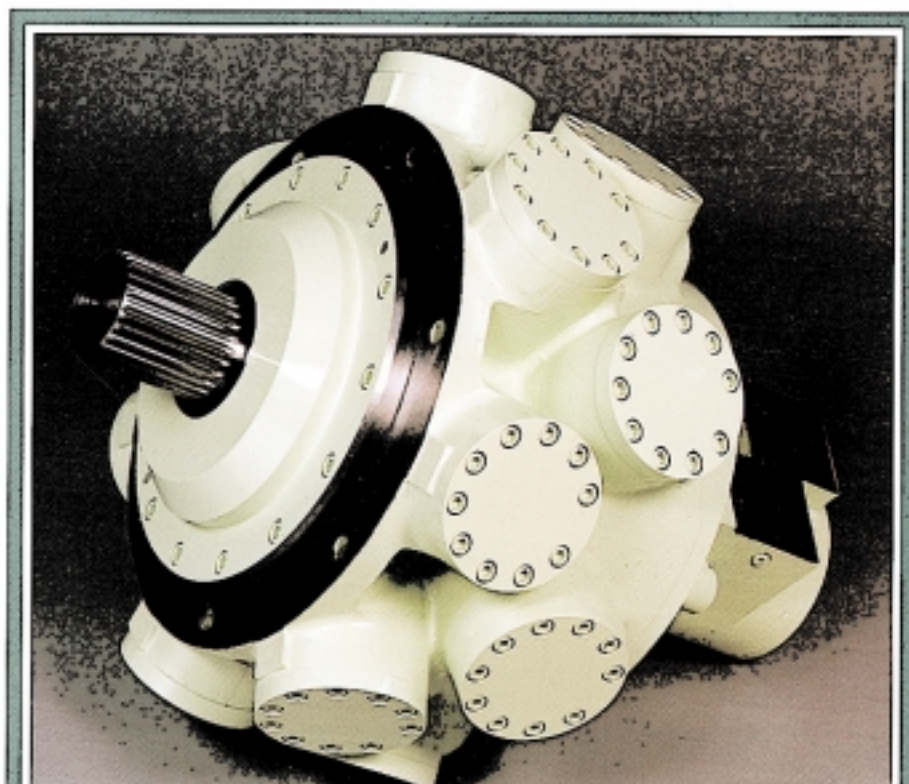




Kawasaki Motors Corp., U.S.A.  
Precision Machinery Division

# HMB HMC

## **Staffa Fixed & Dual Displacement Radial Piston Motors**



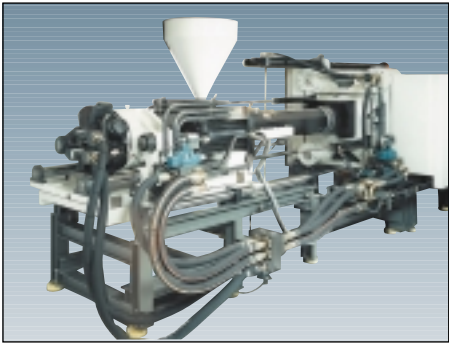
Since 1955, when the first radial piston high torque low speed motor was designed by our engineers, Staffa has maintained leadership in fulfilling customer needs. Today, Staffa motors have the most technically advanced design on the market.

Staffa's performance and reliability is well documented with over 35 years of successful applications worldwide. Staffa motors are the choice of industry leaders to directly propel, drive, swing, or rotate heavy loads and inertias at low speeds.

All over the world, Staffa motors are used on: plastic injection molding machines (extruder screw drives), mining machinery (swing, track, wheel, bucket, and cutterhead drives), earthmoving and construction equipment (wheel, track, swing and implement drives), marine machinery (winch and steering mechanisms), and forestry machines (swing and cutterhead drives) as well as many others.

Staffa motors are offered in

models that include single displacement, dual displacement, and continuously variable forms supplemented by integral gearboxes, brakes, and standard valve packages.



