

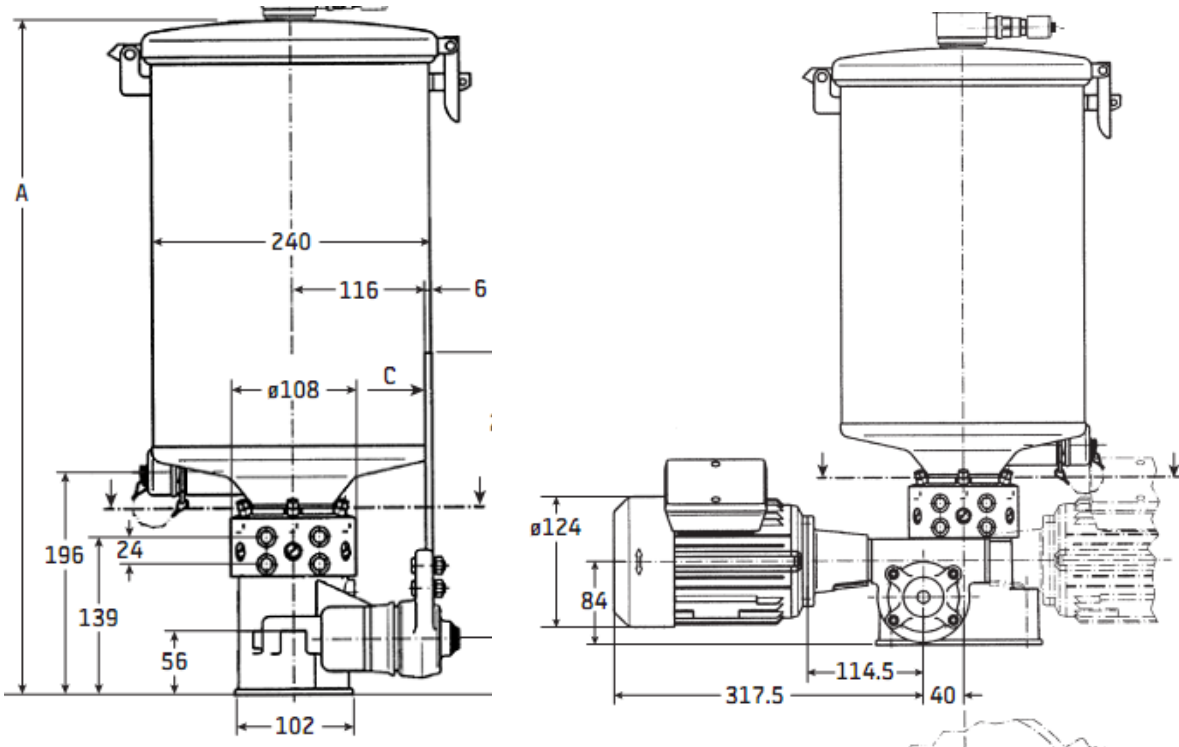


# LUBRICATOR

<b>*GENERAL</b>	1	Service	Lubricator
	2	Operating Temperature	-20°C to 80°C
<b>TECHNICAL *DATA</b>	3	Reservoir Capacity	8 liter
	4	Number of Outlets	12
	5	Maximum Permissible Feed Pressure	2900 psi (200 bar)
	6	Delivery Volume Per Outlet for One Rotation of Piston Plunger	0 to 0.1cc (0 to 0.006 cu. in.) Adjustable
	7	Maximum Delivery Volume Per Outlet Per Hour	60cc (3.66 cu.in.)
	8	Ratios	345:1
<b>*MECHANICAL</b>	9	Outlet Thread Connection	1/4" BSPP
	10	Dimension	According to note 1

Note 1 : Dimension (mm):

