



TECHNICAL SPECIFICATIONS



AD 50 – 90 Retarder



Identification

Code N° : B B 2 0

AD 50 – 90

Variant

Coupling index

Voltage index 1 = 12V
2 = 24V

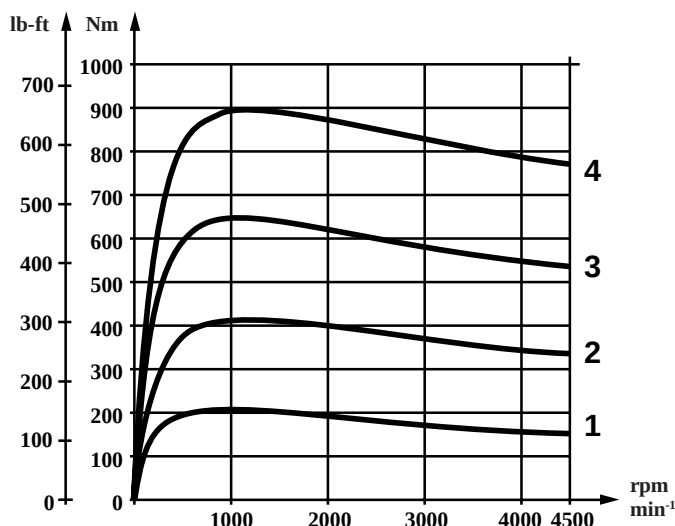
Specifications

MASS	Total : 125 kg/275 lb	Rotors : 39 kg/86 lb	Stator : 86 kg/189 lb
Application RANGE* G.C.W.	6 / 11 t		
Maximum BRAKING TORQUE	900 Nm/663 lb-ft		
Rotors INERTIA	0,64 kgm ² /15 lb-ft ²		
Maximum bearing R.P.M.	4500 tr/min		
Max. TRANSMISSIBLE TORQUE	10 000 Nm/7370 lb-ft		

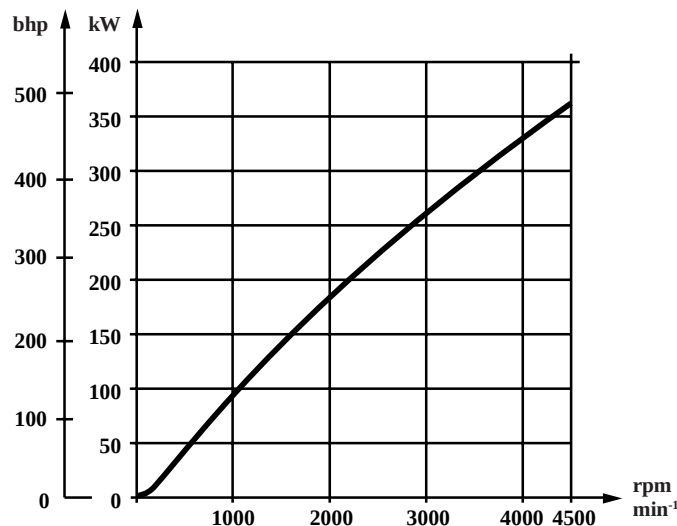
* for specific applications, consult our Technical Department