Staffa motors offer consistent, controlled acceleration of loads and smooth, steady, low speed operation. Moving parts are immersed in hydraulic fluid, so Staffa motors do not require periodic lubrication.

They also save money by increasing usable drive power and reducing drive train maintenance.

Utilizing the only fully hydrostatically balanced design in the industry, Staffa motors wear less and have superior starting torque

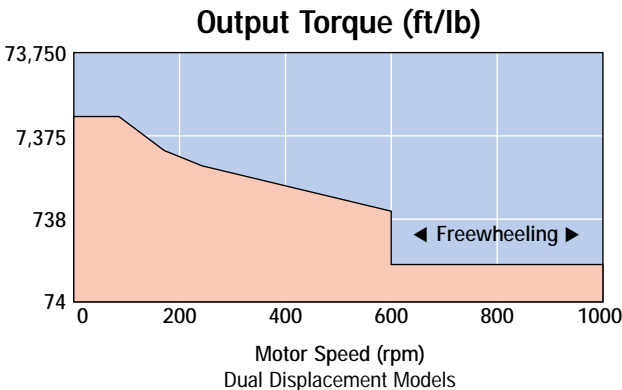
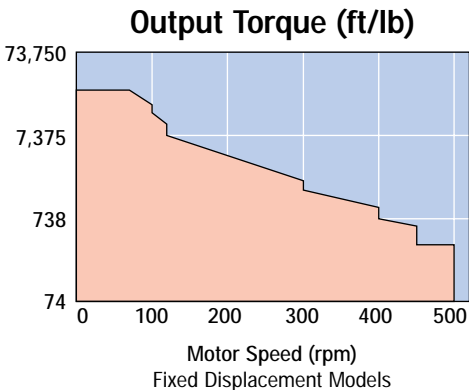
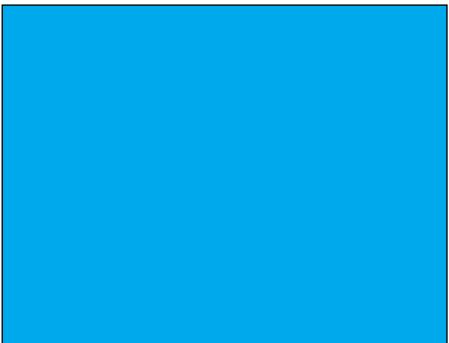


because there is minimal metal-to-metal contact within the motor.

A modular design concept has enabled the motor to be continuously adapted to the changing needs of our customers. This concept also allows product availability and service to be matched to market requirements.

All motors are rigorously tested and documented before shipment and are fully warranted.

Kawasaki Staffa motors – where power, efficiency, quality and reliability come together.



## INTERIOR FEATURES AND BENEFITS

### Hydrostatically Balanced Distributor Valve:

Four pressure balancing slots, two on each side, offset the side load due to the pressure forces acting on the pressure distributor ports of the valve. This keeps the valve centred with no frictional or efficiency loss.

### Oldhams Coupling:

Positive valve timing is achieved by a direct coupling of the shaft and distributor valve with a simple, trouble-free Oldhams coupling which minimizes mechanical losses and cannot transfer side loads.