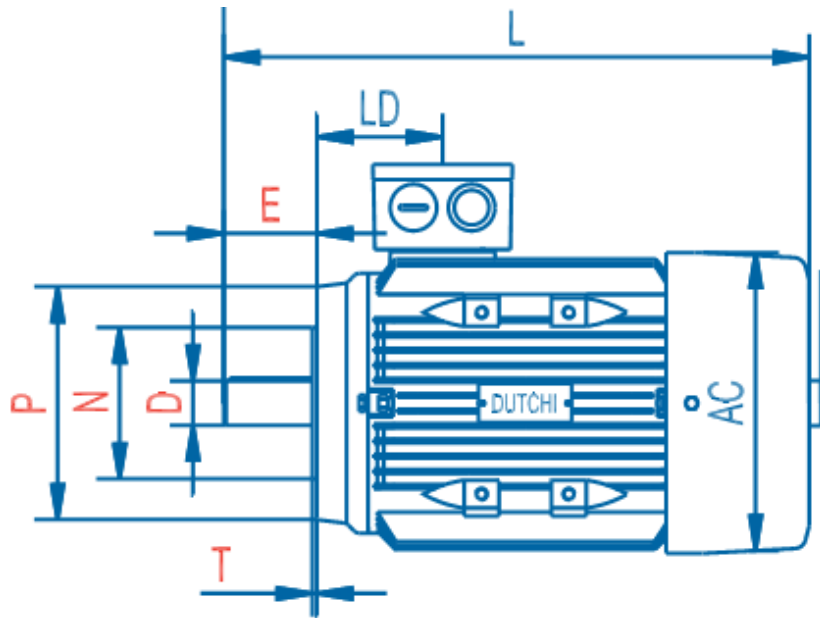
A=555mm

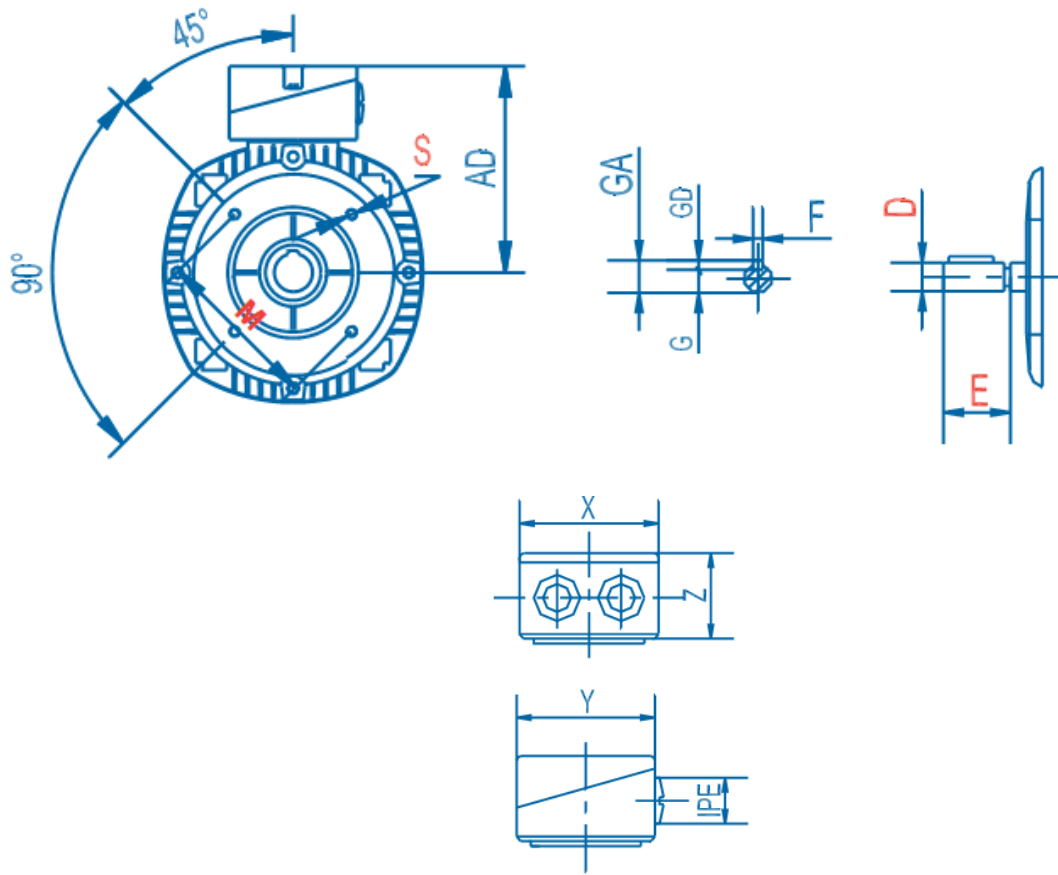


## ALUMINUM MOTOR

<b>*GENERAL</b>	1	Service	Aluminum motor
	2	Ingress Protection	IP 55
	3	Duty cycle	S1
	4	Insulation class	F-B
<b>*ELECTRICAL</b>	5	No of phase	3
	6	No of pole	4
	7	Rated current	1.32 / 0.76 A
	8	Rated voltage	230 /400 VAC
	9	Rated speed	1250 min -1
	10	Rated output	0.18 KW
	11	Efficiency	48%
	12	Moment of inertia	0.00039 kgm <sup>2</sup>
	13	Frequency	50 Hz
	14	Power factor	0.73
<b>*MECHANICAL</b>	15	Torque	1.42 Nm
	16	Bearing	Driving end : 6201 2RZ/Z2 Non driving end : 6201 2RZ/Z2
	17	Frame size	63 mm
	18	Sound pressure level	45 dB(A)
	19	Type of Construction	IM B14
	20	Weight	4.5 kg
	21	Dimension	According to note 1

Note 1 : Dimension (mm):





D	E	F	G	GA	GD	X	Y	Z	IPE
11j6	23	4	8.5	12.5	4	87	87	48	2×M20×1.5

AC	AD	L	M	N	P	S	T
120	98	215	75	60	90	M5	2.5

# FZ-A Lubricator

## Electric, Oil & Grease



### General

The FZ-A Lubricator is primarily designed for direct feed applications for servicing up to 12 lubrication points. The lubricators are supplied with pump bodies comprising either a single row of outlets (1-6) or a double row of outlets (1-12). Discharge is adjustable for each outlet or set of outlets via adjusting spindles located at the top of the pump body. Service to more than 12 lubrication points can be accomplished by installing progressive dividers downstream of the lubricator. FZ-A lubricators are typically driven by a flange mounted motor or via the machine being lubricated through either a ratchet or rotary drive. Maximum permissible speed of the piston plunger is 10 rpm for rotary drive lubricators and 6 rpm for ratchet drive. A wide range of transmission ratios are available making this lubricator adaptable to meet a diversity of machine requirements.

### Application

The FZ-A Lubricator is predominantly intended for multiline centralized lubrication systems. The pump is usually driven by the flange motor or by the machine to be lubricated via an oscillating lever or coupling.

### Operation

The FZ-A Lubricator incorporates a single piston plunger connected to a cam plate. Rotation of the cam plate and contact with a pressure cam allows for the suction and pressure stroke of a grooved piston. The vertical grooves align themselves with each outlet or set of outlets during the pressure stroke discharging up to 0.1cc (0.006 cu. in.) of lubricant per outlet per rotation of the piston plunger. The adjusting spindle determines the actual stroke of the piston corresponding to each outlet or set of outlets.

### Adjustment of Discharge Rate

The figures 0-4 are stamped on the adjusting spindles. The maximum delivery 0.1cc (0.006 cu. in.) is obtained in position 4. The volume delivered is reduced by turning the adjusting spindles clockwise. To ensure reliable delivery from the lubricator, output should be no less than 1/4 of the maximum rating. If you are using a pump with 7-12 outlets installed, the output rate of two outlets, located one above the other, is adjustable by one adjusting spindle.

### Features

- + Robust components for harsh and severe applications
- + Grease agitator and reservoir wedge plate assures delivery of grease to piston chamber
- + Adaptability to various drive speeds of the machine to be lubricated, eliminating the need for additional control systems
- + Automatic refill capabilities utilizing ultrasonic high/low level switch and fill port connection
- + Adaptable to progressive systems and gear spray systems



#### ATTENTION

*Working outlets should never be plugged. Plugging a working outlet will result in pump damage. Contact Bijur Delimon representatives for consultation.*

*Refer to Operators Manual: FZ-A.*

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## Technical Data

<b>Reservoir Capacity</b>	8 liter (16.5 lb) - Additional sizes available upon request.	
<b>Permissible Lubricants</b>	Suitable for oil and grease up to NLGI grade 000-2	
<b>Number of Outlets (Optional)</b>	1 to 12	
<b>Maximum Permissible Feed Pressure</b>	2900 psi (200 bar) 3625 psi (250 bar) for short periods only	
<b>Maximum Permissible Piston Speed</b>	6 rpm (with ratchet drive) 10 rpm (with running drive) 16 rpm (with oscillating drive)	
<b>Delivery Volume Per Outlet for One Rotation of Piston Plunger</b>	0 to 0.1cc (0 to 0.006 cu. in.) Adjustable	
<b>Maximum Delivery Volume Per Outlet Per Hour*</b>	60cc (3.66 cu.in.) 36cc (2.2 cu.in.) - ratchet drive	
<b>Operating Temperature</b>	-4°F to 176°F (-20°C to 80°C)	
<b>Outlet Thread Connection</b>	1/4" BSPP	
<b>Drive Type and Transmission Ratios</b>	Ratchet	3:1, 12:1, 25:1, 50:1
	Free shaft	3:1, 12:1, 25:1, 50:1
	Transmission gear	95:1, 215:1, 345:1, 710:1, 1420:1, 2880:1
	Transmission gear w/ flange motor	215:1, 345:1, 710:1, 1420:1, 2880:1
<b>Filler Valve</b>	Optional (Fill the grease reservoir by means of a forced-fed barrel pump.)	
<b>Low Level Switch (Optional)</b>	Ultrasonic	
* Delivery volume from all outlets can be reduced by selecting a lower driving speed or higher gear ratio, so that the piston plunger rotates at less than 10 rpm and 6 rpm, respectively.		

