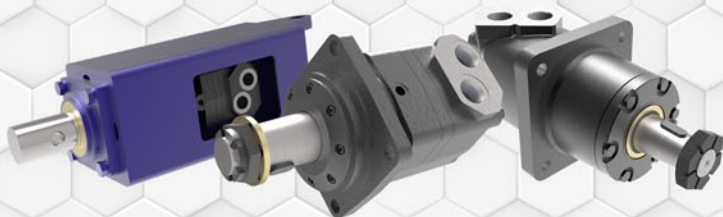


The logo for Omni Powertrain Technologies features the word "OMNI" in large, blue, 3D block letters with a silver outline. Below it, the words "POWERTRAIN TECHNOLOGIES" are written in a smaller, black, sans-serif font. The background of the logo area is a light blue with a faint, repeating pattern of hexagons and lines, suggesting a technical or automotive theme.

**FLO-TORQ**  
HYDRAULICS

**S E P T E M B E R 2 0 2 1**

# Reliable **POWERED DRIVE TECHNOLOGIES** by **FLO-TORQ®**



## **FLO-TORQ® DELIVERS**

### **Complete line of Orbital Motors compatible with:**

• Danfoss • Parker • White • Char-Lynn • M+S

### **Full line of Gear Pumps & Gear Motors compatible with:**

• Danfoss • Parker • Casappa • Salami • Marzocchi

### **Reliable Delivery:**

- Managed inventory programs for OEM's.
- Confirmed MRO orders ship within 24 hours.

### **Custom Integrated Drive Packages:**

- Complete motor gear box packages
- Integrated drives including motor, brake and valves

### **Application engineering and design expertise:**

- Consult Flo-torq® for your application needs.

## **DECADES OF MOBILE EQUIPMENT EXPERIENCE:**

**Agriculture:** Harvesters, Feed Mixers, Grain Augers, Bale Processors, Fertilizer Spreaders & Rotary Cutters

**Construction:** Skid Steer Attachments, Concrete Pumps, Paving Equipment, Cranes, Utility Augers

**Aerial work platform:** Boom Lifts, Scissor Lifts

**Refuse:** Chippers, Grinders, Shredders

**Mining:** Blast Hole Boring Equipment, Radial Stackers

**Marine:** Winches, Boat & Yacht Lifts & Transporters

**Maintenance:** Sweepers, Salt/Sand Spreaders & Scrubbers

PERFORMANCE SUMMARY	Gear Pumps & Motors	Metric	Imperial
	Displacement Range	cm3/rev 1.4-100cc	[in3/rev] [.09-6.1]
	Pressure Range	Bar	[PSI]
	Continuous	160-270	[2320-3915]
	Intermittent	180-300	[2610-4350]
Speed Range	RPM 400-6000		

PERFORMANCE SUMMARY	Orbital Motors	Metric	Imperial
	Displacement Range	cm3/rev 8 to 1000cc	[in3/rev] [.50 to 60.4]
	Output Torque	Nm	[lb-in]
	Max Continuous	2015	[17,750]
	Max Intermittent	2280	[20,086]
	Power	Kw 2.4 to 59	[HP] [3 to 78]
Speed (RPM)	RPM 10-1950		

QUICK REFERENCE GUIDE	FLO-TORQ®	CHAR-LYNN	DANFOSS	PARKER	WHITE	M+S
	FM	J	OMM	N/A	WM	MLHM
	FP FH FW	N/A H N/A	OMP DH OMPW	N/A TB N/A	WP WD N/A	MLHP HP N/A
	FR FS	N/A S	OMR DS	N/A N/A	WR WR	MLHR HS
	FB	N/A	OMH	TE	N/A	MLHH
	F2	2,000	OMS	TF	WS	MLHS
	F4	4,000	OMT	TG	DR/RE	MLHT
	F6	6,000	OMT	N/A	DT	MLHT
	FV FX	10,000 10,000	OMV N/A	TK TK	D9 D9	MLHV N/A



# ORBITAL MOTORS

## FM SERIES

VALVING	TYPE	DISPLACEMENT RANGE		TORQUE RANGE		SPEED RANGE	MAX. PRESSURE*		MAX. FLOW	
Spool	Gerotor	cm <sup>3</sup> /rev	[in <sup>3</sup> /rev]	Nm	[lb-in]	RPM	Bar	[PSI]	LPM	[GPM]
		0.5-3.0	[8 - 50]	11-46	[97-407]	20-1950	100	[1450]	20	[5]

The FM series is the smallest in the Flo-Torq range, offering high horsepower in an extremely compact package. Complete range of industry standard mountings, ports, and shaft options available.