### Conrod Retaining Rings:

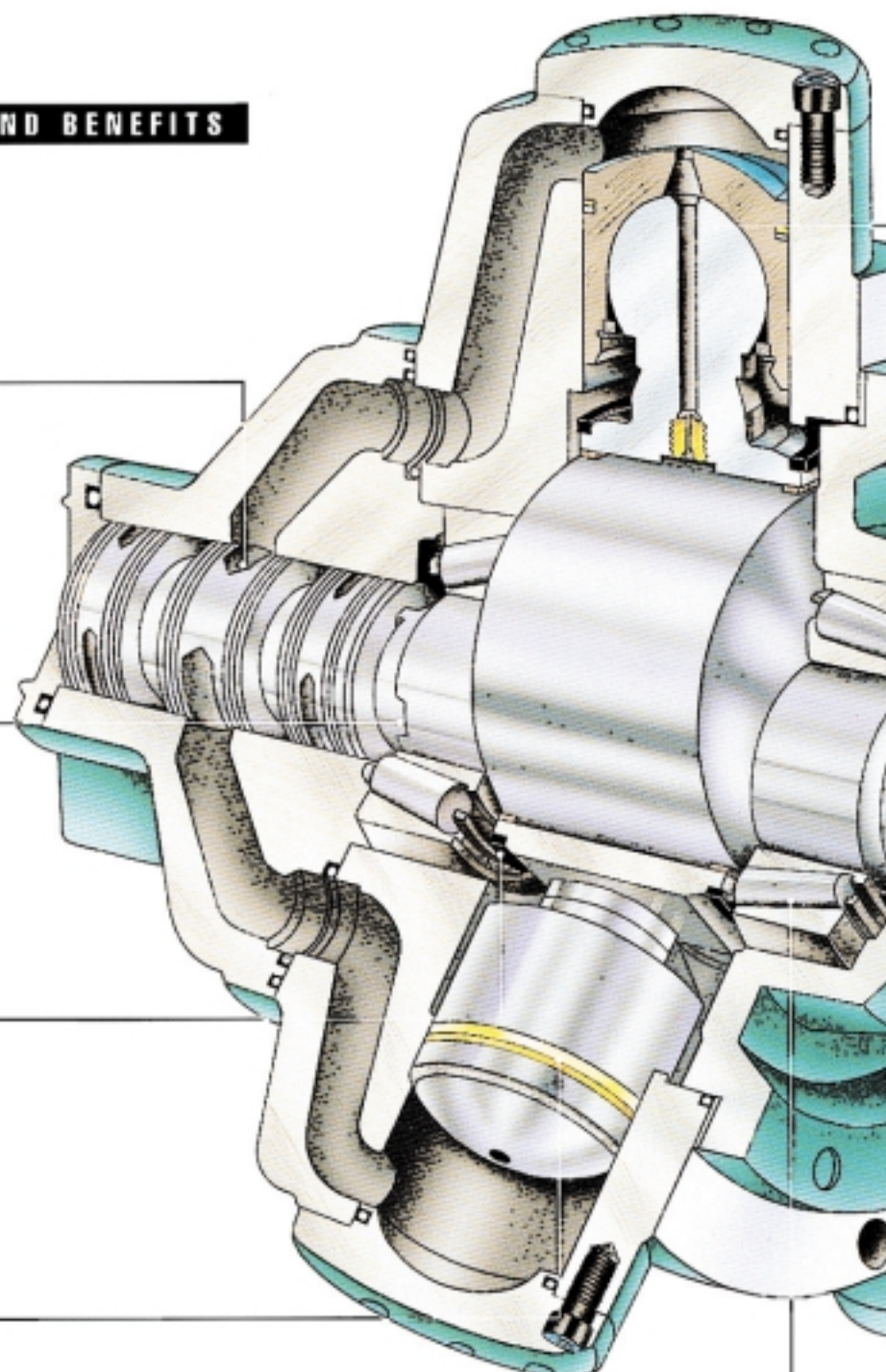
Piston conrods are held against the eccentric throw by retaining rings which minimize damage in case of a transient drop in boost pressure and provide a higher tolerance to cavitation.