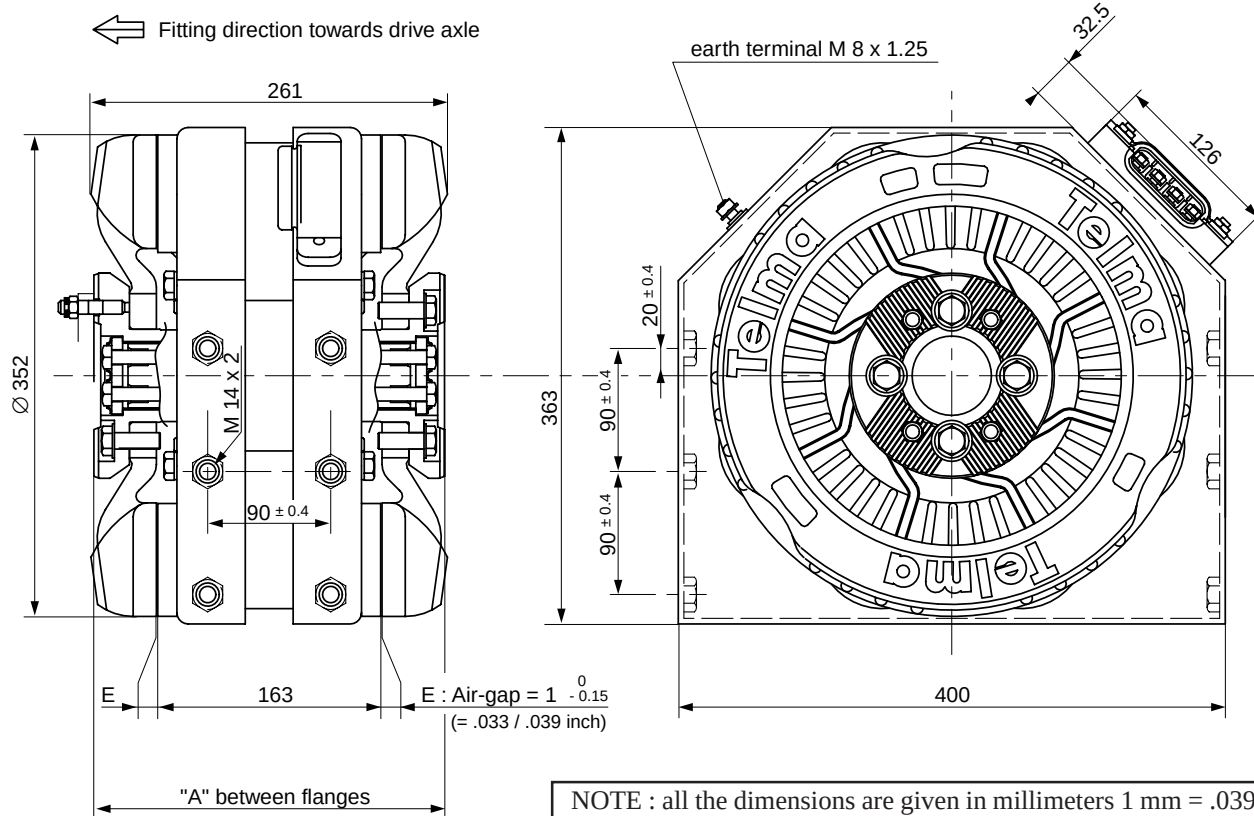
Performance curves (versus rotor speed)

