

ENGLISH

Metalrota's production is based on gearbox + wheel units (drivewheels), electric motors for battery operated vehicles and differential units.

This catalogue shows the main range of drivewheels production, horizontals and verticals. Other drivewheels are not in the catalogue, but customized and available on request.

Main features on which **Metalrota** is focusing are:

- The steering system, which is available on most of our drive units, with a wide range of optional depending on vehicle features and movements
- Electric motors manufactured in our factories, from 12 to 96V, both AC Motors for battery operated machines and DC Motors (permanent magnets and wounded, separately excited, series wound and shunt wound) with which we can satisfy all requests of traction motors for battery machines
- Wide range of gear ratios available
- Wheels with rubber cover, Vulkollan or polyurethane with different hardness depending on application requirements.

Our products are manufactured complying with IEC and European standards.

OPTIONALS

- **E/M brakes**: the catalogue shows drive wheels with electromagnetic brake, available on request. We can provide e/m brakes with IP65 enclosure.
- **Thermal protections**: generally, we can supply on/off thermal switches or thermal sensors, with cable output on terminal board.
- **Detectable wear system**: it is a brush with an additional wire to detect the brush wearing; cable output being on terminal board.
- **Ventilation on traction motor**: may it be required, it is possible to get a longer traction motor duty cycle for heavy duties or for 2/3 shifts per day, intensive services.
- **End limit switches**: available on steering plate, with its cam.
- **Encoders**: the availability is large: incremental or absolute, single or multiturn, directly mounted on motors shaft (both traction and/or steering), or on steering plate.
- **Potentiometer**: multiturn, generally 10kOhm – 10 turns, directly mounted on steering plate, coupled with the steering crown gear.
- **Tacho-generators**: generally 10V-1000rpm, directly mounted on motors shaft (both traction and/or steering).

On the catalogue you can find the standard production of our motors; on request we can make motors with different performances in power, voltage and rpm.

For customized requests please fill in the form on the bottom of this catalogue with as much details as possible: we then would be able to select the best solution in between our various choices.

ITALIANO

Metalrota produce riduttori-ruota (motoruote), motori elettrici (principalmente destinati all'utilizzo su veicoli a batteria) e differenziali.

Il presente catalogo mostra la nostra principale gamma di motoruote, siano esse orizzontali o verticali. Altre motoruote non sono a catalogo, ma customizzate e disponibili a richiesta.

Punto di forza su cui **Metalrota** fa leva sono:

- sistema di sterzo motorizzato, presente su moltissimi nostri modelli, con una elevata disponibilità di optional a seconda del veicolo da equipaggiare
- motori prodotti al nostro interno, da 12 a 96V, sia a corrente alternata per veicoli a batteria che a corrente continua (a magnete permanente e campo avvolto con eccitazione separata, serie e parallela)
- vasta gamma di rapporti di riduzione
- rivestimenti in gomma, Vulkollan o poliuretano di varie durezze.

I nostri prodotti sono costruiti in conformità alle normative della Comunità Europea.

ACCESSORI

- **Freni elettromagnetici:** nel catalogo sono illustrate motoruote con freno elettromagnetico, disponibile su richiesta; possiamo fornire freni con protezione IP65.
- **Protezioni termiche:** generalmente vengono fornite termocoppie on/off o sensori termici, con cavo alloggiato nella zona dei morsetti del motore.
- **Rilevatori di usura:** trattasi di una spazzola con cavo supplementare per il rilevamento dell'usura della stessa, il quale viene alloggiato nella zona dei morsetti del motore.
- **Ventilazione del motore trazione:** nel caso si voglia "allungare" il servizio del motore elettrico per cicli di lavoro intensivi o con carichi gravosi.
- **Microswitches di fine corsa:** montati sulla piastra di sterzo, con relative cam.
- **Encoders:** ampia è la disponibilità, incrementali o assoluti, mono o multigiro, direttamente accoppiati all'albero del motore (trazione e/o sterzo), oppure fissati sulla piastra di sterzo.
- **Potenziometri:** multigiro, generalmente 10kOhm - 10 giri, fissati sulla piastra di sterzo in accoppiamento con la corona di sterzo.
- **Dinamo Tachimetriche:** generalmente 10V-1000rpm, direttamente accoppiate all'albero del motore (trazione e/o sterzo).

Nel catalogo sono riportati i dati dei motori di uso più comune, ma a richiesta possiamo realizzare motori con caratteristiche diverse in potenza, tensione e numero di giri.

Per la selezione del prodotto più idoneo all'applicazione, vi preghiamo di compilare nel modo più completo possibile il modulo posto al fondo del presente catalogo.

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WIRED / CABLAGGIO	pag. 7

HORIZONTAL DRIVE WHEELS <i>MOTORUOTE ORIZZONTALI</i>		MAX WHEEL LOAD <i>CARICO MAX RUOTA</i> (kg)	MOTOR POWER <i>POTENZA MOTORE</i> (W)	VOLTAGE <i>TENSIONE</i> (V)	WHEEL SIZE <i>DIAM. RUOTA</i> (mm)
D25 – D10 - M70	pag. 8	600	250÷500	12÷96	205
MR200	pag. 9	600	400÷500	12÷96	198
MR220	pag. 10	600	500÷1000	12÷96	220
MR240	pag. 11	1150	700-1000	12÷96	250 ÷ 260
MR250	pag. 12	1150	700÷1500	12÷96	250 ÷ 260
MR300	pag. 13	1350	1200÷1500	12÷96	300
MR270	pag. 14	1300	1000÷1500	24÷96	270
MR260/300 Mot. D.151	pag. 15	1500	1500÷2500	24÷96	300
MR260/350 Mot. D.151	pag. 16	2000	1500÷2500	24÷96	350
MR260/350 Mot. D.191	pag. 17	2000	3000÷5000	24÷96	350
MR260/406 Mot. D.191	pag. 18	2300	3000÷5000	24÷96	406
MR350	pag. 19	2600	3000÷5000	24÷96	350
MR415	pag. 20	4000	6000÷12000	24÷96	406
T110	pag. 21	2350	1000÷2000	24÷96	300 / 330
VERTICAL DRIVE WHEELS <i>MOTORUOTE VERTICALI</i>		MAX WHEEL LOAD <i>CARICO MAX RUOTA</i> (kg)	MOTOR POWER <i>POTENZA MOTORE</i> (W)	VOLTAGE <i>TENSIONE</i> (V)	WHEEL SIZE <i>DIAM. RUOTA</i> (mm)
WR125ECO	pag. 22	1000	800÷1200	12÷96	230
WR151ECO	pag. 23	1000	1500÷2000	24÷96	230
WR151	pag. 24	1800	1500÷2500	24÷96	260
WR191	pag. 25	1800	3000÷3500	24÷96	260
WR350 Mot. D.191	pag. 26	3000	3000÷5000	24÷96	350
WR350 Mot. D.244	pag. 27	3000	5000÷10000	48÷96	350
WR425 Mot. D.191	pag. 28	3100	3000÷5000	24÷96	406
WR425 Mot. D.244	pag. 29	3100	5000÷10000	48÷96	406

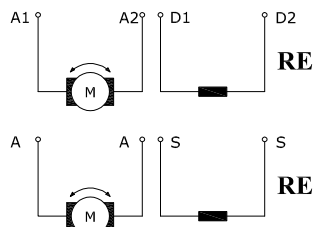
STEERING DRIVE WHEELS / MOTORUOTE STERZANTI

HORIZONTAL STEERING DRIVE WHEELS <i>MOTORUOTE STERZANTI ORIZZONTALI</i>		MAX WHEEL LOAD <i>CARICO MAX RUOTA</i> (kg)	MOTOR POWER <i>POTENZA MOTORE</i> (W)	VOLTAGE <i>TENSIONE</i> (V)	WHEEL SIZE <i>DIAM. RUOTA</i> (mm)
MR200S	pag. 30	600	400÷500	12÷96	198
MR220S	pag. 31	600	500÷1000	12÷96	220
MR240S	pag. 32	1150	700-1000	12÷96	250 ÷ 260
MR250S	pag. 33	1150	700÷1000	24÷96	250 ÷ 260
MR255S	pag. 34	1200	700÷1200	12÷96	260
MR270S	pag. 35	1300	1000÷1500	24÷96	270
MR260/320S	pag. 36	2000	3000-5000	12÷96	320
MR350S	pag. 37	2600	3000÷5000	24÷96	350
MR415S	pag. 38	4000	6000÷12000	48÷96	406
MR600S	pag. 39	6000	6000÷12000	48÷96	559
VERTICAL STEERING DRIVE WHEEL <i>MOTORUOTE STERZANTI VERTICALI</i>		MAX WHEEL LOAD <i>CARICO MAX RUOTA</i> (kg)	MOTOR POWER <i>POTENZA MOTORE</i> (W)	VOLTAGE <i>TENSIONE</i> (V)	WHEEL SIZE <i>DIAM. RUOTA</i> (mm)
WR151ECOS	pag. 40	1000	1500÷2000	24÷96	230
WR260S Mot. D.151	pag. 41	1800	1500÷3000	24÷96	260
WR350S Mot. D.191	pag. 42	3000	3000÷5000	24÷96	350
WR350S Mot. D.244	pag. 43	3000	5000÷10000	48÷96	350
WR425S Mot. D.244	pag. 44	3100	5000÷10000	48÷96	406

ELECTRICAL CONNECTIONS / COLLEGAMENTI ELETTRICI

D.C. MOTOR
MOTORE C.C.

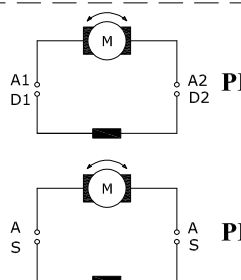
SERIES WOUND
ECCITAZIONE IN SERIE



4 TERMINALS WITH TERMINAL BOARD
4 MORSETTI CON MORSETTIERA

4 TERMINALS WITHOUT TERMINAL BOARD
4 MORSETTI SENZA MORSETTIERA

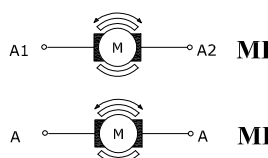
SHUNT / SEP-EX WOUND
ECCITAZIONE PARALLELA / SEPARATA



4 TERMINALS WITH TERMINAL BOARD
4 MORSETTI CON MORSETTIERA

4 TERMINALS WITHOUT TERMINAL BOARD
4 MORSETTI SENZA MORSETTIERA

PERMANENT MAGNETS
MAGNETI PERMANENTI

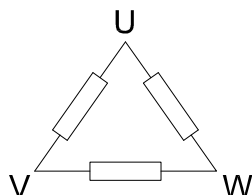


2 TERMINALS WITH TERMINAL BOARD
2 MORSETTI CON MORSETTIERA

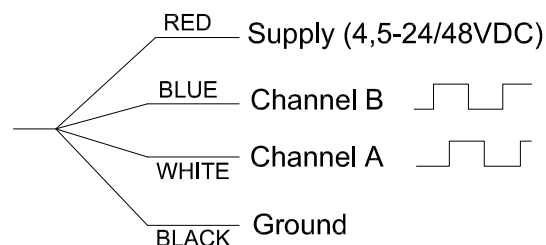
2 TERMINALS WITHOUT TERMINAL BOARD
2 MORSETTI SENZA MORSETTIERA

A.C. MOTOR
MOTORE A.C.

MOTOR POWER SUPPLY TO CONTROLLER
PER CONTROLLO ALIMENTAZIONE DEL MOTORE

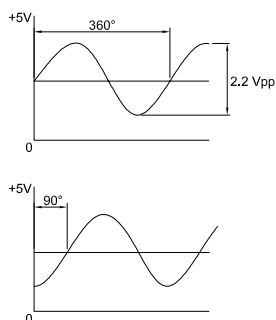


SPEED SENSOR
SENSORE DI VELOCITA'

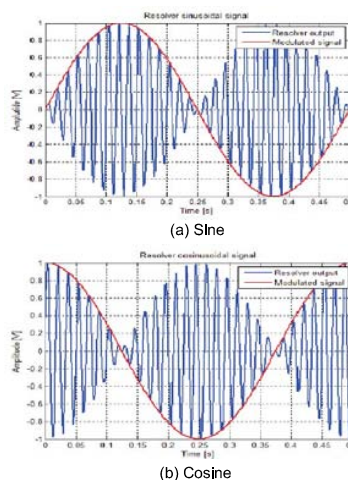


PMS BRUSHLESS
MOTOR

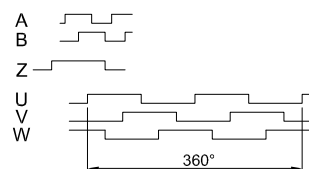
ANALOGUE
SINUSOIDAL
SIN / COS



RESOLVER



HALL SENSOR
+ INCREMENTAL
ENCODER



THERMAL SENSOR KTY84/130
SENSORE DI TEMPERATURA KTY84/130



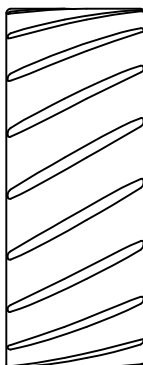
WHEELS / RUOTE

TYPES OF TREAD / TIPI DI BATTISTRADA

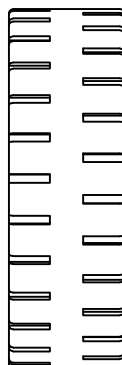
L
smooth
liscio



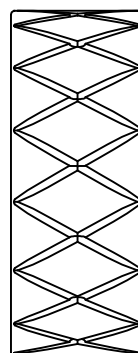
S1
diagonal
diagonale



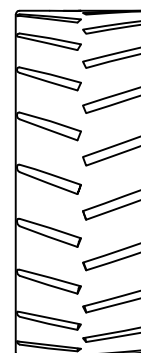
S2
horizontal
orizzontale



S3
X type
tipo a X

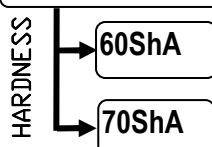


S4
V type
tipo a V

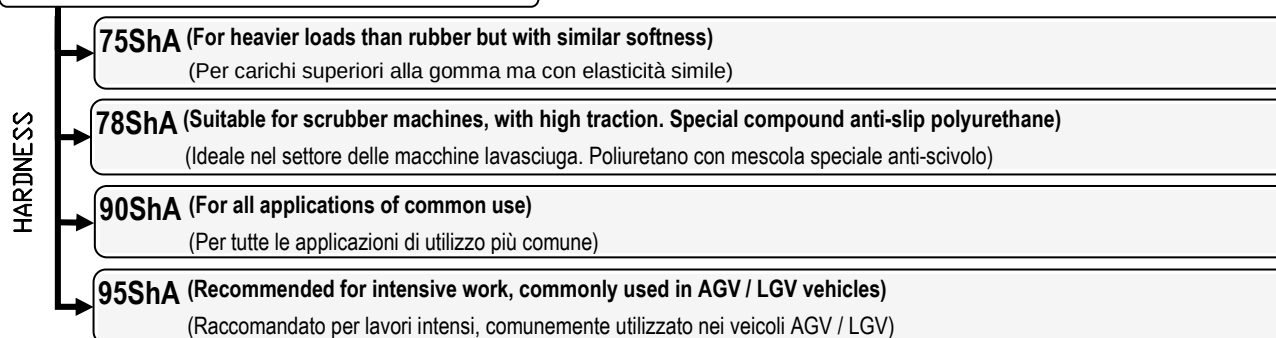


TYPES OF COVERING / TIPI DI RIVESTIMENTO

RUBBER / GOMMA



POLYURETHANE / POLIURETANO



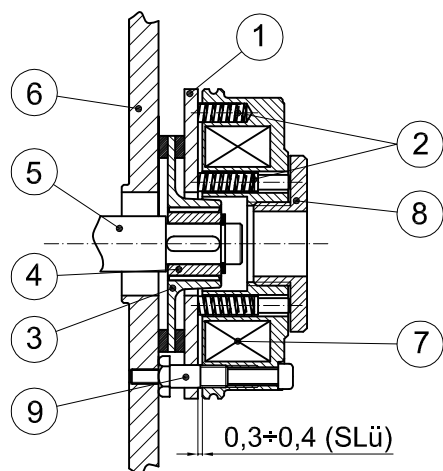
VULKOLLAN / VULKOLLAN

ELECTROMAGNETIC BRAKES / FRENI ELETTROMAGNETICI

STANDARD BRAKE

/

FRENO STANDARD



- 1 - Pressure disk - Disco di spinta
 - 2 - Springs - Molle
 - 3 - Brake disk - Ferodo
 - 4 - Hub - Mozzo
 - 5 - Shaft - Albero
 - 6 - Braking flange - Controdisco freno
 - 7 - Electro-magnet - Bobina
 - 8 - Ring nut - Ghiera regolazione coppia
 - 9 - Air gap regulation screw - Vite di registro
- SLü - Air gap - Fessura d'aria

General Regulations

Before starting the motor, power must be applied to the electromagnetic brake, to check the brake disengages from the drive. Occasionally, after an extended off-line period, the brake disk (item 3) could become attached to the braking flange (item 6). In this situation, you may detach the brake disk by doing the following: with the brake always powered, try to move the brake disk (item 3) using a small screwdriver without scoring the contact surfaces. To improve the braking torque, retighten the ring nut (item 8) (clockwise). To get the lower braking, unscrew the same ring nut (counter-clockwise).

Note: the e/m brakes are already set up when the drive wheels are assembled with a standard braking.

Prescrizioni generali

Prima di effettuare l'avviamento della motoruota verificare che il freno si sblocchi quando è alimentato.

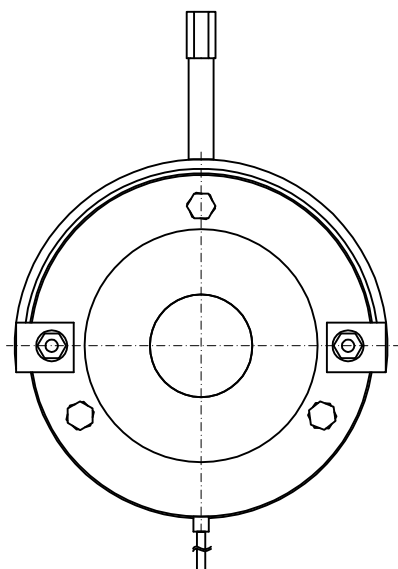
Soprattutto dopo un lungo periodo di sosta e/o inutilizzo, se ciò non dovesse avvenire, potrebbe essersi incollato il ferodo (pos. 3) al disco d'attrito del freno (pos. 1). In questo caso, sempre con il freno alimentato provare a smuovere il ferodo (pos. 3) utilizzando un piccolo cacciavite e ponendo molta attenzione a non rovinare o rigare le superfici di contatto. Per aumentare la coppia frenante avvitare la ghiera di registro (pos. 8) (senso orario). Per avere l'effetto contrario, svitare la ghiera stessa (senso anti-orario).

N.B.: i freni sono già regolati in fase di montaggio sulle motoruote con frenatura standard.

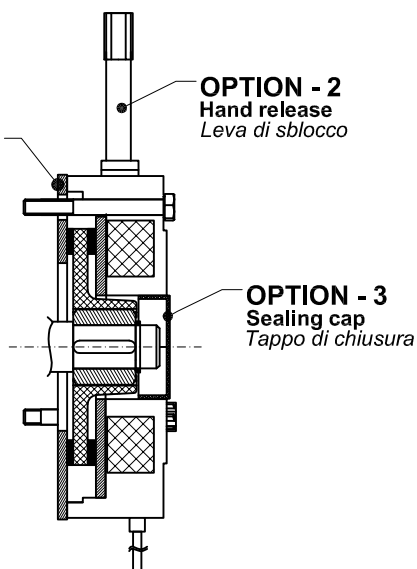
IP65 ENCLOSURE BRAKE SELF-REGULATED

/

FRENO CON PROTEZIONE IP65 AUTO-REGOLATO



OPTION - 1
Flange
Flangia

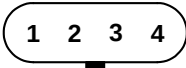
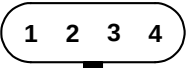


OPTION - 2
Hand release
Leva di sblocco

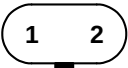
OPTION - 3
Sealing cap
Tappo di chiusura

WIRED / CABLAGGIO

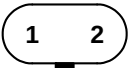
ENCODER

Wired Encoder AMP superseal 1.5 series 4 pin 282106-1				Wired not Encoder			
Encoder Bearing		Encoder Rheintacho		Encoder Bearing		Encoder Rheintacho	
							
Pin Number	Pin Function	Pin Number	Pin Function	Pin Color	Pin Function	Pin Color	Pin Function
1	Vdc (Red)	1	Vdc (Red)	Red	Vdc	Red	Vdc
2	Signal B (Blue)	2	Signal B (Blue)	Blue	Signal B	Blue	Signal B
3	Signal A (White)	3	Signal A (White)	White	Signal A	White	Signal A
4	Ground (Black)	4	Ground (Black)	Black	Ground	Black	Ground

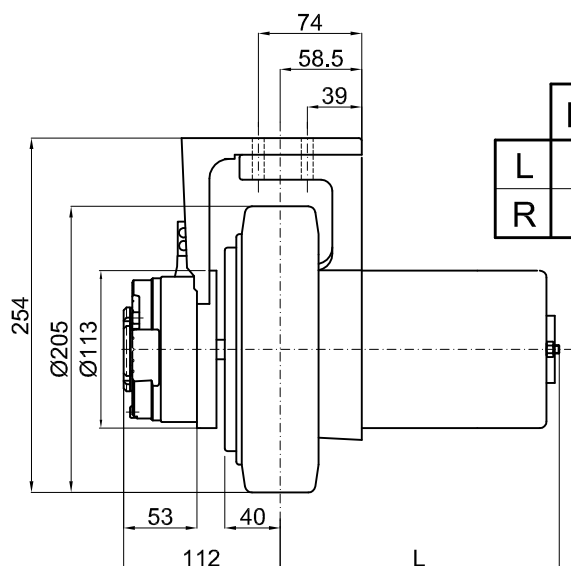
THERMAL SENSOR

Wired Thermal Sensor KTY 84-130 AMP superseal 1.5 series 2 pin 282104-1		Wired not Thermal Sensor KTY 84-130	
			
Pin Number	Pin Function	Pin Color	Pin Function
1	A (Red)	Red	A
2	K (Black)	Black	K

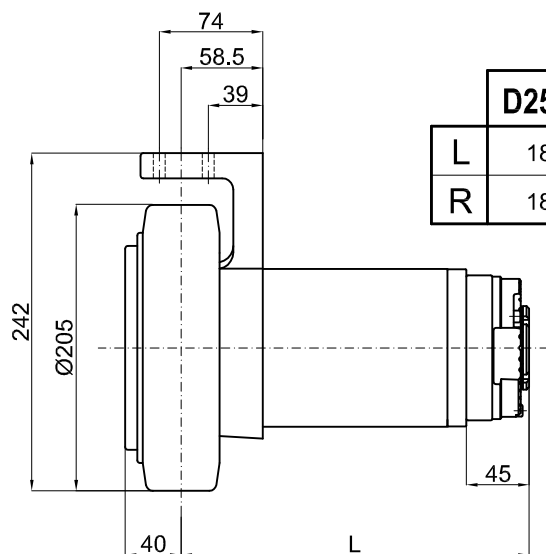
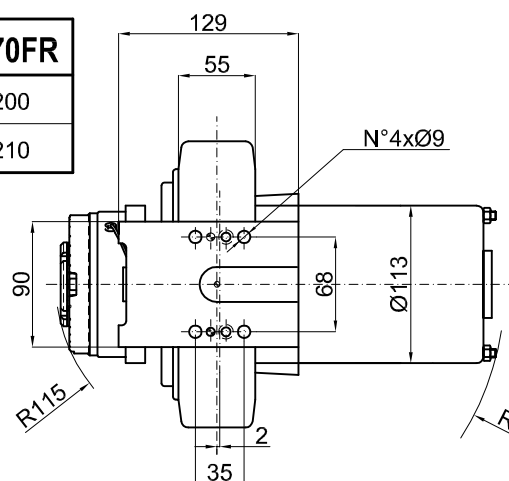
ELECTROMAGNETIC BRAKE

Wired Brake AMP superseal 1.5 series 2 pin 282104-1		Wired not Brake	
			
Pin Number	Pin Function	Pin Color	Pin Function
1	+ (Red)	Red	+
2	- (Black)	Black	-