## Start Up Instructions

### Installing and Connecting the Lubricating Pump

The pump should be installed and mounted vertically. Connection of the motor to be control box must be carried out in accordance with the appropriate circuit diagrams.

### Filling the Lubricant Tank and Piping

All piping must be carefully cleaned before descaling and blowing through and filled with clean grease using a grease gun. For initial start-up, the grease tank is first filled up to the strainer with oil and then with grease, because otherwise a longer start-up time is required to allow venting. Before connecting the piping the pump must operate long enough at full capacity to ensure that the grease emerges evenly and without air from each outlet. Next, the piping should be connected (use sealing washers), until air-free grease emerges at the ends of the piping. Once the bearings to be lubricated are also filled with grease, the piping can be connected to the lubricating points. The system can be started after adjustment of the required lubricant quantity.

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## Setting the Delivery Rate

At full capacity, corresponding to 0.1cc lubricant per discharge and piston stroke, an arrow on the discharge identification points to the number 4 stamped on the head of the setting spindle. By turning the spindle clockwise the delivery is reduced. Reduction below 1/4 of the maximum delivery (setting 1) should be avoided. In case of pumps with 7 to 12 outlets, the delivery rate of two vertically arranged outlets is adjusted by means of an adjusting spindle. The second arrow of the discharge identification points to the outlet bore relating to the setting spindle. By changing the drive speed or the internal gear ratio of the pump or also by changing the altitude of the oscillating lever, the output volume of all outlets and thus the overall output volume is changed.

### ATTENTION

Customer should specify 1 or 2 outlets at time of order.

### WARNING

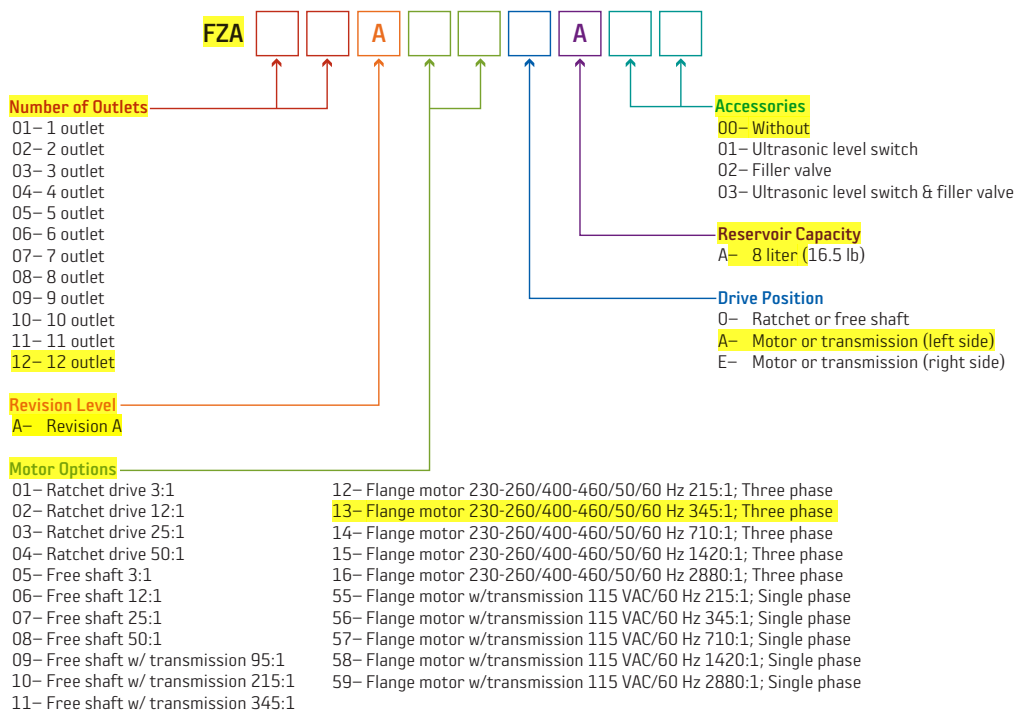
Do not attempt to simply plug an outlet as this may damage the pump.

## Maintenance

### Filling the Grease Tank

As soon as approximately 3/4 of the tank capacity are consumed, the grease tank should be refilled. The grease level should never drop to a level where the feed screw is visible, because air may otherwise penetrate into the piping. During filling, care should be taken to ensure that only clean grease is used and no dirt penetrates into the tank when the cover is opened, because this may result in malfunctioning. Filling via a filling valve and firmly installed pipelines is at all events to be preferred.

