

### ENGINEERED TO PERFORM

- Commercial-grade design for heavier loads
- Standard shock valves for added system protection
- Standard charge pump for increased performance

SPECIFICATIONS	ZT-3100	ZT-3200	ZT-3400	ZT-4400	ZT-5400
Pump Displacement	0.61 in <sup>3</sup> /rev	0.61 in <sup>3</sup> /rev	0.73 in <sup>3</sup> /rev	0.73 in³/rev	0.97 in <sup>3</sup> /rev
	[10 cc/rev]	[10 cc/rev]	[12 cc/rev]	[12 cc/rev]	[16 cc/rev]
Motor Displacement	0.97 in <sup>3</sup> /rev	0.97 in³/rev	0.97 in <sup>3</sup> /rev	0.97 in³/rev	1.33 in³/rev
	[16 cc/rev]	[16 cc/rev]	[16 cc/rev]	[16 cc/rev]	[21.8 cc/rev]
Input Speeds					
Max Hi-idle (No Load)	3600 rpm	3600 rpm	3600 rpm	3600 rpm	3600 rpm
Min (Loaded)	1800 rpm	1800 rpm	1800 rpm	1800 rpm	1800 rpm
Output Torque	up to 350 lb-ft	up to 470 lb-ft	up to 500 lb-ft	up to 575 lb-ft	up to 700 lb-ft
	[up to 474 Nm]	[up to 637 Nm]	[up to 677 Nm]	[up to 780 Nm]	[up to 949 Nm]
Speed	up to 9 mph	up to 9 mph	up to 10 mph	up to 12 mph	up to 18 mph
	[up to 14 kph]	[up to 14 kph]	[up to 16 kph]	[up to 19 kph]	[up to 29 kph]
Gross Vehicle Weight	up to 1200 lbs	up to 1500 lbs	up to 1600 lbs	up to 1800 lbs	up to 2200 lbs
	[up to 544 kg]	[up to 680 kg]	[up to 725 kg]	[up to 816 kg]	[up to 997 kg]
Axle Shaft Diameter	1.0 in	1.125 in	1.125 in	1.375 in	1.375 in
	[25.4 mm]	[28.56 mm]	[28.56 mm]	[35 mm]	[35 mm]
Axle Shaft Options	Tapered	Tapered	Tapered	Tapered	Tapered
	4-bolt Flange	4-bolt Flange	4-bolt Flange	4-bolt Flange	4-bolt Flange
	5-bolt Flange	5-bolt Flange	5-bolt Flange	5-bolt Flange	5-bolt Flange
Weight of Unit	32.5 lbs [14.7 kg]	33 lbs [15 kg]	34.5 lbs [15.6 kg]	55 lbs [25 kg]	<b>57 lbs</b> [25.85 kg]





# SUPERIOR PERFORMANCE

- Maintenance-free design for ease of ownership
- Unmatched manueverability in tight spaces
- Reliable & quiet performance each & every time

SPECIFICATIONS	ZT-1800	ZT-2200 (EZT)	ZT-2800
Pump Displacement	0.37 in <sup>3</sup> /rev	0.61 in <sup>3</sup> /rev	0.61 in <sup>3</sup> /rev
	[6 cc/rev]	[10 cc/rev]	[10 cc/rev]
Motor Displacement	0.61 in <sup>3</sup> /rev	0.61 in <sup>3</sup> /rev	0.97 in <sup>3</sup> /rev
	[10 cc/rev]	[10 cc/rev]	[16 cc/rev]
Input Speeds	100000		
Max Hi-idle (No Load)	3000 rpm	3000 rpm	3000 rpm
Min (Loaded)	1800 rpm	1800 rpm	1800 rpm
Output Torque	up to 100 lb-ft	up to 215 lb-ft	up to 300 lb-ft
	[up to 136 Nm]	[up to 291 Nm]	[up to 406 Nm]
Speed	up to 5 mph	up to 7 mph	up to 8 mph
	[up to 8 kph]	[up to 11 kph]	[up to 12 kph]
Gross Vehicle Weight	up to 667 lbs	up to 900 lbs	up to 1000 lbs
	[up to 302 kg]	[up to 408 kg]	[up to 453 kg]
Axle Shaft Diameter	0.75 in	1.0 in	1.0 in
	[19.05 mm]	[25.4 mm]	[25.4 mm]
Axle Shaft Options	DD	Two Flats 4-bolt Flange	Tapered 4-bolt Flange 5-bolt Flange
Weight of Unit	18 lbs	29 lbs	32 lbs
	[8.2 kg]	[13 kg]	[14.5 kg]

#### **BEST IN CLASS**

Hydro-Gear sets the standard for reliable, hard-working transaxles.

Our transaxles are built with high-quality components designed for optimum performance.

Experience the same comfort, control, and durability professionals turn to every day.





# DY PISTON AUXILIARY



PROUDLY
DESIGNED & ASSEMBLED
IN THE

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### SUPERIOR PERFORMANCE

Hydro-Gear has successfully applied millions of piston products on turf, agriculture, and construction machines world-wide. For over 25 years, customers have come to depend on Hydro-Gear pumps for applications requiring tough and rugged performance.

#### **SEAMLESS POWER PACKAGE**

Hydro-Gear's PY series pump contains high-performing and durable piston pumping elements that provide cooler operating temperatures and smooth power output.

The auxiliary piston pump allows for a common drive input operating 2 pumps at once. The auxiliary can drive secondary circuits such as steering systems, small attachments, or small fan drives.



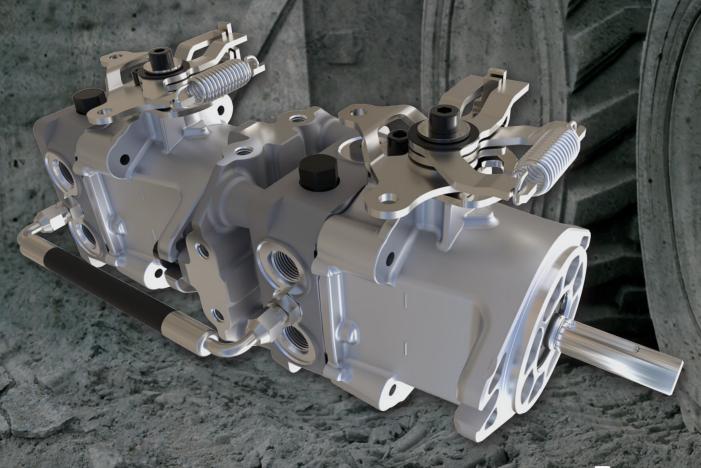
SPECIFICATIONS	PY	6cc PISTON AUX
Displacement	1.33 in <sup>3</sup> /rev [21.8 cc/rev]	0.37 in <sup>3</sup> /rev [6.1 cc/rev]
Input Speed Maximum Hi-Idle (No Load) Minimum (Loaded)	3600 רן 1800 רן	
System Operating Pressure Continuous Intermittent Peak	1250 psi [86 bar] 2500 psi [190 bar] 3750 psi [260 bar]	950 psi [65.5 bar] - 1400 psi [96.5 bar]
Pump Performance @2400 rpm/1000 psi @3000 rpm/1000 psi @3600 rpm/1000 psi	13.1 gpm [49.6 l/min] 16.4 gpm [62.1 l/min] 19.6 gpm [74.2 l/min]	3.5 gpm [13.3 l/min] 4.3 gpm [16.3 l/min] 5.1 gpm [19.3 l/min]
Charge Pump Displacement	0.25 in <sup>3</sup> /rev [4	.1 cc/rev]
Weight of Unit	17 lbs [7.	7 kg]

#### HYDRO-GEAR'S PY PUMP WITH 6cc AXIAL PISTON AUXILIARY

The ideal compact combination for quiet and dependable performance.

