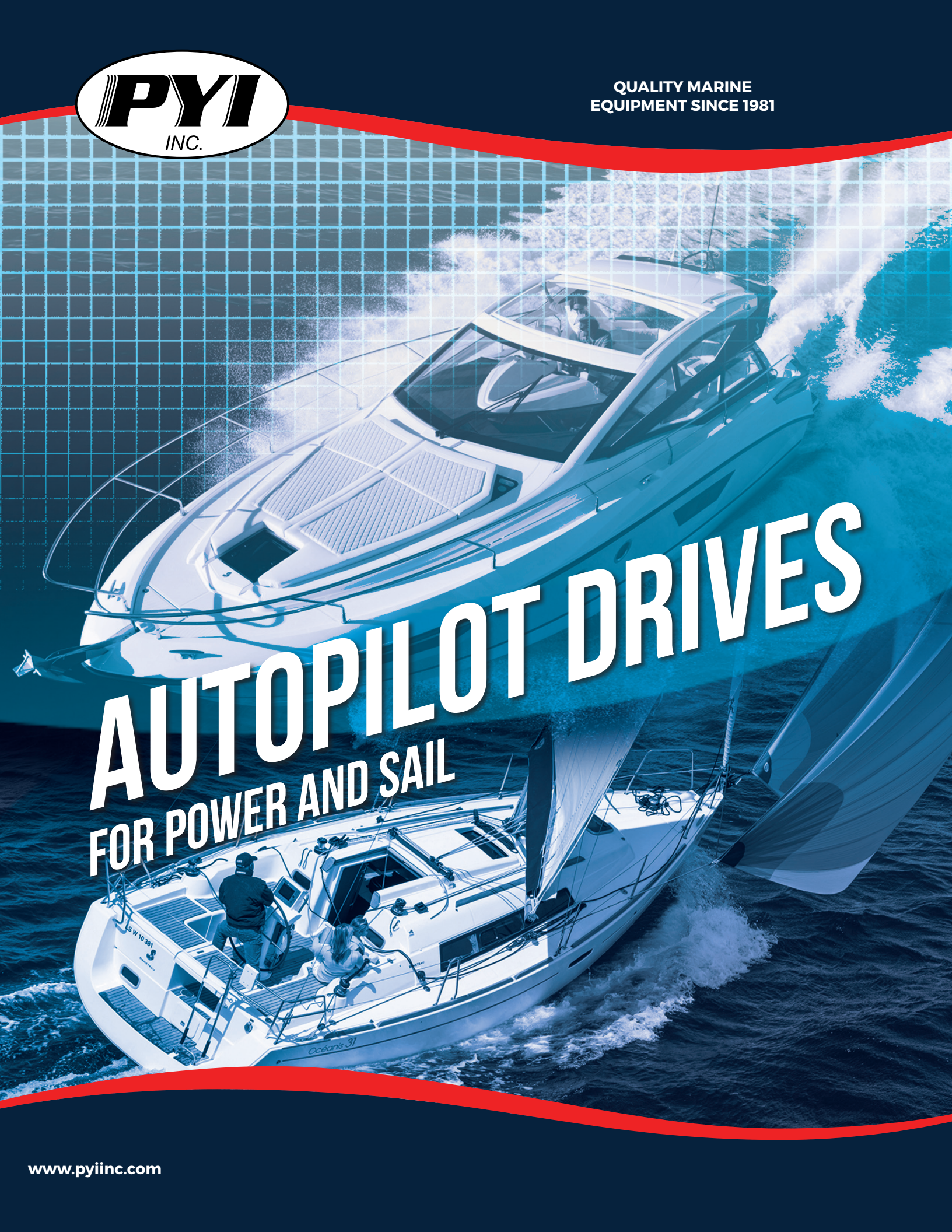
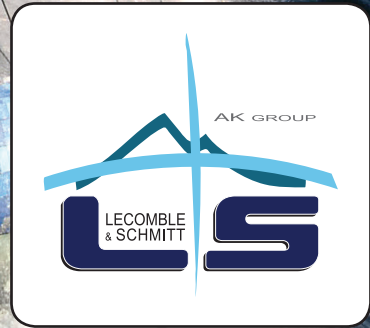




QUALITY MARINE  
EQUIPMENT SINCE 1981

An aerial photograph of two boats on the water. The top boat is a white motor yacht with a dark interior and a person at the helm. The bottom boat is a white sailboat with its sails up, with two people on deck. The water is dark blue, and the sky is a lighter blue with a grid pattern. A red curved line runs across the top and bottom of the image.