## FH, FP SERIES

VALVING	TYPE	DISPLACEMENT RANGE		TORQUE RANGE		SPEED RANGE	MAX. PRESSURE*		MAX. FLOW	
Spool	Gerotor	cm <sup>3</sup> /rev	[in <sup>3</sup> /rev]	Nm	[lb-in]	RPM	Bar	[PSI]	LPM	[GPM]
		36-400	[2.2-23.6]	55-435	[486-4847]	50-1100	125	[1800]	60	[15]

FH and FP series offer industry standard mount, shaft and port options. The gerotor element offers high efficiency at high speeds in a compact and economical package. Full range of industry standard options available. Applications with low viscosity fluids and/or low speed operation below 100 rpm must be reviewed.

## FS, FR SERIES

VALVING	TYPE	DISPLACEMENT RANGE		TORQUE RANGE		SPEED RANGE	MAX. PRESSURE*		MAX. FLOW	
Spool	Gerotor	cm <sup>3</sup> /rev	[in <sup>3</sup> /rev]	Nm	[lb-in]	RPM	Bar	[PSI]	LPM	[GPM]
		51-370	[3.1-22.6]	100-420	[884-3714]	20-970	140	[2030]	60	[15]

FS and FR series offer industry standard mounting, shaft and port options for interchangeability. Rotor element is a gerotor type with integral roll design offering smooth performance at low rpm.

## FB SERIES

VALVING	TYPE	DISPLACEMENT RANGE		TORQUE RANGE		SPEED RANGE	MAX. PRESSURE*		MAX. FLOW	
Spool	Gerotor	cm <sup>3</sup> /rev	[in <sup>3</sup> /rev]	Nm	[lb-in]	RPM	Bar	[PSI]	LPM	[GPM]
		200-500	[12.4-29.9]	510-799	[4510-7066]	8-360	175	[2530]	75	[20]

FB series motors feature integrated roll design for smooth low speed operation. The FB series is the largest frame, highest capacity spool valve design motor in the Flo-Torq family.

## F2 SERIES

VALVING	TYPE	DISPLACEMENT RANGE		TORQUE RANGE		SPEED RANGE	MAX. PRESSURE*		MAX. FLOW	
Disc	Gerotor	cm <sup>3</sup> /rev	[in <sup>3</sup> /rev]	Nm	[lb-in]	RPM	Bar	[PSI]	LPM	[GPM]
		80-475	[4.9-29.9]	225-910	[990-8050]	25-800	225	[3250]	75	[20]

F2 series motors feature disc valve technology for high volumetric efficiency and low internal pressure drop. Complete range of Industry common mounts, shafts and porting options available for design flexibility.

## F4 SERIES

VALVING	TYPE	DISPLACEMENT RANGE		TORQUE RANGE		SPEED RANGE	MAX. PRESSURE*		MAX. FLOW	
Disc	Gerotor	cm <sup>3</sup> /rev	[in <sup>3</sup> /rev]	Nm	[lb-in]	RPM	Bar	[PSI]	LPM	[GPM]
		160-800	[9.8-48.9]	471-1464	[4160-12950]	20-1950	200	[2900]	95	[25]

F4 series motors feature disc valve technology for high volumetric efficiency and low internal pressure drop. Complete range of Industry common mounts, shafts and porting options available for design flexibility.