TORQUE
Control stages : 1–2–3–4

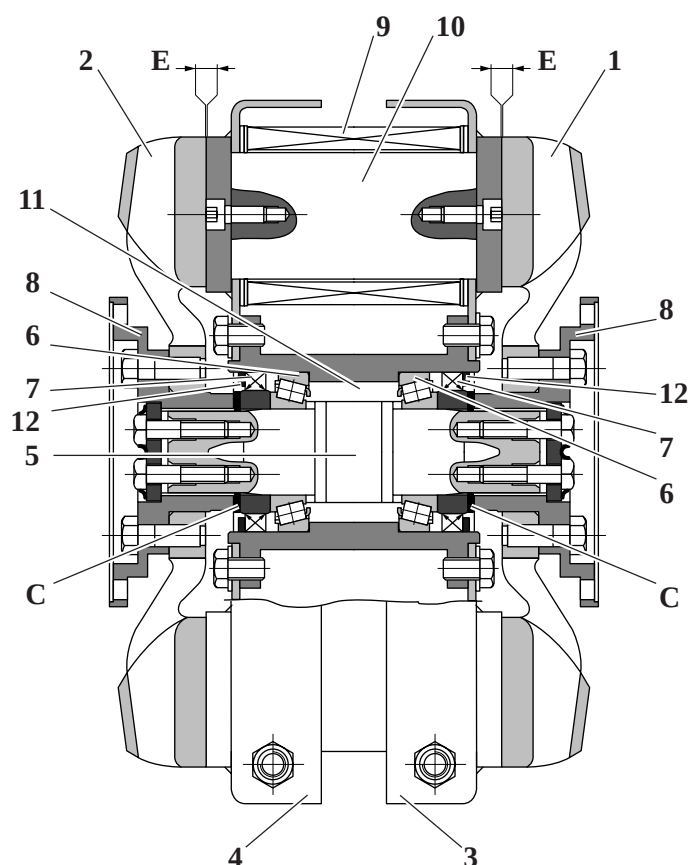


POWER





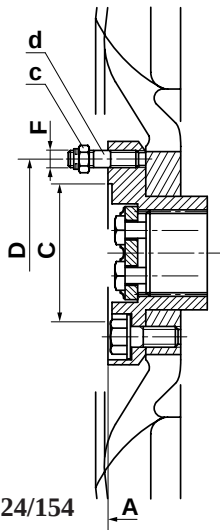
Cross-section view



- C – Air-gap adjusting shims
- E – Air-gap
- 1 – Front rotor
- 2 – Rear rotor (axle side)
- 3 – Front housing
- 4 – Rear housing
- 5 – Shaft
- 6 – Bearing
- 7 – Lip seal
- 8 – Coupling flange
- 9 – Coil
- 10 – Pole
- 11 – Hub
- 12 – Circlips