# AUTOPILOT DRIVES FOR POWER AND SAIL



## HYDRAULIC LINEAR DRIVES



- Speed adjustment on the reversible power pack.
- Separate reversible power pack for installation at your selected location.
- The kit is supplied assembled and bled with 1.20 meter flexible tube. (Other lengths available upon request)
- All fittings in stainless steel.
- Single rod hydraulic cylinder with integrated electrical by-pass.
- Compact overall dimensions for installation on virtually all types of boats.
- Direct connection to the quadrant.
- Linear Feed-back "Newave" fits linear cylinder range 32 ST 16, 40 ST 16, 50 ST 20 and 50 ST 203.
- Available in 12 and 24 volts.



2203066 kit shown ▲

PART #	DESCRIPTION
2203063	Linear Drive 32ST16 New Wave 12v RI
2203064	Linear Drive 32ST16 New Wave 24v RI
2203066	Linear Drive 40ST16 New Wave 12v RI
2203067	Linear Drive 40ST16 New Wave 24v RI
2203603	Linear Drive 40ST16 REG DEBP 12v <b>with adjustable flow</b>
2203616	Linear Drive 40ST16 REG DEBP 24v <b>with adjustable flow</b>
2203068	Linear Drive 50ST20 New Wave 12v RI
2203069	Linear Drive 50ST20 New Wave 24v RI
2203070	Linear Drive 50ST203 New Wave 12v RI
2203071	Linear Drive 50ST203 New Wave 24v RI



▲ 2202047 Ecopilot shown here



## ENERGY SAVING OPTIONS



- The Ecopilot installs on the electro-valve which engages the autopilot.
- Daily energy consumption of the electro-valve is reduced from 30Ah to 5Ah on average.

PART #	DESCRIPTION
2202047	Ecopilot 12v
2202048	Ecopilot 24v

## REVERSIBLE VARIABLE SPEED



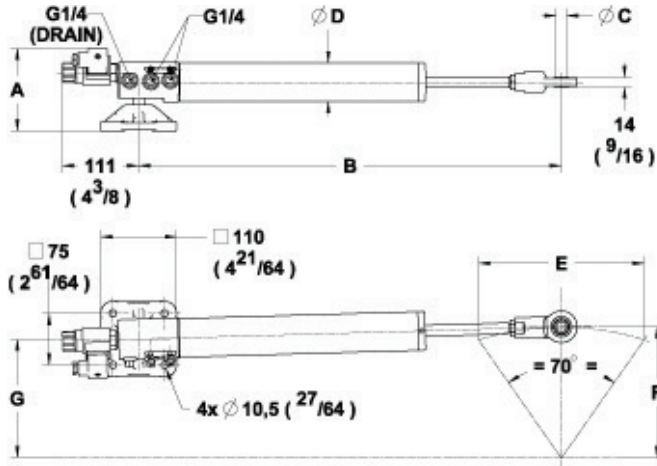
Hydraulic power packs with adjustable flow in 12 or 24 volts for pleasure, fishing and work boats. They are reversible by changing the polarity on the motor terminals. Flow adjustment is done through a screw which allows accurate regulation of the time required for lock to lock displacement.

MODEL	PART # (12v)	PART # (24v)	MAXIMUM CYLINDER CAPACITY (cc)	FLOW RATE (l/mm)	PROTECTION (12/24v)
RV1	2200843	2200944	216 (13.18 cu in)	0.1 to 1	15A / 6A
RV2	2200410	2200945	432 (26.36 cu in)	0.2 to 2	23A / 13A
RV3	2200403	2200946	650 (39.66 cu in)	0.3 to 3	29A / 16A