## F6 SERIES

VALVING	TYPE	DISPLACEMENT RANGE		TORQUE RANGE		SPEED RANGE	MAX. PRESSURE*		MAX. FLOW	
Disc	Gerotor	cm <sup>3</sup> /rev	[in <sup>3</sup> /rev]	Nm	[lb-in]	RPM	Bar	[PSI]	LPM	[GPM]
		230-800	[14.2-48.9]	670-1464	[5925-12950]	15-770	200	[2900]	125	[33]

F6 series motors feature disc valve technology for high volumetric efficiency and low internal pressure drop. Complete range of Industry common mounts, shafts and porting options available for design flexibility.

## FX AND FV SERIES

VALVING	TYPE	DISPLACEMENT RANGE		TORQUE RANGE		SPEED RANGE	MAX. PRESSURE*		MAX. FLOW	
Disc	Gerotor	cm <sup>3</sup> /rev	[in <sup>3</sup> /rev]	Nm	[lb-in]	RPM	Bar	[PSI]	LPM	[GPM]
		315-1000	[20.3-60.4]	925-2015	[6456-17821]	24-446	200	[2900]	150	[40]

FX and FV series are the largest in the Flo-Torq orbital line and feature disc valve technology for high volumetric efficiency. The FX is configured to interchange closely with the Eaton 10,000 series. The FV series is configured to replace the Sauer Danfoss OMV.

Note: \*Maximum pressure and torque values based on continuous ratings. Motors can run higher for short spikes in duty cycle.





# GEAR PUMPS & MOTORS

## ALUMINUM BODY / CAST IRON FLANGES & END COVERS

### FHP1 AND FHM1 SERIES • GROUP 1 • SAE AA

MOUNT	DISPLACEMENT RANGE		CONT. PRESSURE*		INTER. PRESSURE*		PEAK PRESSURE*		MAX. SPEED	MIN. SPEED
SAE AA 2-Bolt	cm <sup>3</sup> /rev	[in <sup>3</sup> /rev]	Bar	[PSI]	Bar	[PSI]	Bar	[PSI]	RPM	RPM
	1.4-13.8	[0.9-0.8]	250	[3625]	270	[3915]	290	[4205]	6000	800

The 1 Series is the smallest frame size in the Flo-Torq gear pump and gear motor range. It is available in a variety of shafts including splined, keyed and tapered shafts as well as a variety of port and mount options.

### FHP2 AND FHM2 SERIES • GROUP 2 • SAE A

MOUNT	DISPLACEMENT RANGE		CONT. PRESSURE*		INTER. PRESSURE*		PEAK PRESSURE*		MAX. SPEED	MIN. SPEED
SAE A 2-Bolt	cm <sup>3</sup> /rev	[in <sup>3</sup> /rev]	Bar	[PSI]	Bar	[PSI]	Bar	[PSI]	RPM	RPM
	3-30	[0.2-1.8]	270	[3920]	285	[4133]	300	[4350]	4000	800

The 2 Series is a industry standard SAE A frame size line of gear pumps and gear motors available up to 30cc {1.8 cu. In.} displacement and available with a variety of shafts including splined, keyed and tapered and industry standard ports including SAE ORB and split flange configurations.

### FHP2.5 AND FHM2.5 SERIES • GROUP 2.5 • SAE A

MOUNT	DISPLACEMENT RANGE		CONT. PRESSURE*		INTER. PRESSURE*		PEAK PRESSURE*		MAX. SPEED	MIN. SPEED
SAE A 2-Bolt	cm <sup>3</sup> /rev	[in <sup>3</sup> /rev]	Bar	[PSI]	Bar	[PSI]	Bar	[PSI]	RPM	RPM
	10-45	[0.6-2.7]	250	[3625]	270	[3915]	290	[4205]	4000	400

The 2.5 Series is a industry standard SAE A frame size line of gear pumps and gear motors available up to 45cc {2.7 cu. In.} displacement and available with a wide variety of shaft, port and mount options.

