cu. in.	10 cu. in.
<b>D04 (P300)</b>	4 cu. in.	8 or 12 cu. in.	10 cu. in.	10 cu. in.
<b>D10 (P400)</b>	4 cu. in.	8 or 12 cu. in.	10 cu. in.	10 cu. in.
<b>D12</b>	4 cu. in.	N/A	4 cu. in.	10 cu. in.
<b>D15 (P500)</b>	4 cu. in.	8 or 12 cu. in.	10 cu. in.	10 cu. in.
<b>D17</b>	4 cu. in.	8 or 12 cu. in.	10 cu. in.	10 cu. in.
<b>H25 (P600)</b>	36 cu. in.	N/A	36 cu. in.	85 cu. in.
<b>D35</b>	36 cu. in.	12 cu. in.	36 cu. in.	85 cu. in.
<b>D66</b>	36 cu. in.	N/A	370 cu. in.	Consult Factory

**Note:** These are minimum size recommendations. A larger size can always be used.

## Pulsation Dampener Charging Kits

Part Number	Description
110-900	Charging kit to 999 psi (68.9 bar)
110-901	Charging kit from 1000 to 5000 psi (69 to 345 bar)

## Bladder Options

Bladder Material	Application Recommendations
Buna-N	Good flex life; use with petroleum, solvents, and oil-based fluids
Neoprene	Good abrasion resistance and flex; use with moderate chemicals
EPDM	Good for extreme cold; good chemical resistance with ketones, caustics
FKM	Good for hot and aggressive fluids; use with aromatics, solvents, acids, and oils
PTFE	Bellows design, excellent flex life; use with highly aggressive fluids

# Pulsation Dampeners

## 4 Cubic Inch Dampeners: Inlet 1/2" (female) Standard Models

Wetted	Bladder	Volume (Inch <sup>3</sup> )	Max Pressure		Part Number	
			psi	bar	NPT Ports	BSPT Ports
SST	Buna-N	4	1000	69	110-060	110-060-B
SST	Neoprene	4	1000	69	110-062	110-062-B
SST	EPDM	4	1000	69	110-063	110-063-B
SST	FKM	4	1000	69	110-065	110-065-B
SST	PTFE	4	600	41.4	110-068	110-068-B
Hastelloy C	Buna-N	4	1000	69	110-090	110-090-B
Hastelloy C	Neoprene	4	1000	69	110-092	110-092-B
Hastelloy C	EPDM	4	1000	69	110-093	110-093-B
Hastelloy C	FKM	4	1000	69	110-095	110-095-B
Hastelloy C	PTFE	4	600	41.4	110-098	110-098-B
Polypropylene	Buna-N	4	150	10.3	110-999	110-999-B
Polypropylene	Neoprene	4	150	10.3	110-101	110-101-B
Polypropylene	EPDM	4	150	10.3	110-104	110-104-B
Polypropylene	FKM	4	150	10.3	110-106	110-106-B
Polypropylene	PTFE	4	150	10.3	110-109	110-109-B
PVDF	Buna-N	4	150	10.3	110-020	110-020-B
PVDF	Neoprene	4	150	10.3	110-022	110-022-B
PVDF	EPDM	4	150	10.3	110-023	110-023-B
PVDF	FKM	4	150	10.3	110-026	110-026-B
PVDF	PTFE	4	150	10.3	110-028	110-028-B