▲ 2200843 (RV1) model shown

# TECHNICAL SPECIFICATIONS



## LINEAR CYLINDER SYSTEM

MODEL	VHM 32ST16 DEBP		VHM 40ST16 DEBP		VHM 50ST20 DEBP	
PART # - 12v	2203084		2203086		2203088	
PART # - 24v	2203085		2203087		2203089	
MAXIMUM THRUST	280 kg	617 lbs	450 kg	992 lbs	700 kg	1,543 lbs
WEIGHT	3.5 kg	7.71 lbs	3.5 kg	7.71 lbs	5 kg	11 lbs
A	120 mm	4 <sup>25</sup> / <sub>32</sub> "	120 mm	4 <sup>25</sup> / <sub>32</sub> "	120 mm	4 <sup>25</sup> / <sub>32</sub> "
B	563 mm	22 <sup>1</sup> / <sub>4</sub> "	613 mm	24 <sup>1</sup> / <sub>8</sub> "	715 mm	28 <sup>3</sup> / <sub>4</sub> "
C	15 mm	9/ <sub>32</sub> "	15 mm	9/ <sub>32</sub> "	17 mm	9/ <sub>16</sub> "
D	46 mm	1 <sup>5</sup> / <sub>16</sub> "	56 mm	2 <sup>5</sup> / <sub>16</sub> "	70 mm	2 <sup>3</sup> / <sub>4</sub> "
E	210 mm	8 <sup>7</sup> / <sub>16</sub> "	240 mm	9 <sup>7</sup> / <sub>16</sub> "	300 mm	11 <sup>5</sup> / <sub>16</sub> "
F	170 mm	6 <sup>5</sup> / <sub>16</sub> "	190 mm	7 <sup>3</sup> / <sub>16</sub> "	240 mm	9 <sup>23</sup> / <sub>64</sub> "
G	160 mm	6 <sup>3</sup> / <sub>16</sub> "	172 mm	6 <sup>7</sup> / <sub>16</sub> "	218 mm	8 <sup>37</sup> / <sub>64</sub> "

## LINEAR PUMP SYSTEM

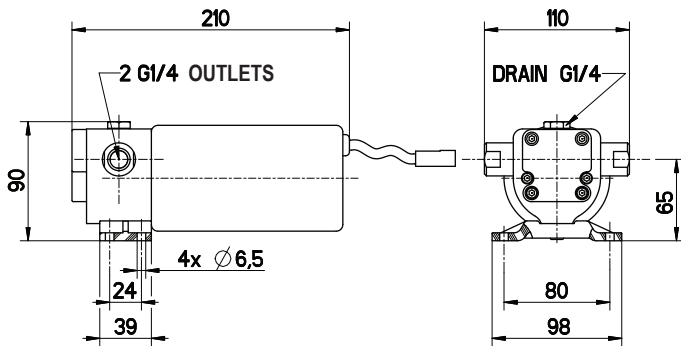
	RV1 NEW WAVE	RV2 NEW WAVE	RV3 NEW WAVE
12v PART #	2203074	2203077	2203080
24v PART #	2203075	2203078	2203081

MODEL	A	B	C	D	E	F
RV1 New Wave	80	70	186	4	24	280
RV2 New Wave	3 <sup>5</sup> / <sub>32</sub> "	2 <sup>3</sup> / <sub>4</sub> "	7 <sup>23</sup> / <sub>64</sub> "	4	5/ <sub>16</sub> "	11 <sup>1</sup> / <sub>4</sub> "
RV3 New Wave	100	88	204	2	0	320
	3 <sup>5</sup> / <sub>16</sub> "	3 <sup>5</sup> / <sub>32</sub> "	8 <sup>1</sup> / <sub>32</sub> "	2	0	12 <sup>23</sup> / <sub>32</sub> "

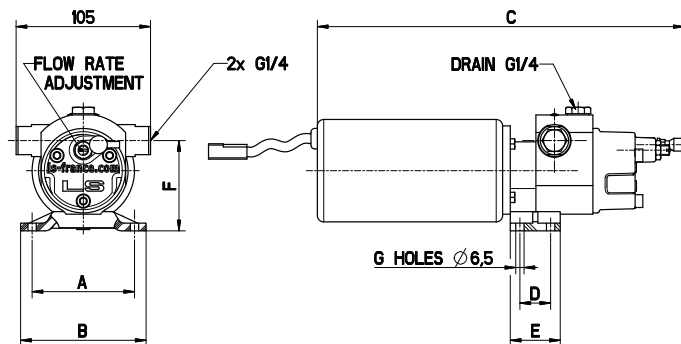
## REVERSIBLE POWER PACKS

SPECS	
Maximum Cylinder Volume	160cc
Flow Rate	0.61 l/mn
Maximum Pressure	25 bars
Average Consumption	2-3 A/h
Recommended Protection 12 / 24v	13A / 6A



## REVERSIBLE VARIABLE SPEED

MODEL	A	B	C	D	E	F	G
RV1	80	98	290	24	39	70	4
	3 <sup>5</sup> / <sub>32</sub> "	3 <sup>7</sup> / <sub>8</sub> "	11 <sup>27</sup> / <sub>64</sub> "	5/ <sub>16</sub> "	1 <sup>5</sup> / <sub>16</sub> "	2 <sup>3</sup> / <sub>4</sub> "	
RV2	80	98	290	24	39	70	4
	3 <sup>5</sup> / <sub>32</sub> "	3 <sup>7</sup> / <sub>8</sub> "	11 <sup>27</sup> / <sub>64</sub> "	5/ <sub>16</sub> "	1 <sup>5</sup> / <sub>16</sub> "	2 <sup>3</sup> / <sub>4</sub> "	
RV3	100	120	330	0	60	88	2
	3 <sup>5</sup> / <sub>16</sub> "	4 <sup>23</sup> / <sub>32</sub> "	13"		2 <sup>23</sup> / <sub>64</sub> "	3 <sup>5</sup> / <sub>32</sub> "	