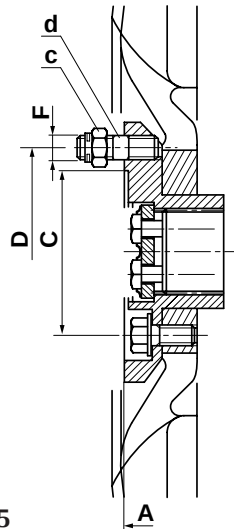


Cross-section view



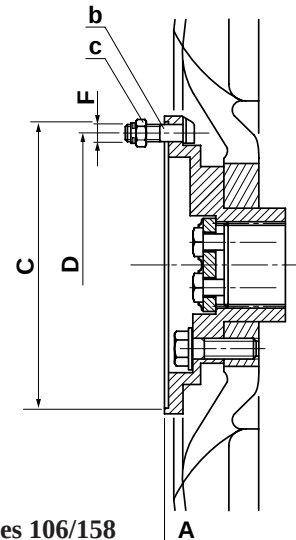
indexes 124/154

Figure 1



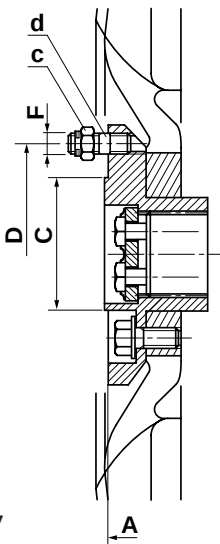
index 105

Figure 2



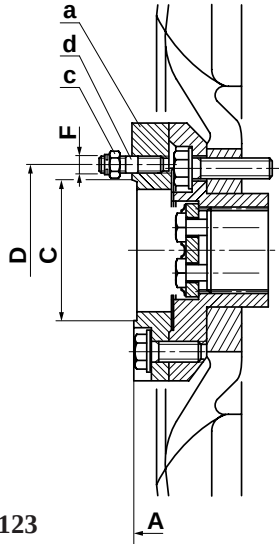
indexes 106/158

Figure 3



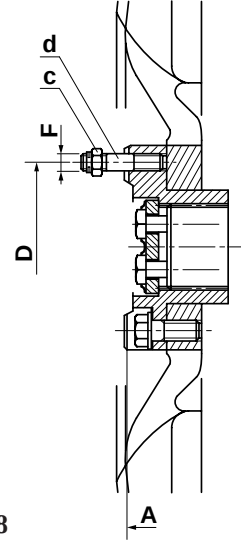
index 117

Figure 4



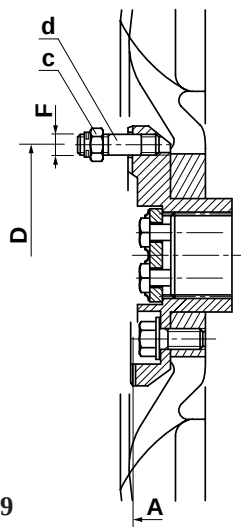
index 123

Figure 5



index 128

Figure 6



index 129

Figure 7



Specifications

A	C	D	E	F	FIXATION	Fig.	Rotor	
							4 screws	5 screws
105 index : SAE 1500 – metric thread						Réf. 24 V : BB202105		
245.4	95.25	120.67	4	M14x1.50	studs (d) nuts (c)	2	x	
106 index : SAE 1600 – metric thread						Réf. 24 V : BB202106		
264.4	168.22	155.52	8	M10x1.00	screws (b) nuts (c)	3	x	
117 index : DIN Ø 150 mm						Réf. 24 V : BB202117		
245.4	90	130	8	M12x1.50	studs (d) nuts (c)	4	x	
123 index : Mercedes–Benz Ø 120 mm						Réf. 24 V : BB202123		
287.4	82.5	101.6	6	M10x1.00	adaptator (a) studs (d) nuts (c)	5	x	
124 index : Mercedes–Benz Ø 130 mm						Réf. 24 V : BB202124		
245.4	82.56	112	8	M10x1.00	studs (d) nuts (c)	1	x	
128 index : Ø 120 mm cross–serration						Réf. 24 V : BB202128		
253.4		100	4	M10x1.00	studs (d) nuts (c)	6	x	
indice 129 : Ø 150 mm cross–serration						Réf. 24 V : BB202129		
253.4		130	4	M12x1.50	studs (d) nuts (c)	7	x	
154 index : SAE 1350/1410 – british/american thread						Réf. 24 V : BB202154		
245.4	69;85	95.27	4	11.1	7/16” 20 UNF studs (d) nuts (c)	1	x	
158 index : SAE 1550/1610 – british/american thread						Réf. 24 V : BB202158		
264.4	168.22	155.52	8	9.52	3/8” 24 UNF screws (b) nuts (c)	3	x	

A – Distance between the 2 coupling flanges (see page 3, dimensions)

C – Centering diameter

D – Pitch circle diameter

E – Number of securing screws

F – Specifications of the securing screws

NOTE : For all other couplings, consult our Technical Department.
All the dimensions are given in millimeter 1 mm = .039 inch.



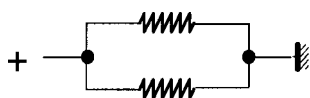
VOLTAGE (according to vehicle equipment)	12 V	24 V
VOLTAGE index	1	2
RESISTANCE per CIRCUIT at 20 °C ($\pm 5 \%$)	0.25 Ω	1 Ω
RESISTANCE per COIL at 20 °C ($\pm 5 \%$)	0.5 Ω	
INSULATION RESISTANCE	> 1 M Ω	
Nominal average AIR-GAP	$1^{+0}_{-0.15}$ mm	

12 V specifications

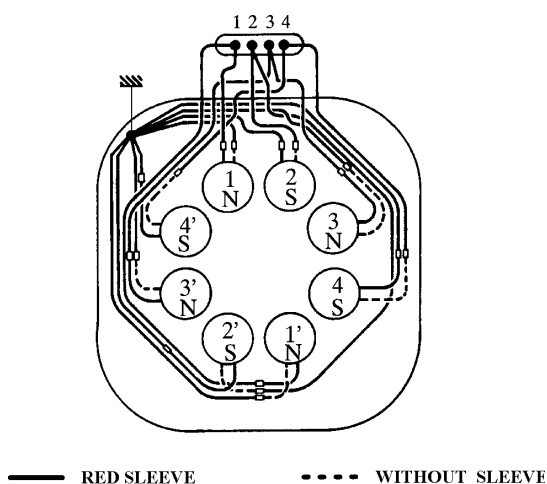
CURRENT CONSUMPTION
(at 20 °C depending on control stage)

STAGE	1	2	3	4
CURRENT $\pm 5\%$ (A)	48	96	144	192

CIRCUIT DIAGRAM



WIRING DIAGRAM



24 V specifications

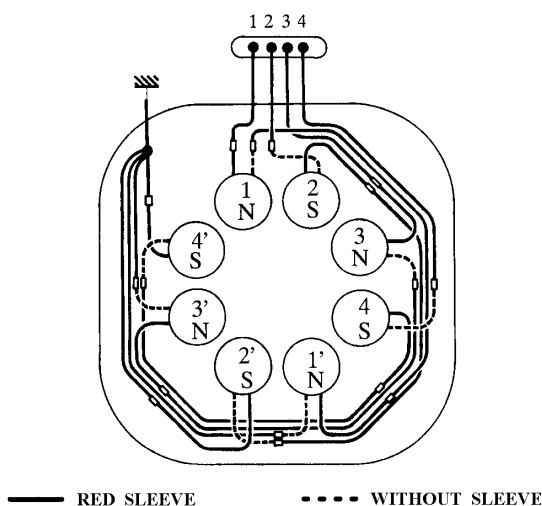
CURRENT CONSUMPTION
(at 20 °C depending on control stage)