## 10 Cubic Inch Dampeners: Inlet 1/2" (female) Standard Models

Wetted	Bladder	Volume (Inch <sup>3</sup> )	Max Pressure		Part Number	
			psi	bar	NPT Ports	BSPT Ports
SST	Buna-N	10	1000	69	110-260	110-260-B
SST	Neoprene	10	1000	69	110-262	110-262-B
SST	EPDM	10	1000	69	110-263	110-263-B
SST	FKM	10	1000	69	110-265	110-265-B
SST	PTFE	10	150	10.3	110-268	110-268-B
Hastelloy C	Buna-N	10	1000	69	110-290	110-290-B
Hastelloy C	Neoprene	10	1000	69	110-292	110-292-B
Hastelloy C	EPDM	10	1000	69	110-293	110-293-B
Hastelloy C	FKM	10	1000	69	110-295	110-295-B
Hastelloy C	PTFE	10	150	10.3	110-298	110-298-B
Polypropylene	Buna-N	10	150	10.3	110-100	110-100-B
Polypropylene	Neoprene	10	150	10.3	110-232	110-232-B
Polypropylene	EPDM	10	150	10.3	110-233	110-233-B
Polypropylene	FKM	10	150	10.3	110-105	110-105-B
Polypropylene	PTFE	10	150	10.3	110-108	110-108-B
PVDF	Buna-N	10	150	10.3	110-220	110-220-B
PVDF	Neoprene	10	150	10.3	110-222	110-222-B
PVDF	EPDM	10	150	10.3	110-223	110-223-B
PVDF	FKM	10	150	10.3	110-225	110-225-B
PVDF	PTFE	10	150	10.3	110-228	110-228-B

# Pulsation Dampeners

## 36 Cubic Inch Dampeners: Inlet 1/2" (female) Standard Models

Wetted	Bladder	Volume (Inch <sup>3</sup> )	Max Pressure		Part Number	
			psi	bar	NPT Ports	BSPT Ports
SST	Buna-N	36	1000	69	110-660	110-660-B
SST	Neoprene	36	1000	69	110-662	110-662-B
SST	EPDM	36	1000	69	110-663	110-663-B
SST	FKM	36	1000	69	110-665	110-665-B
SST	PTFE	36	600	41.4	110-668	110-668-B
CS	Buna-N	36	1000	69	110-640	110-640-B
CS	Neoprene	36	1000	69	110-642	110-642-B
CS	EPDM	36	1000	69	110-643	110-643-B
CS	FKM	36	1000	69	110-645	110-645-B
CS	PTFE	36	600	41.4	110-648	110-648-B
Hastelloy C	Buna-N	36	1000	69	110-690	110-690-B
Hastelloy C	Neoprene	36	1000	69	110-692	110-692-B
Hastelloy C	EPDM	36	1000	69	110-693	110-693-B
Hastelloy C	FKM	36	1000	69	110-695	110-695-B
Hastelloy C	PTFE	36	600	41.4	110-698	110-698-B
Polypropylene	Buna-N	36	150	10.3	110-600	110-600-B
Polypropylene	Neoprene	36	150	10.3	110-602	110-602-B
Polypropylene	EPDM	36	150	10.3	110-603	110-603-B
Polypropylene	FKM	36	150	10.3	110-605	110-605-B
Polypropylene	PTFE	36	150	10.3	110-608	110-608-B
PVDF	Buna-N	36	150	10.3	110-620	110-620-B
PVDF	Neoprene	36	150	10.3	110-622	110-622-B
PVDF	EPDM	36	150	10.3	110-623	110-623-B
PVDF	FKM	36	150	10.3	110-625	110-625-B
PVDF	PTFE	36	150	10.3	110-628	110-628-B

## 85 Cubic Inch Dampeners: Inlet 1" (female) Standard Models

Wetted	Bladder	Volume (Inch <sup>3</sup> )	Max Pressure		Part Number	
			psi	bar	NPT Ports	BSPT Ports
SST	Buna-N	85	1000	69	110-760	110-760-B
SST	FKM	85	1000	69	110-765	110-765-B

## 370 Cubic Inch Dampeners: Inlet 2" (female) Standard Models

Wetted	Bladder	Volume (Inch <sup>3</sup> )	Max Pressure		Part Number	
			psi	bar	NPT Ports	BSPT Ports
SST	Buna-N	370	300	20.6	110-910	110-910-B
SST	FKM	370	300	20.6	110-920	110-920-B
CS	Buna-N	370	300	20.6	110-930	110-930-B
CS	FKM	370	300	20.6	119-940	119-940-B