### Dual Sealed Pistons:

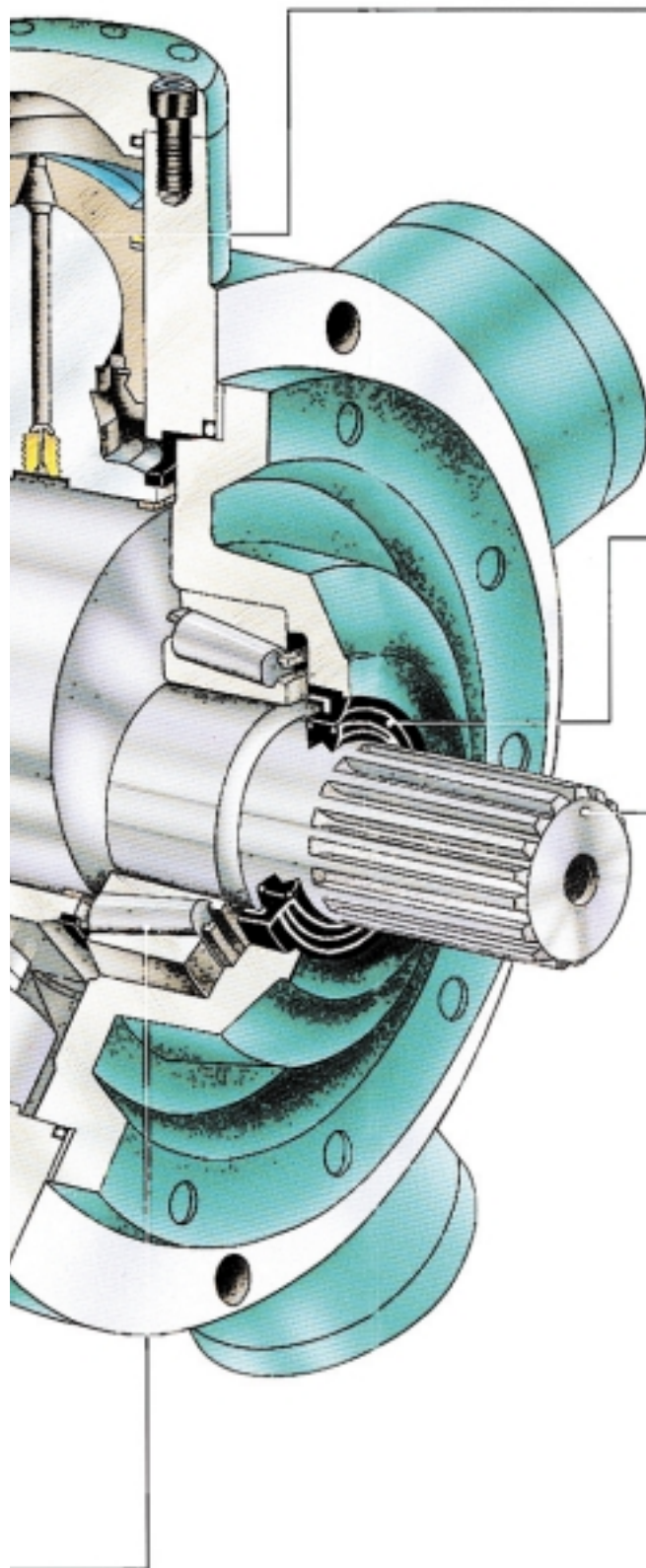
Nylon ring backed by a PTFE ring for excellent sealing and low wear gives higher efficiency and long life.

### Taper Roller Bearings:

Designed for longer life and sized to carry internal hydraulic loads in addition to external side and axial loads on the shaft. Bearings typically outlast the motor.