HYDRO-GEAR®

# THE INDUSTRY WORKHORSE



PROUDLY
DESIGNED & ASSEMBLED
IN THE

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### SUPERIOR PERFORMANCE

Hydro-Gear has successfully applied millions of piston products on turf, agricultural, construction, and other specialty machines world-wide. For over 25 years, customers have depended on Hydro-Gear pumps for applications requiring tough and rugged performance.

#### **ROBUST DESIGN**

Hydro-Gear's P-Series pump family is designed to provide years of heavy-duty operation.

#### **APPLICATION DEVELOPMENT**

Every machine is evaluated by knowledgeable Application Engineers to ensure the correct configuration is selected and then supported from concept to completion.



#### **SECONDARY FLUID POWER**

Hydro-Gear's tandem pumps offer auxiliary, gear pump, and gear pump pad options for even more versatility.

#### **CONFIGURATIONS**

MODEL	INPUT SHAFT OPTIONS	1ST PUMP MOUNT	2ND PUMP OPTION	GEAR PUMP PAD OPTIONS
PC	1/2" key or 9T	SAE AA Pad	PC or Gear Pump	SAE AA Pad
PG	5/8" key, 15mm, or 9T	SAE A Pad	PC, PG, or Gear Pump	SAE AA Pad
PK	5/8" key, 15mm, or 9T	SAE A Pad	PC, PK, or Gear Pump	SAE A or AA Pad
PR	7/8" key, 7/8" Taper, 17mm, 11T, or 13T	SAE A Pad	PR or Gear Pump	SAE A or AA Pad
PW	7/8" key, 7/8" Taper, 17mm, or 13T	SAE B Pad	PW or Gear Pump	SAE A or AA Pad
PY	7/8" key, 7/8" Taper, or 13T	SAE B Pad	PY or Gear Pump	SAE A Pad

### HYDRO-GEAR'S TANDEM PISTON PUMPS

The ideal drive solution for your specialty products.



PROUDLY DESIGNED & ASSEMBLED IN THE USA

### ELECTRONIC PRECISION PUMP CONTROL

ELECTRONIC ACTUATOR SMARTEC EA50



SMARTEC ELECTRONIC DRIVE MODULE

### THE FUTURE IS HERE WITH SMARTEC PRECISION TECHNOLOGY

#### SMARTEC EA50

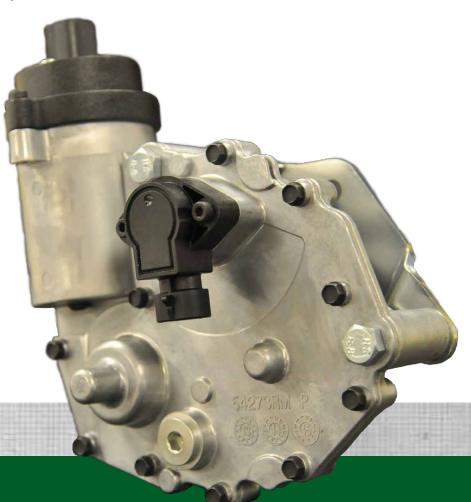
Durable motor technology for years of trouble-free life

When interfaced with Hydro-Gear pumps the EA50 provides unlimited performance and control capacity

Smooth & easy control that reduces operator fatigue

IP 66 rated for protection against dust and water

Used on Hydro-Gear 6cc - 21cc variable piston displacement high-performance pumps



#### SPECS

200 watt DC motor

Internal slip clutch protection

Actuation Torque: 0-490 in/lbs [55 nm], 550 in/lbs [62 nm] holding

Actuation Time: 20 degrees in 1 second

Position sensor 50 degree rotation

#### SMARTEC ELECTRONIC DRIVE MODULE

Windows based PC calibration for ease of use

**Built-in relay detection features for added safety** 

Small & compact, the only electronic drive module to control two EA50s

Developed specifically for use with the Smartec EA50

Easy plug & play capability

IP 66 rated for protection against dust and water



14.4 volts normal

Range: 10-19.2v

**Adjustable Program Features** 

J1939 Compliant

6 inputs / 2 outputs

Pending Application Review

Patent Pending



### FORGING THE FUTURE SINCE 1991

Hydro-Gear is a world-wide leader in hydraulic drive products. With the support of its parent companies, Danfoss and Agri-Fab, Hydro-Gear has provided over 25 years of innovative mobile fluid power solutions focusing on efficiency, performance, and economical value.

Today, Hydro-Gear is the preeminent designer and manufacturer of hydrostatic transmissions that serve multiple industries and customers around the world.

Hydro-Gear continues its dedication of providing quality products by offering electronic solutions through Smartec. These solutions are not only economical but perform at a level customers have come to expect.



PREVENTIVE
CHECKLIST
FOR YOUR
HEALTH &
WELLNESS



### FORWARD MOTION

No Heart Attacks, Strokes, Stage 3 to 4 Cancers, Type 2 Diabetes

- Know Your Numbers Change The Outcome
- Do Your Screenings Today, Live Tomorrow
- Navigate to Quality Health Care, Using Compass
- Act Today for a Remarkable Tomorrow

Created by and Specifically for:



#### 2021 WOMEN'S ANNUAL WELLNESS PREVENTIVE CHECKLIST

Following are the basic preventive measures that women should take to prevent common, yet potentially serious health issues.

### KNOW YOUR NUMBERS AND GET THEM TO GOAL! EVEN THOUGH YOU "FEEL FINE", YOUR NUMBERS CAN PREDICT TROUBLE LATER!

<b>My Blood Pressure</b> (Avoid strokes, kidney & heart failure)	/	on//	Goal: < 130/80
My Total Cholesterol (Avoid heart attacks & strokes)		on//	Goal: < 200mg/dl
My Triglycerides (Avoid heart attacks & strokes)		on//	Goal: < 150mg/dl
My LDL (Avoid heart attacks, strokes, & aneurysms)		on//	Goal: < 100mg/dl
My HDL (Higher is better to protect from problems)		on//	Goal: > 60mg/dl
My A1c (Avoid type 2 diabetes, blindness, kidney failure, & amputations)		on//	Goal: < 5.7% A1c or < 100mg fasting blood glucose level
My Waist Circumference (Avoid diabetes, heart attacks, strokes)		on/	Goal < 35 inches

Wellness Exam: Annual wellness exam is covered at 100%, no deductible, if at an in-network provider. See preparation checklist at the back of this brochure.

#### **Well Women Visits**

Gynecology exams - Get the peace of mind that everything is doing well in your body!