## How to Order



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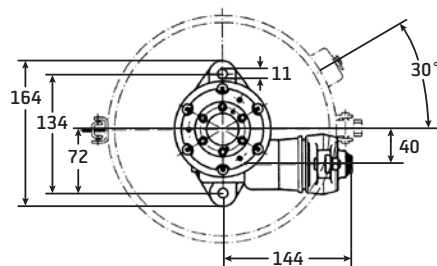
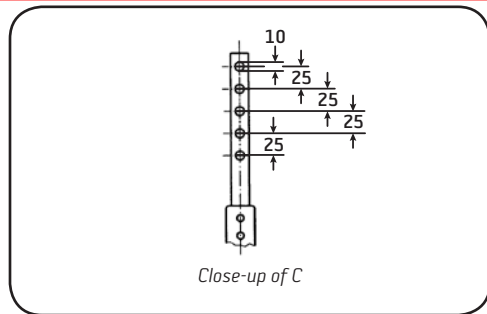
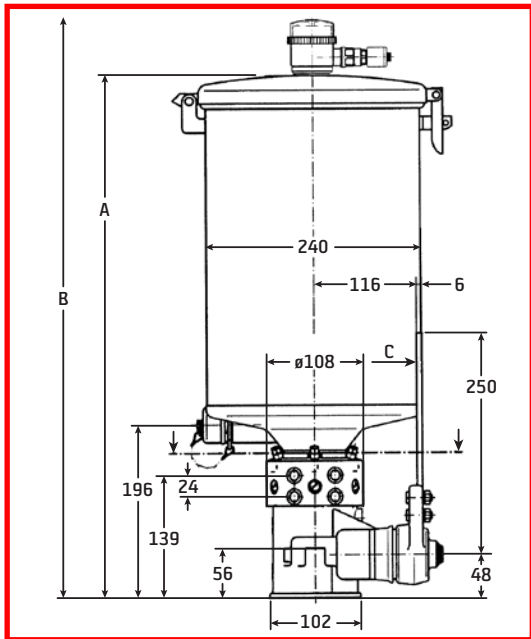
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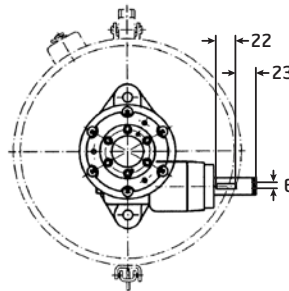
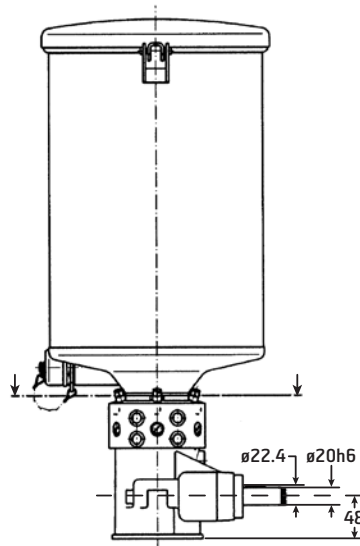


## Dimensional Schematics

### Ratchet Drive



### Free Shaft



Measurements shown in millimeters.

Reservoir Capacity	A	B*
2.5 liter	330mm	540mm
8 liter	555mm	765mm

\* Height with the lid open.

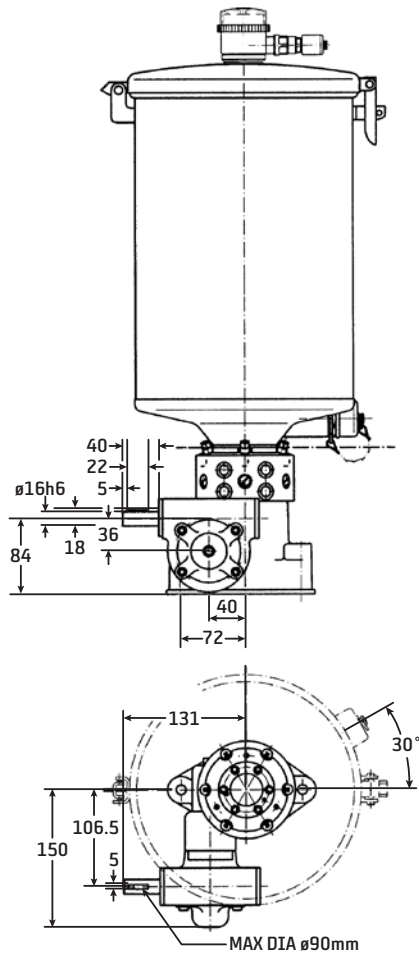
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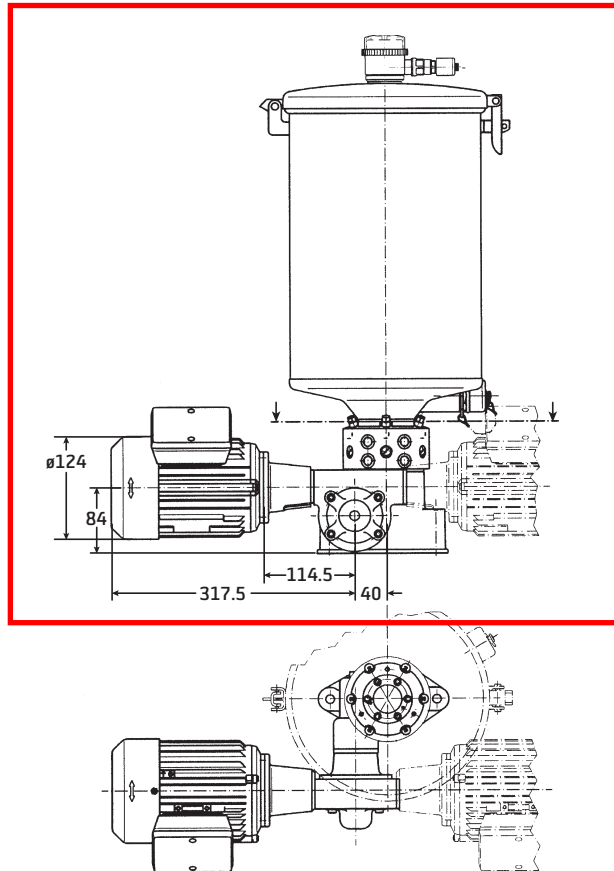
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**Free Shaft with Transmission**



**Flange Motor**

Measurements shown in millimeters.



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# marathon™

## Series DMA2

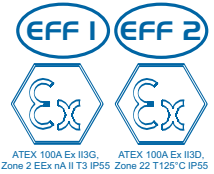
EFF 1 EFF 2



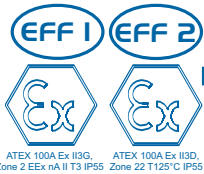
# DMA2 - Aluminium motor

English

- Premium (EFF2) & High (EFF1) Efficiency aluminium motor
  - IEC size 56 ~ 160, Iso F (B-rise), IP55
  - Removable feet (Multi mount)
  - Premium Bearings (C&U)
- ⊙ Available with terminal box LHS or RHS for DMA2 80 ~ 160
- ⊙ Available as "Ex zone 2 / 22" motor for DMA2 56 ~ 132
- ⊙ Available in marine execution acc. IEC 92.301 for DMA2 56 ~ 132
- ⊙ Available in CSA/UL Execution for DMA2 56 ~ 132



# DMA2 - Aluminium Motor



- Premium (EFF2) & High (EFF1) Efficiency Aluminium Motoren -
- IEC Baugröße 56 ~ 132, Iso F (nach B), IP55 -
- Abschraubbare FüÙe (Multi mount) -
- Premium Qualitätslagerung (C&U) -

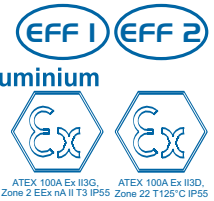
- Möglichkeit mit Klemmenkasten links oder rechts für Bg. DMA2 80 ~ 160 ⊙
- Möglichkeit für "Ex zone 2 / 22" Motor für DMA2 56 ~ 132 ⊙
- Möglichkeit für Schiffsausführung laut IEC 92.301 für DMA2 56 ~ 132 ⊙
- Möglichkeit für CSA/UL Ausführung für DMA2 56 ~ 132 ⊙