# Pulsation Dampeners

## 8 Cubic Inch Dampeners: Inlet (female) High Pressure Models

Wetted	Bladder	Volume (Inch <sup>3</sup> )	Max Pressure		Part Number	
			psi	bar	NPT Ports	BSPT Ports
SST	PTFE	8	4000	275	110-049*	110-049-B*
SST	FKM	8	4000	275	110-050*	110-050-B*
SST	FKM	8	4000	275	110-051	110-051-B
SST	PTFE	8	4000	275	110-052	110-052-B

\*2-port, flow-through inlet design

## 12 Cubic Inch Dampeners: Inlet (female) High Pressure Models

Wetted	Bladder	Volume (Inch <sup>3</sup> )	Max Pressure		Part Number	
			psi	bar	NPT Ports	BSPT Ports
SST	Buna-N	12	4000	275	110-370	110-370-B
SST	EPDM	12	4000	275	110-373	110-373-B
SST	FKM	12	4000	275	110-375	110-375-B
SST	PTFE	12	2000	138	110-368	110-368-B
SST	FKM	12	4000	275	110-377	110-377-B
SST	PTFE	12	4000	275	110-378	110-378-B
SST	FKM	12	4000	275	110-379*	110-379-B*
SST	PTFE	12	4000	275	110-380*	110-380-B*

\*2-port, flow-through inlet design

## 10 Cubic Inch Inlet Stabilizers with J-Style Control: Inlet 1/2" (female)

Wetted	Bladder	Volume (Inch <sup>3</sup> )	Max Pressure		Part Number	
			psi	bar	NPT Ports	BSPT Ports
CPVC	Buna-N	10	30	2	110-210-J	110-210-J-B
CPVC	Neoprene	10	30	2	110-212-J	110-212-J-B
CPVC	EPDM	10	30	2	110-213-J	110-213-J-B
CPVC	FKM	10	30	2	110-215-J	110-215-J-B
CPVC	PTFE	10	30	2	110-218-J	110-218-J-B

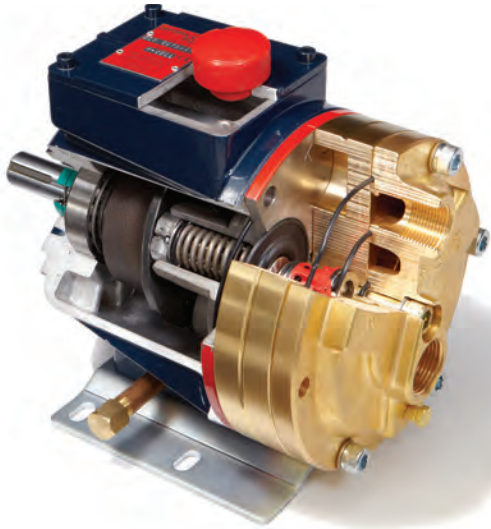
## 85 Cubic Inch Dampeners with J-Style Control: Inlet 1" (female)

Wetted	Bladder	Volume (Inch <sup>3</sup> )	Max Pressure		Part Number	
			psi	bar	NPT Ports	BSPT Ports
PVC	Buna-N	85	30	2	110-710-J	110-710-J-B
PVC	Neoprene	85	30	2	110-712-J	110-712-J-B
PVC	EPDM	85	30	2	110-713-J	110-713-J-B
PVC	FKM	85	30	2	110-715-J	110-715-J-B
PVC	PTFE	85	30	2	110-718-J	110-718-J-B

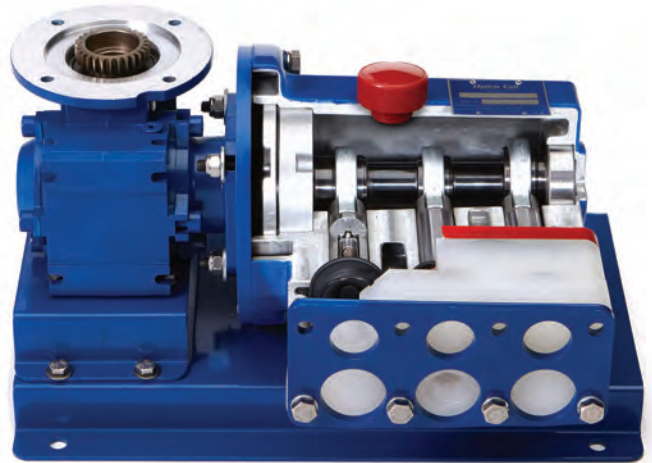
## 1155 Cubic Inch Dampeners (5 gallon): Inlet (ANSI flange) 3.0" 150 lbs.