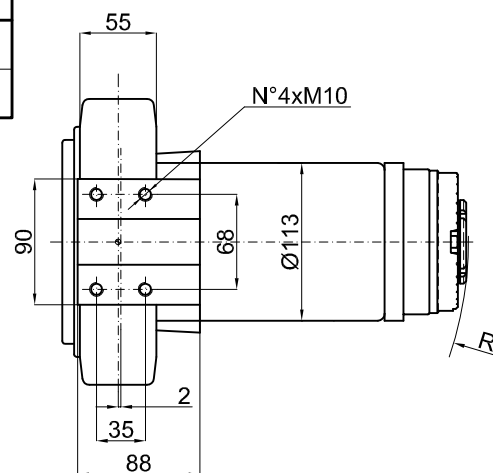
D25 – D10 – M70



	D25FR	D10FR	M70FR
L	146	169	200
R	147	170	210

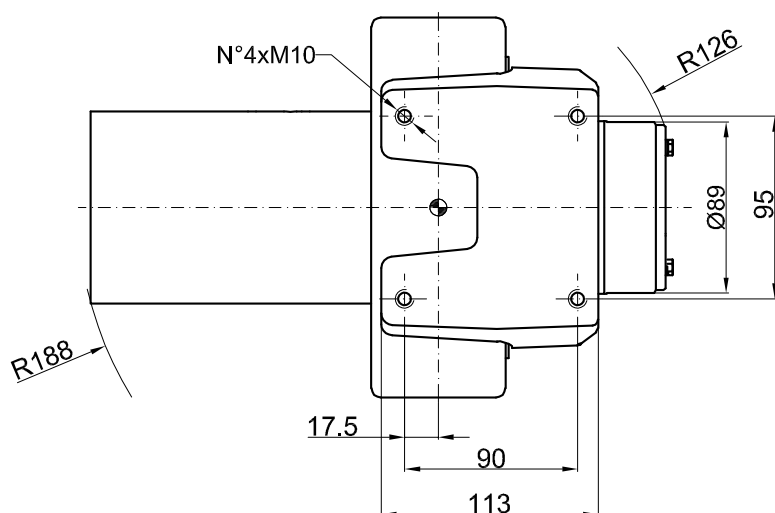
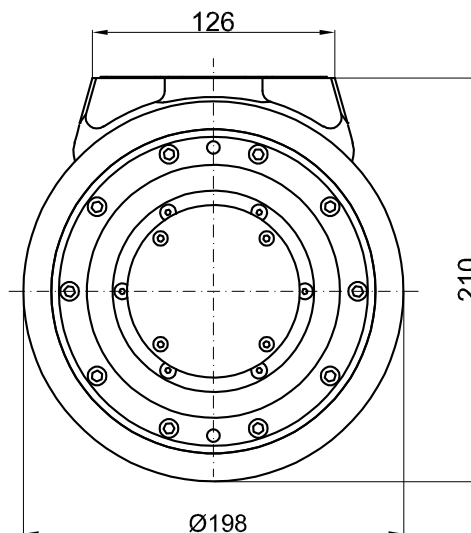
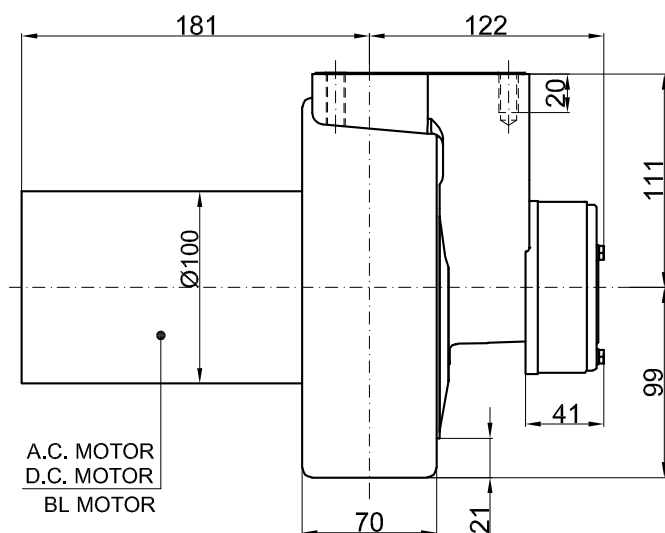


	D25FM	D10FM	M70FM
L	187	215	250
R	188	217	251



TECHNICAL DATAS – DATI TECNICI		D.C. MOTOR	
POWER – POTENZA		W	250 ÷ 500
VOLTAGE – TENSIONE		V	12 ÷ 96
GEAR RATIO – RAPPORTO DI RIDUZIONE		i	23:1 - 29:1
WHEEL – RUOTA		mm	Ø205x55
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA		Nm	290
MAX WHEEL LOAD – CARICO MASSIMO SULLA RUOTA		kg	on request 400 ÷ 600 on request
BRAKE TORQUE – COPPIA FRENO		Nm	5 - 10
WEIGHT – PESO		kg	15 ÷ 20

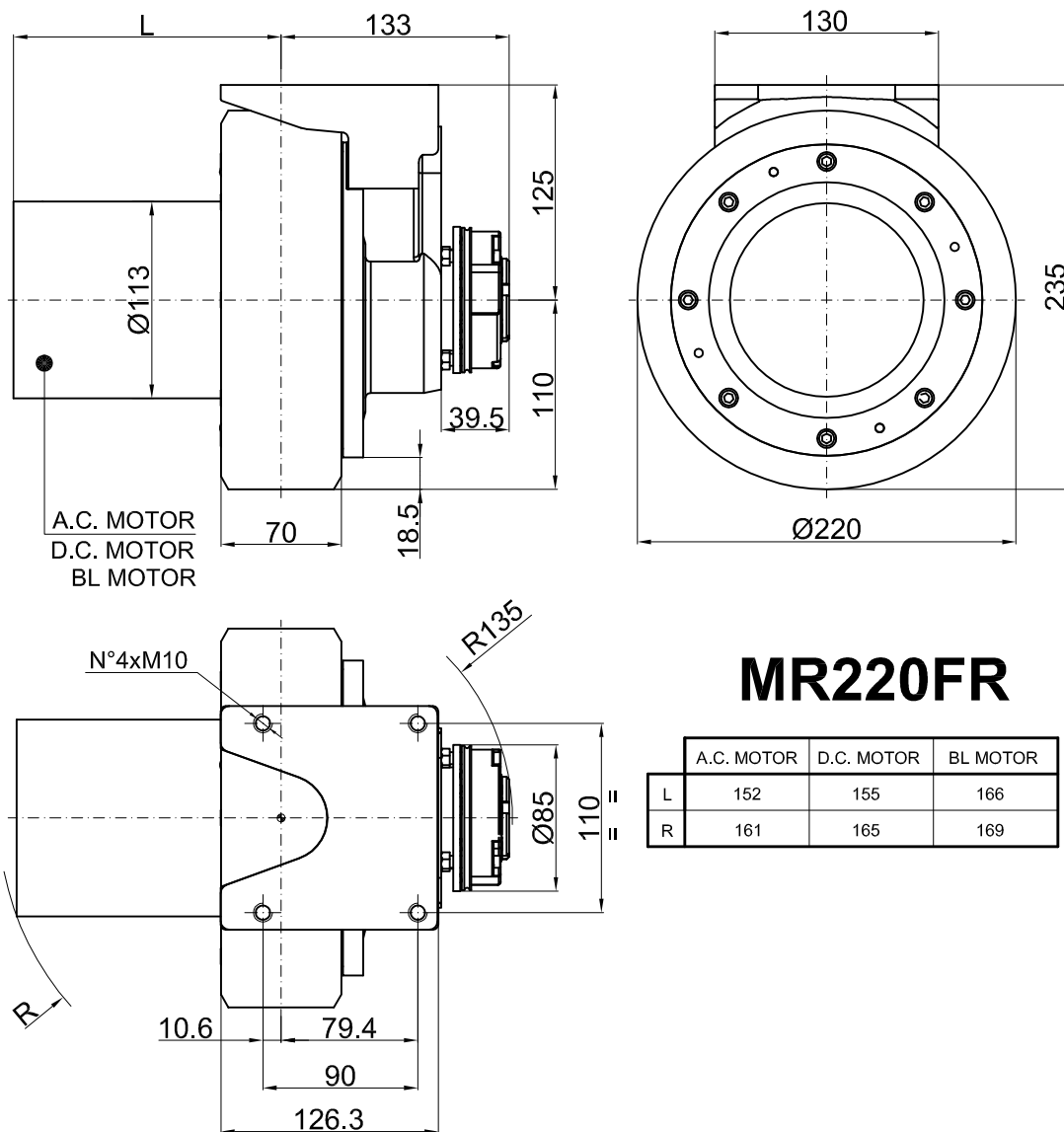
MR200



MR200FR

TECHNICAL DATAS – DATI TECNICI		A.C. MOTOR D.C. MOTOR BL MOTOR
POWER - POTENZA	W	400 ÷ 500
VOLTAGE - TENSIONE	V	12 ÷ 96
GEAR RATIO – RAPPORTO DI RIDUZIONE	i	31:1
WHEEL - RUOTA	mm	Ø198x70
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA	Nm	180
MAX WHEEL LOAD – CARICO MASSIMO SULLA RUOTA	kg	400 550 600
		rubber – gomma polyurethane – poliuretano vulkollan – vulkollan
BRAKE TORQUE – COPPIA FRENO	Nm	5
WEIGHT - PESO	kg	20 ÷ 28

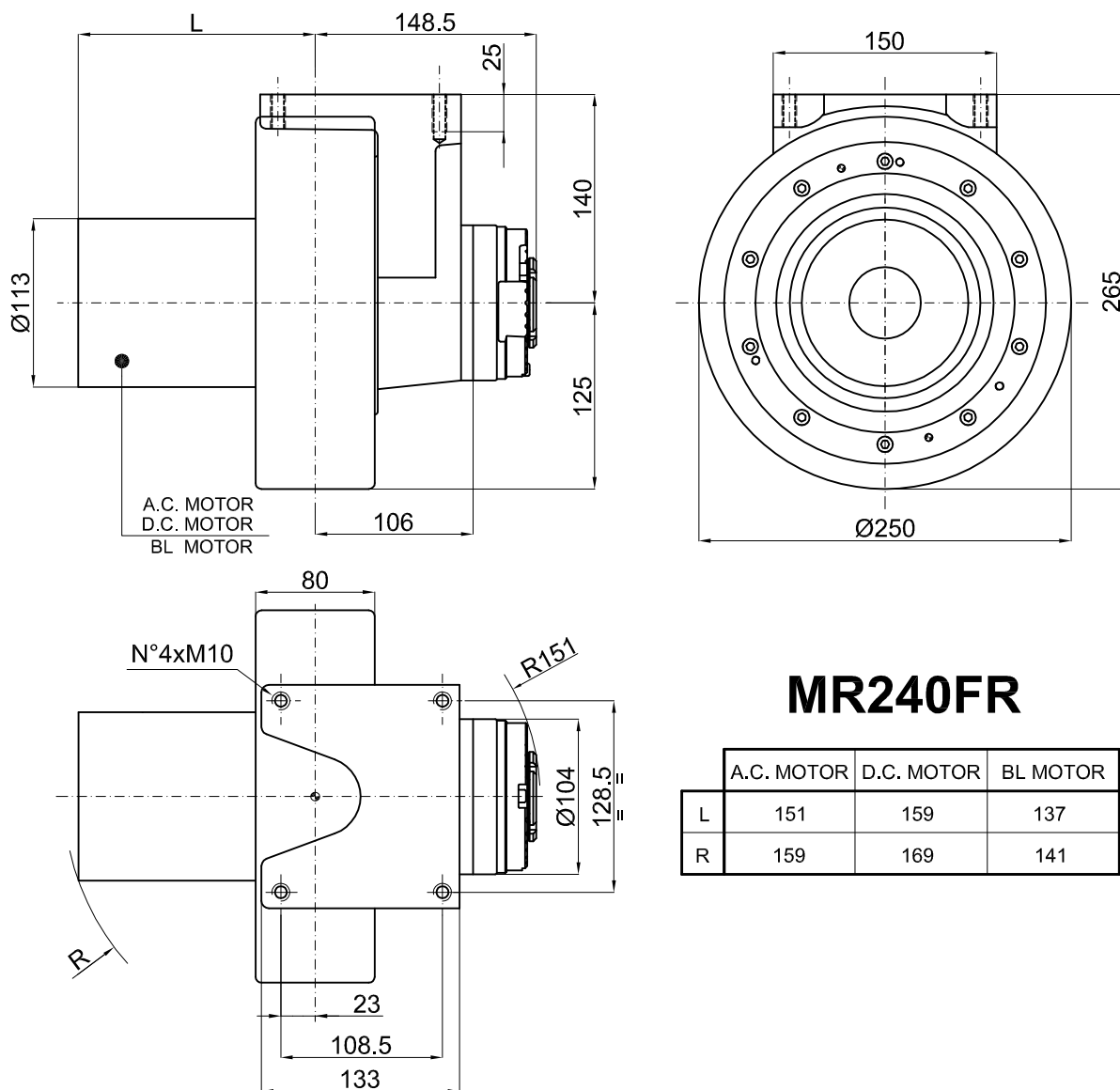
MR220



TECHNICAL DATAS – DATI TECNICI		A.C. MOTOR D.C. MOTOR BL MOTOR
POWER - POTENZA	W	500 ÷ 1000
VOLTAGE - TENSIONE	V	12 ÷ 96
GEAR RATIO – RAPPORTO DI RIDUZIONE	i	27:1
WHEEL - RUOTA	mm	Ø220x70
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA	Nm	230
MAX WHEEL LOAD – CARICO MASSIMO SULLA RUOTA	kg	on request 600 on request
BRAKE TORQUE – COPPIA FRENO	Nm	5
WEIGHT - PESO	kg	23 ÷ 30

rubber – gomma
polyurethane – poliuretano
vulkollan – vulkollan

MR240

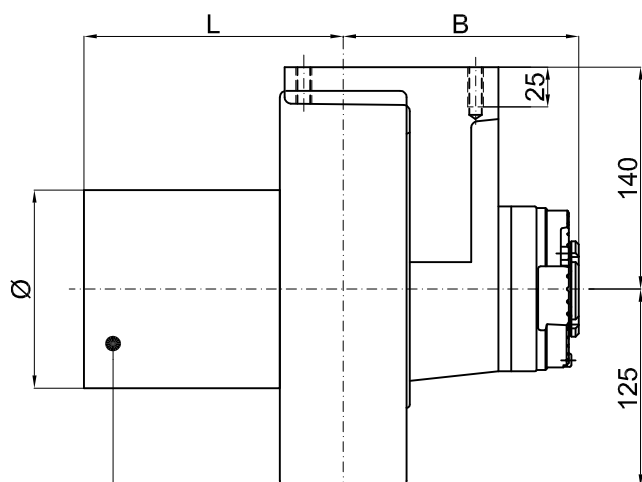


MR240FR

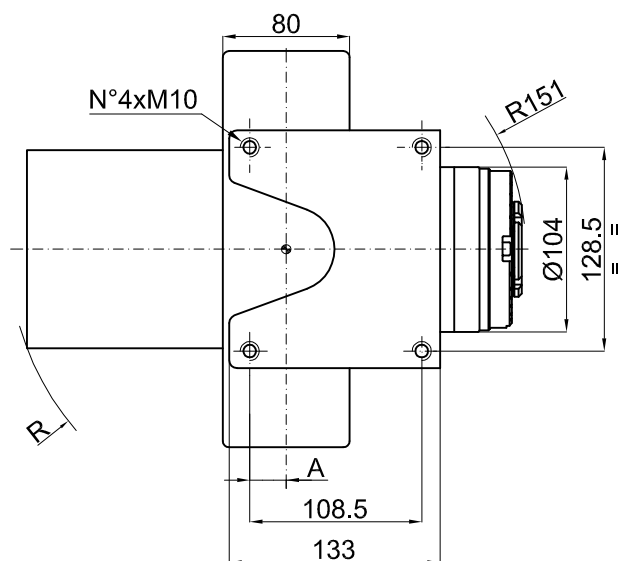
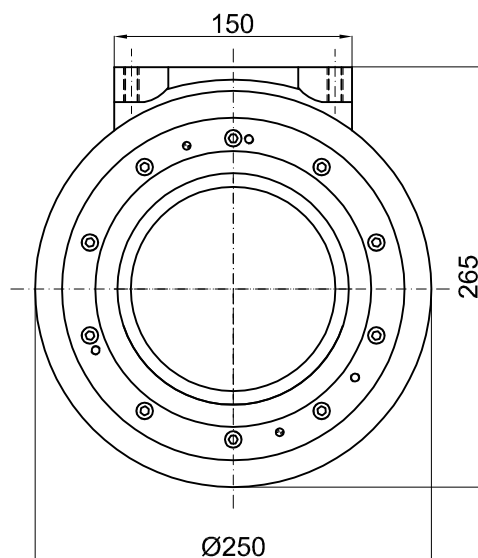
	A.C. MOTOR	D.C. MOTOR	BL MOTOR
L	151	159	137
R	159	169	141

TECHNICAL DATAS – DATI TECNICI		A.C. MOTOR D.C. MOTOR BL MOTOR
POWER - POTENZA	W	700 ÷ 1000
VOLTAGE - TENSIONE	V	12 ÷ 96
GEAR RATIO – RAPPORTO DI RIDUZIONE	i	32:1 – 26:1 – 20:1
WHEEL – RUOTA Ø260x80 / Ø260x100 (Drive wheel code MR245)	mm	Ø250x80 - Ø260x80 Ø260x100
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA	Nm	300
MAX WHEEL LOAD – CARICO MASSIMO SULLA RUOTA rubber – gomma polyurethane – poliuretano vulkollan – vulkollan	kg	650 - 700 1000 - 1150 on request
BRAKE TORQUE – COPPIA FRENO	Nm	10
WEIGHT - PESO	kg	31 ÷ 35

MR250



A.C. MOTOR (700W-1000W)
A.C. MOTOR (1200W-1500W)
D.C. MOTOR (700W-1000W)

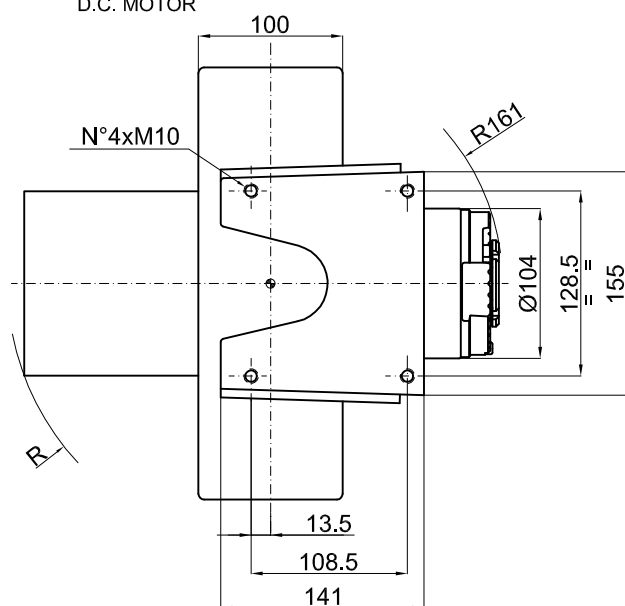
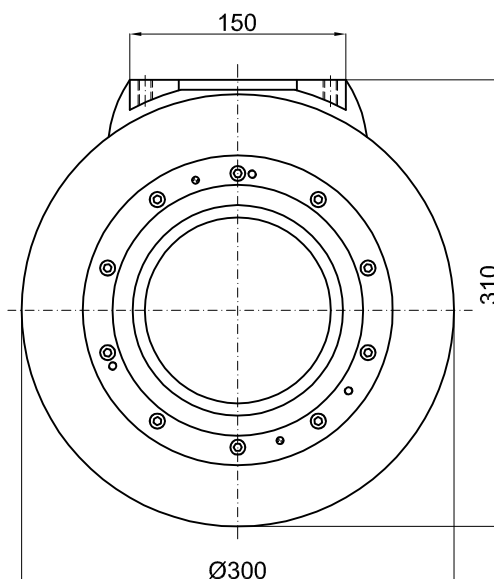
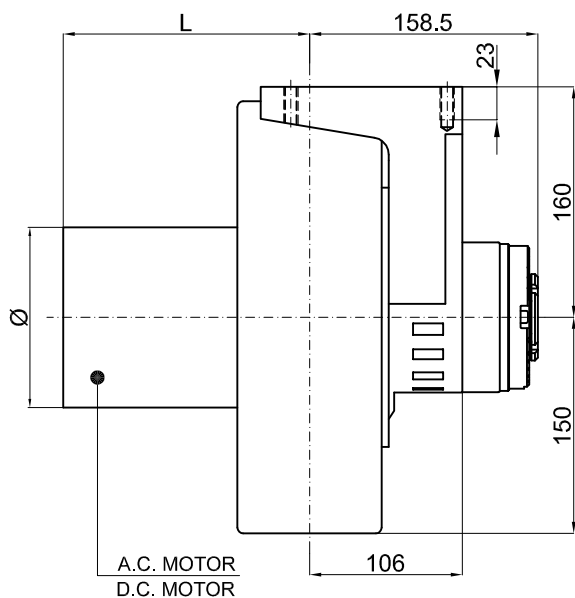


MR250FR

	A.C. MOTOR 700W ÷ 1000W	A.C. MOTOR 1200W ÷ 1500W WHEEL Ø250x100	D.C. MOTOR 700W ÷ 1000W
Ø	125	151	125
L	175	195	164
R	186	209	175
A	23	13	23
B	148.5	158.5	148.5

TECHNICAL DATAS – DATI TECNICI		A.C. MOTOR D.C. MOTOR
POWER - POTENZA	W	700 ÷ 1500
VOLTAGE - TENSIONE	V	12 ÷ 96
GEAR RATIO – RAPPORTO DI RIDUZIONE	i	32:1 – 26:1 – 20:1
WHEEL – RUOTA Ø260x80 / Ø260x100 (Drive wheel code MR255)	mm	Ø250x80 - Ø260x80 Ø250x100 - Ø260x100
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA	Nm	300
MAX WHEEL LOAD – CARICO MASSIMO SULLA RUOTA rubber – gomma polyurethane – poliuretano vulkollan – vulkollan	kg	650 - 700 1000 - 1150 on request
BRAKE TORQUE – COPPIA FRENO	Nm	10
WEIGHT - PESO	kg	32 ÷ 42