## LINEAR DRIVE

The Jefa linear drive is a strong and compact autopilot drive, that is much more efficient than existing hydraulic and electromechanical linear drive units. With a thrust of 882 lbs. on 9.84" center it's much stronger than a human being (the maximum output torque of 723 ft/lb is equivalent to 220 lbs. force on the rim of a 40" steering tiller) and is built for 24 hours per day continuous operation with a total weight of only 14.5lbs.



## SPROCKET DRIVE

The Jefa sprocket drive is the most compact sprocket autopilot drive available. The maximum output torque is 147 ft/lbs at 9 RPM. The combination of the specially designed electric motor with the ultra efficient 3 stage planetary gearbox results in an extremely efficient drive unit. The drive can be used on boats from 35' to 65' (or with a rudder torque up to 2887 ft/lbs) equipped with a cable or rod steering system.



Sprocket drive mounting bracket. #DU-WS-BR

## DRAGLINKS & TILLER LEVERS

Jefa tiller levers are made from high strength aluminium. The Jefa tiller levers are available in three boss sizes depending on the rudder stock diameter. All Jefa tiller levers are standard equipped with an autopilot pick up hole at 250 mm centers and tap holes for the rudder feedback unit. PYI can bore and key to suit your needs.



Jefa aluminum draglinks create a lighter and stronger solution over stainless steel draglinks (proof stress of 280 N/mm<sup>2</sup> compared to 200 N/mm<sup>2</sup> for SS). The articulated rose joints on the draglink are specially designed from high strength aluminum with a removable Delrin ball. This provides an electrical disconnect of the rudder from the rest of the steering system and boat. The draglinks can be adjusted 110mm in length. The Jefa rose joints standard have a 16 mm hole, but they are also available in imperial sizes for replacement on other steering systems.

## DIRECT DRIVE

### DUDD112

The Jefa direct drive type I is an extremely compact autopilot drive. The maximum output torque is 1082 ft/lbs. with a total weight of only 26.5 lbs. The combination of the flat wound (pancake) electric motor with the ultra efficient planetary and spur gearbox results in an extremely efficient drive unit. The drive can be used on boats up to 45' LOA. with a mechanical steering system that can be back driven. The direct drive drives the rudder via a draglink and the existing tiller arm or quadrant or via an independent tiller arm.

### DUDD212 & DUDD224

The Jefa direct drive is a very compact autopilot drive unit for larger boats. The maximum output is 2706 ft/lbs. Total weight of only 42 lbs. This drive can be used on boats from 45 to 55 foot equipped with a mechanical steering system that can be back driven. The direct drive drives the rudder via a draglink and the existing tiller arm or quadrant or via an independent tiller arm.



Rudder feedback adapter plate. #DU-DD1-FB

◀ DUD-D112 model shown

MODEL	DESCRIPTION
DU-DD1-FB	Rudder feedback mounting bracket for DD1
DUD-D212	Direct Drive 375kgm Type 2 12v
DUD-D224	Direct Drive 375kgm Type 2 24v
DUD-D312	Direct Drive 525kgm Type 3 12v
DUD-D324	Direct Drive 525kgm Type 3 24v
DUD-D424	Direct Drive 735kgm Type 4 24v
DU-WS200-12	Sprocket autopilot drive unit 200nm 12v
DU-WS300-24	Sprocket autopilot drive unit 300nm 24v
DU-WS-BR	Bracket for Sprocket Drive
DU-LD-100	Linear Drive 100kgm - 400kg, thrust, 12v
DU-TS8-12	Transmission DU 200nm 12v - 8 rev/min
DU-TS6-12	Transmission DU 200nm 12v - 6 rev/min
DU-TS4-12	Transmission DU 200nm 12v - 3.5 rev/min
DU-TS8-24	Transmission DU 300nm 24v - 8 rev/min
DU-TS6-24	Transmission DU 300nm 24v - 6.5 rev/min
DU-TS4-24	Transmission DU 300nm 24v - 4 rev/min
DU-TS-LEW	Adapter for Lewmar autopilot flange
DUD-D112	Direct Drive 150kgm Type I 12v