Recommendation: The United States Preventive Task Force (USPTF) recommends annual gynecology exams.

**Hydro-Gear Plan:** Covers any age at 100%, no deductible, if at an in-network provider.

Cervical Cancer (routine pap) screening - Thousands of women die because they did not get this test every year.

Recommendation: USPTF suggests this be done every 3 years between the ages of 21 and 65.

Hydro-Gear Plan: Covers any age, once per year at 100%, no deductible, if at an in-network provider.

#### Cholesterol screening - Know Your Numbers & Get them to Goal!

**Recommendation:** USPTF recommends this annually for women ages 20-45 with increased risk for coronary artery disease, and annually for women over 45, regardless of coronary artery disease risk.

Hydro-Gear Plan: Covers anyone 19 years and older, once per year, at 100%, no deductible, if at an in-network provider. This is also included in Hydro-Gear's biometric screenings held every other year.

#### Mammogram - About 1 in 8 U.S. women develop invasive breast cancer over the course of a lifetime - Catching it early is the key!

Recommendation: USPTF recommends women over 40 to have a mammogram every 1-2 years.

Hydro-Gear Plan: Covers any age, 100%, no deductible if performed at an in-network provider, including 3D mammograms. Hydro-Gear's Plan encourages you to do as your doctor recommends, so start early if there is a family history. Hydro-Gear offers on-site Mobile Mammograms annually at Sullivan and Princeton locations.

#### Flu Shot - 80,000 Americans died in 2017 - 2018 of the Flu. Getting immunized decreases your risk!

Recommendation: USPTF recommends annual flu shots.

Hydro-Gear Plan: Covers annually at 100%, no deductible, if performed at an in-network provider. On-site flu shots are offered at no cost to employees annually at Sullivan and Princeton locations.

#### Dental Care - Good oral health care reduces the risk of heart disease, sinus & lung problems, and even cancer.

Hydro-Gear Dental Plan: Covers a cleaning and exam every 6 months, at 100%, no deductible if at an in-network provider.

#### Colorectal Cancer screening (Colonoscopy)

Recommendation: USPTF recommends screening starting at age 50.

**Hydro-Gear Plan:** Covers one colonoscopy for anyone over age 50, every five years, or any age as recommended by a doctor due to a family history of colon cancer at 100%, no deductible, regardless of diagnosis, if at an in-network provider. This also includes associated routine and diagnostic services. Hydro-Gear's Plan encourages you to do as your doctor recommends, so start early if there is a family history.



#### 2021 MEN'S ANNUAL WELLNESS PREVENTIVE CHECKLIST

Following are the basic preventive measures that men should take to prevent common, yet potentially serious health issues.

### KNOW YOUR NUMBERS AND GET THEM TO GOAL! EVEN THOUGH YOU "FEEL FINE", YOUR NUMBERS CAN PREDICT TROUBLE LATER!

My Blood Pressure (Avoid strokes, kidney & heart failure)	/	on/_	/	Goal: < 130/80
My Total Cholesterol (Avoid heart attacks & strokes)		on/_	/	Goal: < 200mg/dl
My Triglycerides (Avoid heart attacks & strokes)		on/_	/	Goal: < 150mg/dl
My LDL (Avoid heart attacks, strokes, & aneurysms)		on/_	/	Goal: < 100mg/dl
My HDL (Higher is better to protect from problems)		on/_	/	Goal: > 50mg/dl
My A1c (Avoid type 2 diabetes, blindness, kidney failure, & amputations)		on/_	/	Goal: < 5.7% A1c or < 100mg fasting blood glucose level
My Waist Circumference (Avoid diabetes, heart attacks, strokes)		on/_		Goal < 40 inches

**Wellness Exam:** Annual wellness exam is covered at 100%, no deductible, if at an in-network provider. The wellness exam for men should include a prostate exam and a testicular exam in addition to regular visit. See preparation checklist at the back of this brochure.

#### Cholesterol screening - Know Your Numbers & Get them to Goal!

**Recommendation:** The United States Preventive Task Force (USPTF) recommends this annually for men ages 20-35 with increased risk for coronary artery disease, and annually for men over 35, regardless of coronary artery disease risk.

**Hydro-Gear Plan:** Covers anyone 19 years and older, once per year, at 100%, no deductible, if at an in-network provider. This is also included in Hydro-Gear's biometric screenings held every other year.

#### Flu Shot – 80,000 Americans died in 2017 – 2018 of the Flu. Getting immunized decreases your risk!

Recommendation: USPTF recommends annual flu shots.

**Hydro-Gear Plan:** Covers annually at 100%, no deductible, if performed at an in-network provider. On-site flu shots are offered at no cost to employees annually at Sullivan and Princeton facilities.

#### Prostate-Specific Antigen (PSA) Test - Detect Prostate Cancer early!

**Recommendation:** USPTF recommends that for men aged 55 to 69 years, the decision to undergo periodic prostate-specific antigen (PSA) should be an individual one. Talk to your doctor about whether you should have a PSA test.

Hydro-Gear Plan: Covers any age, annually at 100%, no deductible, if performed at an in-network provider.

#### Dental Care - Good oral health reduces the risk of heart disease, sinus & lung problems, and even cancer.

Hydro-Gear Dental Plan: Covers a cleaning and exam every 6 months, at 100%, no deductible if at an in network provider.

#### Colorectal Cancer screening (Colonoscopy)

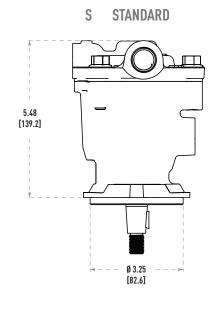
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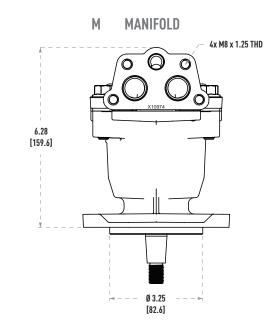
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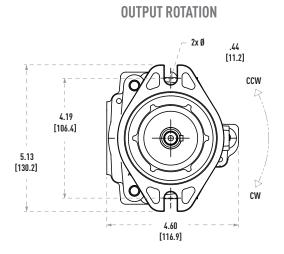


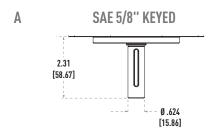
### HEM" MOTOR SPEC SHEET

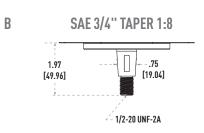


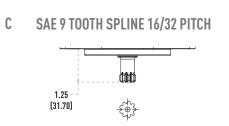


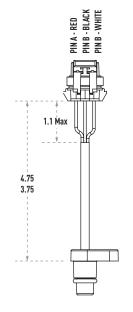


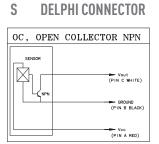


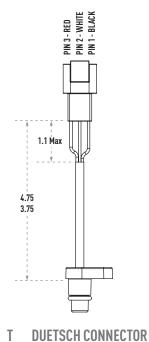












2.2k +	130	ОНМ	SERIES
SENSOR			
2 k			Vcc (PIN 3 RED)
130 OHM			Vout (PIN 2 WHITE)