**Hydrostatically Balanced Conrod:**

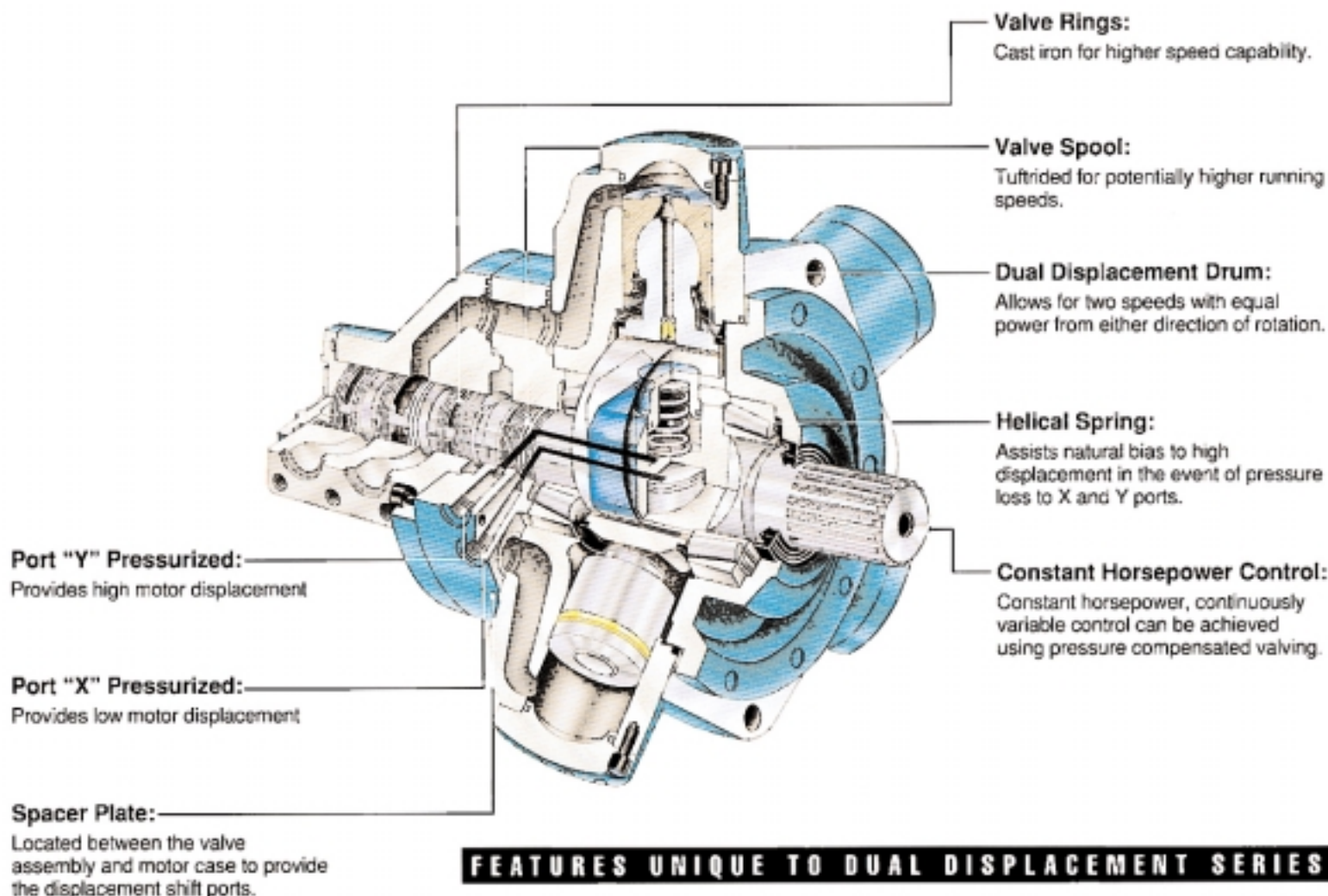
Piston forces are transmitted to the shaft by connecting rods through a large contact area, self-aligning ball and socket joint. Oil is supplied under pressure through a restrictor to the slipper bearing surface. This restrictor provides a truly balanced hydrostatic bearing between the slipper and the crankshaft, ensuring bearing stability with minimal friction losses. This feature provides the Staffa motor with its exceptional starting torque and mechanical efficiency as well as longer life.

**Double Lip Shaft Seal:**

Seals are designed for efficient low speed sealing and are available for standard hydraulic fluids as well as phosphate ester. Available as standard (50 psi) or high pressure (150 psi).

**Flow Direction:**

Equal torque in either direction obtained by simply reversing flow direction.