### FHP3 AND FHM3 SERIES • GROUP 3 • SAE B

MOUNT	DISPLACEMENT RANGE		CONT. PRESSURE*		INTER. PRESSURE*		PEAK PRESSURE*		MAX. SPEED	MIN. SPEED
SAE B 2-Bolt	cm <sup>3</sup> /rev	[in <sup>3</sup> /rev]	Bar	[PSI]	Bar	[PSI]	Bar	[PSI]	RPM	RPM
	20-71	[1.2-4.3]	250	[3625]	265	[3842]	280	[4060]	3500	600

The 3 Series is a industry standard SAE B frame size line of gear pumps and gear motors available up to 71cc {4.3 cu. In.} displacement and available with a wide variety of shaft, port and mount options.

# TANDEM & MULTIPLE GEAR PUMPS

### FTP 1 SERIES

MOUNT	DISPLACEMENT RANGE		CONT. PRESSURE*		INTER. PRESSURE*		PEAK PRESSURE*		MAX. SPEED	MIN. SPEED
SAE AA 2-Bolt	cm <sup>3</sup> /rev	[in <sup>3</sup> /rev]	Bar	[PSI]	Bar	[PSI]	Bar	[PSI]	RPM	RPM
	1.4-13.8	[0.09-0.8]	250	[3625]	270	[3625]	290	[4205]	6000	800

### FTP 2 SERIES

MOUNT	DISPLACEMENT RANGE		CONT. PRESSURE*		INTER. PRESSURE*		PEAK PRESSURE*		MAX. SPEED	MIN. SPEED
SAE A 2-Bolt	cm <sup>3</sup> /rev	[in <sup>3</sup> /rev]	Bar	[PSI]	Bar	[PSI]	Bar	[PSI]	RPM	RPM
	3-30	[0.2-1.8]	200-265	[2320-3920]	170-285	[2465-4135]	180-300	[2610-4350]	4000	600

### FTP 3 SERIES

MOUNT	DISPLACEMENT RANGE		CONT. PRESSURE*		INTER. PRESSURE*		PEAK PRESSURE*		MAX. SPEED	MIN. SPEED
SAE B 2-Bolt	cm <sup>3</sup> /rev	[in <sup>3</sup> /rev]	Bar	[PSI]	Bar	[PSI]	Bar	[PSI]	RPM	RPM
	20-71	[1.2-4.3]	160-270	[1500-3920]	170-285	[2465-4135]	180-300	[2610-4350]	4000	600

Notes: Multiple Gear Pumps are available with a variety of input shaft, displacement, and port options. They can be configured with single or multiple inlets. Other mounting and rear port options are available -- ask your Omni Powertrain Sales Specialist

\* Pressure ratings are reduced and may be lower for large displacements.

# GEAR PUMPS & MOTORS

## CAST IRON BODY / CAST IRON FLANGES & END COVERS

### FHP 3.5 SERIES • GROUP 3.5 • SAE C

MOUNT	DISPLACEMENT RANGE		CONT. PRESSURE*		INTER. PRESSURE*		PEAK PRESSURE*		MAX. SPEED	MIN. SPEED
SAE C 4-Bolt	cm <sup>3</sup> /rev	[in <sup>3</sup> /rev]	Bar	[PSI]	Bar	[PSI]	Bar	[PSI]	RPM	RPM
	40-100	[2.4-6.1]	250	[3625]	265	[3842]	280	[4060]	2750	600

The 3.5 Series is a industry standard line of gear pumps and gear motors available up to 100cc {6.1 cu. In.} displacement and available with a wide variety of shaft, port and SAE B and SAE C mount options depending upon application requirements.



# ROTARY GEAR FLOW DIVIDERS

Rotary flow dividers may be used to divide or combine flow in separate circuits with flow division proportionate to the section displacement sizes used. Flo-Torq® flow dividers are customizable with a variety of displacement sizes and porting options available and utilize aluminum body with cast iron flange construction for high efficiency and long life. Common available sizes are shown below. Additional sizes and special features such as high-temp seals, side or end ports are also available: consult your Omni Powertrain Sales Specialist.