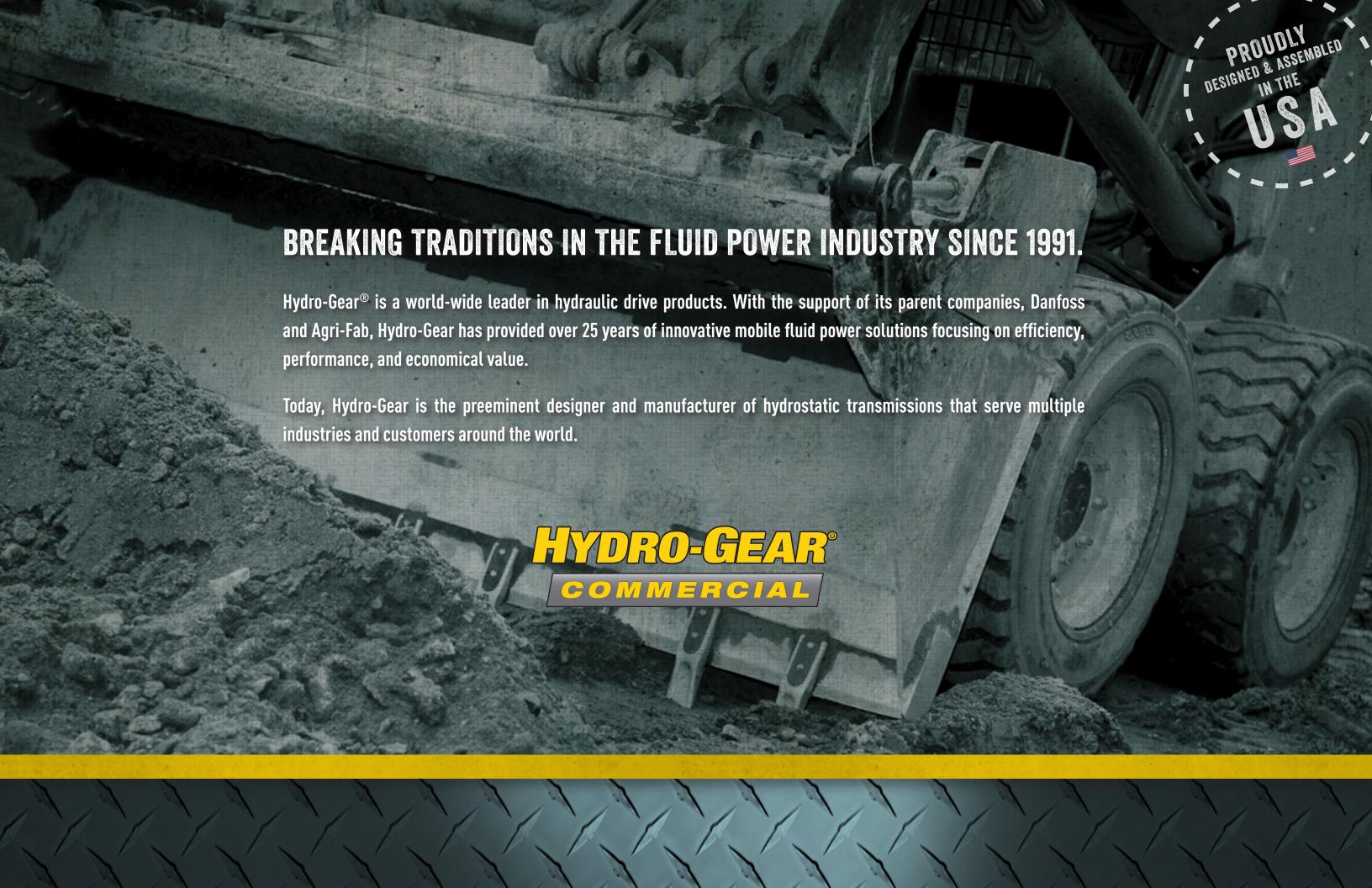
	DISPLACEMENT	OUTPUT SPEED RANGE	SYSTEM PRESSURE *	WEIGHT
HEM 10	10.2 cc (0.62 CIR)	50-4200 rpm	2500 psi (172 bar) Continuous 3500 psi (241 bar) Intermittent 4500 psi (310 bar) Peak	6.5 lbs (2.9 kg)
HEM 12	12 cc (0.73 CIR)	50-4200 rpm	2500 psi (172 bar) Continuous 3500 psi (241 bar) Intermittent 4500 psi (310 bar) Peak	6.5 lbs (2.9 kg)

Application Review recommended for heavy duty cycles

\* Based on designed hours of life

#### STANDARD OFFERINGS

	PART #*	DISPLACEMENT	MOUNTING	SHAFT	END CAP	BLEED	LIP SEAL	EXCLUSIONARY SEAL	HOUSING & SENSOR
	HEM10AASCVXXXXX	10 cc	SAE A	Straight	Standard	No Bleed	Viton	None	Housing, No Sensor
	HEM10AASCVXTXXX	10 cc	SAE A	Straight	Standard	No Bleed	Viton	None	Housing, Duetsch
	HEM10AASCVXSXXX	10 cc	SAE A	Straight	Standard	No Bleed	Viton	None	Housing, Delphi
	HEM10AASCVFXXXX	10 cc	SAE A	Straight	Standard	No Bleed	Viton	Face Seal	Housing, No Sensor
	HEM10AAMCVFTXXX	10 cc	SAE A	Straight	Manifold	No Bleed	Viton	Face Seal	Housing, Duetsch
	HEM10ABSCVXXXXX	10 cc	SAE A	Taper	Standard	No Bleed	Viton	None	Housing, No Sensor
	HEM10ABMCVXXXXX	10 cc	SAE A	Taper	Manifold	No Bleed	Viton	None	Housing, No Sensor
10	HEM10ABMCVFXXXX	10 cc	SAE A	Taper	Manifold	No Bleed	Viton	Face Seal	Housing, No Sensor
	HEM10ACSCVXSXXX	10 cc	SAE A	Spline	Standard	No Bleed	Viton	None	Housing, Delphi
	HEM10ACSCVXXXXX	10 cc	SAE A	Spline	Standard	No Bleed	Viton	None	Housing, No Sensor
	HEM12AASCVXXXXX	12 cc	SAE A	Straight	Standard	No Bleed	Viton	None	Housing, No Sensor
	HEM12AASCVXTXXX	12 cc	SAE A	Straight	Standard	No Bleed	Viton	None	Housing, Duetsch
	HEM12AASCVXSXXX	12 cc	SAE A	Straight	Standard	No Bleed	Viton	None	Housing, Delphi
2	HEM12AASCVFXXXX	12 cc	SAE A	Straight	Standard	No Bleed	Viton	Face Seal	Housing, No Sensor
	HEM12AAMCVFTXXX	12 cc	SAE A	Straight	Manifold	No Bleed	Viton	Face Seal	Housing, Duetsch
	HEM12ABSCVXXXXX	12 cc	SAE A	Taper	Standard	No Bleed	Viton	None	Housing, No Sensor
SHARRES	HEM12ABMCVXXXXX	12 cc	SAE A	Taper	Manifold	No Bleed	Viton	None	Housing, No Sensor
1	HEM12ABMCVFXXXX	12 cc	SAE A	Taper	Manifold	No Bleed	Viton	Face Seal	Housing, No Sensor
	HEM12ACSCVXSXXX	12 cc	SAE A	Spline	Standard	No Bleed	Viton	None	Housing, Delphi
3.3	HEM12ACSCVXXXXX	12 cc	SAE A	Spline	Standard	No Bleed	Viton	None	Housing, No Sensor