MR300



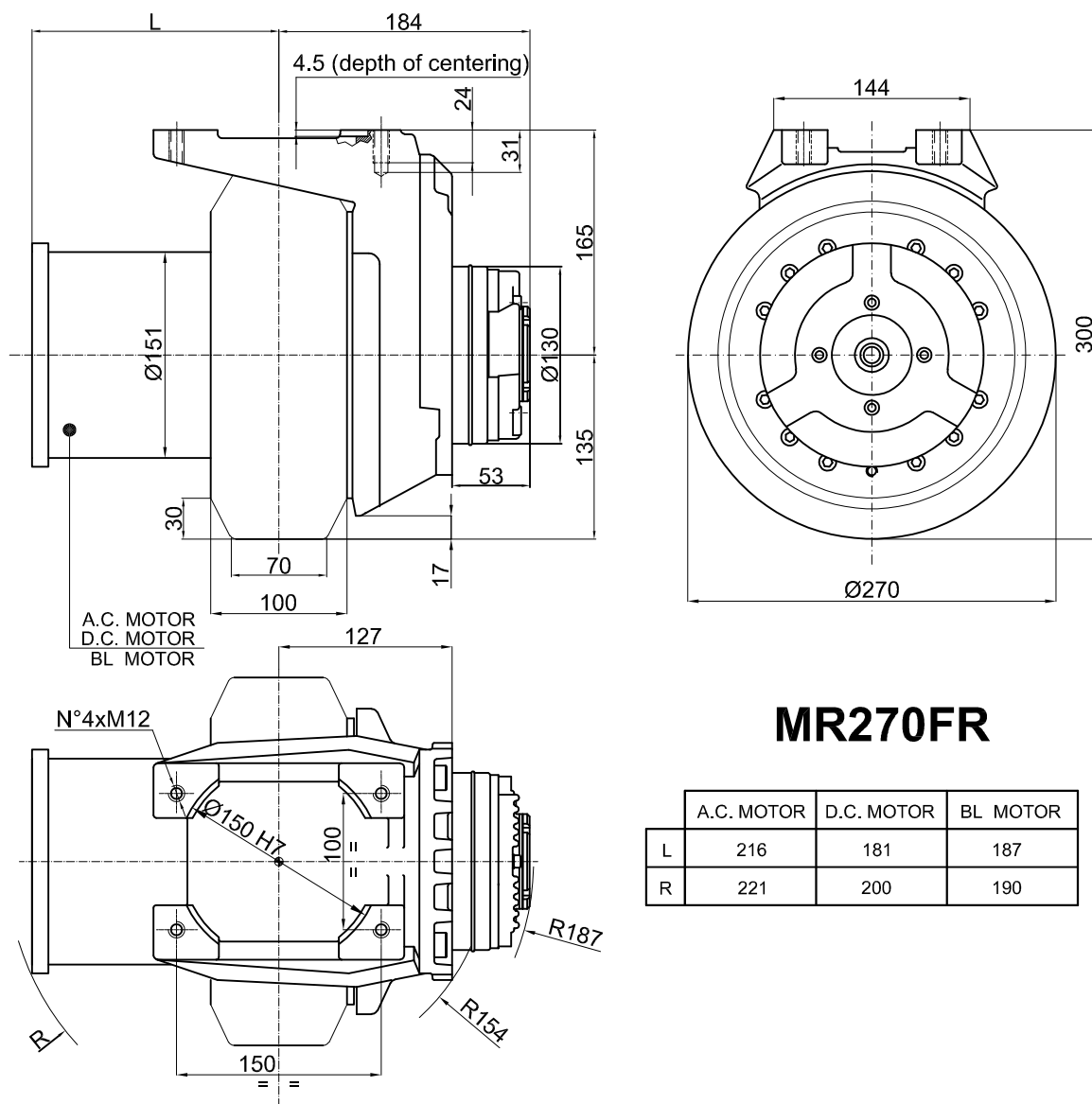
MR300FR

	A.C. MOTOR	D.C. MOTOR
L	195	171
R	209	183
Ø	151	125

TECHNICAL DATAS – DATI TECNICI

	A.C. MOTOR D.C. MOTOR	
POWER - POTENZA	W	1200 ÷ 1
VOLTAGE - TENSIONE	V	12 ÷ 96
GEAR RATIO – RAPPORTO DI RIDUZIONE	i	32:1 – 26:1 – 20:1
WHEEL - RUOTA	mm	Ø300x100
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA	Nm	300
MAX WHEEL LOAD – CARICO MASSIMO SULLA RUOTA	kg	750 900 - 1350 on request
		rubber – gomma polyurethane – poliuretano vulkollan – vulkollan
BRAKE TORQUE – COPPIA FRENO	Nm	10
WEIGHT - PESO	kg	35 ÷ 45

MR270



MR270FR

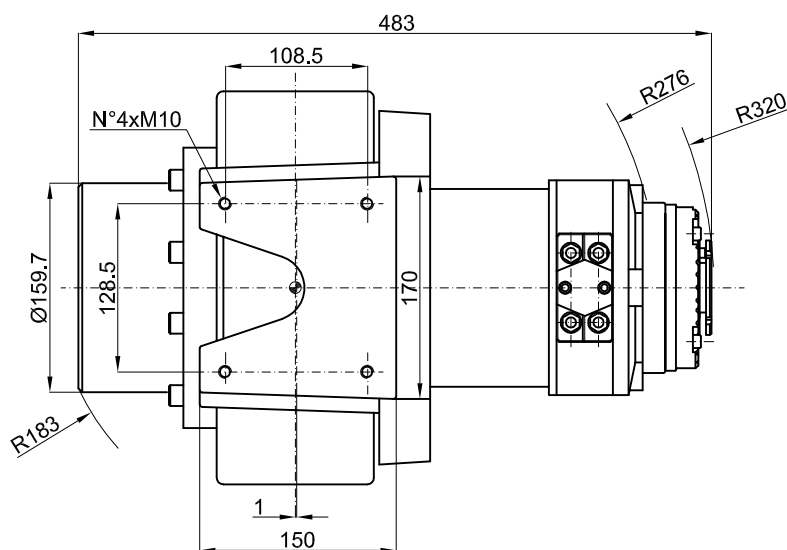
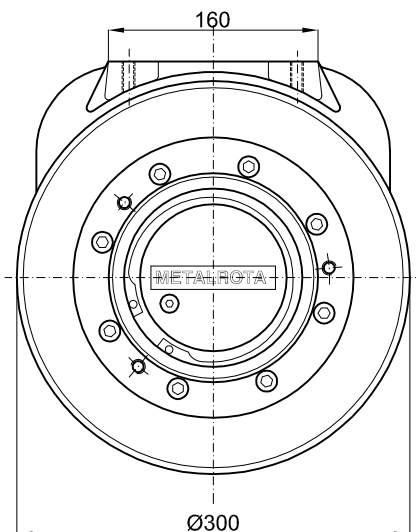
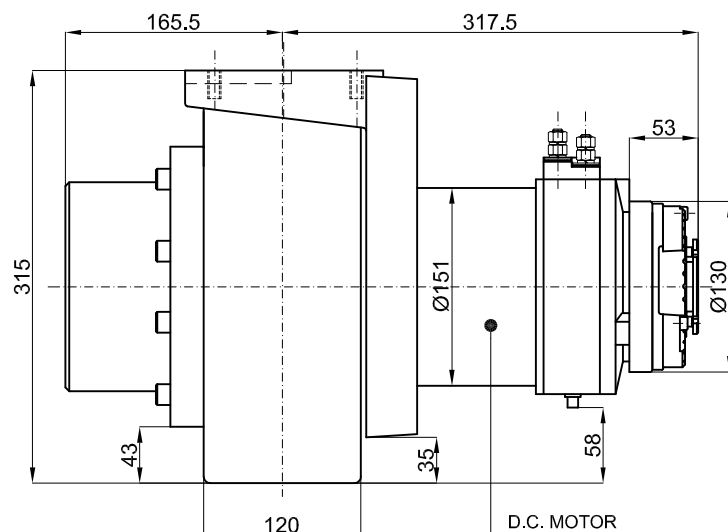
	A.C. MOTOR	D.C. MOTOR	BL MOTOR
L	216	181	187
R	221	200	190

TECHNICAL DATAS – DATI TECNICI

	A.C. MOTOR D.C. MOTOR BL MOTOR	
POWER - POTENZA	W	1000 ÷ 1500
VOLTAGE - TENSIONE	V	24 ÷ 96
GEAR RATIO – RAPPORTO DI RIDUZIONE	i	34:1 – 23:1
WHEEL - RUOTA	mm	Ø270x100
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA	Nm	500
MAX WHEEL LOAD – CARICO MASSIMO SULLA RUOTA	kg	on request
		1300
		on request
BRAKE TORQUE – COPPIA FRENO	Nm	20
WEIGHT - PESO	kg	75

rubber – gomma
polyurethane – poliuretano
vulkollan – vulkollan

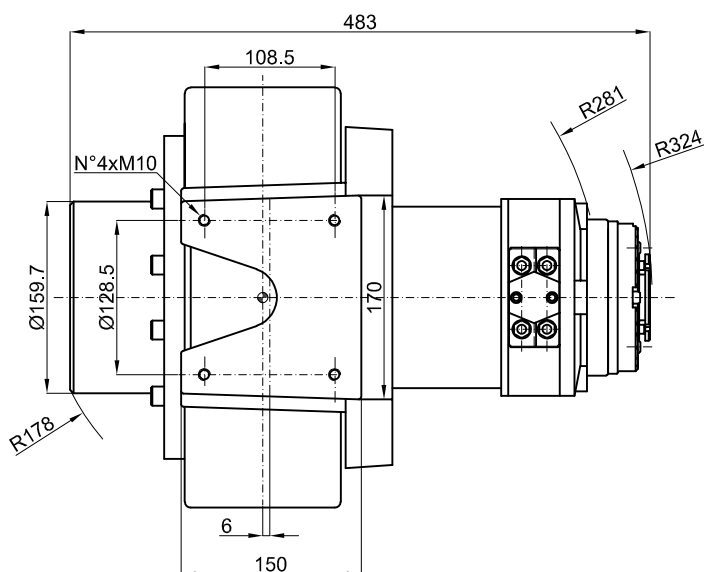
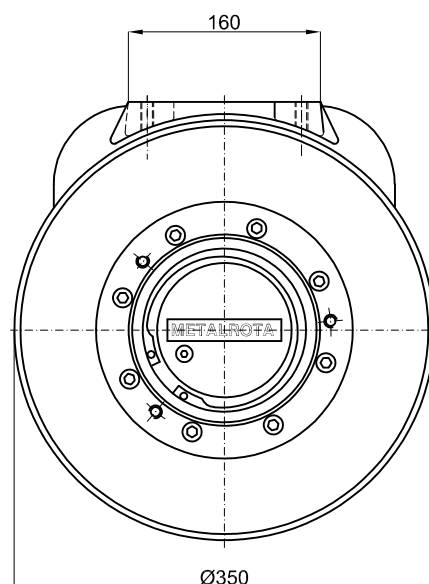
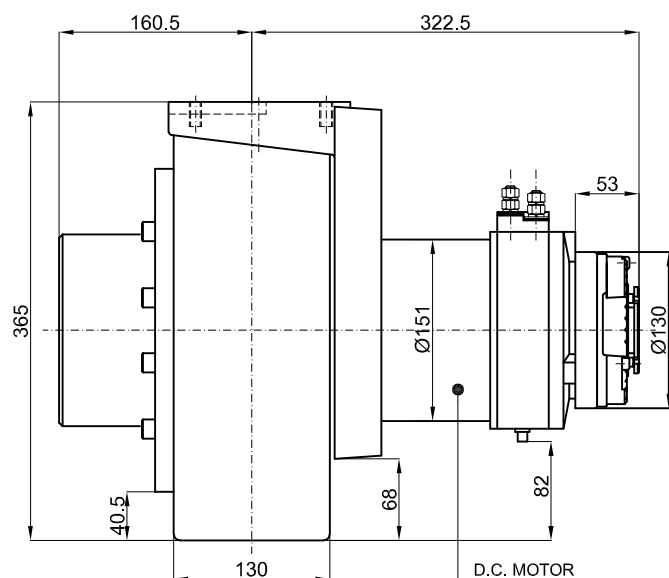
MR260/300 Motor Ø151mm



MR260/300FM D.151mm

TECHNICAL DATAS – DATI TECNICI		D.C. MOTOR	
POWER - POTENZA	W	1500 ÷ 2500	
VOLTAGE - TENSIONE	V	24 ÷ 96	
GEAR RATIO – RAPPORTO DI RIDUZIONE	i	30:1	
WHEEL - RUOTA	mm	Ø300x120	
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA	Nm	1200	
MAX WHEEL LOAD – CARICO MASSIMO SULLA RUOTA	kg	on request 1000 - 1500 on request	rubber – gomma polyurethane – poliuretano vulkollan – vulkollan
BRAKE TORQUE – COPPIA FRENO	Nm	20	
WEIGHT - PESO	kg	70	

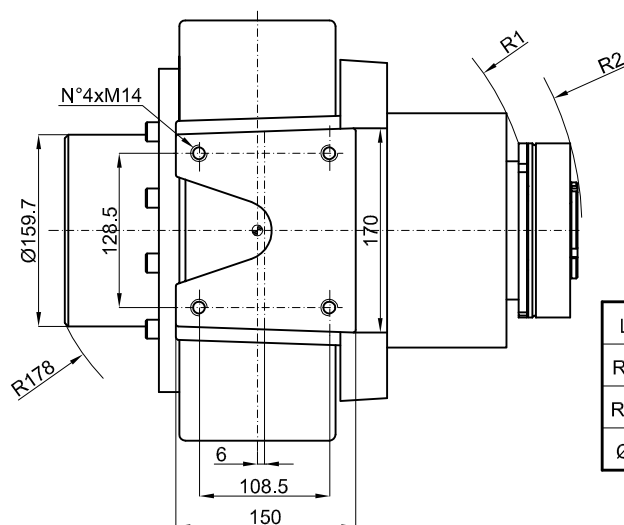
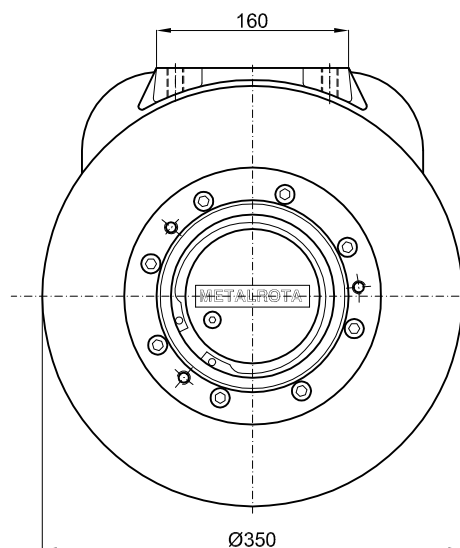
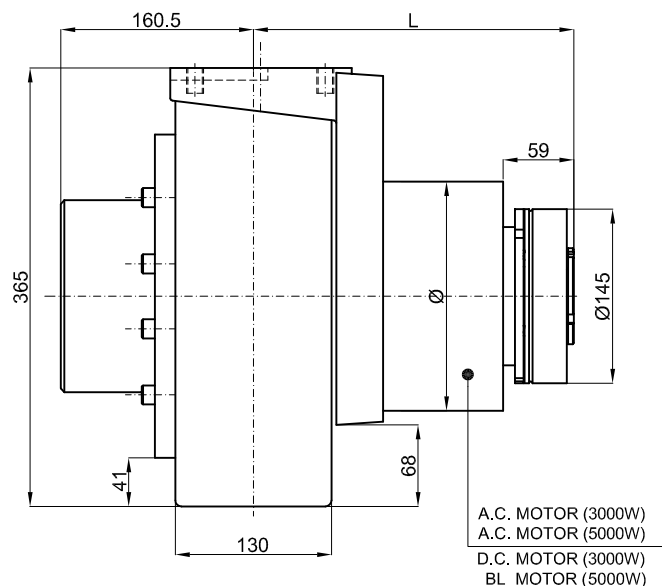
MR260/350 Motor Ø151mm



MR260/350FM D.151mm

TECHNICAL DATAS – DATI TECNICI		D.C. MOTOR	
POWER - POTENZA	W	1500 ÷ 2500	
VOLTAGE - TENSIONE	V	24 ÷ 96	
GEAR RATIO – RAPPORTO DI RIDUZIONE	i	30:1	
WHEEL - RUOTA	mm	Ø350x130	
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA	Nm	1200	
MAX WHEEL LOAD – CARICO MASSIMO SULLA RUOTA	kg	on request 1400 - 2000 on request	
		rubber – gomma polyurethane – poliuretano vulkollan – vulkollan	
BRAKE TORQUE – COPPIA FRENO	Nm	20	
WEIGHT - PESO	kg	83	

MR260/350 Motor Ø191mm



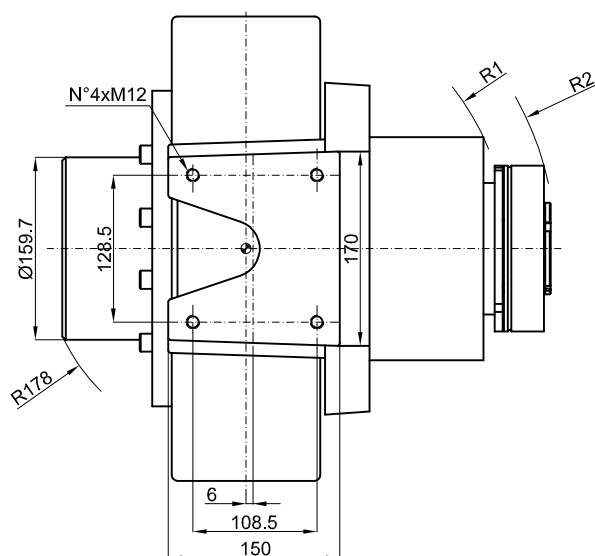
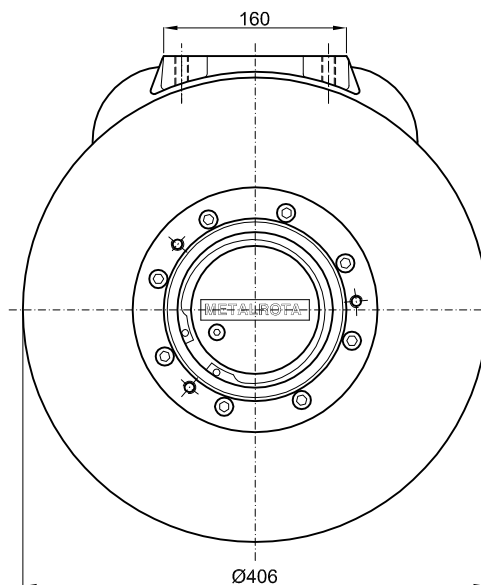
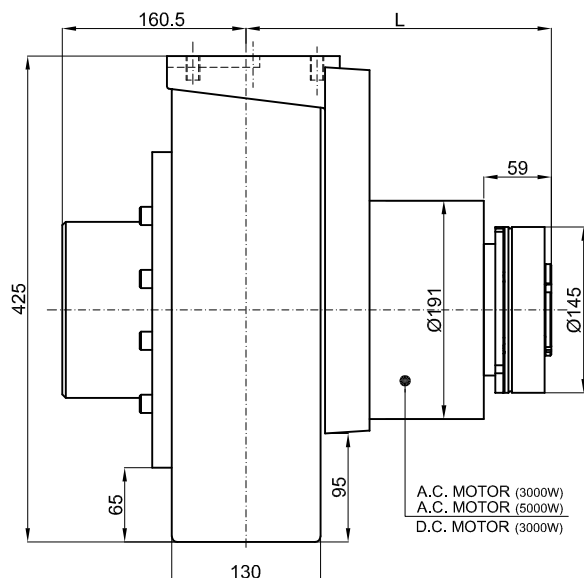
MR260/350FM D.191mm

	A.C. MOTOR 3000W	A.C. MOTOR 5000W	D.C. MOTOR 3000W	BL MOTOR 5000W
L	286	334	268	313
R1	240	293	229	268
R2	289	336	271	315
Ø	191	191	191	167

TECHNICAL DATAS – DATI TECNICI

	A.C. MOTOR D.C. MOTOR BL MOTOR	
POWER - POTENZA	W	3000 ÷ 5000
VOLTAGE - TENSIONE	V	24 ÷ 96
GEAR RATIO – RAPPORTO DI RIDUZIONE	i	30:1
WHEEL - RUOTA	mm	Ø350x130
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA	Nm	1200
MAX WHEEL LOAD – CARICO MASSIMO SULLA RUOTA	kg	on request 1400 - 2000 on request
BRAKE TORQUE – COPPIA FRENO	Nm	40
WEIGHT - PESO	kg	123 - 130

MR260/406 Motor Ø191mm

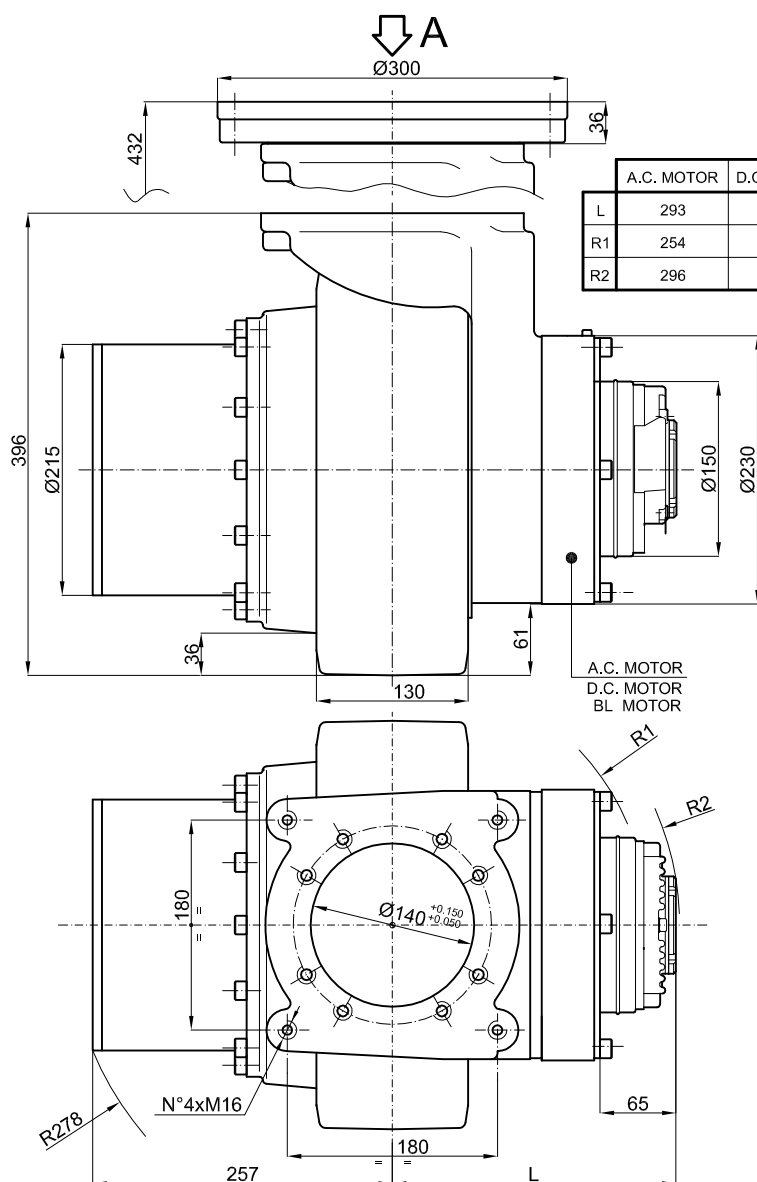


MR260/406FM D.191mm

	A.C. MOTOR 3000W	A.C. MOTOR 5000W	D.C. MOTOR 3000W
L	286	334	268
R1	240	293	229
R2	289	336	271

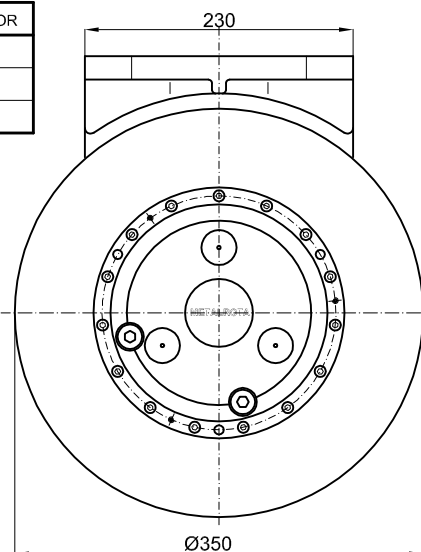
TECHNICAL DATAS – DATI TECNICI		A.C. MOTOR D.C. MOTOR
POWER - POTENZA	W	3000 ÷ 5000
VOLTAGE - TENSIONE	V	24 ÷ 96
GEAR RATIO – RAPPORTO DI RIDUZIONE	i	30:1
WHEEL - RUOTA	mm	Ø406x130
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA	Nm	1200
MAX WHEEL LOAD – CARICO MASSIMO SULLA RUOTA	kg	on request 1800 - 2300 on request
BRAKE TORQUE – COPPIA FRENO	Nm	40
WEIGHT - PESO	kg	135