Deutsch

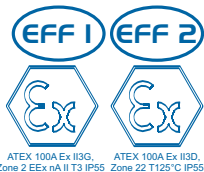
# DMA2 - Moteur Aluminium

Français

- Moteurs "Premium" (EFF2) & "High" (EFF1) Efficiency en Aluminium
  - Hauteur d'axe 56 ~ 160, classe F (échauffement B), IP55
  - Pattes amovibles (Multi mount)
  - Roulement de première qualité (C&U)
- ⊙ Possibilité avec boîtes à bornes sur le côté pour les HA DMA2 80 ~ 160
- ⊙ Possibilité moteurs "Ex zone 2 / 22" pour DMA2 56 ~ 132
- ⊙ Possibilité moteurs exécution marine selon IEC 92.301 pour DMA2 56 ~ 132
- ⊙ Possibilité moteurs exécution CSA/UL pour DMA2 56 ~ 132



# DMA2 - Motor en Aluminio

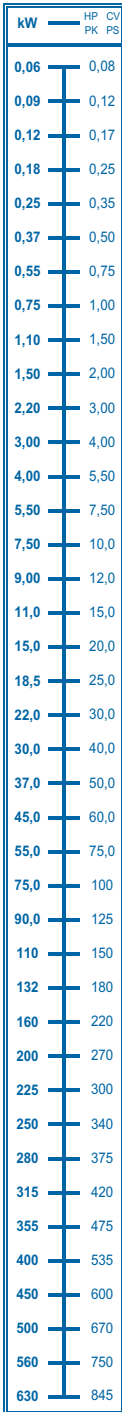


- Premium (EFF2) & High (EFF1) eficiencia motor de aluminio -
- IEC Tamaño 56 ~ 160, Iso F (B-rise), IP55 -
- Patas desmontables (Multi mount) -
- Calidad de rodamientos Premium (C&U) -

- Disponibile con caja de bornes derecha o izquierda DMA2 80 ~ 160 ⊙
- Disponibile para motores de "Ex zone 2 / 22" DMA2 56 ~ 132 ⊙
- Disponibile para motores de servicio marina con IEC 92.301 DMA2 56 ~ 132 ⊙
- Disponibile para motores de servicio CSA/UL DMA2 56 ~ 132 ⊙

Español

# Types of Construction



Types of construction	EN60034-1 code I	1992 code II	Available standard types
	IM B3	IM 1001	DMA2 56 - 160
	IM B6	IM 1051	DMA2 56 - 160
	IM B7	IM 1061	DMA2 56 - 160
	IM B8	IM 1071	DMA2 56 - 160
	IM B5	IM 3001	DMA2 56 - 160
	IM B14	IM 3601	(small) DMA2 56 - 160 (large) DMA2 56 - 132
	IM B35	IM 2001	DMA2 56 - 160
	IM B34	IM 2101	(small) DMA2 56 - 160 (large) DMA2 56 - 132
	IM V1	IM 3011	DMA2 56 - 160

Types of construction	EN60034-1 code I	1992 code II	Available standard types
	IM V5	IM 1011	DMA2 56 - 160
	IM V18	IM 3611	(small) DMA2 56 - 160 (large) DMA2 56 - 132
	IM V15	IM 2011	DMA2 56 - 160
	IM V15	IM 2111	(small) DMA2 56 - 160 (large) DMA2 56 - 132
	IM V6	IM 1031	DMA2 56 - 160
	IM V3	IM 3031	DMA2 56 - 160
	IM V19	IM 3631	(small) DMA2 56 - 160 (large) DMA2 56 - 132
	IM V36	IM 2031	DMA2 56 - 160
	IM V36	IM 2131	(small) DMA2 56 - 160 (large) DMA2 56 - 132

Starting torque and nominal torque	Anlaufmoment und Nennmoment	Moment démarrage et moment nominal	Par de arranque y par nominal
<p><math>M_S</math>: The starting torque is the mechanical Torque developed by the motor with the rotor blocked.</p> <p><math>M_N</math>: The nominal torque, is the mechanical torque that the motor is developing when it is giving its nominal power and speed.</p>	<p><math>M_A</math>: Das Anlaufmoment ist das mechanische Drehmoment, welche bei stehendem läufer gegeben ist.</p> <p><math>M_N</math>: Das Nennmoment ist das mechanische Drehmoment, welches der Motor bei abgabe Seiner Nennleistung erbringt.</p>	<p><math>M_S</math>: Couple de démarrage et couple nominal ; développés par le moteur avec le rotor bloqué.</p> <p><math>M_N</math>: Le moment nominal est le moment mécanique que le moteur développe à puissance nominal.</p>	<p><math>M_S</math>: El par de arranque es le par mecánico que desarrolla el motor estando el rotor bloqueado o parado.</p> <p><math>M_N</math>: El par nominal es el par mecánico que está motor desarrollando el motor cuando está dando su potencia nominal.</p>

Starting current and nominal current	Anlaufstromstärke und Nennstromstärke	Courant démarrage et courant nominal	Intensidad de arranque e intensidad nominal
<p><math>I_S</math>: The starting current is the current that the motor is developing when the rotor is blocked.</p> <p><math>I_N</math>: The nominal current is the current that the motor is developing at nominal power and nominal voltage.</p>	<p><math>I_A</math>: Die anlaufstromstärke ist der strom den der Motor bei stehendem läufer aufnimmt.</p> <p><math>I_N</math>: Die Nennstromstärke ist der Strom, den der Motor bei erreichen seiner Nennleistung bei Nennspannung aufnimmt.</p>	<p><math>I_S</math>: Le courant démarrage est l'ampérage que le moteur consume avec le rotor bloqué.</p> <p><math>I_N</math>: Le courant nominal est l'ampérage que le moteur consume à puissance nominal à tension nominal.</p>	<p><math>I_S</math>: la intensidad de arranque es la que consume el motor a rotor parado.</p> <p><math>I_N</math>: Intensidad nominal es la que absorbe el motor cuando está desarrollando su potencia nominal conectada a la tensión</p>

# DMA2 : 2 - Pole; Polig; Pôle; Polos - 3000 min<sup>-1</sup>

1,10kW ~ 7,50kW :