## FLEXIBLE MOUNTING OPTIONS

- Engineered for durability, the BDU provides power and performance when you need it
- Power through tough chores with the BDU's infinitely variable output speed
- Designed for a variety of products with flexible mounting options





# **EFFICIENT**& RELIABLE

SPE	CIFICA	HONS	
	108	10L	21L
Pump Displacement	0.62 in <sup>3</sup> /rev	0.62 in <sup>3</sup> /rev	1.33 in <sup>3</sup> /rev
	[10.2 cc/rev]	[10.2 cc/rev]	[21.8 cc/rev]
Motor Displacement	0.62 in <sup>3</sup> /rev	0.62 in <sup>3</sup> /rev	1.33 in <sup>3</sup> /rev
	[10.2 cc/rev]	[10.2 cc/rev]	[21.8 cc/rev]
Input Speeds Max Hi-idle (no load) Min (loaded)	3000 rpm 1800 rpm	3600 rpm 1800 rpm	3600 rpm 1800 rpm
System Operating Pre Continuous Intermittent	ssure 850 psi [60 bar] 2100 psi [145 bar]	1000 psi [70 bar] 2100 psi [145 bar]	1000 psi [70 bar] 2100 psi [145 bar]
Case Pressure Continuous Max @ Cold Start	4 psi [0.3 bar] 10 psi [0.7 bar]	4 psi [0.3 bar] 10 psi [0.7 bar]	4 psi [0.3 bar] 10 psi [0.7 bar]
Unit Weight	15 lbs	15 lbs	23 lbs
	[6.8 kg]	[6.8 kg]	[10 kg]
Charge Pump	-	O.11 in³/rev	0.13 in <sup>3</sup> /rev
Displacement		[1.9cc/rev]	[2.1 cc/rev]
Motor Output Torque Continuous per 1000 psi/70 bar	85 lb-in [9.6 Nm]	85 lb-in [9.6 Nm]	180 lb-in [20.3 Nm]
Control Torque Req'd	to Stroke Pum	p (αpprox. 20°st	roke angle)
1000 psi	85 lb-in	85 lb-in	105 lb-in
70 bar	[9.6 Nm]	[9.6 Nm]	[11.9 Nm]
5000 psi	60 lb-in	60 lb-in	85 lb-in
35 bar	[6.8 Nm]	[6.8 Nm]	[9.6 Nm]
Normal Operating	-10 to 200°F	-10 to 200°F	
Range	[-23 to 93°C]	[-23 to 93°C]	



# OPTIMAL TRANSFER OF POWER

- A compact fixed-displacement axial piston motor.
  - Uni-directional or Bi-directional configuration
  - Low-speed operation—down to 1-2 rpm
  - Speed sensor output allows for precise RPM control
- Constant speed over a wide temperature range



GOMMERCIAL

# COMPACT AXIAL PISTON MOTOR

SPECIFICATIONS				
Geometric Displacement	<b>2.0</b> in <sup>3</sup> [32 cc/rev]			
Pressure Rating Continuous Intermittent Peak	950 psi [65 bar] 1450 psi [100 bar] 1800 psi [124 bar]			
Output Speed Continuous Peak	120 rpm 360 rpm			
Torque Continuous Peak	15 ft-lb 26 ft-lb			
Case Pressure Continuous Peak	200 psi [14 bar] 300 psi [21 bar]			
Weight	<b>4.5 lbs</b> [2 kg]			
Output Shaft	7/8 in. Hex			
Speed Sensor Options	Deutsch or Delphi			

Specifications subject to change without notice

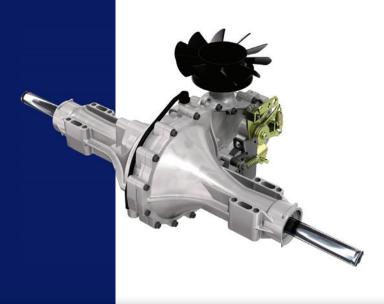
#### **APPLICATIONS**

- Augers
- Automatic Clamping Equipment
- Belt Drives
- Conveyors
- Fan Drives
- Process Machinery
- Roller Drives
- Swing Drives
- Vibratory Drives
- Wheel Drives
- Winch Drives



### BUILT TOUGH FOR HEAVY LOADS

- Rugged die-cast aluminum housing ideal for heavier lawn tractors
- Durable 1 inch axle for heavier loads
- Efficient 10cc pump & 16cc motor
- Produces up to 230 ft/lbs of torque





# **EFFICIENT**& RELIABLE

SPECIFIC <i>A</i>	ATIONS
Overall Transaxle Reduction	27.5:1
Pump Displacement	0.61 in <sup>3</sup> /rev [10 cc/rev]
Motor Displacement	<b>0.97 in<sup>3</sup>/rev</b> [16 cc/rev]
Charge Pump Displacement	<b>0.11 in<sup>3</sup>/rev</b> [1.9 cc/rev]
Input Speeds Max Hi-idle (No Load) Min (Loaded)	3600 rpm 1800 rpm
Output Torque Continuous Intermittent	230 lb-ft [312 Nm] 445 lb-ft [603 Nm]
Weight on Tires (per unit) Max w/ 20in Tires Max w/ 22in Tires Max w/ 23in Tires	770 lb [350 kg] 700 lb [318 kg] 665 lb [302 kg]
Axle Shaft Diameter	1.00 in [25.4 mm]
Weight of Unit	<b>42 lbs</b> [19 kg]



### QUIET OPERATION SMOOTH POWER

- The perfect choice for any medium-duty application
- Longer durability for years of efficient, high-performing use
- Improved noise quality that provides increased operator comfort
- Optional speed sensor for precise control





## HIGH-EFFICIENCY HYDRAULIC MOTORS

SPECIFICATIONS			
	HEM 10	HEM 12	
Displacement	10 cc/rev [0.62 CIR]	12 cc/rev [0.73 CIR]	
Output Speed Range	50 - 4200 rpm	50 - 4200 rpm	
System Pressure <sup>1</sup> Continuous Intermittent Peak	2500 psi [172 bar] 3500 psi [241 bar] 4500 psi [310 bar]	2500 psi [172 bar] 3500 psi [241 bar] 4500 psi [310 bar]	
Weight	<b>6.5 lbs</b> [2.9 kg]	<b>6.5 lbs</b> [2.9 kg]	

1) Based on designed hours of life. Application Review recommended for heavy duty cycles.