## EXTERIOR FEATURES AND BENEFITS

### Modular Design:

Provides for numerous combinations of individual subassemblies and allows greater flexibility for quick response to customer needs.

### Simple Rugged Construction:

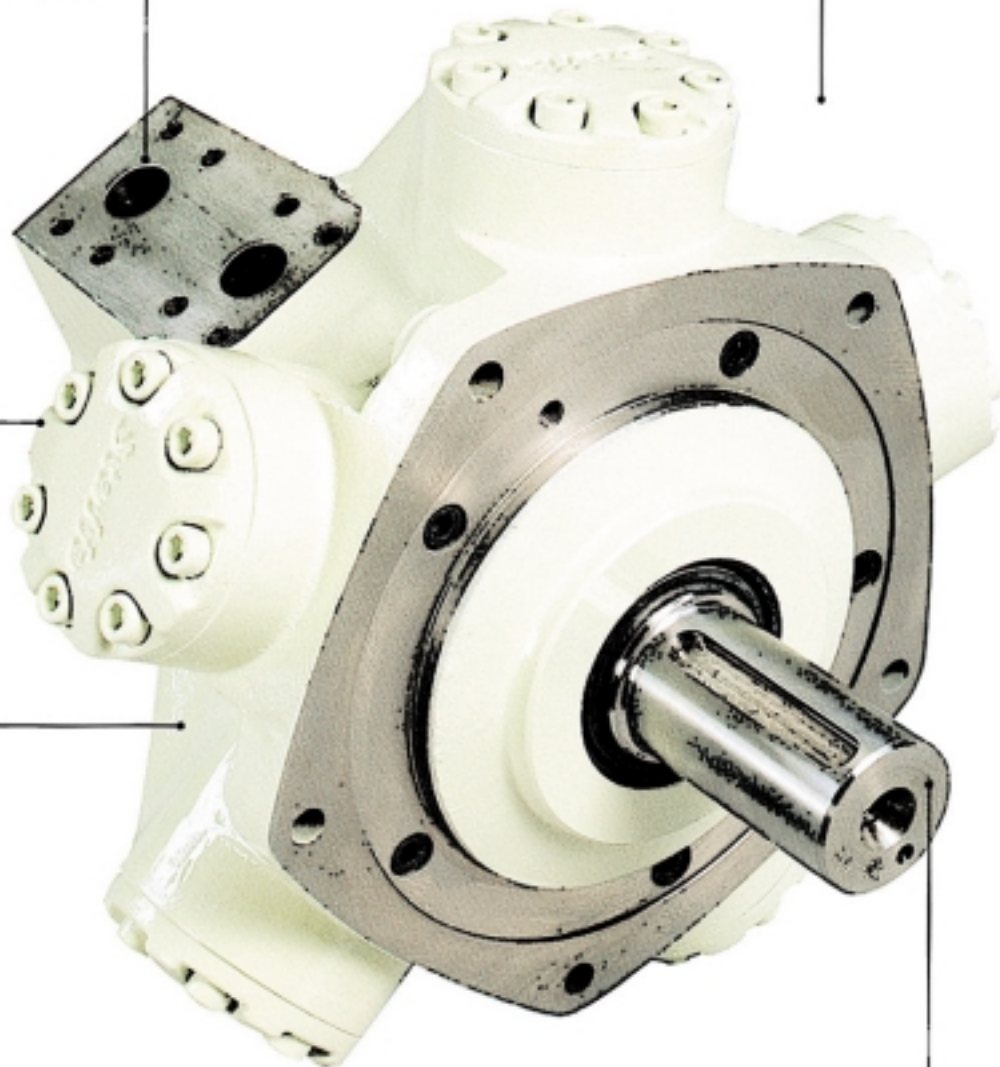
The motor consists of 5 basic subassemblies. This simple motor construction provides easy servicing, low maintenance costs, minimum downtime and longer operating life.

### One Piece Casting:

Increased material strength has allowed reduction in wall sections, lighter motor weight and increased pressure ratings (3625 psi) and a higher power-to-weight ratio.