MR350

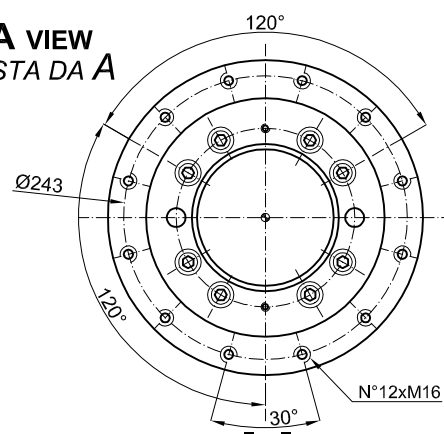


MR350FM

- Slewing bearing on request
- Ralla di rotazione a richiesta



A VIEW VISTA DA A

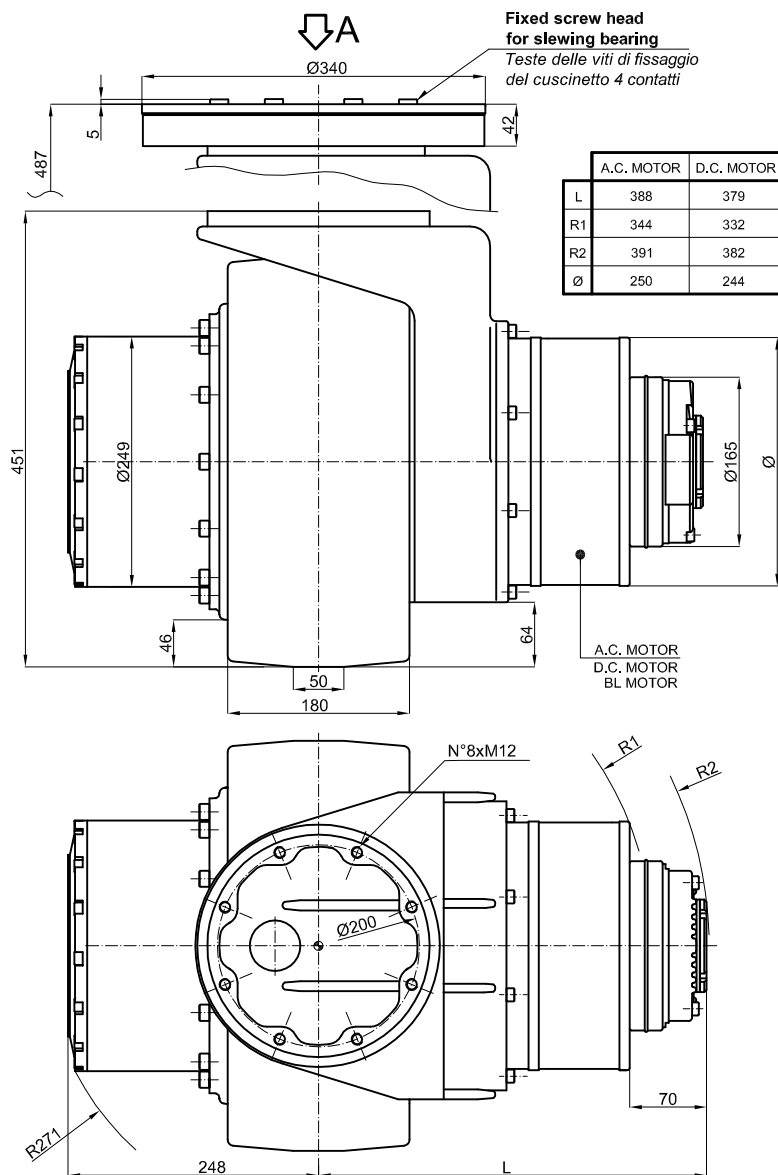


TECHNICAL DATAS – DATI TECNICI

	A.C. MOTOR D.C. MOTOR BL. MOTOR	
POWER - POTENZA	W	3000 ÷ 5000
VOLTAGE - TENSIONE	V	24 ÷ 96
GEAR RATIO – RAPPORTO DI RIDUZIONE	i	30:1 – 22:1
WHEEL - RUOTA	mm	Ø350x130
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA	Nm	2000
MAX WHEEL LOAD – CARICO MASSIMO SULLA RUOTA	kg	on request 2600 on request
BRAKE TORQUE – COPPIA FRENO	Nm	40
WEIGHT - PESO	kg	145

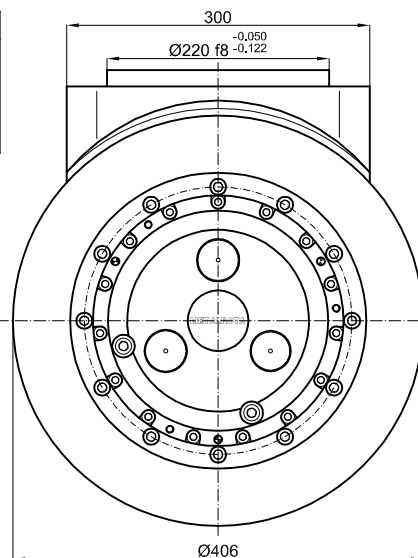
rubber – gomma
polyurethane – poliuretano
vulkollan – vulkollan

MR415

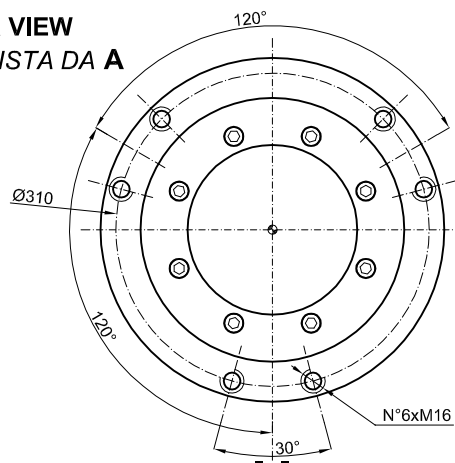


MR415FM

- Slewing bearing on request
- Ralla di rotazione a richiesta



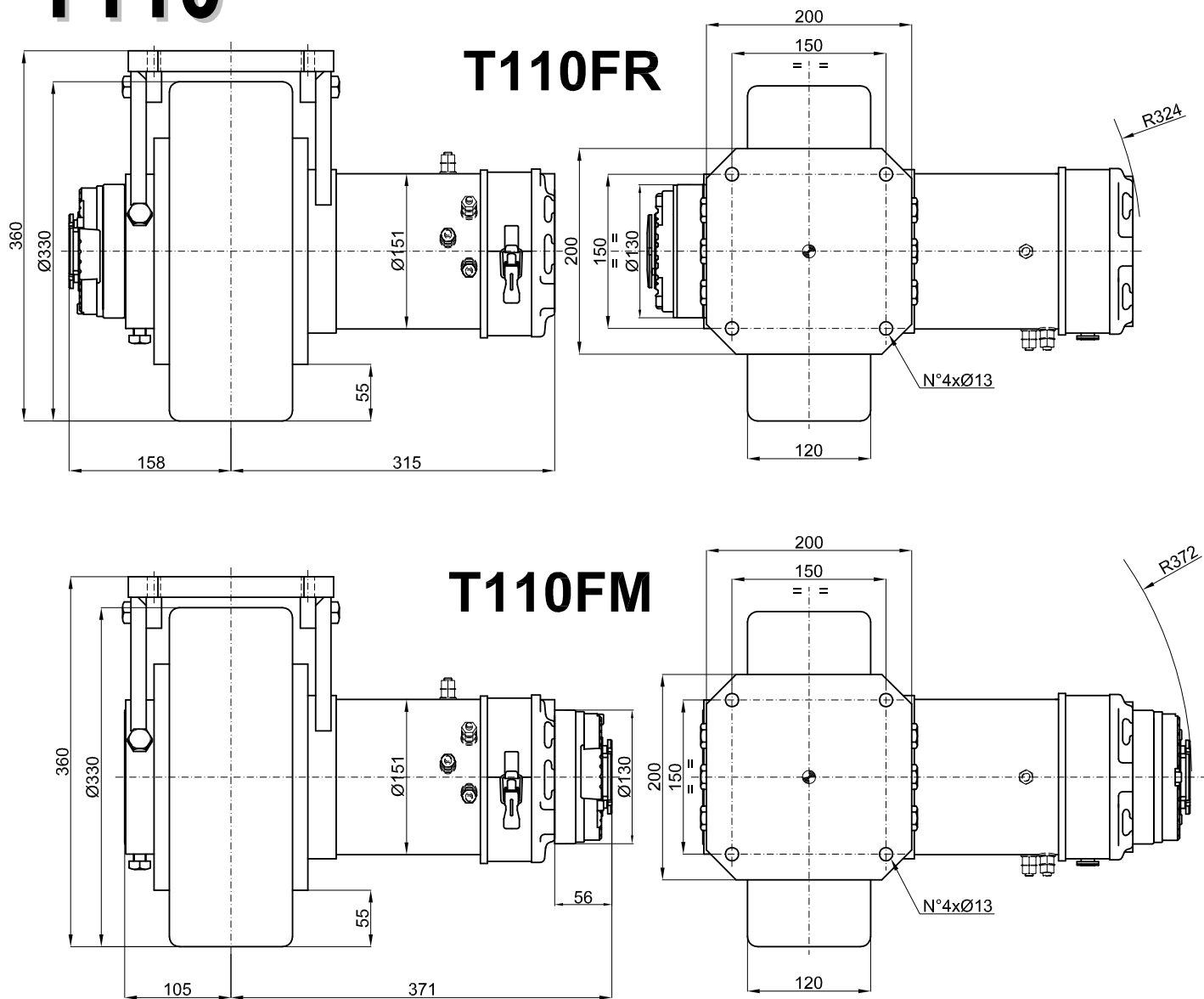
A VIEW
VISTA DA A



TECHNICAL DATAS – DATI TECNICI

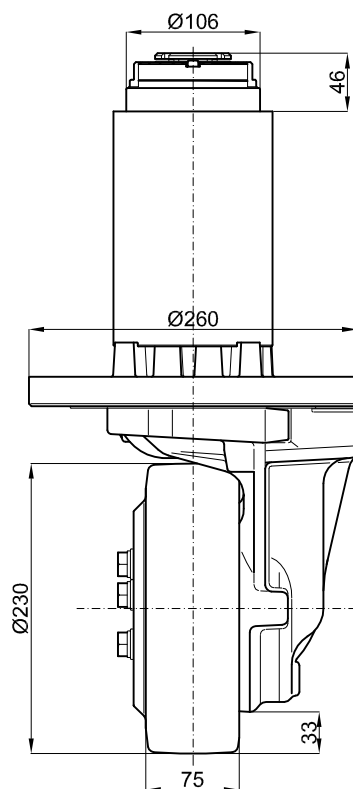
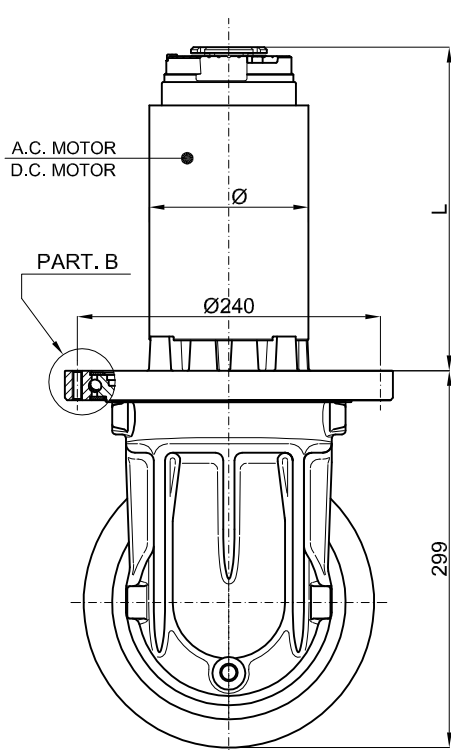
	A.C. MOTOR D.C. MOTOR BL MOTOR	
POWER - POTENZA	W	6000 ÷ 12000
VOLTAGE - TENSIONE	V	24 ÷ 96
GEAR RATIO – RAPPORTO DI RIDUZIONE	i	25,6:1
WHEEL - RUOTA	mm	$\varnothing 406 \times 180$
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA	Nm	3600
MAX WHEEL LOAD – CARICO MASSIMO SULLA RUOTA	kg	on request 4000 on request
BRAKE TORQUE – COPPIA FRENO	Nm	75
WEIGHT - PESO	kg	180 ÷ 210

T110



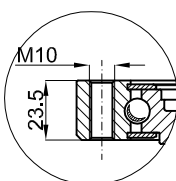
TECHNICAL DATAS – DATI TECNICI		D.C. MOTOR	
POWER - POTENZA		W	1000 ÷ 2000
VOLTAGE - TENSIONE		V	24 ÷ 96
GEAR RATIO – RAPPORTO DI RIDUZIONE		i	40:1
20:1 (drive wheel code F120) – 20:1 (codice motoruota F120)			
13:1 (drive wheel code L130) – 13:1 (codice motoruota L130)			
WHEEL - RUOTA		mm	Ø300x120 - Ø330x120
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA		Nm	800
MAX WHEEL LOAD – CARICO MASSIMO SULLA RUOTA		kg	1100 - 1100
rubber – gomma			1450 - 1750
polyurethane – poliuretano			2100 - 2350
vulkollan – vulkollan			
BRAKE TORQUE – COPPIA FRENO		Nm	20
WEIGHT - PESO		kg	72

WR125ECO



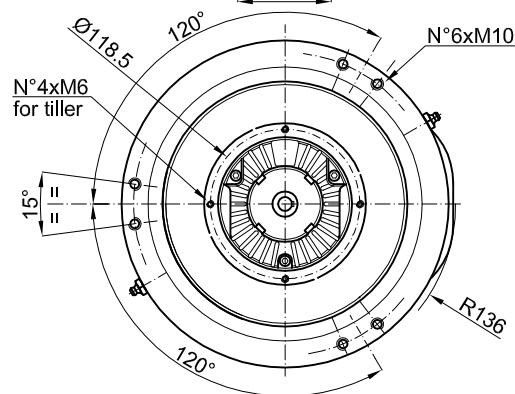
WR125ECOFM

PART. B



- Motor integral with the gear box
- Motore solidale al riduttore

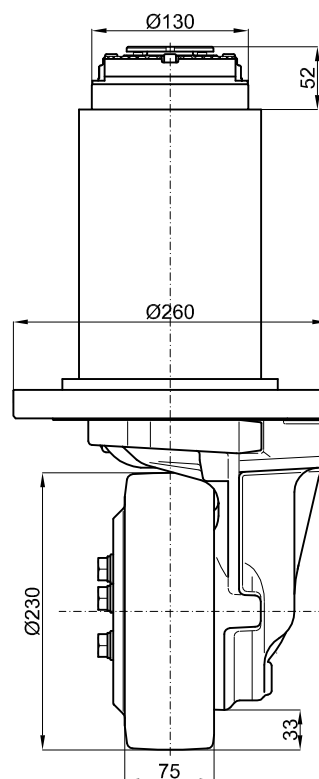
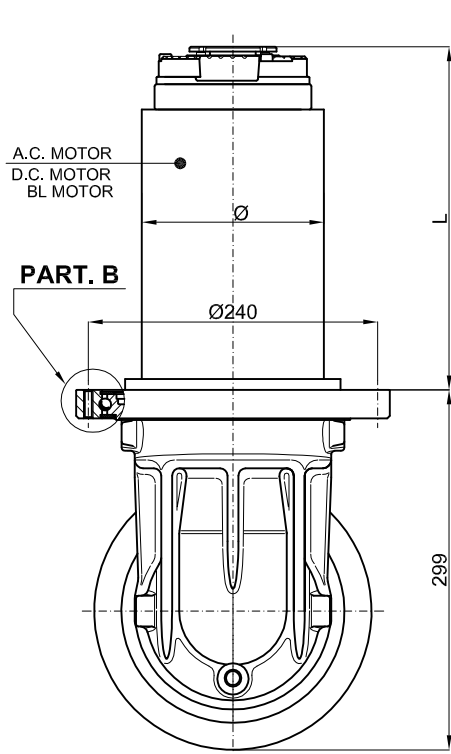
	A.C. MOTOR	D.C. MOTOR
L	273,5	256



TECHNICAL DATAS – DATI TECNICI		A.C. MOTOR D.C. MOTOR
POWER - POTENZA	W	800 ÷ 1200
VOLTAGE - TENSIONE	V	12 ÷ 96
GEAR RATIO – RAPPORTO DI RIDUZIONE	i	20:1
WHEEL - RUOTA	mm	Ø230x75
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA	Nm	400
MAX WHEEL LOAD – CARICO MASSIMO SULLA RUOTA	kg	430
		1000
		on request
BRAKE TORQUE – COPPIA FRENO	Nm	10
WEIGHT - PESO	kg	49 ÷ 60

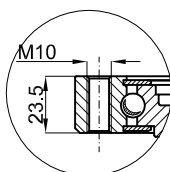
rubber – gomma
polyurethane – poliuretano
vulkollan – vulkollan

WR151ECO



WR151ECOFM

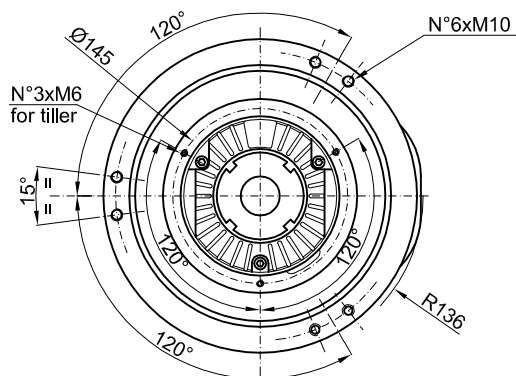
PART. B



- Motor integral with the gear box

- Motore solidale al riduttore

	A.C. MOTOR	D.C. MOTOR	BL MOTOR
L	285	333	278
Ø	151	151	155

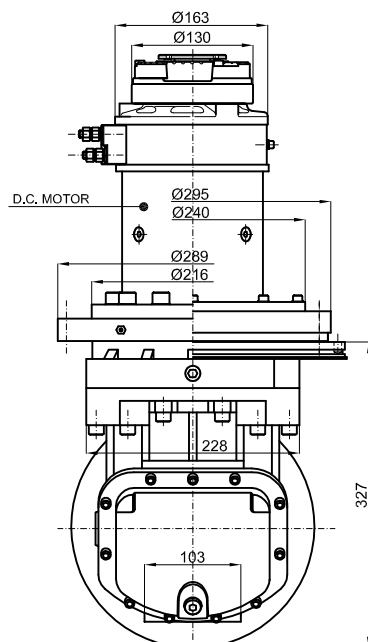


TECHNICAL DATAS – DATI TECNICI

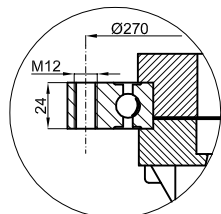
	A.C. MOTOR D.C. MOTOR BL MOTOR	
POWER - POTENZA	W	1500 ÷ 2000
VOLTAGE - TENSIONE	V	24 ÷ 96
GEAR RATIO – RAPPORTO DI RIDUZIONE	i	20:1
WHEEL - RUOTA	mm	Ø230x75
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA	Nm	400
MAX WHEEL LOAD – CARICO MASSIMO SULLA RUOTA	kg	430
		1000
		on request
BRAKE TORQUE – COPPIA FRENO	Nm	20
WEIGHT - PESO	kg	61 ÷ 70

rubber – gomma
polyurethane – poliuretano
vulkollan – vulkollan

WR151



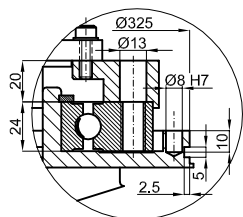
WR151FM



- Motor integral with the gear box

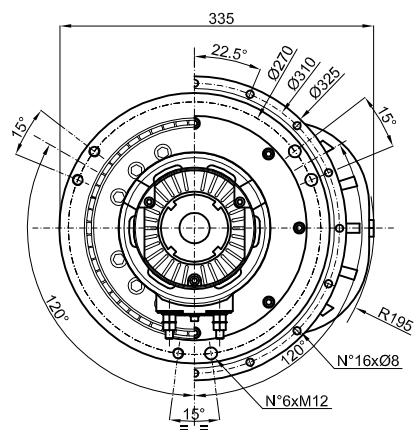
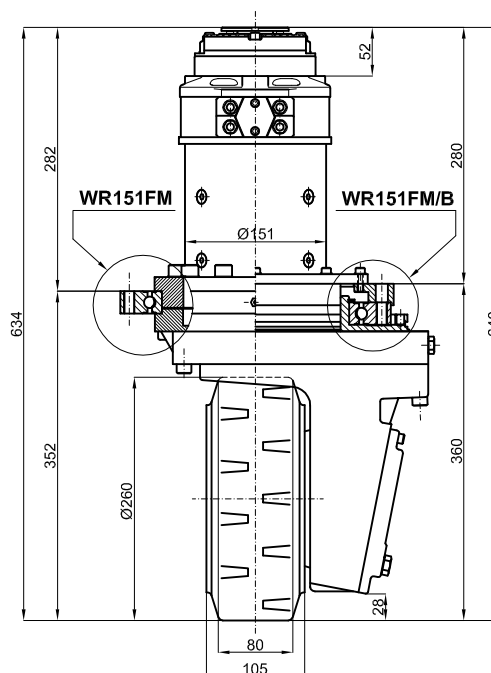
- Motore solidale al riduttore

WR151FM/B



- Motor integral with the slewing bearing

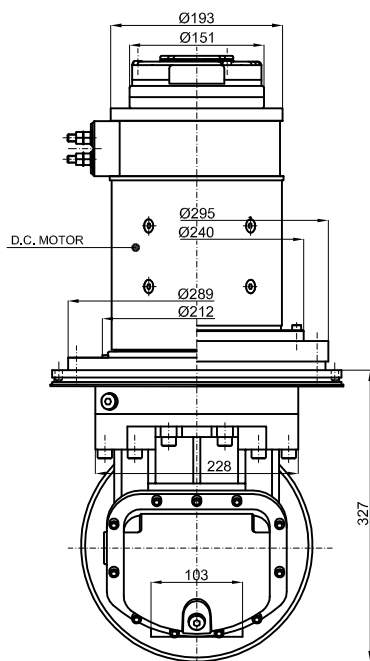
- Motore solidale alla ralla di rotazione



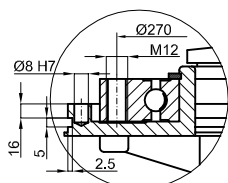
TECHNICAL DATAS – DATI TECNICI

TECHNICAL DATAS – DATI TECNICI		D.C. MOTOR	
POWER - POTENZA		W	1500 ÷ 2500
VOLTAGE - TENSIONE		V	24 ÷ 96
GEAR RATIO – RAPPORTO DI RIDUZIONE		i	9:1 - 14:1 - 18:1 - 21:1 - 25:1
WHEEL - RUOTA		mm	Ø260x105
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA		Nm	600
MAX WHEEL LOAD – CARICO MASSIMO SULLA RUOTA	rubber – gomma polyurethane – poliuretano vulkollan – vulkollan	kg	850 on request 1800
BRAKE TORQUE – COPPIA FRENO		Nm	20
WEIGHT - PESO		kg	75

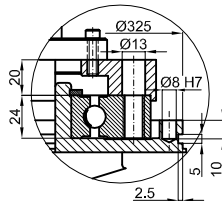
WR191



WR191FM



WR191FM/B

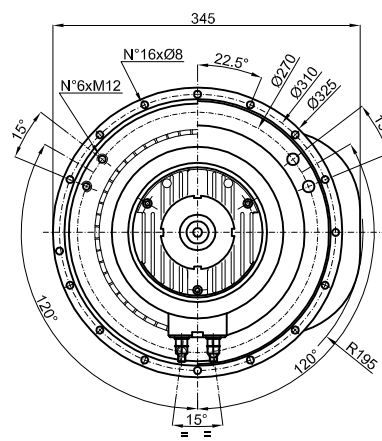
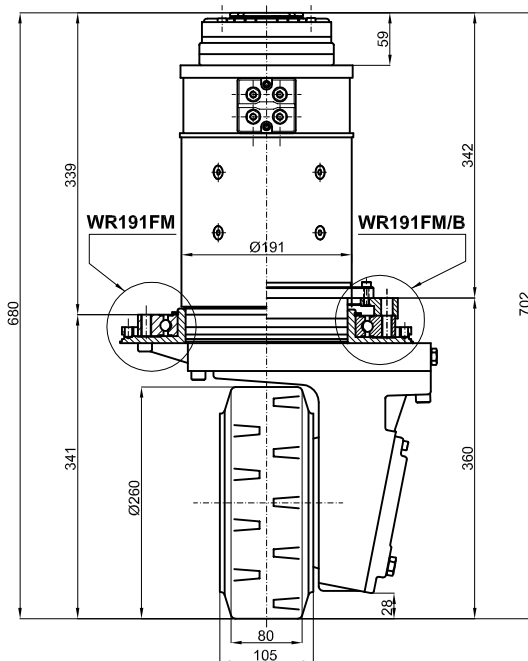