Dutchi Motors® motor type  DMA2 = aluminium series 2 Premium efficiency motor  230/400V - 50Hz 400/690V - 50Hz  Frame size / Baugröße Hauteur d'axe / Tamaño de carcassa  EN60034 (IEC-DIN)	Rated output power	Rated current at			Full-load speed rpm	Full-load power factor	Full-load efficiency		Full-load torque	Starting current	Starting torque	Pull-out torque	Sound pressure level	Moment of inertia	Weight foot mounted
	Nenn-Leistung	Nennstrom bei			Nenn-drehzahl min <sup>-1</sup>	Leistungs-faktor	Wirkungsgrad		Drehkraft	Anlaufstrom I <sub>a</sub> /I <sub>N</sub>	Anlauf-moment M <sub>a</sub> /M <sub>N</sub>	Kipp-zu-Nennmoment M <sub>p</sub> /M <sub>N</sub>	Schall-druckpegel	Trägheits-moment J = 1/2GD <sup>2</sup>	Gewicht Fullaus-führung
	Puissance Nominal	Courant nominale à			Vitesse nominale tr/m	Facteur de puissance	Rendement		Couple	Courant de démarrage I <sub>a</sub> /I <sub>N</sub>	Couple de démarrage M <sub>a</sub> /M <sub>N</sub>	Couple maximum C <sub>p</sub> /C <sub>N</sub>	Niveau de pression acoustique	Moment d'inertie J = 1/2GD <sup>2</sup>	Masse (moteur à pattes)
	Potencia Nominal	Intensidad nominal à			Velocidad nominal r/min	Factor de potencia	Rendimiento		Esfuerzo de torsión	Intensidad de arranque I <sub>a</sub> /I <sub>N</sub>	Par de arranque T <sub>a</sub> /T <sub>N</sub>	Par maximal T <sub>max</sub> /T <sub>N</sub>	Nivel de presión sana	Momento de inercia J = 1/2GD <sup>2</sup>	Peso (motor con patas)
	P <sub>e</sub> kW	380V I <sub>a</sub> A	400V I <sub>N</sub> A	420V I <sub>b</sub> A	n <sub>N</sub> min <sup>-1</sup>	cos φ	100% η %	75% η %	M <sub>N</sub>					dB(A) (EN60034-9)	kgm <sup>2</sup>
DMA2 56 K 2	0,09	0,32	0,30	0,29	2.695	0,69	67,5	64,0	0,32	3,9	3,0	3,0	50,0	0,00005	3,2
DMA2 56 G 2	0,12	0,40	0,38	0,36	2.700	0,70	68,8	67,2	0,43	3,9	2,7	3,2	50,0	0,00006	3,4
DMA2 63 K 2	0,18	0,59	0,56	0,53	2.530	0,71	68,1	69,7	0,68	3,1	2,0	2,7	50,0	0,00016	3,9
DMA2 63 G 2	0,25	0,78	0,74	0,70	2.585	0,72	71,4	72,4	0,93	4,1	3,0	3,2	50,0	0,00018	4,4
DMA2 71 K 2	0,37	1,02	0,97	0,92	2.805	0,82	71,2	70,2	1,26	5,7	3,5	3,2	54,0	0,00033	6,2
DMA2 71 G 2	0,55	1,39	1,32	1,26	2.820	0,81	78,5	77,6	1,87	6,3	3,4	3,5	54,0	0,00046	6,3
DMA2 80 K 2	0,75	1,88	1,79	1,70	2.875	0,79	78,8	77,0	2,50	6,9	3,3	3,5	57,0	0,00085	8,3
DMA2 80 G 2	1,10	2,62	2,49	2,37	2.850	0,82	80,1	79,2	3,69	7,1	3,2	3,2	57,0	0,00011	9,0
DMA2 90 S 2	1,50	3,58	3,40	3,24	2.860	0,81	80,7	81,9	5,01	5,8	2,7	3,2	62,0	0,00146	12,5
DMA2 90 L 2	2,20	4,91	4,66	4,44	2.855	0,84	82,9	83,3	7,36	7,5	3,3	3,3	62,0	0,00185	14,0
DMA2 100 L 2	3,00	6,36	6,04	5,75	2.870	0,86	85,1	85,4	9,99	7,8	3,0	3,5	66,0	0,00325	20,5
DMA2 100 Lx -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DMA2 112 M 2	4,00	7,83	7,44	7,09	2.865	0,92	85,9	86,8	13,3	7,2	2,5	3,2	67,0	0,00578	26,0
DMA2 132 S 2	5,50	11,0	10,5	10,0	2.900	0,88	87,3	87,1	18,1	7,6	2,4	3,8	70,0	0,01222	40,0
DMA2 132 Sx 2	7,50	14,5	13,8	13,2	2.870	0,90	88,4	89,2	25,0	6,9	2,2	3,5	70,0	0,01378	44,0
DMA2 132 M 2	9,00	17,8	17,0	16,1	2.870	0,89	87,4	88,2	30,0	7,4	2,6	3,5	73,0	0,01456	49,0
DMA2 132 Mx 2	11,0	21,1	20,1	19,1	2.890	0,90	88,6	89,1	36,4	7,8	2,6	3,7	76,0	0,01535	54,0
DMA2 160 M 2	11,0	19,7	18,7	17,8	2.930	0,90	90,4	89,4	35,9	7,5	2,2	2,3	83,0	0,05500	69,2
DMA2 160 Mx 2	15,0	26,4	25,1	23,9	2.930	0,90	91,2	90,8	48,9	7,5	2,2	2,3	83,0	0,07500	78,0
DMA2 160 L 2	18,5	32,4	30,8	29,3	2.930	0,91	91,9	91,5	60,3	7,5	2,2	2,3	83,0	0,12400	88,5

# DMA2 : 4 - Pole; Polig; Pôle; Polos - 1500 min<sup>-1</sup>

1,10kW ~ 7,50kW :