## FD1.5 SERIES • GROUP 1.5 FLOW DIVIDERS

FRAME SIZE	SECTION DISPLACEMENT RANGE		CONT. PRESSURE*		INTER. PRESSURE*		PEAK PRESSURE*		MAX. DELTA P**		MAX. SPEED	MIN. SPEED
Series 1.5	cm³/rev	[in³/rev]	Bar	[PSI]	Bar	[PSI]	Bar	[PSI]	Bar	[PSI]	RPM	RPM
	2-12	[0.12-1.73]	170	[3625]	180	[3915]	200	[4205]	50	[4205]	2750	800

Series 1.5 gear flow dividers are customizable with up to 6 sections utilized to divide flow proportionately to section displacement size and are available with inlet options depending on final application requirements. A variety of port options are available including SAE, European and German standards.

## FD2 SERIES • GROUP 2 FLOW DIVIDERS

FRAME SIZE	SECTION DISPLACEMENT RANGE		CONT. PRESSURE*		INTER. PRESSURE*		PEAK PRESSURE*		MAX. DELTA P**		MAX. SPEED	MIN. SPEED
Series 2	cm³/rev	[in³/rev]	Bar	[PSI]	Bar	[PSI]	Bar	[PSI]	Bar	[PSI]	RPM	RPM
	3-30	[0.18-1.83]	170	[3625]	180	[3915]	200	[4205]	50	[725]	2500	700

Series 2 gear flow dividers are customizable with up to 6 sections used to divide flow proportionately to section displacement size and are available with inlet options depending on final application requirements. A variety of port options are available including SAE, European and German standards.

\* Pressure ratings are reduced and may be lower for large displacements.

\*\* Max Delta P = maximum pressure difference between sections.

# CUSTOM MANIFOLD VALVE BLOCKS

A variety of custom manifold valve blocks are available to be mounted directly to pumps or more often motors to provide system relief protection, manage overrunning loads, perform dynamic hydraulic braking as well as other functions.



TYPE	SCHEMATIC	TYPICAL APPLICATIONS	PRIMARY MOTORS	MAX. PRESSURE BAR [PSI]	FLOW LPM (GPM)
Shuttle		Wheel Drives Brake Release for Spring-Applied Pressure-Release Brakes	All	200 [2900]	60 [15.7]
Counter Balance w/Shuttle		Swing Drives Winches	F	210 [3045]	60 [15.7]
Counter Balance w/Shuttle		Swing Drives Winches	F4	300 [4350]	120 [31.4]
Dual Crossover Relief		Auger Drives Rotary Cutters Vehicle Propulsion Conveyor Drives Attachments	FH, FS, FR, F2	70 to 210 [1015 to 3045]	95 [24.9]



# SHIFTING THE BALANCE OF POWER

INNOVATORS AND GLOBAL MANUFACTURERS OF POWERTRAIN SOLUTIONS

**OMNI Powertrain Solutions** has created the most compact, powerful, light-weight axial flux electric motor powertrain systems on earth. Innovation is our core value, and whether we are manufacturing mechanical drivelines for agricultural equipment, hydrostatic powertrain systems for off-highway equipment or state-of-the-art electric powertrain systems for commercial vehicles and motorsports, we strive to exceed the power and quality demanded by our clients no matter their industry.

**REGGIO EMILIA**  
ITALY

**SHANGHAI**  
CHINA

**HOUSTON**  
TEXAS

Our diverse family of manufacturing firms ensure that **OMNI** always provides unparalleled service, distribution and support. From conception through development we have a single objective: to provide the highest performance electric, hydrostatic and mechanical powertrain systems that meet the objectives of our clients.

# OMNI

POWERTRAIN TECHNOLOGIES

## AMERICA

3620 West 11th Street  
Houston, Texas 77008

**Tel** +1 713 635 6331  
**Fax** +1 713 635 6360

## ASIA

2455 Bao'an Highway  
Jiading Malu, Shanghai 201801

**Tel** +86 21 69153123  
**Fax** +86 21 69154218

## EUROPE

Via Giovanni, Rinaldi 105  
Reggio Emilia, Italy 42124

**Tel** +39 051 758517  
**Fax** +39 051 751575

[WWW.OMNIPOWERTRAIN.COM](http://WWW.OMNIPOWERTRAIN.COM)

THE FOLLOWING PRODUCT LINES ARE PART OF THE **OMNI POWERTRAIN FAMILY**