STAGE	1	2	3	4
CURRENT $\pm 5\%$ (A)	24	48	72	96

CIRCUIT DIAGRAM



WIRING DIAGRAM

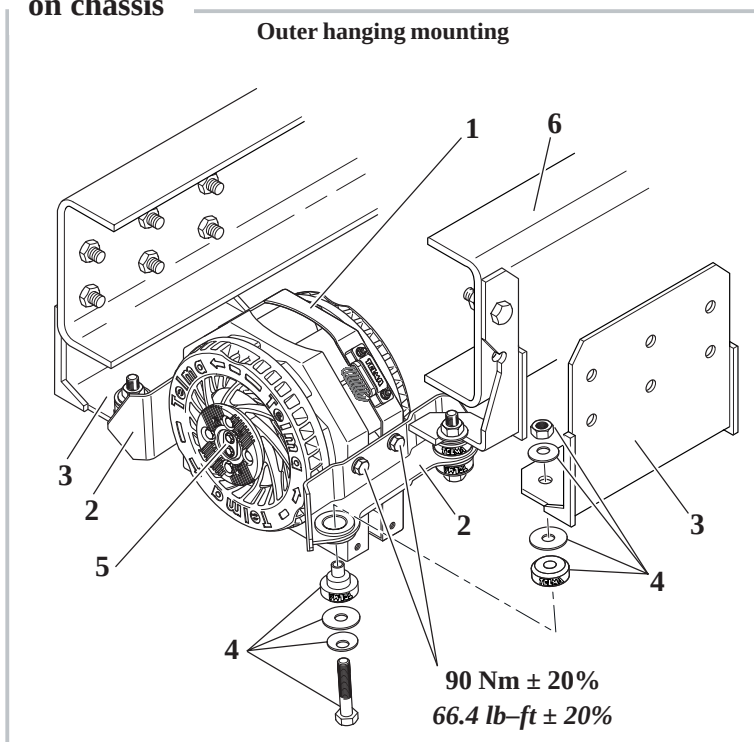




Fitting example

on chassis

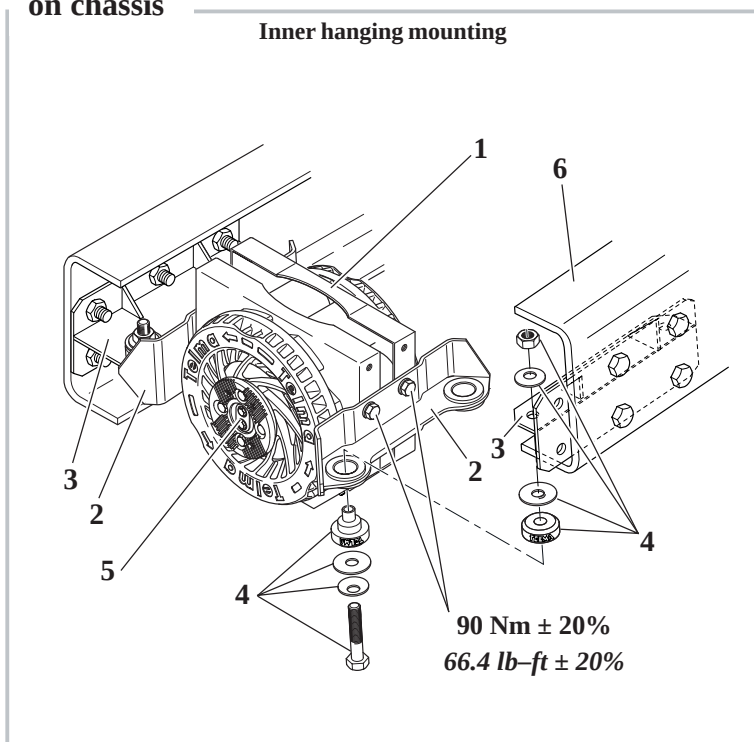
Outer hanging mounting



- 1 – Retarder
- 2 – Set of 2 side – plates
- 3 – Set of 2 consoles (JZ100743)
- 4 – Set of 4 rubber mounts with fasteners
(230 Nm $\pm$ 20%/169.6 lb-ft $\pm$ 20%)
- 5 – Coupling flange
- 6 – Chassis