Specifications subject to change without notice

#### **APPLICATIONS**

- Augers
- Bow Thrusters
- Conveyors
- Fan Drives
- Hand Tools
- Product Pump Drives
- Rack Drives
- Saw Drives
- Spinners
- Swing Drives
- Vibratory Drives
- Wheel Drives
- Winch Drives





#### **DESIGNED & ASSEMBLED IN THE USA**

# RUGGED & DURABLE

LONG LIFE: Hydro-Gear's HGM-H family of motors has been designed to provide years of heavy-duty operation supported by knowledgeable application engineers.

SUPERIOR PERFORMANCE: With a large bearing capacity the HGM-H will handle your heavier loads and perform consistently.

SEAMLESS POWER: The HGM-H motors contain high-performing and durable piston drive elements that provide customers with quiet operation and smooth power output.

SPECIFICATIONS		
Geometric Displacement	14.93 in <sup>3</sup> /rev [244.7 cc/rev]	17.84 in <sup>3</sup> /rev [292.3 cc/rev]
Maximum Speed Continuous Intermittent <sup>1</sup>	210 rpm 250 rpm	185 rpm 210 rpm
Maximum Torque <sup>3</sup> Continuous Intermittent <sup>1</sup> Peak <sup>2</sup>	2700 in-lbf [305 Nm] 4400 in-lbf [497 Nm] 6200 in-lbf [700 Nm]	3200 in-lbf [362 Nm] 5400 in-lbf [610 Nm] 7600 in-lbf [859 Nm]

Intermittent operation: the permissible values may occur for max. 10% of every minute.
 Peak load: the permissible values may occur for max. 1% of every minute.
 70 SUS oil at 210°F at 15gpm and 1000psi and 10gpm at 3000psi.



### INDUSTRY WORKHORSE

- The most industry-standard shaft options
- Return-to-neutral device for smooth de-stroke capacity
- Tandem pumps for multi-circuits
- Cooling fan when additional cooling is desired
- Auxiliary pumps to provide power to additional functions



COMMERCIAL COMMERCIAL

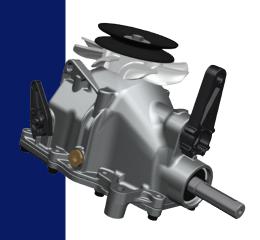
# QUIET OPERATION SMOOTH POWER

Displacement  Charge Pump Displacement(s)  System Operating Pressure Continuous Intermittent	PC 0.37 in³ [6.1 cc/rev] 0.13 in³ [2.1 cc/rev] 750 psi [51 bar] 1750 psi [120 bar]	SPECIFICATIONS  PG  0.62 in <sup>3</sup> [10.2 cc/rev]  0.11/0.13 in <sup>3</sup> [1.9/2.1 cc/rev]  0.19 in <sup>3</sup> [1.9/2.1 cc/rev]  1500 psi [145 bar] 2100 psi [145 bar]	PK 0.73 in <sup>3</sup> [12 cc/rev] 0.19 in <sup>3</sup> [3.2 cc/rev] 1500 psi [103 bar] 2100 psi [145 bar] 2100 psi [145 bar]	PR 0.97 in <sup>3</sup> [16 cc/rev] 0.13/0.19 in <sup>3</sup> [2.1/3.2 cc/rev] 1500 psi [103 bar] 2500 psi [172 bar]	PY 1.33 in <sup>3</sup> [21.8 cc/rev] 0.25 in <sup>3</sup> [4.1 cc/rev] 1500 psi [103 bar] 2750 psi [190 bar]
System Operating Pressure Continuous Intermittent Peak	750 psi [51 bar] 1750 psi [120 bar] 2500 psi [172 bar]	1500 psi [103 bar] 2100 psi [145 bar] 3500 psi [240 bar]	1500 psi [103 bar] 2100 psi [145 bar] 3500 psi [240 bar]	1500 psi [103 bar] 2500 psi [172 bar] 3750 psi [260 bar]	1500 psi [103 bar] 2750 psi [190 bar] 3750 psi [260 bar]
Pump Performance @2400rpm/1000psi @33000rpm/1000psi @3600rpm/1000psi	3.6 gpm [13.6 l/min] i 4.5 gpm [17.0 l/min] 5.4 gpm [20.4 l/min]	6.1 gpm [23.1 l/min] 7.6 gpm [28.8 l/min] 9.2 gpm [34.8 l/min]	7.1 gpm [26.8 Vmin] 8.9 gpm [33.6 Vmin] 10.8 gpm [40.8 Vmin]	7.1 gpm [26.8 Vmin] 9.6 gpm [36.3 Vmin] 13.1 gpm [49.6 Vmin] 8.9 gpm [33.6 Vmin] 12 gpm [45.4 Vmin] 16.4 gpm [62.1 Vmin] 10.8 gpm [60.8 Vmin] 14.4 gpm [54.5 Vmin] 19.6 gpm [74.2 Vmin]	13.1 gpm [49.6 Vmin] 16.4 gpm [62.1 Vmin] 19.6 gpm [74.2 Vmin]

# RT-310

# DESIGNED FOR THE TOUGHEST JOB

- Engineered for both power & durability, providing unmatched performance for the long haul
- The RT-310's infinitely variable output speed provides superior control to power through the toughest chores
- Maintenance-free design for longer life





# **EFFICIENT**& RELIABLE

SPECIFICA	TIONS
Overall Transmission Reduction	3.4:1
Pump Displacement	0.18 in <sup>3</sup> /rev [3 cc/rev]
Motor Displacement	0.62 in <sup>3</sup> /rev [10.2 cc/rev]
Input Speeds Max Hi-idle (No Load) Min (Loaded)	3100 rpm 500 rpm
Output Torque Continuous Intermittent	5.9 lb-ft [8.0 Nm] 13.6 lb-ft [18.4 Nm]
Output Shaft Diameter	<b>0.625 in</b> [15.9 mm]
Output Shaft Type	Keyway 1.17 in x 0.1892 in [29.7 mm x 4.8 mm]
Weight of Unit	11 lbs [5 kg]

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# BUILT FOR THE WALK BEHIND MARKET

- Designed specifically for chore products such as snow throwers
- Innovative clutch technology allows tires to be controlled independently, reducing operator fatigue
- Maintenance-free design for longer life



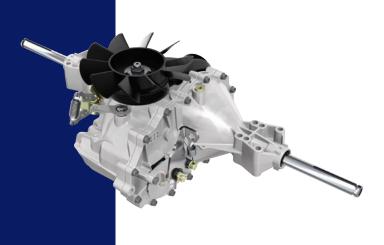
# **EFFICIENT**& RELIABLE

SPECIFIC/	ATIONS
Overall Transaxle Reduction	30.43:1
Pump Displacement	0.36 in³/rev [6 cc/rev]
Motor Displacement	0.36 in³/rev [6 cc/rev]
Input Speeds Max Hi-idle (No Load) Min (Loaded)	2600 rpm 1800 rpm
Output Torque Continuous Intermittent	62 lb-ft [84 Nm] 130 lb-ft [176 Nm]
Weight on Tires (per unit) Max w/ 12in Tires Max w/ 14in Tires Max w/ 16in Tires	290 lb [131.5 kg] 290 lb [131.5 kg] 290 lb [131.5 kg]
Axle Shaft Diameter	<b>0.75 in</b> [19.05 mm]
Weight of Unit	<b>21.4 lbs</b> [9.7 kg]
Blower Width	<b>24-36 in</b> [61-91.4 cm]