- Motor integral with the gear box

- Motore solidale al riduttore

- Motor integral with the slewing bearing

- Motore solidale alla ralla di rotazione

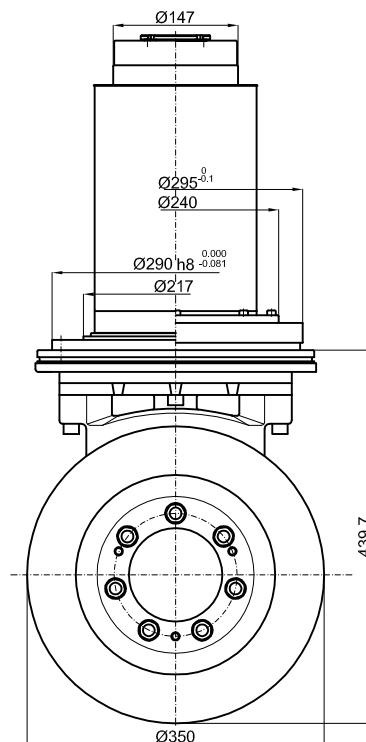
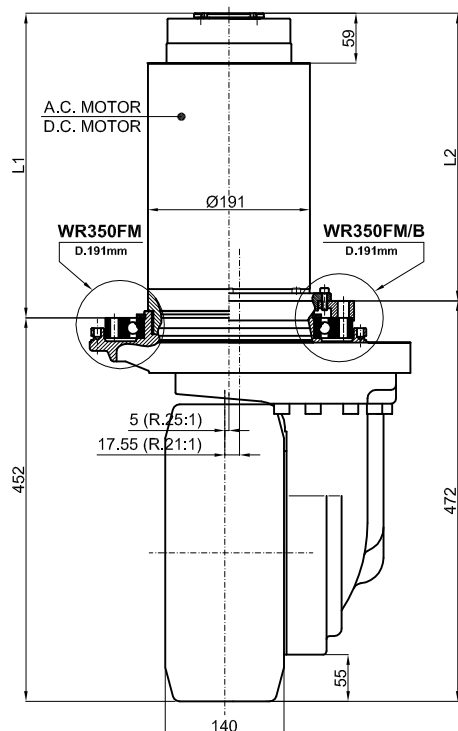


TECHNICAL DATAS – DATI TECNICI

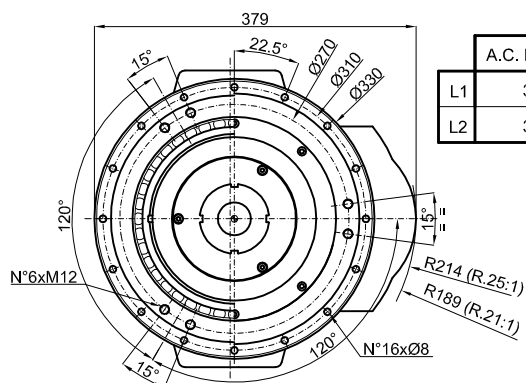
TECHNICAL DATAS – DATI TECNICI		D.C. MOTOR	
POWER - POTENZA	W	3000 ÷ 3500	
VOLTAGE - TENSIONE	V	24 ÷ 96	
GEAR RATIO – RAPPORTO DI RIDUZIONE	i	9:1 - 14:1 - 18:1 - 21:1 - 25:1	
WHEEL - RUOTA	mm	Ø260x105	
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA	Nm	600	
MAX WHEEL LOAD – CARICO MASSIMO SULLA RUOTA	kg	850	
		on request	
		1800	
BRAKE TORQUE – COPPIA FRENO	Nm	40	
WEIGHT - PESO	kg	95	

rubber – gomma
polyurethane – poliuretano
vulkollan – vulkollan

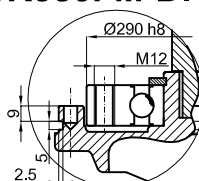
WR350 Motor Ø191mm



WR350FM-D.191mm



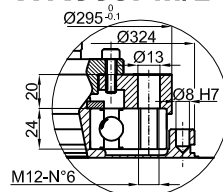
	A.C. MOTOR	D.C. MOTOR
L1	349	359
L2	329	339



- Motor integral with the gear box

- Motore solidale al riduttore

WR350FM/B-D.191mm



- Motor integral with the slewing bearing

- Motore solidale alla ralla di rotazione

TECHNICAL DATAS – DATI TECNICI

	A.C. MOTOR D.C. MOTOR BL MOTOR	
POWER - POTENZA	W	3000 ÷ 5000
VOLTAGE - TENSIONE	V	24 ÷ 96
GEAR RATIO – RAPPORTO DI RIDUZIONE	i	21:1 - 25:1
WHEEL - RUOTA	mm	Ø350x140
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA	Nm	2200
MAX WHEEL LOAD – CARICO MASSIMO SULLA RUOTA	kg	on request on request 3000
BRAKE TORQUE – COPPIA FRENO	Nm	40
WEIGHT - PESO	kg	142 ÷ 167

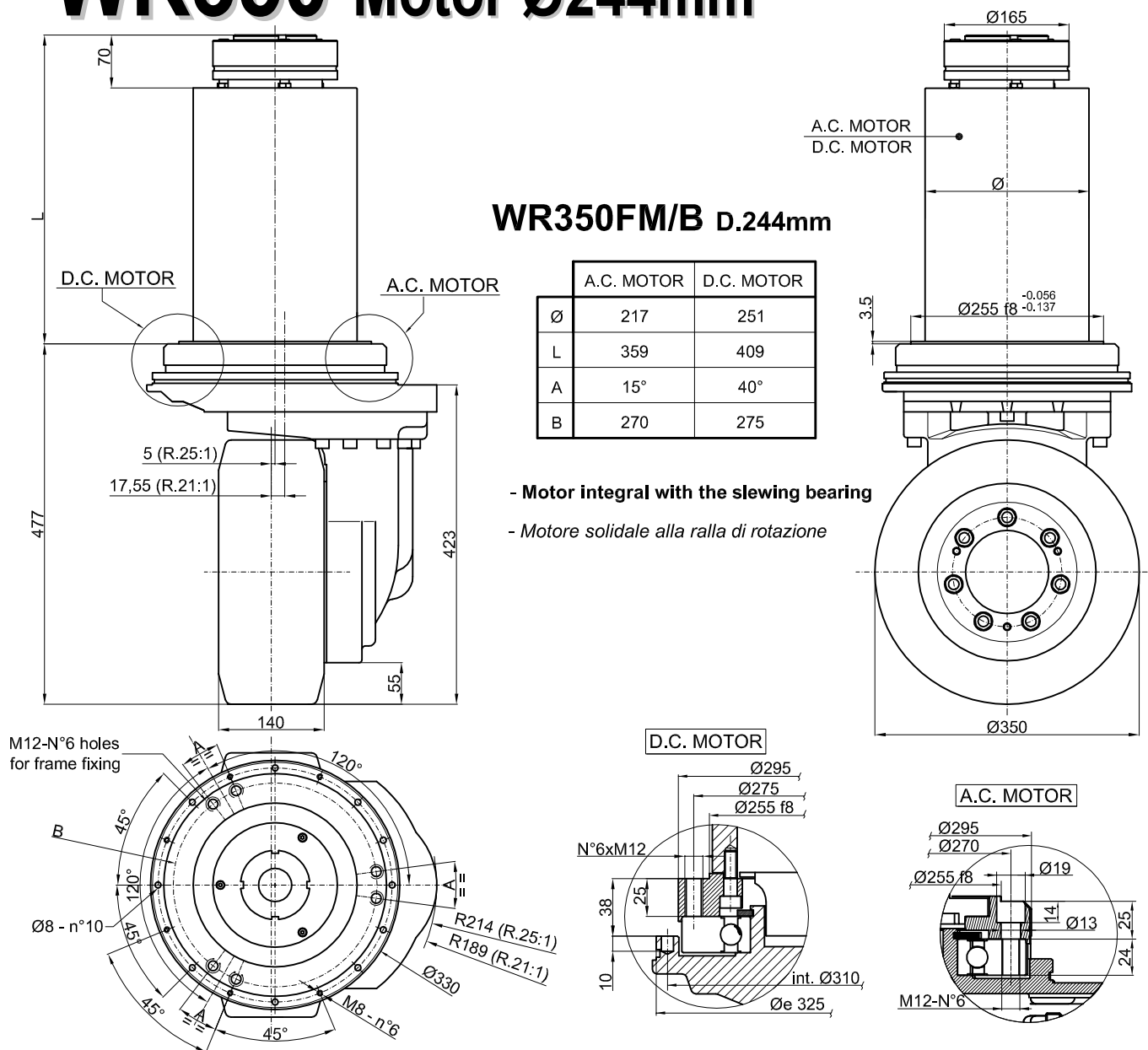
rubber – gomma
polyurethane – poliuretano
vulkollan – vulkollan

WR350 Motor Ø244mm

WR350FM/B D.244mm

	A.C. MOTOR	D.C. MOTOR
Ø	217	251
L	359	409
A	15°	40°
B	270	275

- Motor integral with the slewing bearing
- Motore solidale alla ralla di rotazione

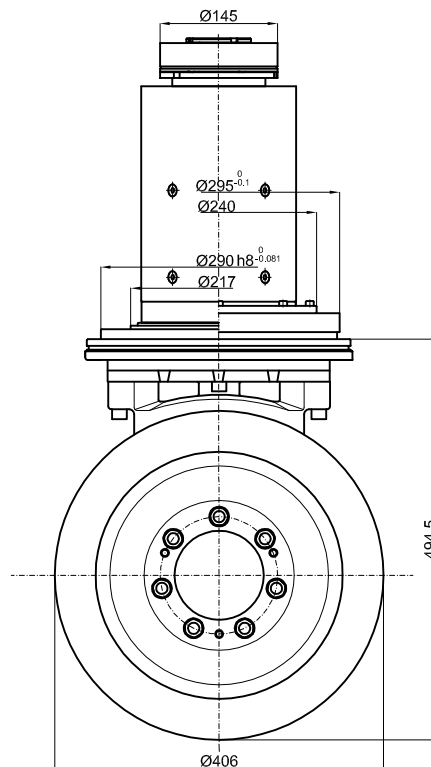
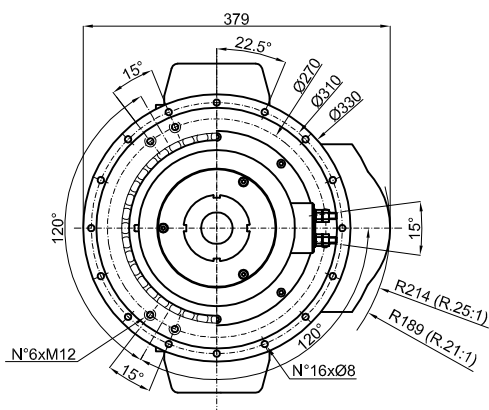
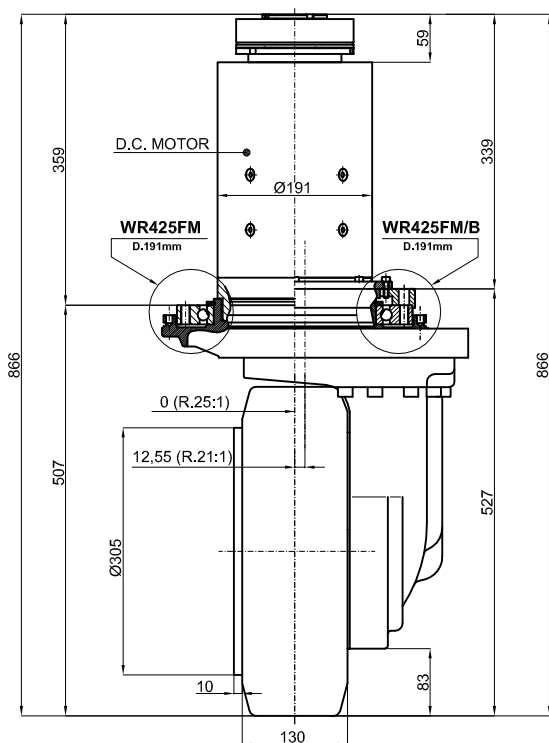


TECHNICAL DATAS – DATI TECNICI

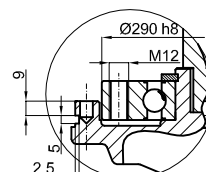
	A.C. MOTOR D.C. MOTOR BL MOTOR	
POWER - POTENZA	W	5000 ÷ 10000
VOLTAGE - TENSIONE	V	24 ÷ 96
GEAR RATIO – RAPPORTO DI RIDUZIONE	i	21:1 - 25:1
WHEEL - RUOTA	mm	Ø350x140
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA	Nm	2200
MAX WHEEL LOAD – CARICO MASSIMO SULLA RUOTA	Kg	on request on request 3000
BRAKE TORQUE – COPPIA FRENO	Nm	75
WEIGHT - PESO	kg	180 ÷ 200

rubber – gomma
polyurethaen – poliuretano
vulkollan – vulkollan

WR425 Motor Ø191mm



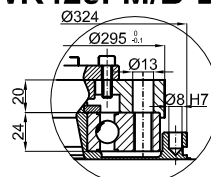
WR425FM-D.191mm



- Motor integral with the gear box

- Motore solidale al riduttore

WR425FM/B-D.191mm

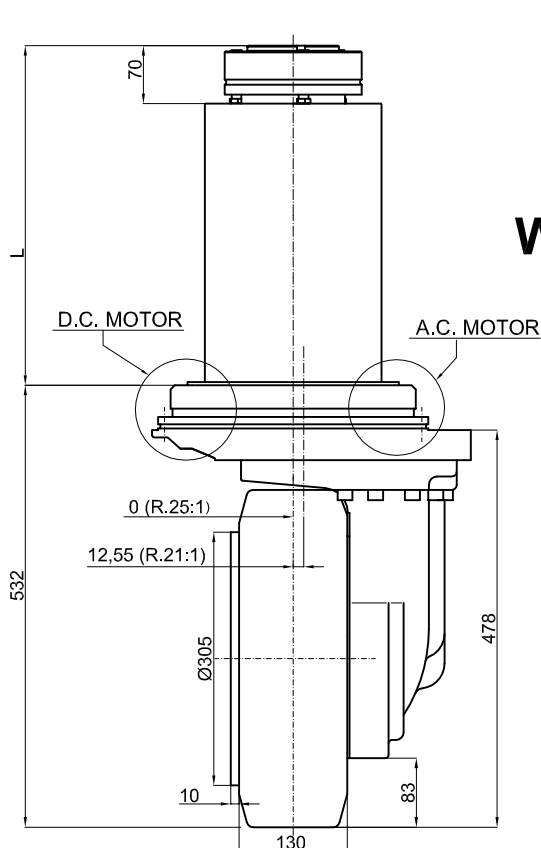


- Motor integral with the slewing bearing

- Motore solidale alla ralla di rotazione

TECHNICAL DATAS – DATI TECNICI		D.C. MOTOR	
POWER - POTENZA		W	3000 ÷ 5000
VOLTAGE - TENSIONE		V	24 ÷ 96
GEAR RATIO – RAPPORTO DI RIDUZIONE		i	21:1 - 25:1
WHEEL - RUOTA		mm	Ø406x130
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA		Nm	2200
MAX WHEEL LOAD – CARICO MASSIMO SULLA RUOTA	rubber – gomma polyurethane – poliuretano vulkollan – vulkollan	kg	on request on request 3100
BRAKE TORQUE – COPPIA FRENO		Nm	40
WEIGHT - PESO		kg	160 ÷ 180

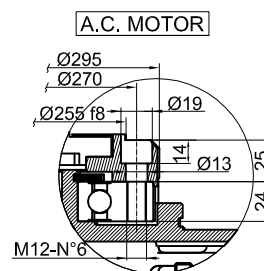
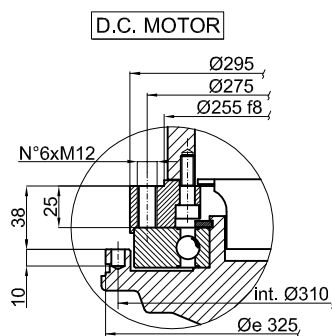
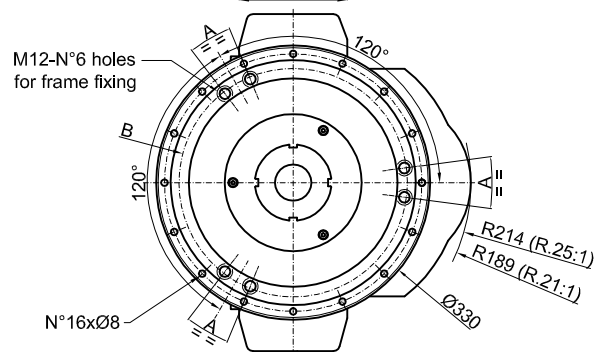
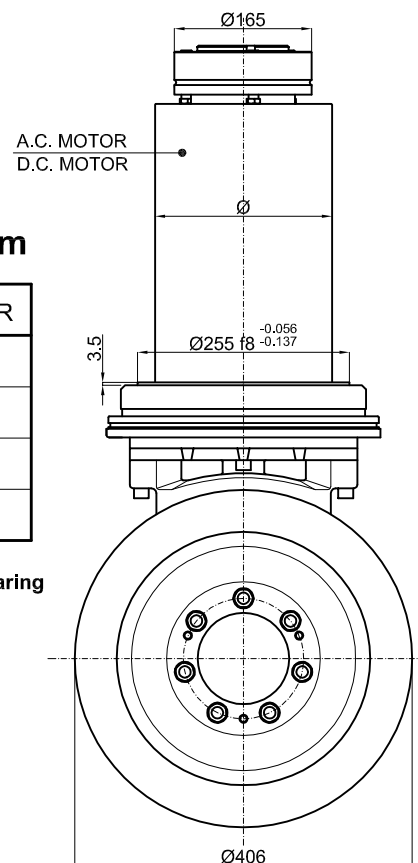
WR425 Motor Ø244mm



WR425FM/B D.244mm

	A.C. MOTOR	D.C. MOTOR
Ø	217	251
L	374	421
A	15°	40°
B	270	275

- Motor integral with the slewing bearing
- Motore solidale alla ralla di rotazione

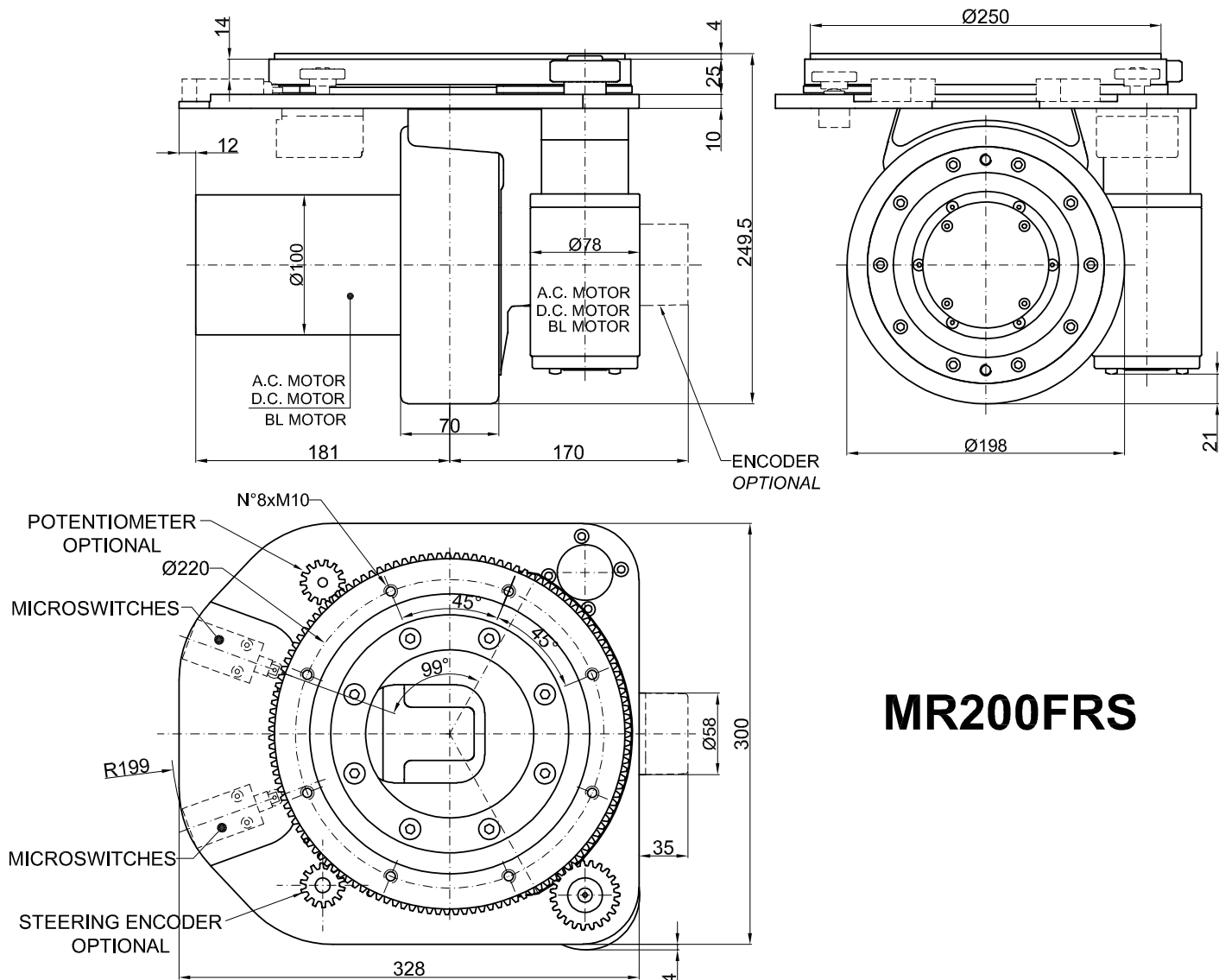


TECHNICAL DATAS – DATI TECNICI

	A.C. MOTOR D.C. MOTOR BL MOTOR	
POWER - POTENZA	W	5000 ÷ 10000
VOLTAGE - TENSIONE	V	24 ÷ 96
GEAR RATIO – RAPPORTO DI RIDUZIONE	i	21:1 - 25:1
WHEEL - RUOTA	mm	Ø406x130
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA	Nm	2200
MAX WHEEL LOAD – CARICO MASSIMO SULLA RUOTA	kg	on request on request 3100
BRAKE TORQUE – COPPIA FRENO	Nm	75
WEIGHT - PESO	kg	215