### Environmentally Friendly:

Excellent operating characteristics with synthetic, biodegradable, and high water based fluids (HWBF) means Staffa motors are environmentally friendly and can operate in fire resistant applications.



### Shaft Options:

Availability of both standard and customer specific special designs illustrates our commitment to responding to customer needs.

## WORLD INDUSTRY RELIES ON STAFFA

*Staffa - the world leader in HTLS hydraulic motor technology - is the choice of leading machine builders for today's innovative applications. More Staffa motors than any competing brand are operating around the world in industrial, mobile and marine machinery. Latest technology, global acceptance and proven reliability are additional reasons you should make Kawasaki Staffa your choice.*



## B MOTOR SPECIFICATIONS

Model	Displacement		Rated Torque		Continuous Ratings					Brochure Part Number
	in³/rev	cc/rev	(lbf-ft)	(Nm)	Speed	Power		Pressure		
					(rpm)	(hp)	(Kw)	(psi)	(bar)	
HMB010	11.5	188	426	577	500	33	25	3000	207	P-969-0001
HMB030	27	442	1002	1357	450	56	42	3000	207	P-969-0002
HMB045	45	740	2019	2737	400	80	60	3625	250	P-969-0003
HMB060	60	983	2682	3625	300	107	80	3625	250	P-969-0004
HMB080	82	1344	3661	4975	300	134	100	3625	250	P-969-0005
HMB100	100	1639	4458	6075	250	147	110	3625	250	P-969-0006
HMB125	125	2050	5655	7665	220	134	100	3625	250	P-969-0017
HMB150	151	2470	6807	9237	220	154	115	3625	250	P-969-0018
HMB200	188	3080	8493	11517	175	174	130	3625	250	P-969-0019
HMB270	263	4310	11755	15947	125	188	140	3625	250	P-969-0020
HMB325	324	5310	14645	19850	100	188	140	3625	250	P-969-0021
HMB400	415	6800	18668	25250	120	256	190	3625	250	P-969-0022
HMB700	708	11600	26643	36057	100	322	240	3045	210	P-969-0007

## C MOTOR SPECIFICATIONS

Model	Displacement		Rated Torque		Continuous Ratings					Brochure
	in³/rev	cc/rev	(lbf-ft)	(Nm)	Speed	Power		Pressure		Part Number
					(rpm)	(hp)	(Kw)	(psi)	(bar)	
HMC030	High 30	High 492	1047	1420	450	80	60	3000	207	P-969-0010
	Low 15	Low 246	489	662	600	47	35	3000	207	
HMC045	High 45	High 737	1964	2662	450	108	80	3625	250	P-969-0011
	Low 35	Low 573	1482	2010	600	85	64	3625	250	
HMC080	High 90	High 1475	4060	5505	300	150	112	3625	250	P-969-0012
	Low 45	Low 737	1957	2650	600	108	80	3625	250	
HMC125	High 125	High 2048	5510	7475	190	140	104	3625	250	P-969-0013
	Low 60	Low 983	2356	3200	390	83	62	3625	250	
HMC200	High 188	High 3080	8591	11650	175	180	134	3625	250	P-969-0014
	Low 90	Low 1470	3878	5250	350	109	81	3625	250	
HMC270	High 280	High 4588	12796	17350	120	241	180	3625	250	P-969-0015
	Low 80	Low 1310	3153	4275	350	72	54	3625	250	
HMC325	High 325	High 5326	14826	20100	100	188	140	3625	250	P-969-0016
	Low 95	Low 1557	3842	5225	350	84	63	3625	250	

### Full Product Line Brochure - P-969-0081B

CVM Control Systems - P-969-0009

CHP - HMC Series - P-969-0008



Staffa hydraulic motors are manufactured to the highest quality standards in a Kawasaki ISO 9001 certified facility.  
Certification No. 891150



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Precision Machinery Division

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