# T2® X T2HPTM

## **ENGINEERED FOR POWER**

- Rugged die-cast aluminum housings provide unmatched performance for the long haul
- Sturdy 3/4 inch axles
- Maintenance-free design for ease of use
- Infinite speed control for precise handling in the tightest spots



# **EFFICIENT**& RELIABLE

SPECIFICATIONS			
	Т	2	T2-HP
Overall Transaxle Reduction	20.63:1	22.68:1	25.42:1
Input Speeds Max Hi-Idle (no load) Min (loaded)		3000 rpr 1800 rpn	
Output Torque			
Continuous	105 lb-ft [142 Nm]	115 lb-ft [156 Nm]	145 lb-ft [197 Nm]
Intermittent	195 lb-ft [264 Nm]	215 lb-ft [291 Nm]	285 lb-ft [386 Nm]
Axle Shaft Diameter	0.75 in [19.05 mm]		
Axle Shaft End Options	Keyed or Two Flats		
Parking Brake Type	External Disc		
Weight of Unit	28 lb [12.7 kg]		

### **COMPACT ZT**FOR COMPACT YARDS

- Our lightest and most compact integrated unit
- The perfect fit for vehicles weighing up to 667 pounds
- Maintenance-free design for ease of use
- Efficient & reliable 6cc pump & 10cc motor



# **SUPERIOR**PERFORMANCE

SPECIFIC/	ATIONS
Pump Displacement	0.37 in³/rev [6 cc/rev]
Motor Displacement	<b>0.61 in³/rev</b> [10 cc/rev]
Input Speeds Max Hi-idle (No Load) Min (Loaded)	3000 rpm 1800 rpm
Output Torque	up to 100 lb-ft [up to 136 Nm]
Speed	up to 6 mph [up to 10 kph]
Gross Vehicle Weight	<b>up to 667 lbs</b> [up to 302 kg]
Axle Shaft Diameter	0.75 in [19.0 mm]
Axle Shaft Options	DD
Weight of Unit	18 lbs [8.2 kg]



#### PROVEN PERFORMER

- Our most popular integrated unit
- Low-maintenance design with an internal mesh oil filter for longer life
- External cog brake for maximum holding power
- Durable 10cc pump & 10cc motor



#### **SUPERIOR**PERFORMANCE

<b>SPECIFICATIONS</b>		
Pump Displacement	<b>0.61 in³/rev</b> [10 cc/rev]	
Motor Displacement	<b>0.61 in³/rev</b> [10 cc/rev]	
Input Speeds Max Hi-idle (No Load) Min (Loaded)	3000 rpm 1800 rpm	
Output Torque	up to 215 lb-ft [up to 291 Nm]	
Speed	up to 7 mph [up to 11 kph]	
Gross Vehicle Weight	<b>up to 900 lbs</b> [up to 408 kg]	
Axle Shaft Diameter	1.0 in [25.4 mm]	
Axle Shaft Options	Two-Flats 4-bolt Flange	
Weight of Unit	<b>29 lbs</b> [13 kg]	

#### ESTATE-GRADE TRANSAXLE

- Our most rugged residential-grade transaxle
- External oil filter for ease of maintenance and longer life
- Available with optional shock valves and charge pump for greater performance
- Tough 1 inch axle for increased load support





#### **SUPERIOR**PERFORMANCE

SPECIFIC <i>A</i>	ATIONS
Pump Displacement	<b>0.61 in³/rev</b> [10 cc/rev]
Motor Displacement	0.97 in <sup>3</sup> /rev [16 cc/rev]
Input Speeds Max Hi-idle (No Load) Min (Loaded)	3000 rpm 1800 rpm
Output Torque	up to 300 lb-ft [up to 406 Nm]
Speed	up to 8 mph [up to 12 kph]
Gross Vehicle Weight	up to 1000 lbs [up to 453 kg]
Axle Shaft Diameter	1.0 in [25.4 mm]
Axle Shaft Options	Tapered 4 or 5 bolt Flange
Weight of Unit	<b>32 lbs</b> [14.5 kg]



#### SMOOTH & QUIET OPERATION

- An entry-level commercial-grade transaxle
- Durable 1 inch axle for heavy loads
- High efficiency 10cc pump & 16cc motor
- Included shock valves to protect the system and extend its life



GYDRO-GEAR® COMMERCIAL

SPECIFICATIONS		
Pump Displacement	O.61 in <sup>3</sup> /rev [10 cc/rev]	
Motor Displacement	0.97 in <sup>3</sup> /rev [16 cc/rev]	
Input Speeds Max Hi-idle (No Load) Min (Loaded)	3600 rpm 1800 rpm	
Output Torque	up to 350 lb-ft [up to 474 Nm]	
Speed	up to 9 mph [up to 14 kph]	
Gross Vehicle Weight	<b>up to 1200 lbs</b> [up to 544 kg]	
Axle Shaft Diameter	1.0 in [25.4 mm]	
Axle Shaft Options	Tapered 4 or 5 bolt Flange	
Weight of Unit	<b>32.5 lbs</b> [14.7 kg]	



#### RELIABLE & QUIET PERFORMANCE

- Standard performance package includes shock valves, cut steel gears, and charge pump
- Durable 1-1/8 inch axle for heavy loads
- High efficiency 10cc pump & 16cc motor
- Perfect fit for machines up to 1500 lbs



MDRO-GEAR®
COMMERCIAL

SPECIFICATIONS		
Pump Displacement	<b>0.61 in³/rev</b> [10 cc/rev]	
Motor Displacement	0.97 in <sup>3</sup> /rev [16 cc/rev]	
Input Speeds Max Hi-idle (No Load) Min (Loaded)	3600 rpm 1800 rpm	
Output Torque	up to 470 lb-ft [up to 637 Nm]	
Speed	up to 9 mph [up to 14 kph]	
Gross Vehicle Weight	<b>up to 1500 lbs</b> [up to 680 kg]	
Axle Shaft Diameter	1.125 in [28.56 mm]	
Axle Shaft Options	Tapered 4 or 5 bolt Flange	
Weight of Unit	<b>33 lbs</b> [15 kg]	



#### UNMATCHED MANEUVERABILITY

- Designed for mid-size commercial vehicles
- High-efficiency 12cc pump & 16cc motor
- Standard shock valves for added system protection
- External oil filter for easy maintenance





SPECIFICATIONS		
Pump Displacement	0.73 in <sup>3</sup> /rev [12 cc/rev]	
Motor Displacement	0.97 in³/rev [16 cc/rev]	
Input Speeds Max Hi-idle (No Load) Min (Loaded)	3600 rpm 1800 rpm	
Output Torque	up to 500 lb-ft [up to 677 Nm]	
Speed	up to 10 mph [up to 16 kph]	
Gross Vehicle Weight	<b>up to 1600 lbs</b> [up to 725 kg]	
Axle Shaft Diameter	1.125 in [28.56 mm]	
Axle Shaft Options	Tapered 4 or 5 bolt Flange	
Weight of Unit	<b>34.5 lbs</b> [15.6 kg]	