rubber – gomma
polyurethane – poliuretano
vulkollan – vulkollan

MR200S

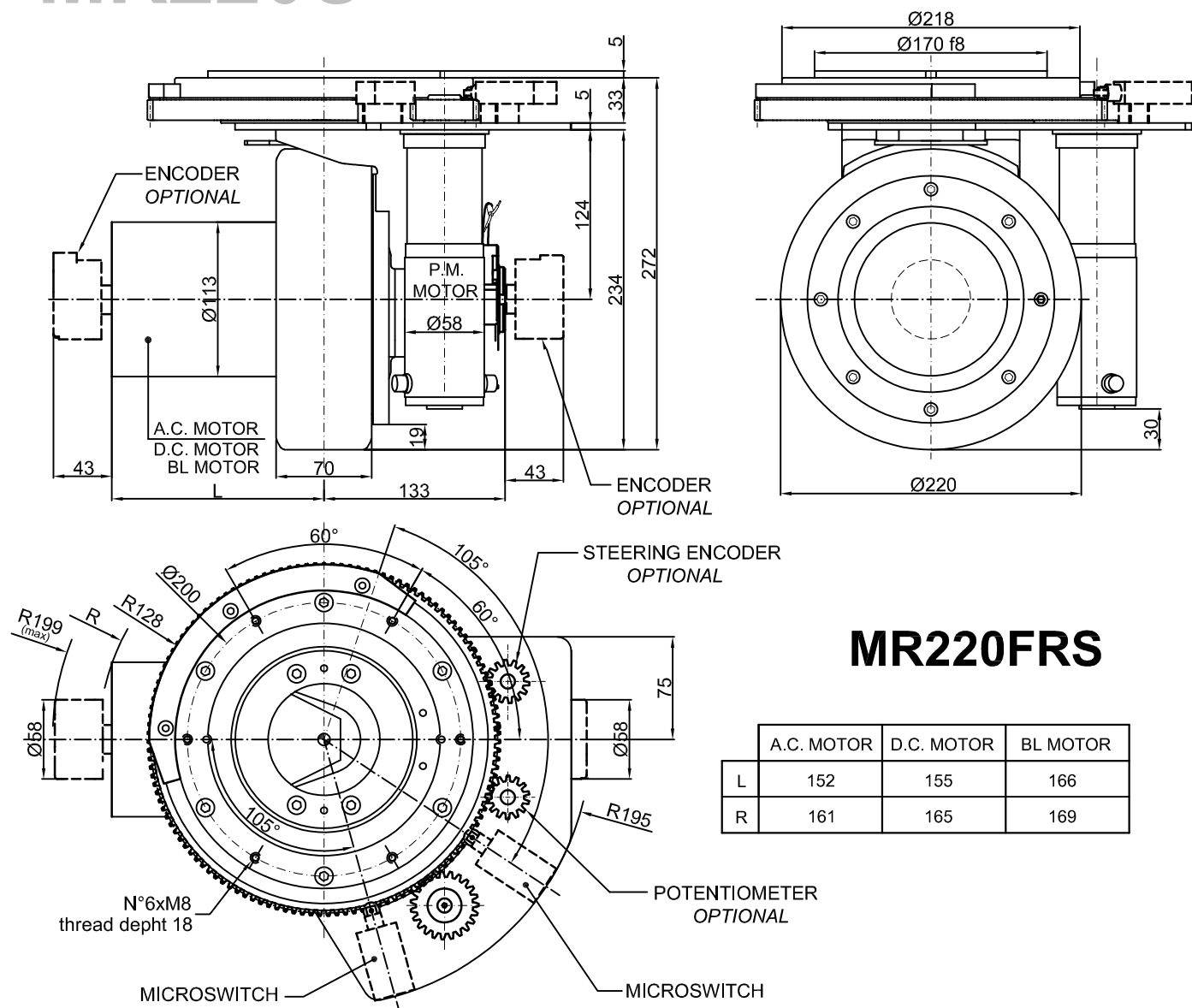


MR200FRS

TECHNICAL DATAS – DATI TECNICI		A.C. MOTOR D.C. MOTOR BL MOTOR
POWER - POTENZA	W	400 ÷ 500
VOLTAGE - TENSIONE	V	12 ÷ 96
GEAR RATIO – RAPPORTO DI RIDUZIONE	i	31:1
STEERING SYSTEM RATIO – RAPPORTO DI RIDUZIONE SISTEMA STERZO	i	254
WHEEL - RUOTA	mm	Ø198x70
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA	Nm	180
MAX WHEEL LOAD – CARICO MAX SULLA RUOTA (the value refers to a moving steering, not with stopped vehicle) (il valore è riferito per una sterzata in movimento, non con veicolo fermo)	kg	400 550 600
BRAKE TORQUE – COPPIA FRENO	Nm	5
WEIGHT - PESO	kg	38 ÷ 45

rubber – gomma
polyurethane – poliuretano
vulkollan – vulkollan

MR220S



MR220FRS

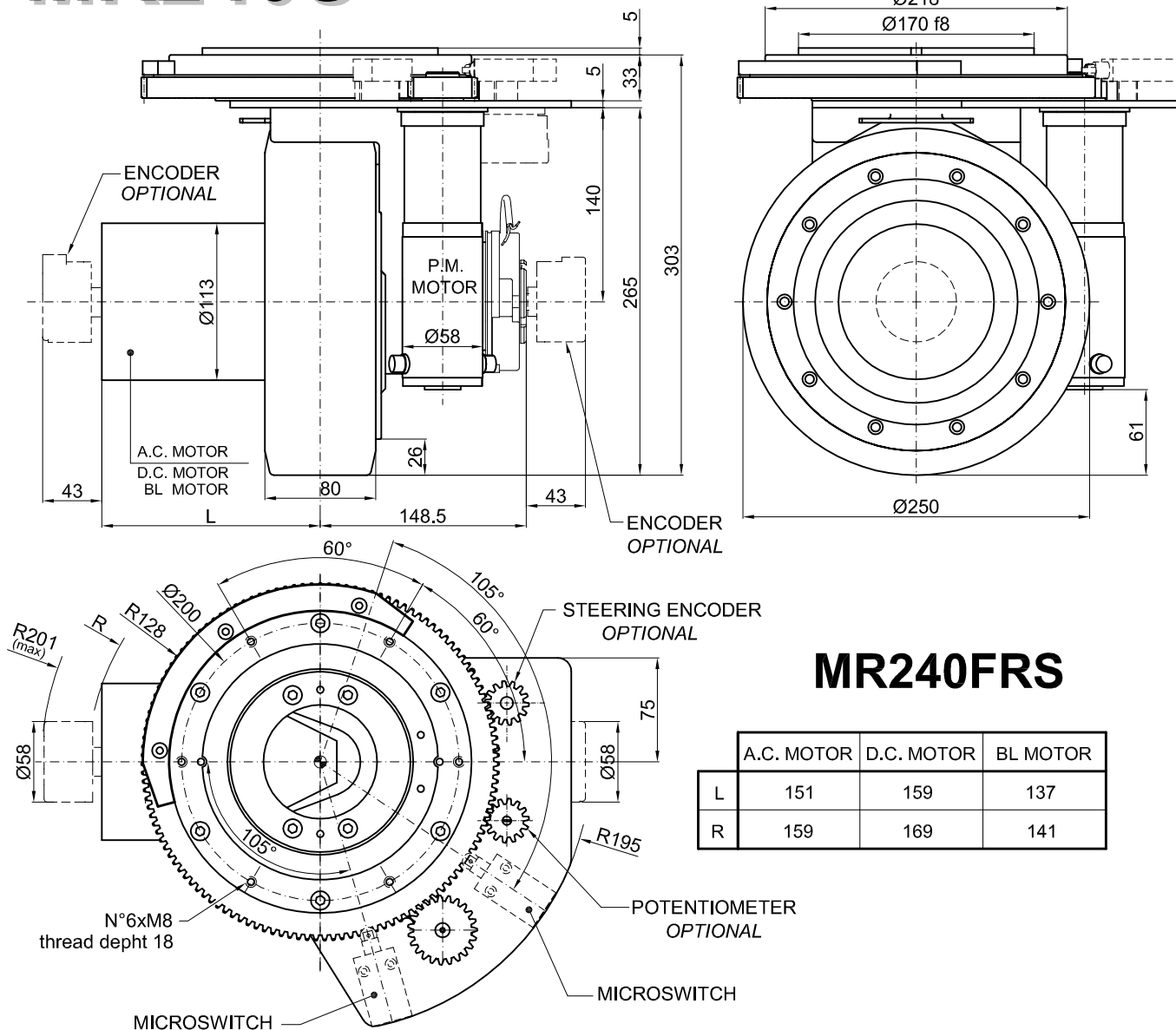
	A.C. MOTOR	D.C. MOTOR	BL MOTOR
L	152	155	166
R	161	165	169

TECHNICAL DATAS – DATI TECNICI

	A.C. MOTOR D.C. MOTOR BL MOTOR	
POWER - POTENZA	W	500 ÷ 1000
VOLTAGE - TENSIONE	V	12 ÷ 96
GEAR RATIO – RAPPORTO DI RIDUZIONE	i	27:1
STEERING SYSTEM RATIO – RAPPORTO DI RIDUZIONE SISTEMA STERZO	i	442
WHEEL - RUOTA	mm	Ø220x70
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA	Nm	230
MAX WHEEL LOAD – CARICO MAX SULLA RUOTA (the value refers to a moving steering, not with stopped vehicle) (il valore è riferito per una sterzata in movimento, non con veicolo fermo)	kg	on request 600 on request
BRAKE TORQUE – COPPIA FRENO	Nm	5
WEIGHT - PESO	kg	39 ÷ 46

rubber – gomma
polyurethane – poliuretano
vulkollan – vulkollan

MR240S

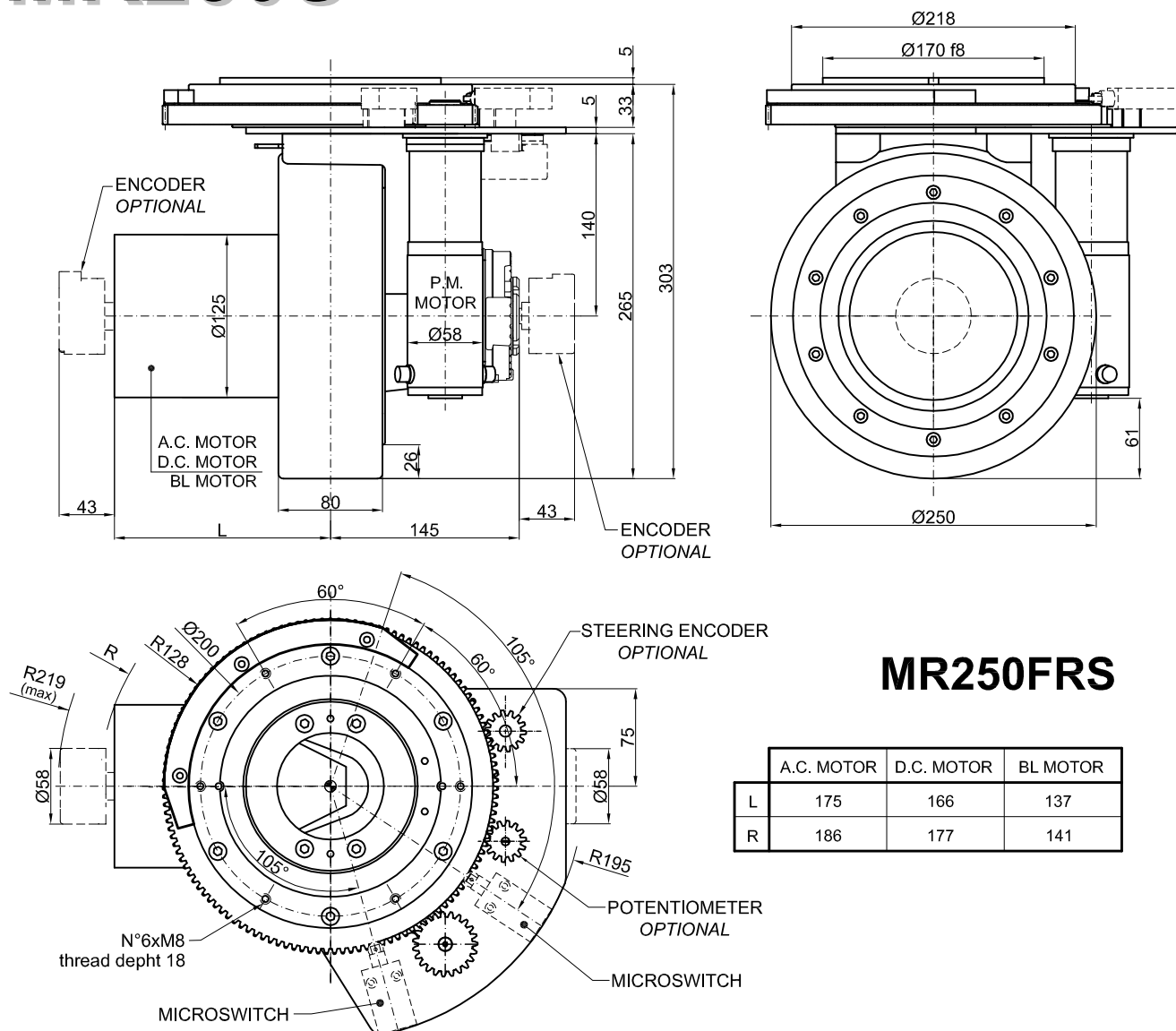


MR240FRS

	A.C. MOTOR	D.C. MOTOR	BL MOTOR
L	151	159	137
R	159	169	141

TECHNICAL DATAS – DATI TECNICI		A.C. MOTOR D.C. MOTOR BL. MOTOR
POWER - POTENZA	W	700 ÷ 1000
VOLTAGE - TENSIONE	V	12 ÷ 96
GEAR RATIO – RAPPORTO DI RIDUZIONE	i	32:1 – 26:1 – 20:1
STEERING SYSTEM RATIO – RAPPORTO DI RIDUZIONE SISTEMA STERZO	i	442
WHEEL - RUOTA	mm	Ø250x80 - Ø260x80
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA	Nm	300
MAX WHEEL LOAD – CARICO MASSIMO SULLA RUOTA (the value refers to a moving steering, not with stopped vehicle) (il valore è riferito per una sterzata in movimento, non con veicolo fermo)	rubber – gomma polyurethane – poliuretano vulkollan – vulkollan	650 - 700 1000 - 1150 on request
BRAKE TORQUE – COPPIA FRENO	Nm	10
WEIGHT - PESO	kg	50

MR250S



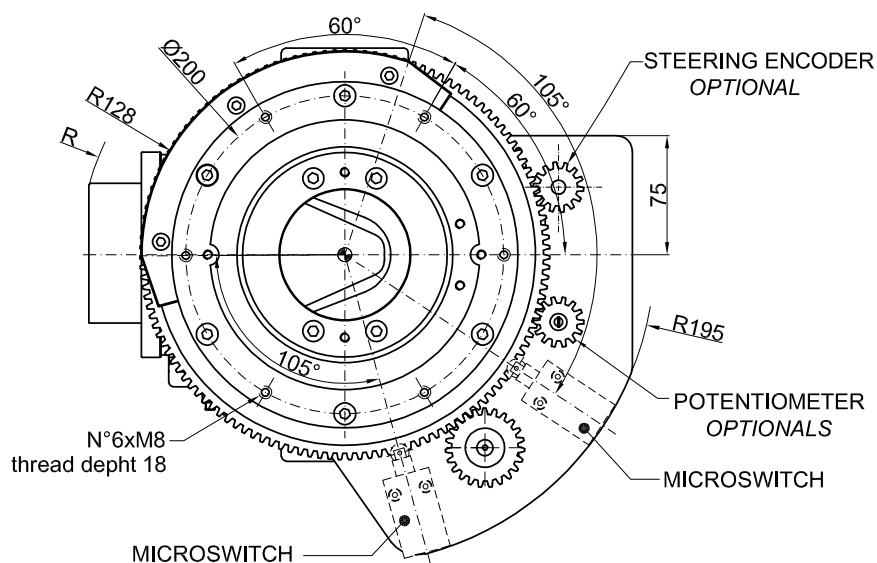
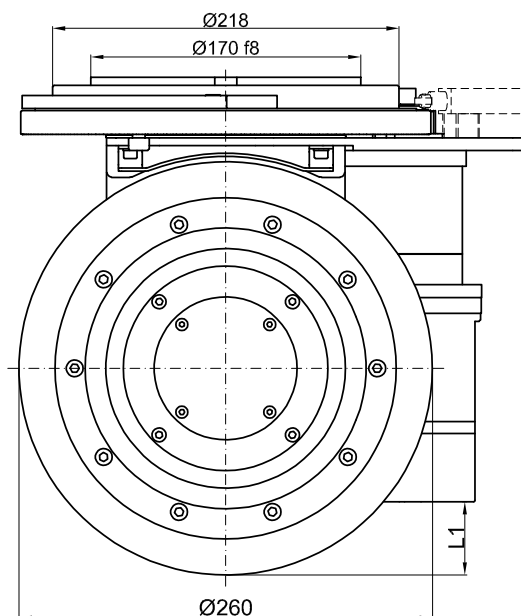
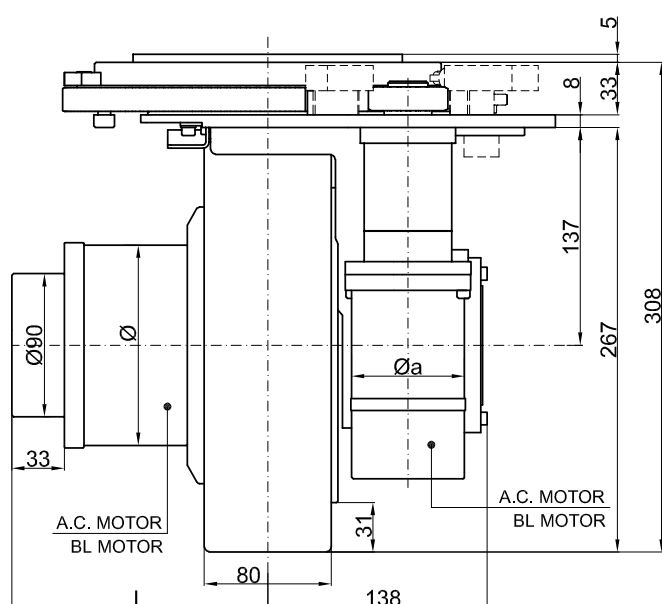
MR250FRS

	A.C. MOTOR	D.C. MOTOR	BL MOTOR
L	175	166	137
R	186	177	141

TECHNICAL DATAS – DATI TECNICI		A.C. MOTOR D.C. MOTOR BL MOTOR
POWER - POTENZA	W	700 ÷ 1000
VOLTAGE - TENSIONE	V	12 ÷ 96
GEAR RATIO – RAPPORTO DI RIDUZIONE	i	32:1 – 26:1 – 20:1
STEERING SYSTEM RATIO – RAPPORTO DI RIDUZIONE SISTEMA STERZO	i	442
WHEEL - RUOTA	mm	Ø250x80 - Ø260x80
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA	Nm	300
MAX WHEEL LOAD – CARICO MASSIMO SULLA RUOTA (the value refers to a moving steering, not with stopped vehicle) (il valore è riferito per una sterzata in movimento, non con veicolo fermo)	kg	650 - 700 1000 - 1150 on request
BRAKE TORQUE – COPPIA FRENO	Nm	10
WEIGHT - PESO	kg	51 ÷ 57

rubber – gomma
polyurethane – poliuretano
vulkollan – vulkollan

MR255S



MR255FRS

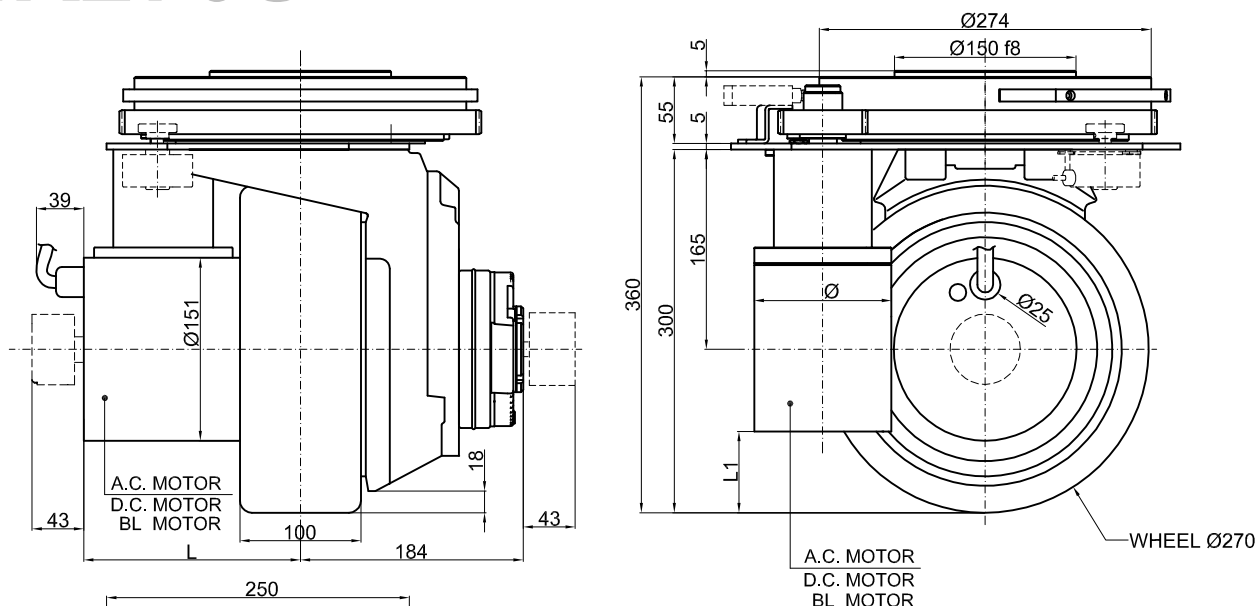
	A.C. MOTOR	BL MOTOR
L	220	160
R	232	167
Ø	151	126
Øa	108	□60
L1	55	46

TECHNICAL DATAS – DATI TECNICI

	A.C. MOTOR BL MOTOR	
POWER - POTENZA	W	1500
VOLTAGE - TENSIONE	V	12 ÷ 96
GEAR RATIO – RAPPORTO DI RIDUZIONE	i	32:1 – 26:1 – 20:1
STEERING SYSTEM RATIO – RAPPORTO DI RIDUZIONE SISTEMA STERZO	i	442
WHEEL - RUOTA	mm	Ø260x80
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA	Nm	382
MAX WHEEL LOAD – CARICO MASSIMO SULLA RUOTA (the value refers to a moving steering, not with stopped vehicle) (il valore è riferito per una sterzata in movimento, non con veicolo fermo)	kg	700 1200 on request
BRAKE TORQUE – COPPIA FRENO	Nm	10

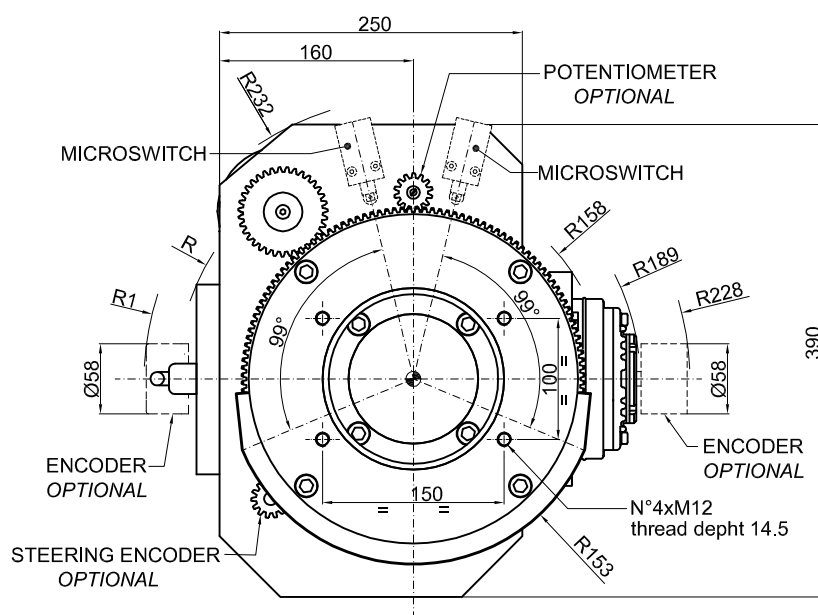
rubber – gomma
polyurethane – poliuretano
vulkollan – vulkollan