Wetted	Bladder	Volume (Inch <sup>3</sup> )	Max Pressure		Part Number
			psi	bar	
CS	Buna	1155	30	2	110-1155-B
CS	FKM	1155	30	2	110-1155-V

# Demonstration (Cutaway) Units



*D10 models demonstrate the wobble plate principle of operation.*



*P200 models demonstrate the crank-shaft principle of operation.*

Demonstration units of Hydra-Cell D10 and P200 (metering pumps are available with or without a rolling carry case (furnished with the appropriate sticker). The units are “cut away” to show both the wobble plate (D10) and crank-shaft (P200) operating principles as well as other features including the multiple diaphragm design that provides virtually pulse-free flow, and spring-loaded, horizontal check valves which, combined with the seal-less design, enable Hydra-Cell to handle abrasives and particulates that would damage other types of pumps.

Part Number	Description
CUTAWAY-D10WCASE	D10 Cutaway Demo with Rolling Carry Case
CUTAWAY-D10	D10 Cutaway Demo without Case
CUTAWAY-P200WCASE	P200 Cutaway Demo with Rolling Carry Case
CUTAWAY-P200	P200 Cutaway Demo without Case
CUTAWAY-CASE	Cutaway Demo Rolling Case Only (for D10 or P200)



*Cutaway units for demonstration purposes are available with a labeled rolling carry case.*



# Testing

Wanner Engineering has a fully-equipped testing facility to perform a variety of witnessed and non-witnessed tests with certification for Hydra-Cell pumps.



## Hydra-Cell Seal-less Pumps (F/M/D/H Series)

Part Number	Description	Notes
CERT-CONFORMANCE	Certificate of Conformance	Pump Materials
TEST-STDPROD	Standard Production Test	Rated Flow & Rated Pressure
TEST-STDPRODWIT	Witnessed Standard Production Test	Rated Flow & Rated Pressure
TEST-HYDRO	Hydrostatic Test & Certificate	Includes Standard Production Tests
TEST-HYDROWIT	Witnessed Hydrostatic Test & Certificate	Includes Standard Production Tests
TEST-PMI	Positive Material Identification Certificates	Manifold/Valve Plate (In-house)
TEST-PMI-FE	Positive Material Identification Certificates	Metallic Fluid End Parts (In-house)
TEST-NPSH	Standard NPSHr Test (Five Points)	M03/D03/D10/D15/H25/D35/D66
TEST-CUSTOM	Contact Factory with Details/Request	

## Hydra-Cell Seal-less Pumps (T & Q Series)

Part Number	Description	Notes
CERT-CONFORMANCE	Certificate of Conformance	Pump Materials
TEST-STDPROD	Standard Production Test	Rated Flow & Rated Pressure
TEST-STDPRODWIT	Witnessed Standard Production Test	Rated Flow & Rated Pressure
TEST-HYDRO-TQ	Hydrostatic Test & Certificate*	Includes Standard Production Tests
TEST-HYDROWIT-TQ	Witnessed Hydrostatic Test & Certificate*	Includes Standard Production Tests
TEST-PMI	Positive Material Identification Certificates	Manifold Only (In-house)
TEST-PMI-FE	Positive Material Identification Certificates	Metallic Fluid End Parts (In-house)
TEST-LIQPENTRANT-TQ	Liquid Penetrant of Manifold	Manifold Only
TEST-API675-TQ	API 675 Test Package	Standard Production Tests, Accuracy, Linearity & Repeatability
TEST-NPSH-TQ	Standard NPSHr Test (Five Points)	T & Q Series Pumps
TEST-CUSTOM	Contact Factory with Details/Request	

\* High pressure outlet gallery only.