Dutchi Motors® motor type  DMA2 = aluminium series 2 Premium efficiency motor  EN60034 (IEC-DIN)	Rated output power	Rated current at			Full-load speed rpm	Full-load power factor	Full-load efficiency		Full-load torque	Starting current	Starting torque	Pull-out torque	Sound pressure level	Moment of inertia	Weight foot mounted
	Nenn-Leistung	Nennstrom bei			Nenn-drehzahl min <sup>-1</sup>	Leistungs-faktor	Wirkungsgrad		Drehkraft	Anlaufstrom I <sub>a</sub> /I <sub>N</sub>	Anlauf-moment M <sub>a</sub> /M <sub>N</sub>	Kipp-zu-Nennmoment M <sub>p</sub> /M <sub>N</sub>	Schall-druckpegel	Trägheits-moment J = 1/2GD <sup>2</sup>	Gewicht Fullaus-führung
	Puissance Nominal	Courant nominale à			Vitesse nominale tr/m	Facteur de puissance	Rendement		Couple	Courant de démarrage I <sub>a</sub> /I <sub>N</sub>	Couple de démarrage M <sub>a</sub> /M <sub>N</sub>	Couple maximum C <sub>p</sub> /C <sub>N</sub>	Niveau de pression acoustique	Moment d'inertie J = 1/2GD <sup>2</sup>	Masse (moteur à pattes)
	Potencia Nominal	Intensidad nominal à			Velocidad nominal r/min	Factor de potencia	Rendimiento		Esfuerzo de torsión	Intensidad de arranque I <sub>a</sub> /I <sub>N</sub>	Par de arranque T <sub>a</sub> /T <sub>N</sub>	Par maximal T <sub>max</sub> /T <sub>N</sub>	Nivel de presión sana	Momento de inercia J = 1/2GD <sup>2</sup>	Peso (motor con patas)
	P <sub>e</sub> kW	380V I <sub>a</sub> A	400V I <sub>N</sub> A	420V I <sub>b</sub> A	n <sub>N</sub> min <sup>-1</sup>	cos φ	100% η %	75% η %	M <sub>N</sub>					dB(A) (EN60034-9)	kgm <sup>2</sup>
DMA2 56 K 4	0,06	0,27	0,26	0,25	1.380	0,59	60,2	54,2	0,42	3,0	2,8	3,3	45,0	0,00008	3,2
DMA2 56 G 4	0,09	0,40	0,38	0,36	1.340	0,63	59,1	55,8	0,65	3,0	2,6	3,2	45,0	0,00010	3,4
DMA2 63 K 4	0,12	0,55	0,52	0,50	1.355	0,64	57,1	53,1	0,85	2,9	2,2	3,0	45,0	0,00032	4,0
DMA2 63 G 4	0,18	0,76	0,72	0,69	1.215	0,69	57,3	53,6	1,42	2,7	3,0	2,6	45,0	0,00039	3,5
DMA2 71 K 4	0,25	0,79	0,75	0,71	1.400	0,73	69,4	67,3	1,71	4,6	2,8	3,1	46,0	0,00063	6,1
DMA2 71 G 4	0,37	1,07	1,02	0,97	1.395	0,73	71,1	70,5	2,54	5,0	3,2	3,4	46,0	0,00071	6,7
DMA2 80 K 4	0,55	1,53	1,45	1,38	1.400	0,74	76,5	75,2	3,76	4,8	2,6	2,9	47,0	0,00131	8,9
DMA2 80 G 4	0,75	2,12	2,01	1,91	1.370	0,73	75,2	72,6	5,23	4,2	2,5	2,7	47,0	0,00148	9,6
DMA2 90 S 4	1,10	2,81	2,67	2,54	1.400	0,76	79,8	80,0	7,51	5,2	2,5	2,7	51,0	0,00212	12,5
DMA2 90 L 4	1,50	3,76	3,57	3,40	1.410	0,77	81,0	81,2	10,2	5,8	3,1	2,9	51,0	0,00287	15,0
DMA2 100 L 4	2,20	5,15	4,89	4,66	1.425	0,80	82,9	83,1	14,8	6,2	2,1	3,0	52,0	0,00606	19,5
DMA2 100 Lx 4	3,00	6,80	6,46	6,15	1.430	0,81	84,5	84,7	20,0	7,3	3,0	3,7	52,0	0,00779	23,0
DMA2 112 M 4	4,00	8,64	8,21	7,82	1.440	0,83	86,2	87,0	26,5	7,0	2,3	3,4	55,0	0,01176	29,0
DMA2 132 S 4	5,50	11,3	10,8	10,3	1.435	0,86	87,5	87,9	36,6	6,5	2,0	2,8	57,0	0,02465	43,5
DMA2 132 Sx -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DMA2 132 M 4	7,50	15,0	14,3	13,6	1.445	0,87	88,6	89,4	49,6	7,7	2,4	3,6	57,0	0,03301	53,5
DMA2 132 Mx 4	9,00	19,2	18,3	17,4	1.440	0,82	88,8	89,5	59,7	8,0	3,6	3,5	59,0	0,03965	60,0
DMA2 132 My 4	11,0	23,0	21,8	20,8	1.440	0,83	88,8	89,5	73,0	7,6	2,6	3,3	62,0	0,04251	66,0
DMA2 160 M 4	11,0	20,5	19,5	18,6	1.460	0,85	90,6	88,8	72,0	7,0	2,3	2,3	72,0	0,07470	72,5
DMA2 160 Mx -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DMA2 160 L 4	15,0	27,6	26,2	25,0	1.460	0,85	91,5	90,3	98,1	7,0	2,3	2,3	72,0	0,09180	85,6

All technical details are based on 400V/50Hz; Alle Angaben auf Basis von 400V/50Hz; Tous les détails techniques selon 400V/50Hz; Todos los datos técnicos según 400V/50Hz.