MR270S



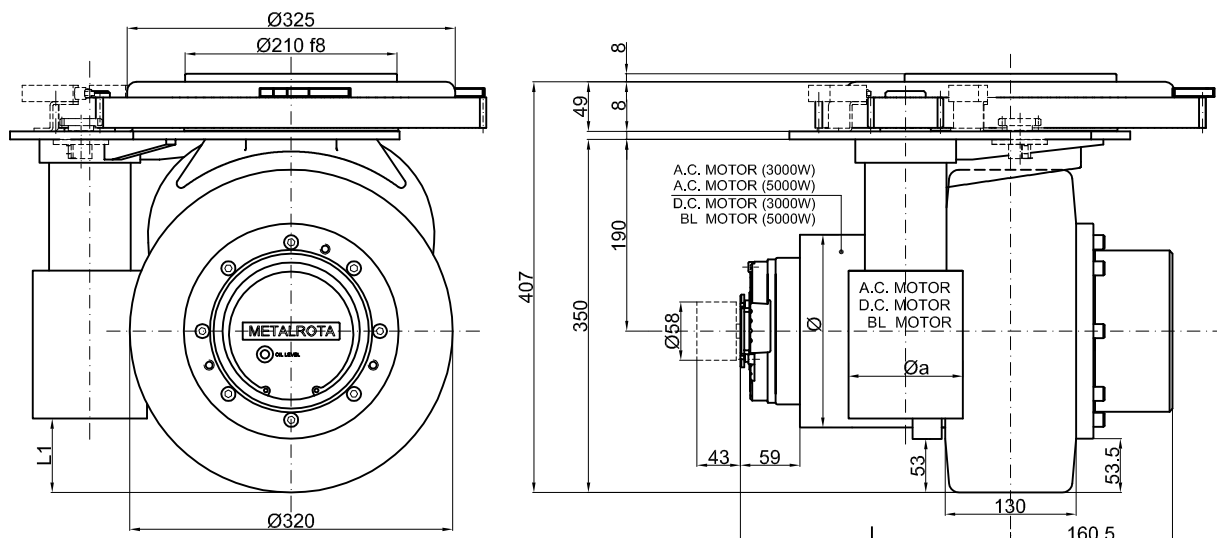
MR270FRS

	A.C. MOTOR	D.C. MOTOR	BL MOTOR
L	179	179	187
R	196	196	190
R1	222	222	-
Ø	107	113	106
L1	72	59	79



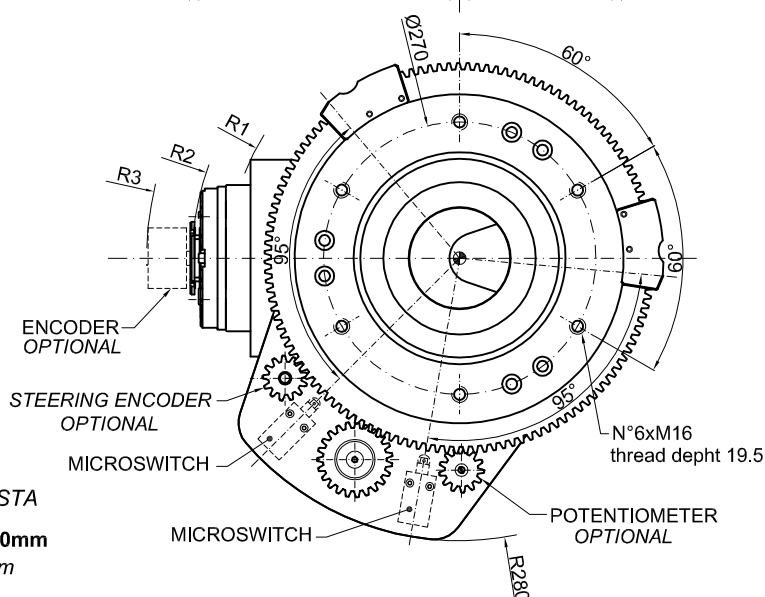
TECHNICAL DATAS – DATI TECNICI		A.C. MOTOR D.C. MOTOR BL. MOTOR
POWER - POTENZA		W 1000 ÷ 1500
VOLTAGE - TENSIONE		V 24 ÷ 96
GEAR RATIO – RAPPORTO DI RIDUZIONE	i	34:1 – 23:1
STEERING SYSTEM RATIO – RAPPORTO DI RIDUZIONE SISTEMA STERZO	i	184
WHEEL - RUOTA	mm	Ø270x100
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA	Nm	500
MAX WHEEL LOAD – CARICO MASSIMO SULLA RUOTA (the value refers to a moving steering, not with stopped vehicle) (il valore è riferito per una sterzata in movimento, non con veicolo fermo)	rubber – gomma polyurethane – poliuretano vulkollan – vulkollan	on request 1300 on request
BRAKE TORQUE – COPPIA FRENO	Nm	20
WEIGHT - PESO	kg	85 ÷ 95

MR260/320S



MR260/320FMS D.191mm

	A.C. MOTOR 3000W	A.C. MOTOR 5000W	D.C. MOTOR 3000W	BL MOTOR 5000W
L	286	334	268	313
R1	240	293	230	268
R2	289	344	278	315
R3	330	380	312	357
Ø	191	191	191	167
Øa	126	126	113	119
L1	38	38	73	75



AVAILABLE ON REQUEST / DISPONIBILE A RICHIESTA

Wheel Ø300, Ø350, Ø406 with thickness from 100 to 140mm

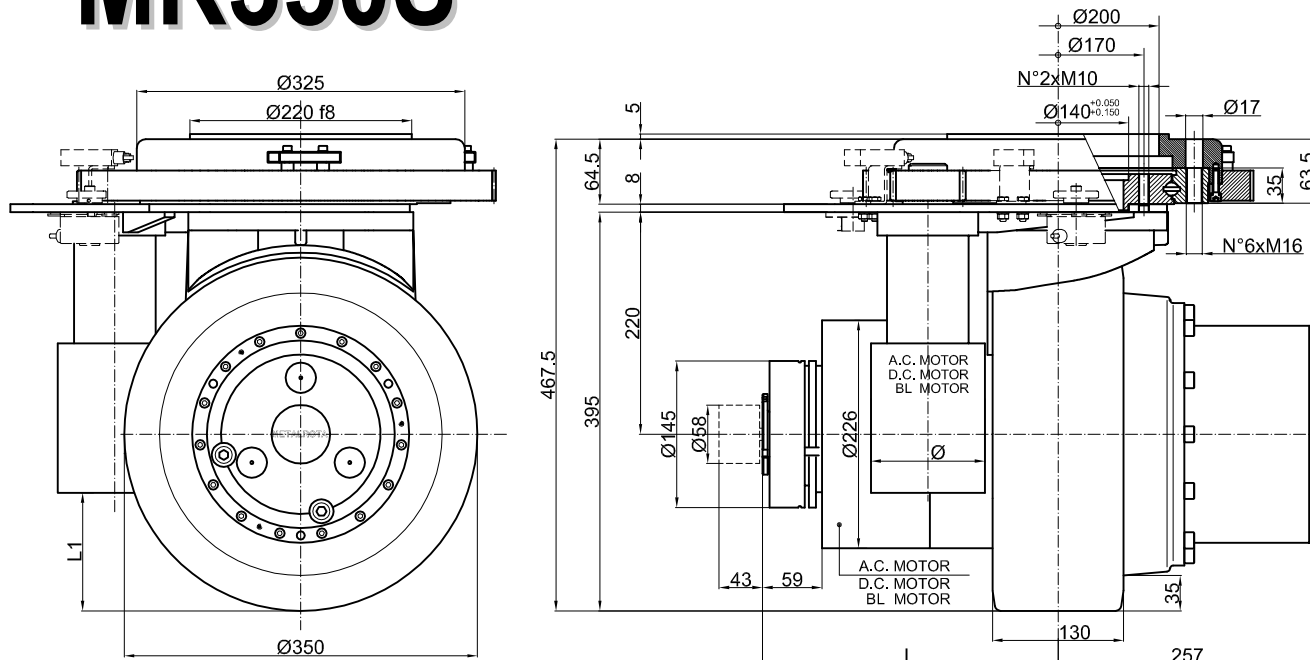
Ruota Ø300, Ø350, Ø406 con spessori da 100 a 140mm

TECHNICAL DATAS – DATI TECNICI

	A.C. MOTOR D.C. MOTOR BL MOTOR	
POWER - POTENZA	W	3000 ÷ 5000
VOLTAGE - TENSIONE	V	24 ÷ 96
GEAR RATIO – RAPPORTO DI RIDUZIONE	i	30:1
STEERING SYSTEM RATIO – RAPPORTO DI RIDUZIONE SISTEMA STERZO	i	282
WHEEL - RUOTA	mm	Ø320x130
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA	Nm	1200
MAX WHEEL LOAD – CARICO MASSIMO SULLA RUOTA (the value refers to a moving steering, not with stopped vehicle) (il valore è riferito per una sterzata in movimento, non con veicolo fermo)	kg	on request 2000 on request
BRAKE TORQUE – COPPIA FRENO	Nm	40
WEIGHT - PESO	kg	150

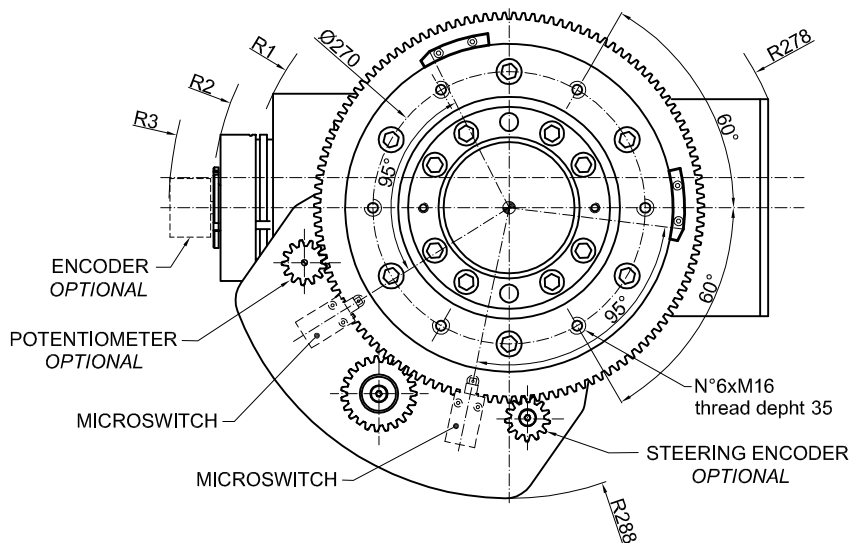
rubber – gomma
polyurethane – poliuretano
vulkollan – vulkollan

MR350S



MR350FMS

	A.C. MOTOR	D.C. MOTOR	BL. MOTOR
L	293	243	269
R1	260	216	226
R2	295	247	273
R3	337	287	314
Ø	126	113	119
L1	83	117	105

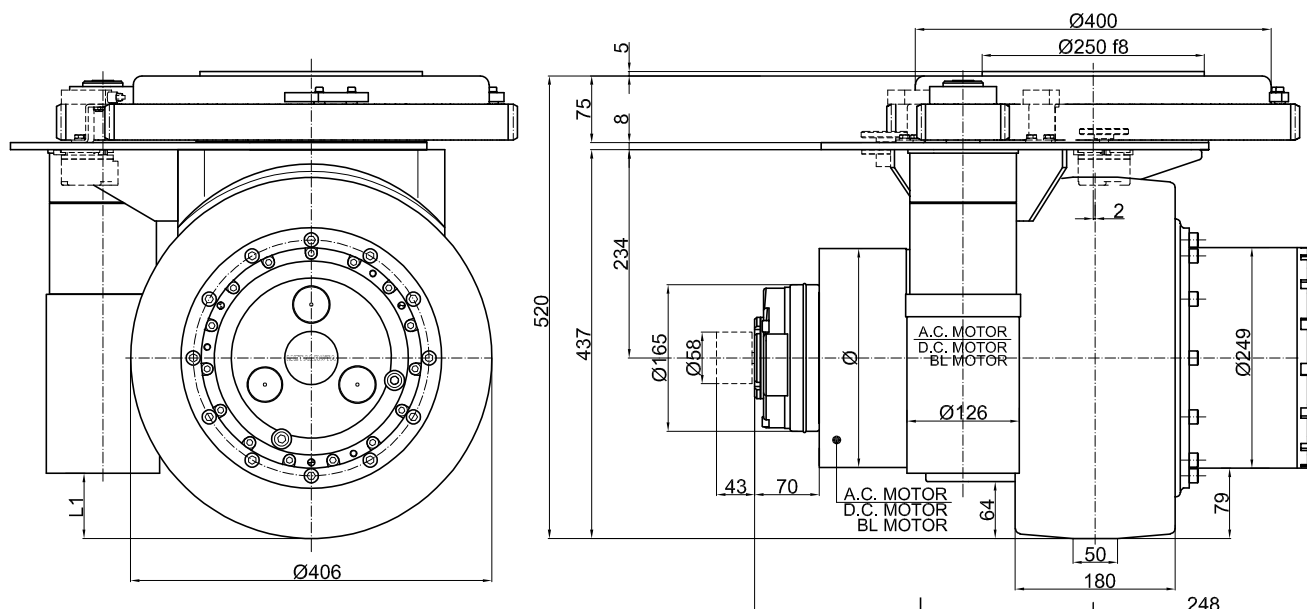


TECHNICAL DATAS – DATI TECNICI

	A.C. MOTOR D.C. MOTOR BL. MOTOR	
POWER - POTENZA	W	3000 ÷ 5000
VOLTAGE - TENSIONE	V	24 ÷ 96
GEAR RATIO – RAPPORTO DI RIDUZIONE	i	22:1 - 30:1
STEERING SYSTEM RATIO – RAPPORTO DI RIDUZIONE SISTEMA STERZO	i	282
WHEEL - RUOTA	mm	Ø350x130
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA	Nm	2000
MAX WHEEL LOAD – CARICO MASSIMO SULLA RUOTA (the value refers to a moving steering, not with stopped vehicle) (il valore è riferito per una sterzata in movimento, non con veicolo fermo)	kg	on request 2600 on request
BRAKE TORQUE – COPPIA FRENO	Nm	40
WEIGHT - PESO	kg	170

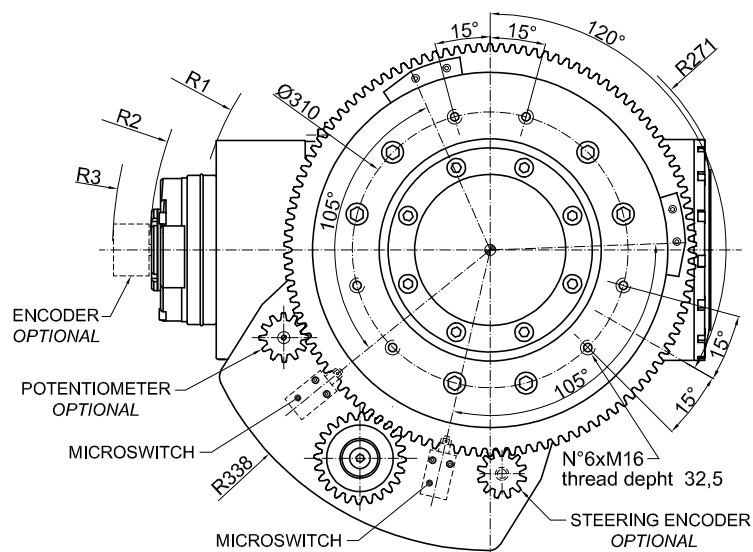
rubber – gomma
polyurethane – poliuretano
vulkollan – vulkollan

MR415S



MR415FMS

	A.C. MOTOR	D.C. MOTOR	BL MOTOR
L	388	379	314
Ø	250	244	176
R1	344	332	258
R2	391	382	319
R3	429	424	356
L1	64	73	48

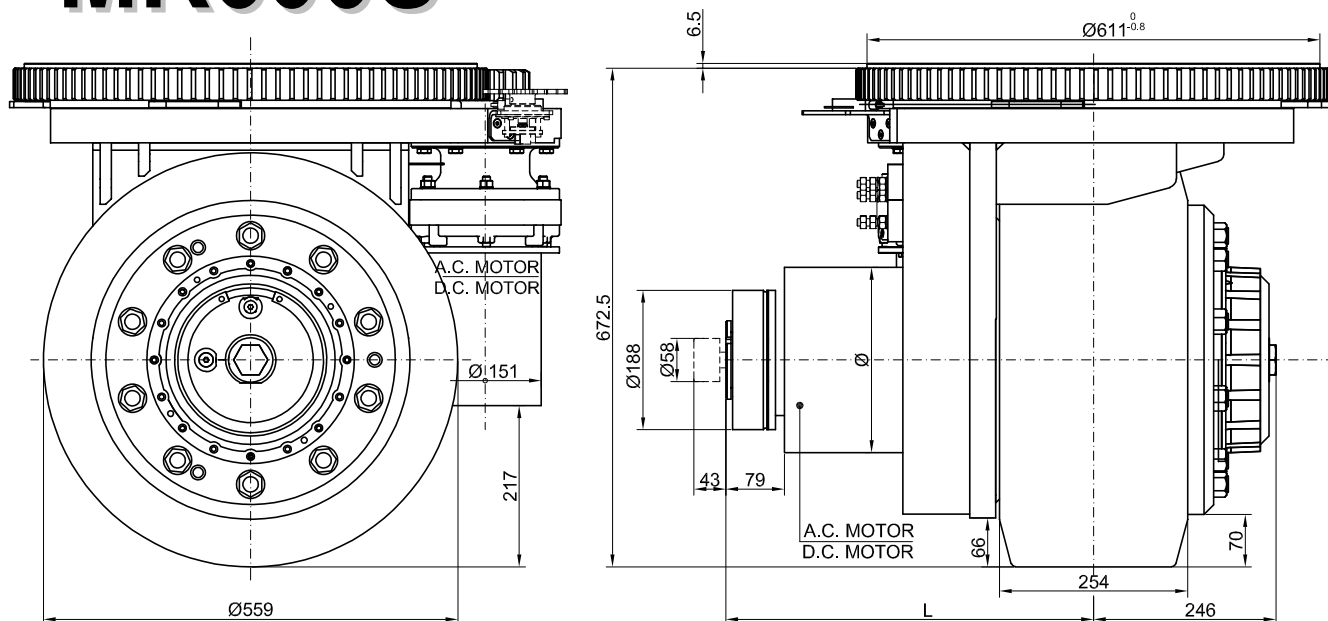


TECHNICAL DATAS – DATI TECNICI

	A.C. MOTOR D.C. MOTOR BL MOTOR	
POWER - POTENZA	W	6000 ÷ 12000
VOLTAGE - TENSIONE	V	24 ÷ 96
GEAR RATIO – RAPPORTO DI RIDUZIONE	i	25,6:1
STEERING SYSTEM RATIO – RAPPORTO DI RIDUZIONE SISTEMA STERZO	i	243
WHEEL - RUOTA	mm	Ø406x180
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA	Nm	3600
MAX WHEEL LOAD – CARICO MASSIMO SULLA RUOTA (the value refers to a moving steering, not with stopped vehicle) (il valore è riferito per una sterzata in movimento, non con veicolo fermo)	kg	on request 4000 on request
BRAKE TORQUE – COPPIA FRENO	Nm	75
WEIGHT - PESO	kg	258 ÷ 300

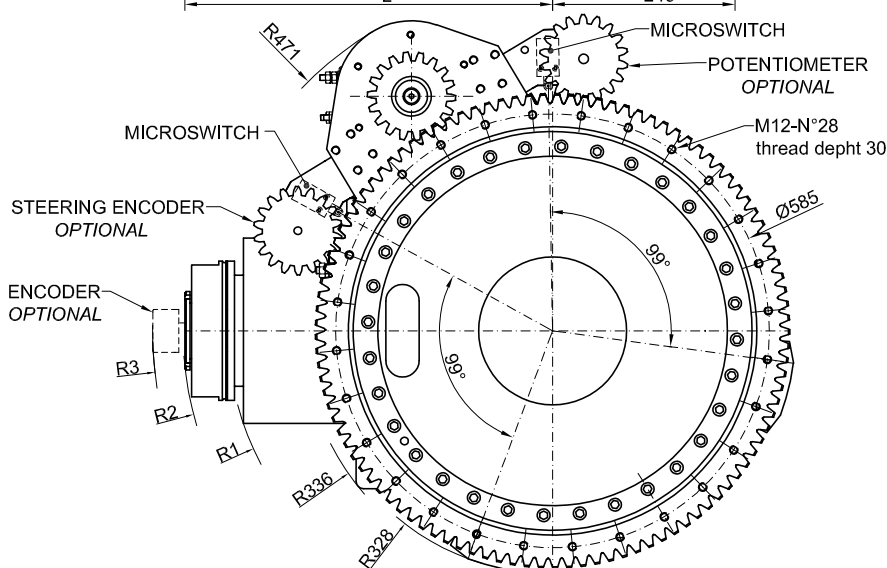
rubber – gomma
polyurethane – poliuretano
vulkollan – vulkollan

MR600S



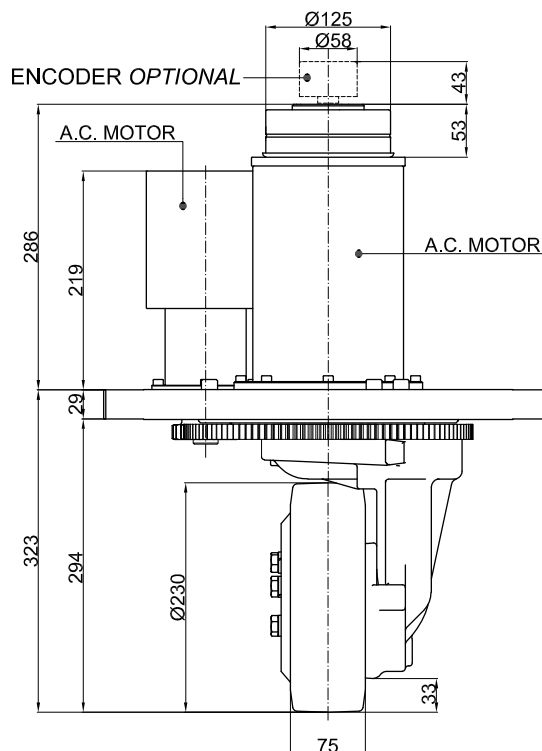
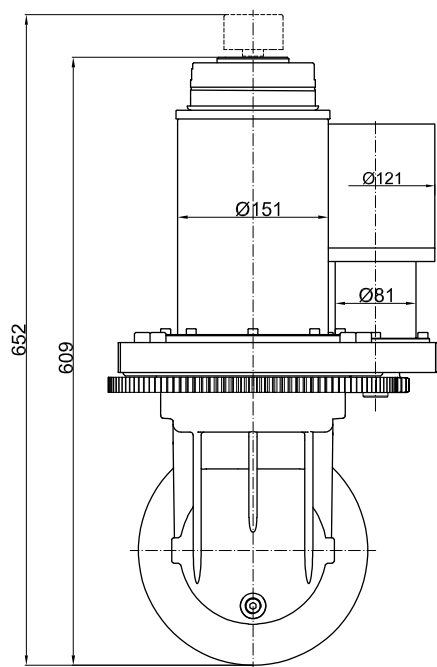
MR600FMS

	A.C. MOTOR	D.C. MOTOR
L	496	563
Ø	252	244
R1	439	501
R2	499	565
R3	540	606



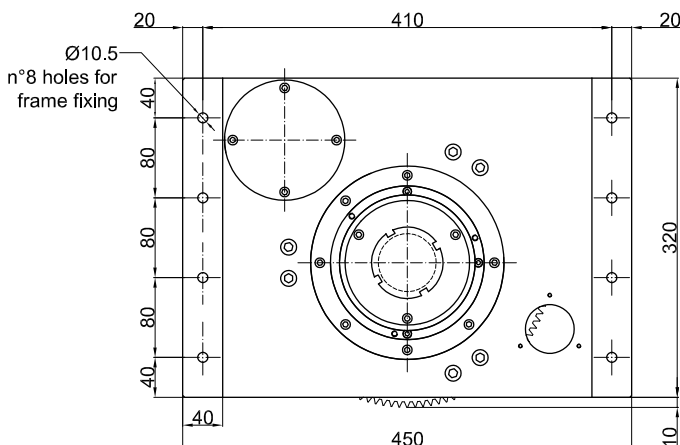
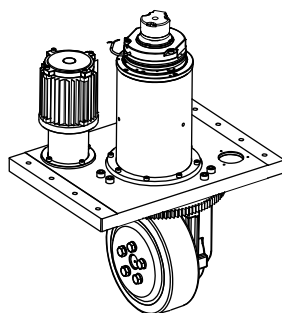
TECHNICAL DATAS – DATI TECNICI		A.C. MOTOR D.C. MOTOR
POWER - POTENZA	W	6000 ÷ 12000
VOLTAGE - TENSIONE	V	24 ÷ 96
GEAR RATIO – RAPPORTO DI RIDUZIONE	i	54:1
STEERING SYSTEM RATIO – RAPPORTO DI RIDUZIONE SISTEMA STERZO	i	507
WHEEL - RUOTA	mm	Ø559x254
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA	Nm	12000
MAX WHEEL LOAD – CARICO MASSIMO SULLA RUOTA (the value refers to a moving steering, not with stopped vehicle) (il valore è riferito per una sterzata in movimento, non con veicolo fermo)	kg	on request on request 6000
BRAKE TORQUE – COPPIA FRENO	Nm	100
WEIGHT - PESO	kg	640