## Hydra-Cell® Limited Warranty

Wanner Engineering, Inc. (WEI) warrants that, for a period of one (1) year from the date of purchase, equipment supplied or manufactured by WEI shall be free of defects in materials and workmanship under normal use and service, and provided the equipment is installed, operated and maintained in accordance with instructions supplied by WEI.

Notwithstanding anything to the contrary, this limited warranty does not cover:

1. Normal wear and/or damage caused by or related to abrasion, corrosion, abuse, negligence, accident, faulty installation, or tampering which impairs normal operation of the equipment.
2. Electric motors (if applicable) not manufactured by WEI. The warranties, if any, on such equipment are assigned to the Purchaser by WEI (without recourse) at the time of purchase.
3. Transportation costs.

Purchaser's sole and exclusive remedy and WEI's sole liability, whether based upon warranty, contract or tort, including negligence, is limited to WEI's repair or replacement of the defective part, at WEI's sole option.

Any claim regarding breach of warranty must be received by WEI before the expiration of the warranty period and by written notice from Purchaser of such defect within thirty (30) days from the discovery thereof. WEI requires the return to a designated WEI location, of the defective part, transportation prepaid, to establish Purchaser's claim. No allowance will be made for repairs undertaken without WEI's written consent or approval.

**WEI's warranty obligations and Purchaser's remedies thereunder are solely and exclusively as stated herein.**

**There are no other warranties, whether oral, written, express, implied or statutory, including, but not limited to, implied warranties of merchantability and fitness for a particular purpose, warranties of non-infringement, warranties arising from course of dealing or usage of trade or any other matter.**

Any descriptions of the equipment drawings, specifications, and any samples, models, bulletins, or similar material used in connection with the sale of equipment are for the sole purpose of identifying the equipment and are not to be construed as an express warranty that the equipment will conform to such description. Any field advisory or installation support is advisory only.

Every form of liability for direct, special, incidental or consequential damages or loss is expressly excluded and denied. All liability of WEI shall terminate one (1) year from the date of purchase of the equipment.

# Hydra-Cell® Worldwide Sales and Service



Hydra-Cell pumps are sold and serviced worldwide by a comprehensive network of factory-trained pump distributors. As specialists in pump technologies, our distributor organizations offer you a vital local resource for technical expertise, product training, sales and service.

Hydra-Cell distributors are located in more than 70 countries worldwide. In North America specifically, there are more than 100 Hydra-Cell distributor locations to provide local availability for every major commercial, institutional, industrial, and municipal marketplace.

## World Headquarters & Manufacturing

★ Minneapolis, Minnesota, USA

## Business Units

- ☀ Wichita Falls, Texas, USA
- ☀ Hampshire, United Kingdom
- ☀ Kowloon, Hong Kong
- ☀ Shanghai, China
- ☀ São Paulo, Brazil

## Contact us for the name and location of the authorized Hydra-Cell distributor nearest you:

Algeria	Colombia	India	Mongolia	Russia	Thailand
Argentina	Costa Rica	Indonesia	Morocco	Saudi Arabia	Tunisia
Australia	Czech Republic	Ireland	Netherlands	Serbia	Turkey
Austria	Denmark	Israel	New Zealand	Singapore	Ukraine
Azerbaijan	Ecuador	Italy	Norway	Slovakia	United Arab Emirates
Belarus	Egypt	Japan	Oman	Slovenia	United Kingdom
Belgium	Estonia	Kazakhstan	Panama	South Africa	United States
Bolivia	Finland	Kuwait	Peru	South East Asia	Uruguay
Brazil	France	Latvia	Poland	South Korea	Venezuela
Bulgaria	Germany	Lithuania	Portugal	Spain	Viet Nam
Canada	Greece	Luxembourg	Puerto Rico	Sweden	Yemen
Chile	Hong Kong	Malaysia	Qatar	Switzerland	
China	Hungary	Mexico	Romania	Taiwan	

# Hydra-Cell®

## Seal-less Pumps



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