on chassis

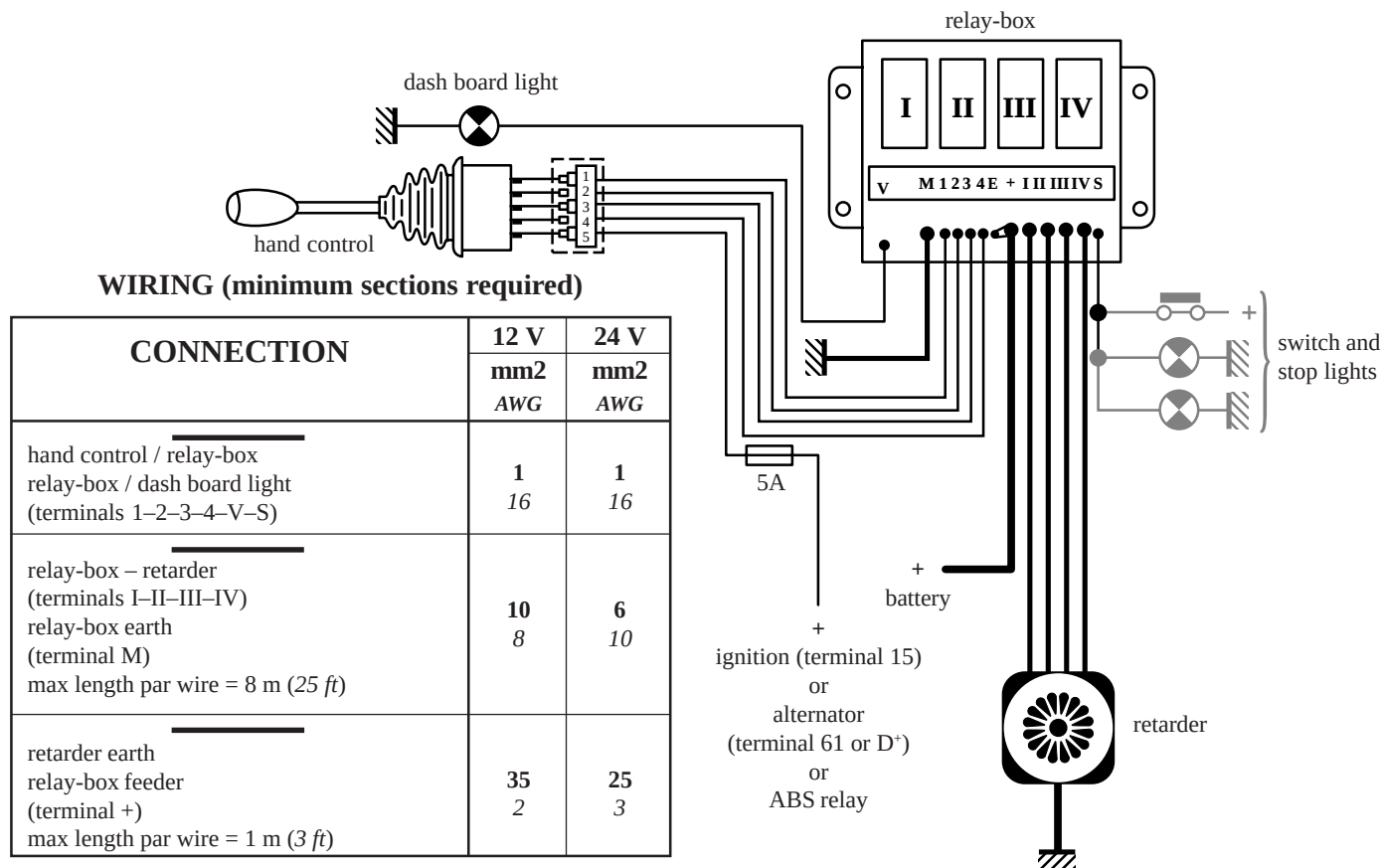
Inner hanging mounting



- 1 – Retarder
- 2 – Set of 2 side – plates
- 3 – Set of 2 consoles
- 4 – Set of 4 rubber mounts with fasteners
(230 Nm $\pm$ 20%/169.6 lb-ft $\pm$ 20%)
- 5 – Coupling flange
- 6 – Chassis

**Wiring diagram (example with hand control)**

Consult our Technical Department for automatic control and governing devices (ex. : ABS ...)



NOTE : for longer lengths, consult our Technical Department.



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