WR151ECOS



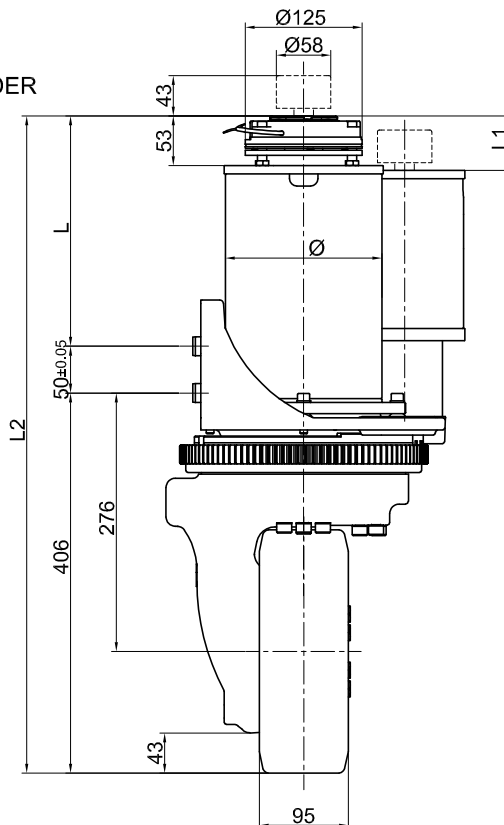
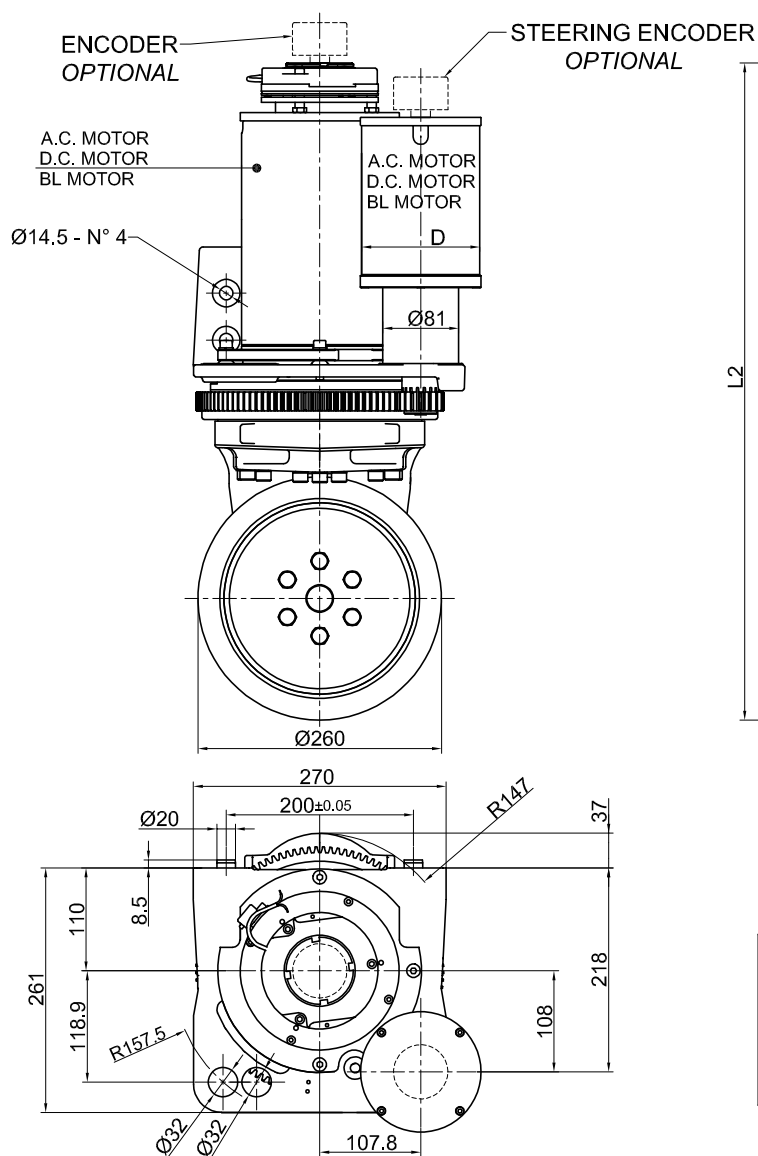
WR151ECOFMS

- Motor integral with the slewing bearing
- Motore solidale alla ralla di rotazione



TECHNICAL DATAS – DATI TECNICI		A.C. MOTOR	
POWER - POTENZA	W	1500 ÷ 2000	
VOLTAGE - TENSIONE	V	24 ÷ 96	
GEAR RATIO – RAPPORTO DI RIDUZIONE	i	20:1	
STEERING SYSTEM RATIO – RAPPORTO DI RIDUZIONE SISTEMA STERZO	i	210	
WHEEL - RUOTA	mm	Ø230x75	
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA	Nm	400	
MAX WHEEL LOAD – CARICO MASSIMO SULLA RUOTA (the value refers to a moving steering, not with stopped vehicle) (il valore è riferito per una sterzata in movimento, non con veicolo fermo)	kg	430 1000 on request	rubber – gomma polyurethane – poliuretano vulkollan – vulkollan
BRAKE TORQUE – COPPIA FRENO	Nm	20	
WEIGHT - PESO	kg	120	

WR260S



WR260FMS

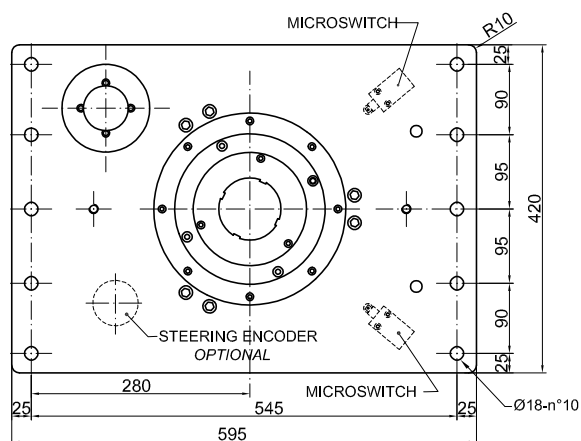
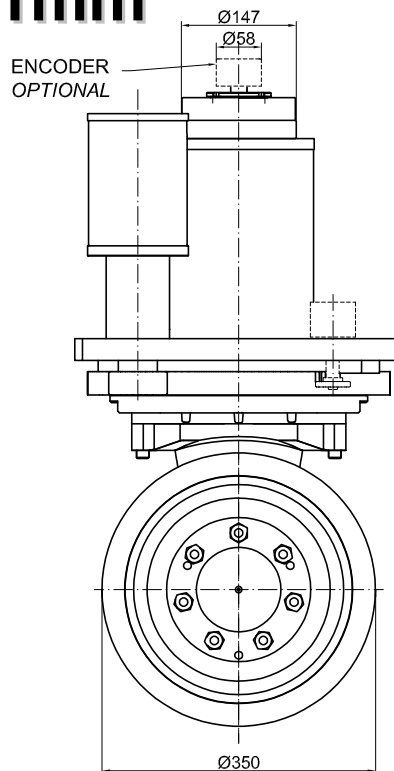
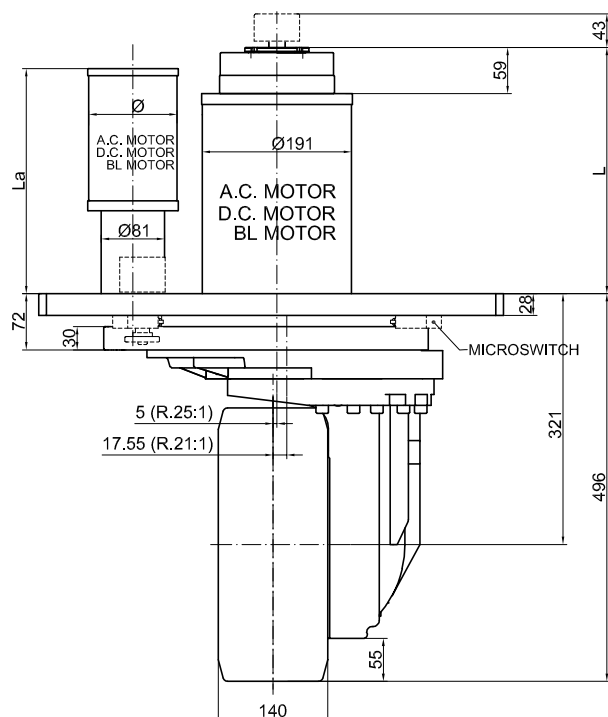
	A.C. MOTOR	D.C. MOTOR	BL MOTOR
L	257	296	252
L1	63	121	92
L2	713	752	708
Ø	167	151	170
D	126	113	108

TECHNICAL DATAS – DATI TECNICI

	A.C. MOTOR D.C. MOTOR BL MOTOR	
POWER - POTENZA	W	1500 ÷ 3000
VOLTAGE - TENSIONE	V	24 ÷ 96
GEAR RATIO – RAPPORTO DI RIDUZIONE	i	18:1
STEERING SYSTEM RATIO – RAPPORTO DI RIDUZIONE SISTEMA STERZO	i	216
WHEEL - RUOTA	mm	Ø260x95
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA	Nm	500
MAX WHEEL LOAD – CARICO MASSIMO SULLA RUOTA (the value refers to a moving steering, not with stopped vehicle) (il valore è riferito per una sterzata in movimento, non con veicolo fermo)	kg	on request 1800 on request
BRAKE TORQUE – COPPIA FRENO	Nm	20
WEIGHT - PESO	kg	110

rubber – gomma
polyurethane – poliuretano
vulkollan – vulkollan

WR350S Motor Ø191mm



WR350FMS/B Motor Ø191

- Motor integral with the frame
- Motore solidale al telaio

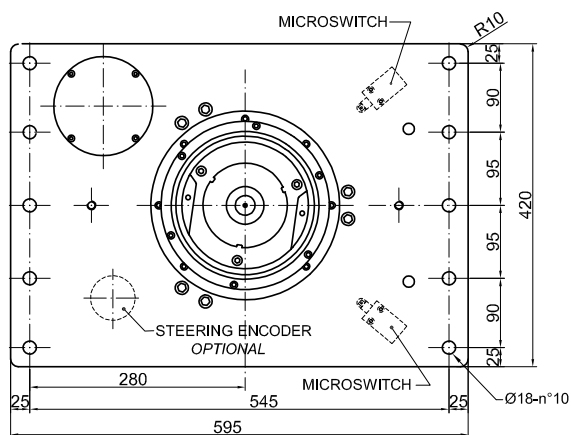
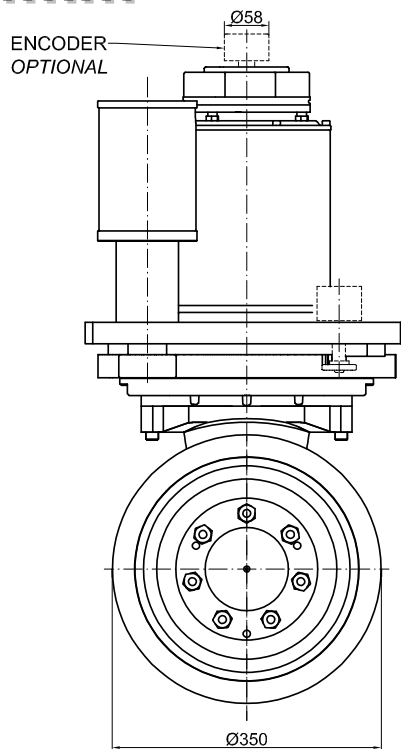
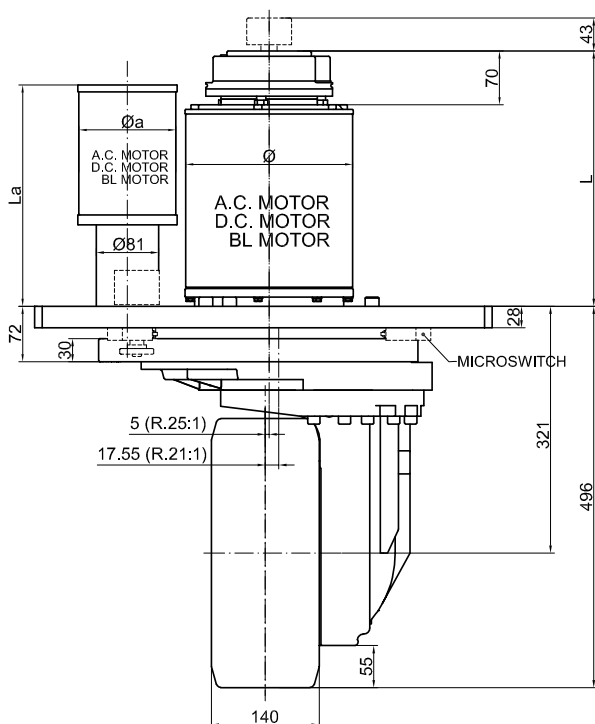
	A.C. MOTOR	D.C. MOTOR	BL MOTOR
L	305	315	276
La	282	247	267
Ø	126	113	121

TECHNICAL DATAS – DATI TECNICI

	A.C. MOTOR D.C. MOTOR BL MOTOR	
POWER - POTENZA	W	3000 ÷ 5000
VOLTAGE - TENSIONE	V	24 ÷ 96
GEAR RATIO – RAPPORTO DI RIDUZIONE	i	21:1 – 25:1
STEERING SYSTEM RATIO – RAPPORTO DI RIDUZIONE SISTEMA STERZO	i	282
WHEEL - RUOTA	mm	Ø350x140
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA	Nm	2200
MAX WHEEL LOAD – CARICO MASSIMO SULLA RUOTA (the value refers to a moving steering, not with stopped vehicle) (il valore è riferito per una sterzata in movimento, non con veicolo fermo)	kg	on request on request 3000
BRAKE TORQUE – COPPIA FRENO	Nm	40
WEIGHT - PESO	kg	232

rubber – gomma
polyurethane – poliuretano
vulkollan – vulkollan

WR350S Motor Ø244mm



WR350FMS/B

Motor Ø244

- Motor integral with the frame
- Motore solidale al telaio

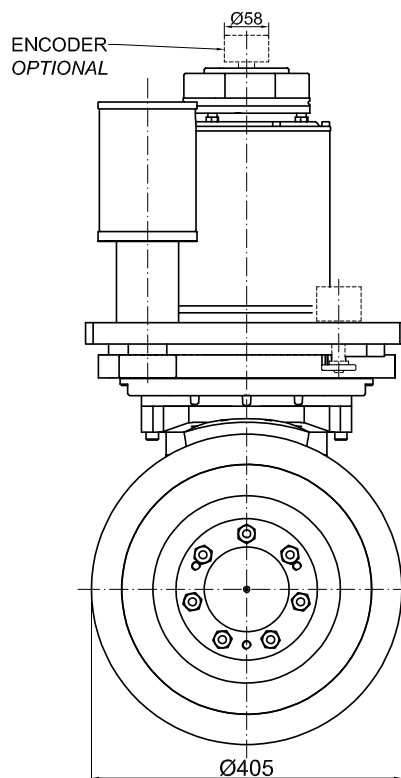
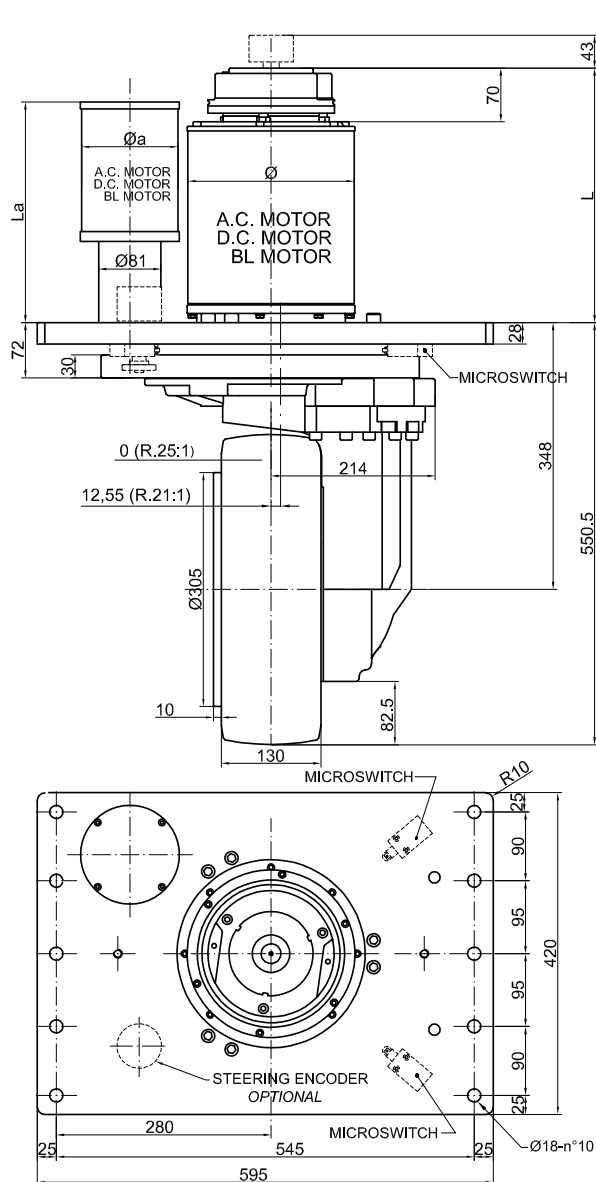
	A.C. MOTOR 7000W	D.C. MOTOR 7000W	BL MOTOR 10000W
Ø	217	251	219
L	332	368	375
Øa	126	113	121
La	288	254	273

TECHNICAL DATAS – DATI TECNICI

	A.C. MOTOR D.C. MOTOR BL MOTOR	
POWER - POTENZA	W	5000 ÷ 10000
VOLTAGE - TENSIONE	V	24 ÷ 96
GEAR RATIO – RAPPORTO DI RIDUZIONE	i	21:1 – 25:1
STEERING SYSTEM RATIO – RAPPORTO DI RIDUZIONE SISTEMA STERZO	i	282
WHEEL - RUOTA	mm	Ø350x140
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA	Nm	2200
MAX WHEEL LOAD – CARICO MASSIMO SULLA RUOTA (the value refers to a moving steering, not with stopped vehicle) (il valore è riferito per una sterzata in movimento, non con veicolo fermo)	kg	on request on request 3000
BRAKE TORQUE – COPPIA FRENO	Nm	75
WEIGHT - PESO	kg	285

rubber – gomma
polyurethane – poliuretano
vulkollan – vulkollan

WR425S Motor Ø244mm



WR425FMS/B Motor Ø244

- Motor integral with the frame
- Motore solidale al telaio

	A.C. MOTOR 7000W	D.C. MOTOR 7000W	BL MOTOR 10000W
Ø	217	251	219
L	332	368	375
Øa	126	113	121
La	288	254	273

TECHNICAL DATAS – DATI TECNICI

	A.C. MOTOR D.C. MOTOR BL MOTOR	
POWER - POTENZA	W	5000 ÷ 10000
VOLTAGE - TENSIONE	V	24 ÷ 96
GEAR RATIO – RAPPORTO DI RIDUZIONE	i	21:1 – 25:1
STEERING SYSTEM RATIO – RAPPORTO DI RIDUZIONE SISTEMA STERZO	i	282
WHEEL - RUOTA	mm	Ø405x130
MAX WHEEL TORQUE – COPPIA MASSIMA ALLA RUOTA	Nm	2200
MAX WHEEL LOAD – CARICO MASSIMO SULLA RUOTA (the value refers to a moving steering, not with stopped vehicle) (il valore è riferito per una sterzata in movimento, non con veicolo fermo)	kg	on request on request 3100
BRAKE TORQUE – COPPIA FRENO	Nm	75
WEIGHT - PESO	kg	300

rubber – gomma
polyurethane – poliuretano
vulkollan – vulkollan



Metalrota s.r.l.

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E-mail: info@metalrota.it

Drive Wheels Request Form

Company Name _____
Address _____
Telephone N. _____ Fax N. _____
E-mail _____
Contact Reference _____

Vehicle type _____ Quantity per batch _____
Wheel diameter (mm) _____ Floor surface _____
Direct Weight over the wheel (kg) without load with load
Vehicle selfweight with operator and batteries (kg) _____ Load to carry (kg) _____
Towing capacity (if any additional trolley behind) (kg) _____
Max speed on flat (km/h) without load with load
Max climbing slope (%) without load with load
Max speed on slope (km/h) without load with load
Acceleration (m/sec²) _____
Duty _____ Short Service ☐ tl= _____
tl= service time (min) _____ Shifts ☐ Service % = _____
tr= resting time (min) _____ Cyclic Service ☐ tl= _____ tr= _____

Drive wheel type _____ Horizontal ☐ Vertical ☐
Power (W) _____
Voltage (12, 24, 48, 72, 80V) _____ Other _____
DC Motor wounds _____ Series wound ☐ Separately Excited ☐
Shunt wound ☐ PM ☐
AC Motor _____ Speed sensor ☐ Thermal sensor ☐
Brushless PMS Motor (synchronous) _____ Speed sensor ☐ Thermal sensor ☐
Environment and required IP _____
Preferred wheel material (Vulkollan, Poliurethane or Rubber) _____
e/m brake _____ Yes ☐ No ☐
Incremental Encoder Pulses (ppr) Voltage (TTL, HTL)
Connector type (8 pin M12, 12 pin EML, cable) _____
Absolute Encoder (specify) _____
Thermal protection _____ Yes ☐ No ☐
Tacho generator _____ Yes ☐ No ☐

Electric Steering System _____ Yes ☐ No ☐
Limit end switches _____ Yes ☐ No ☐
Steering Incremental Encoder Pulses (ppr) Voltage (TTL, HTL)
Connector type (8 pin M12, 12 pin EML, cable) _____
Absolute Encoder (specify) _____
Potentiometer _____ Yes ☐ No ☐
Mechanical limits _____ Yes ☐ No ☐

NOTES:



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E-mail: info@metalrota.it

Modulo richiesta motoruote

Nome Azienda _____
Indirizzo _____
N° telefono _____ N° fax _____
E-mail _____
Persona di riferimento _____

Tipologia di veicolo _____ Quantità per lotto _____
Diametro ruota (mm) _____ Superficie di lavoro _____
Carico agente sulla motoruota (kg) senza carico con carico
Peso del veicolo con batteria e operatore (kg) _____ Peso del carico (kg) _____
Capacità di traino (se prevista) (kg) _____
Velocità massima in piano (km/h) senza carico con carico
Pendenza superabile (%) senza carico con carico (traino)
Velocità in pendenza (km/h) senza carico con carico (traino)
Accelerazione (m/sec²) _____
Tipo di servizio _____ Breve periodo ☐ tl= _____
tl= tempo lavoro (min) _____ Turni di lavoro ☐ % servizio= _____
tr= tempo riposo (min) _____ Ad intervalli ciclici ☐ tl= _____ tr= _____

Tipologia costruttiva motoruota _____ Orizzontale ☐ Verticale ☐
Potenza richiesta (W) _____
Tensione di alimentazione (12, 24, 48, 72, 80V) _____ Altra tensione _____
Motore CC: eccitazione _____ Serie ☐ Separata ☐
_____ Parallela ☐ Magneti permanenti ☐
Motore AC _____ Sensore velocità ☐ Sensore termico ☐
Motore brushless PMS (sincrono) _____ Sensore velocità ☐ Sensore termico ☐
Ambiente di lavoro ed IP richiesto _____
Rivestimento preferenziale ruota (Vulkollan, Poliuretano o Gomma) _____
Freno e/m di stazionamento _____ Sì ☐ No ☐
Encoder Incrementale _____ Numero impulsi (ppr) _____ Alimentazione (TTL, HTL) _____
Connettore Encoder (8 pin M12, 12 pin EML, cavo) _____
Encoder Assoluto (specificare) _____
Protezione termica (termocoppia) _____ Sì ☐ No ☐
Dinamo tachimetrica _____ Sì ☐ No ☐

Sterzo Elettrico _____ Sì ☐ No ☐
Micro fine corsa _____ Sì ☐ No ☐
Encoder sterzo Incrementale _____ Numero impulsi (ppr) _____ Alimentazione (TTL, HTL) _____
Connettore Encoder (8 pin M12, 12 pin EML, cavo) _____
Encoder sterzo Assoluto (specificare) _____
Potenziometro _____ Sì ☐ No ☐
Fermi meccanici _____ Sì ☐ No ☐

NOTE:

**All technical data and dimensions outputs in this catalogue are subject to development changes without prior notice.
The illustrations are not binding.**

*Tutti i dati e le dimensioni riportate in questo catalogo sono soggetti a modifiche di sviluppo senza alcun preavviso.
Le illustrazioni non sono vincolanti.*

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