#### BUILT TOUGH FOR PREMIUM VEHICLES

- All-steel drive train and larger charge pump for added capability
- High-efficiency 12cc pump & 16cc motor
- Enhanced rotating kit for optimal performance
- External oil filter for easy maintenance





SPECIFICATIONS		
Pump Displacement	0.73 in <sup>3</sup> /rev [12 cc/rev]	
Motor Displacement	0.97 in³/rev [16 cc/rev]	
Input Speeds Max Hi-idle (No Load) Min (Loaded)	3600 rpm 1800 rpm	
Output Torque	up to 500 lb-ft [up to 677 Nm]	
Speed	up to 10 mph [up to 16 kph]	
Gross Vehicle Weight	<b>up to 1600 lbs</b> [up to 725 kg]	
Axle Shaft Diameter	1.125 in [28.56 mm]	
Axle Shaft Options	Tapered 4 or 5 bolt Flange	
Weight of Unit	<b>34.5 lbs</b> [15.6 kg]	



#### REVOLUTIONARY HYDRAULIC DESIGN

- Heavy-duty commercial grade transaxle
- Industry leading 1-% inch axle for heavier loads
- High capacity thrust bearing for longer life
- Designed to fill the gap perfect for machines up to 1800 lbs





SPECIFICATIONS		
Pump Displacement	<b>0.73 in³/rev</b> [12 cc/rev]	
Motor Displacement	<b>0.97 in³/rev</b> [16 cc/rev]	
Input Speeds Max Hi-idle (No Load) Min (Loaded)	3600 rpm 1800 rpm	
Output Torque	up to 575 lb-ft [up to 780 Nm]	
Speed	up to 12 mph [up to 19 kph]	
Gross Vehicle Weight	<b>up to 1800 lbs</b> [up to 816 kg]	
Axle Shaft Diameter	1.375 in [35 mm]	
Axle Shaft Options	Tapered 4 or 5 bolt Flange	
Weight of Unit	<b>55 lbs</b> [25 kg]	



## OUR LARGEST & MOST DURABLE TRANSAXLE

- Heavy-duty commercial grade transaxle
- Industry leading 1-% inch axle for heavier loads
- High-efficiency 16cc pump & 21cc motor
- Standard performance package
- Optional transport mode for increased speed



COMMERCIAL

SPECIFICATIONS		
Pump Displacement	<b>0.97 in³/rev</b> [16 cc/rev]	
Motor Displacement	1.33 in <sup>3</sup> /rev [21.8 cc/rev]	
Input Speeds Max Hi-idle (No Load) Min (Loaded)	3600 rpm 1800 rpm	
Output Torque	up to 700 lb-ft [up to 949 Nm]	
Speed	up to 18 mph [up to 29 kph]	
Gross Vehicle Weight	up to 2200 lbs [up to 997 kg]	
Axle Shaft Diameter	1.375 in [35 mm]	
Axle Shaft Options	Tapered 4 or 5 bolt Flange	
Weight of Unit	<b>57 lbs</b> [25.85 kg]	

#### COMPACT POWER

- Rugged housings provide unmatched performance for the long haul
- Sturdy 3/4 inch axles
- Maintenance-free for ease of use
- Compact & lightweight design makes this perfect for compact residential machines



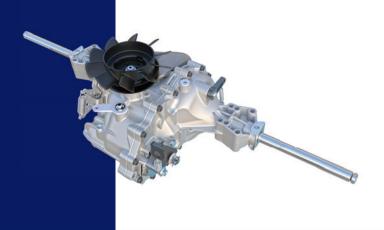
## **EFFICIENT**& RELIABLE

<b>SPECIFICATIONS</b>		
Overall Transaxle Reduction	25.328:1	
Input Speeds Max Hi-idle (No Load) Min (Loaded)	3000 rpm 1800 rpm	
Output Torque Continuous Intermittent	85 lb-ft [115 Nm] 160 lb-ft [217 Nm]	
Axle Shaft Diameter	<b>0.75 in</b> [19.05 mm]	
Axle Shaft Type	Keyed	
Parking Brake Type	Internal Wet Disc	
Weight of Unit	<b>21 lbs</b> [9.5 kg]	

# **T3 HD**

#### **ENGINEERED FOR POWER**

- Highest torque in its class
- Optional full-locking differential
- Rugged die-cast aluminum housings provide unmatched performance for the long haul
- Maintenance-free design for ease of use
- Infinite speed control for precise handling in the tightest spots





## **EFFICIENT**& RELIABLE

SPECI	FICAT	IONS	
Overall Transaxle Reduction	24.27:1	26.70:1	29.91:1.6
Input Speeds			
Max Hi-idle (No Load) Min (Loaded)		3200 rpm 1800 rpm	
Output Torque			
Continuous	140 lb-ft [189 Nm]	150 lb-ft [203 Nm]	160 lb-ft [216 Nm]
Intermittent	230 lb-ft [311 Nm]	290 lb-ft [393 Nm]	300 lb-ft [406 Nm]
Axle Shaft Diameter		0.75 in [19.0 n	nm]
Axle Shaft End Options		Keyed or D	D
Parking Brake Type		External Dis	sc
Weight of Unit		28 lbs [12.7 k	g]

WITH INTERNAL EXPANSION TANK



## REAL BEAUTY 1S ON THE 1NSIDE

- Faster assembly with reduced parts and fewer leak points
- Higher weight capacity for vehicles up to 1800 lb
- High-efficiency 12cc pump & 16cc motor
- All-steel gear train and improved seals



COMMERCIAL

SPECIFICATIONS	
Pump Displacement	0.73 in³/rev [12 cc/rev]
Motor Displacement	0.97 in³/rev [16 cc/rev]
Input Speeds Max Hi-idle (No Load) Min (Loaded)	3600 rpm 1800 rpm
Output Torque	up to 500 lb-ft [up to 677 Nm]
Speed	up to 11 mph [up to 17 kph]
Gross Vehicle Weight	up to 1800 lbs [up to 816 kg]
Axle Shaft Diameter	1.125 in [28.56 mm]
Axle Shaft Options	Tapered 4 or 5 bolt Flange
Weight of Unit	35.8 lbs [16.2 kg]

## BEAT THE

- Oil cooler for reduced heat and drivetrain longevity
- Higher weight capacity for vehicles up to 1800 lb
- High-efficiency 12cc pump & 16cc motor
- All-steel gear train and improved seals





SPECIFICATIONS	
Pump Displacement	0.73 in³/rev [12 cc/rev]
Motor Displacement	0.97 in³/rev [16 cc/rev]
Input Speeds Max Hi-idle (No Load) Min (Loaded)	3600 rpm 1800 rpm
Output Torque	up to 500 lb-ft [up to 677 Nm]
Speed	up to 11 mph [up to 17 kph]
Gross Vehicle Weight	up to 1800 lbs [up to 816 kg]
Axle Shaft Diameter	1.125 in [28.56 mm]
Axle Shaft Options	Tapered 4 or 5 bolt Flange
Weight of Unit	35.8 lbs [16.2 kg]