## DMA2 : Efficiency; Wirkungsgrad; Rendement; Intensidad

Dutch Motors <sup>®</sup> motor type  DMA2 = aluminium series 2 Premium efficiency motor  Frame size Baugröße Hauteur d'axe Tamaño de carcassa  EN60034 (IEC-DIN)	rated output power full-load efficiency 2 Pole - 3000 min. <sup>-1</sup>				rated output power full-load efficiency 4 Pole - 1500 min. <sup>-1</sup>				rated output power full-load efficiency 6 Pole - 1000 min. <sup>-1</sup>				rated output power full-load efficiency 8 Pole - 750 min. <sup>-1</sup>							
	Nenn-Leistung Wirkungsgrad 2 Polig - 3000 min. <sup>-1</sup>				Nenn-Leistung Wirkungsgrad 4 Polig - 1500 min. <sup>-1</sup>				Nenn-Leistung Wirkungsgrad 6 Polig - 1000 min. <sup>-1</sup>				Nenn-Leistung Wirkungsgrad 8 Polig - 750 min. <sup>-1</sup>							
	Puissance Nominal Rendement 2 Pôles - 3000 min. <sup>-1</sup>				Puissance Nominal Rendement 4 Pôles - 1500 min. <sup>-1</sup>				Puissance Nominal Rendement 6 Pôles - 1000 min. <sup>-1</sup>				Puissance Nominal Rendement 8 Pôles - 750 min. <sup>-1</sup>							
	Potencia Nominal Rendimiento 2 Polos - 3000 min. <sup>-1</sup>				Potencia Nominal Rendimiento 4 Polos - 1500 min. <sup>-1</sup>				Potencia Nominal Rendimiento 6 Polos - 1000 min. <sup>-1</sup>				Potencia Nominal Rendimiento 8 Polos - 750 min. <sup>-1</sup>							
	P <sub>N</sub> kW	125% η	100% η	75% η	50% η	P <sub>N</sub> kW	125% η	100% η	75% η	50% η	P <sub>N</sub> kW	125% η	100% η	75% η	50% η	P <sub>N</sub> kW	125% η	100% η	75% η	50% η
DMA2 56 K	0,09	66,4	67,5	64,0	57,5	0,06	61,3	60,2	54,2	47,0	-	-	-	-	-	-	-	-	-	-
DMA2 56 G	0,12	65,8	68,8	67,2	60,7	0,09	59,1	59,1	55,8	47,1	-	-	-	-	-	-	-	-	-	-
DMA2 63 K	0,18	67,0	68,1	69,7	65,4	0,12	59,3	57,1	53,1	44,1	-	-	-	-	-	-	-	-	-	-
DMA2 63 G	0,25	67,3	71,4	72,4	68,8	0,18	55,5	57,3	53,6	43,9	-	-	-	-	-	-	-	-	-	-
DMA2 71 K	0,37	70,3	71,2	70,2	64,6	0,25	68,8	69,4	67,3	60,6	0,18	64,8	65,4	63,9	56,0	-	-	-	-	-
DMA2 71 G	0,55	77,8	78,5	77,6	67,9	0,37	69,3	71,1	70,5	64,0	0,25	66,2	64,3	60,8	51,9	-	-	-	-	-
DMA2 80 K	0,75	79,2	78,8	77,0	71,2	0,55	75,5	76,5	75,2	69,5	0,37	64,0	65,7	63,5	55,9	0,18	59,2	56,9	52,8	43,0
DMA2 80 G	1,10	79,3	80,1	79,2	75,0	0,75	75,2	75,2	72,6	65,9	0,55	62,4	66,5	66,3	61,6	0,25	60,8	59,6	55,8	46,9
DMA2 90 S	1,50	77,4	80,7	81,9	80,3	1,10	77,4	79,8	80,0	76,7	0,75	69,0	70,0	68,9	62,9	0,37	65,3	64,5	61,1	53,2
DMA2 90 L	2,20	81,0	82,9	83,3	81,4	1,50	78,5	81,0	81,2	78,5	1,10	71,4	73,8	73,7	69,8	0,55	65,9	66,1	63,7	56,0
DMA2 100 L	3,00	83,8	85,1	85,4	83,1	2,20	81,1	82,9	83,1	80,3	1,50	75,9	78,4	79,0	75,8	0,75	71,2	70,4	67,3	59,6
DMA2 100 Lx	-	-	-	-	-	3,00	83,0	84,5	84,7	82,4	-	-	-	-	-	1,10	73,9	75,3	73,5	67,0
DMA2 112 M	4,00	83,6	85,9	86,8	86,1	4,00	84,4	86,2	87,0	85,7	2,20	77,7	80,9	81,5	79,6	1,50	73,5	76,0	75,1	70,0
DMA2 132 S	5,50	86,6	87,3	87,1	84,9	5,50	85,9	87,5	87,9	85,9	3,00	81,2	81,8	81,2	77,3	2,20	78,0	80,2	80,5	77,7
DMA2 132 Sx	7,50	86,5	88,4	89,2	88,7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DMA2 132 M	9,00	86,0	87,4	88,2	87,4	7,50	86,9	88,6	89,4	88,8	4,00	83,8	84,5	84,2	81,1	3,00	80,0	82,3	83,3	81,8
DMA2 132 Mx	11,0	87,2	88,6	89,1	87,9	9,00	87,3	88,8	89,5	88,6	5,50	84,4	85,0	84,5	81,5	-	-	-	-	-
DMA2 132 My	-	-	-	-	-	11,0	87,3	88,8	89,5	88,6	-	-	-	-	-	-	-	-	-	-
DMA2 160 M	11,0	89,1	90,4	89,4	88,5	11,0	89,3	90,6	88,8	85,3	7,50	87,1	88,3	88,3	87,8	4,00	82,7	83,8	83,8	82,4
DMA2 160 Mx	15,0	89,9	91,2	90,8	90,3	-	-	-	-	-	-	-	-	-	-	5,50	84,4	85,6	85,6	84,6
DMA2 160 L	18,5	90,6	91,9	91,5	90,5	15,0	90,3	91,5	90,3	89,6	11,0	88,2	89,5	90,1	89,2	7,50	86,3	87,5	88,3	87,3

## DMA2 : Bearings; Lagerung; Roulements; Rodamientos

Frame size  Achshöhe  Hauteur d'axe  Tamaño	Poles  Polzahl  Poles  Polos	Driving end; A-Seite Côté Avant; Lado Acpolo			Non driving end Côté Arrière		
		Ball Bearing	Regreasable Bearings	NU Bearing	Ball Bearing	Regreasable Bearings	V1 mounting
		Kugellager	Nachschmier Lagerung	Verstärkte Lagerung (NU)	Kugellager	Nachschmier Lagerung	Aufstellung IM V1
		Roulement standards	Prédisposition graissage	Roulement renforcé (NU)	Roulement standards	Prédisposition graissage	IM V1
		Rodamientos de bola	Rodamientos engrasables	Rodamientos de rodillo (NU)	Rodamientos de bola	Rodamientos engrasables	IM V1
DMA2 56	2 - 4	6201 2RZ	-	-	6201 2RZ	-	6201 2RZ
DMA2 63	2 - 4	6201 2RZ	-	-	6201 2RZ	-	6201 2RZ
DMA2 71	2 - 6	6202 2RZ	-	-	6202 2RZ	-	6202 2RZ
DMA2 80	2 - 8	6204 2RZ	-	-	6204 2RZ	-	6204 2RZ
DMA2 90	2 - 8	6205 2RZ	-	-	6205 2RZ	-	6205 2RZ
DMA2 100	2 - 8	6206 2RZ	-	-	6206 2RZ	-	6206 2RZ
DMA2 112	2 - 8	6306 2RZ	-	-	6306 2RZ	-	6306 2RZ
DMA2 132	2 - 8	6308 2RZ	-	-	6308 2RZ	-	6308 2RZ
DMA2 160	2 - 8	6311 ZZ C3	6311 C3	NU 311	6311 ZZ C3	6311 C3	6311 ZZ C3

## DMA2 : Terminal board; Klemmenbrett; Boite a bornes; Placa de bornes

Dimensions in mm		Abmessungen in mm					
Type	Amp.	L	B	H	S	T	
DMA2 56 / 63 / 71	10	43	27	28	17	M4	
DMA2 80 / 90 / 100	15	60	57	29	50	M5	
DMA2 112 / 132	25	75	65	36	65	M5	
DMA2 160	60	90	80	46,5	75	M6	