

# CUMEL DOCTOR DRIVES

## Type

DASM-1080 and DAKM-1080 according to the further specifications on the next page.

## Mechanical Design

- stroke length
 

Mod. A	16 mm ± 8 mm
Mod.0	16 mm ± 8 mm
Mod.1	20 mm ± 10 mm
	others on request
- stroke speed
 

	9 or 16 strokes/min
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- pushing force nom.
 

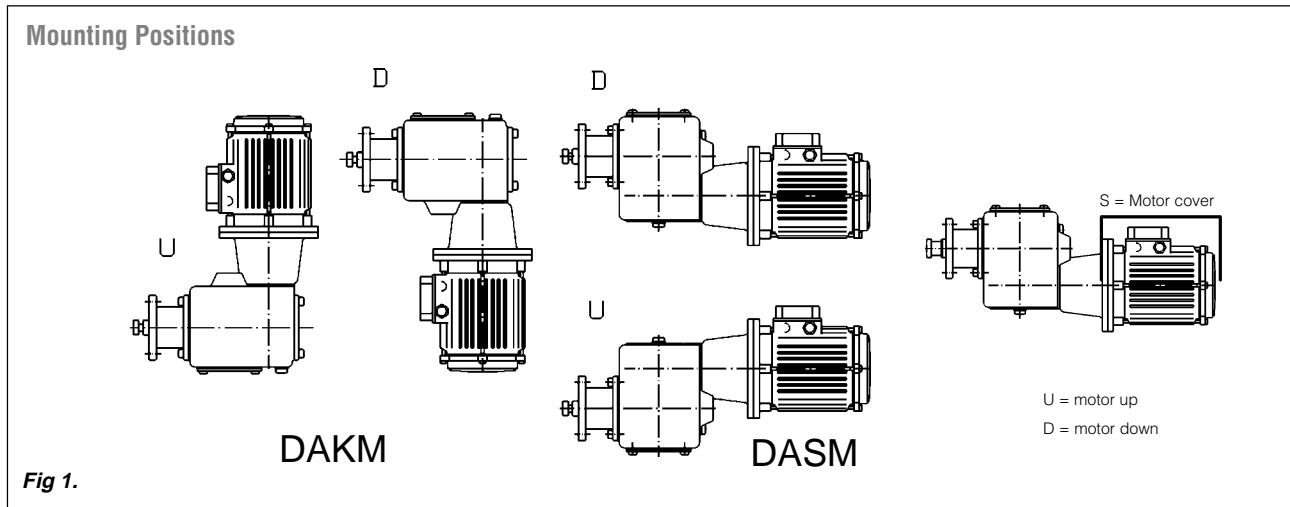
	15 000 N
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## Lubrication unit

The gearbox is permanently lubricated with synthetic grease. Usually there is no need for an oil change.

## Mechanical Connections

The connection flange to the machine is according to the drawings on the next page. Other flange designs are available on request. The motor flange is according to IEC 24F165, and there is a flexible coupling between the motor and the gearunit.



## Gearing

The oscillation travel is made by high precision worm gear unit. The worm shaft is made of case hardened steel, which is then hardened and ground. The worm wheel is of bronze. By using the fine finishing methods the wear of gearing is minimized.

## Assembly

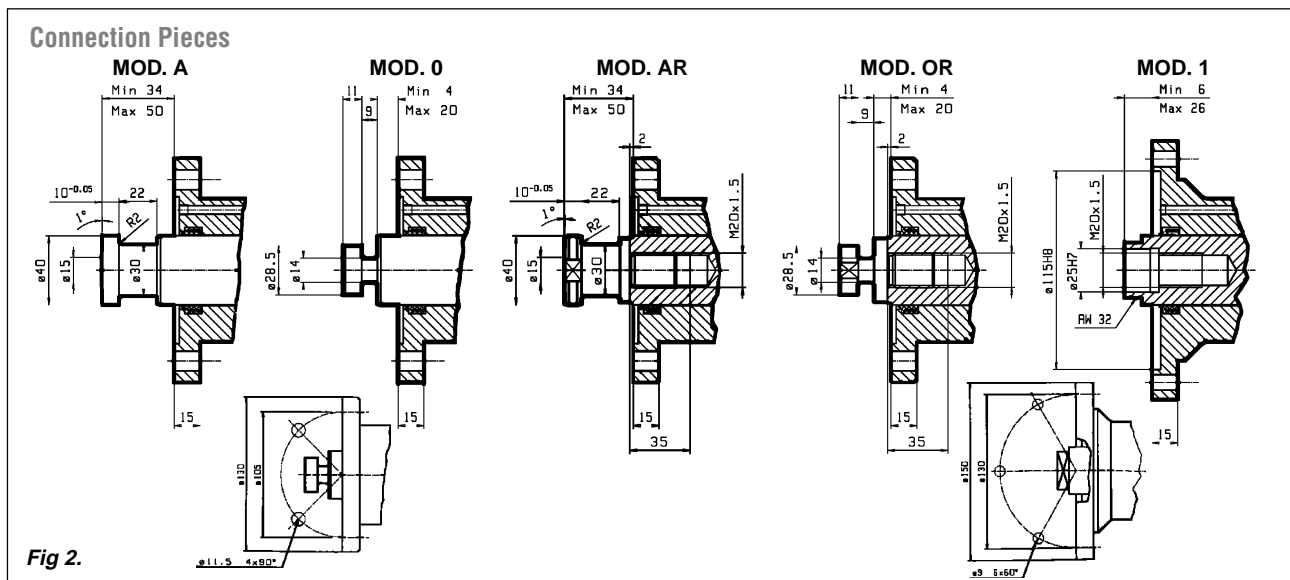
The gearbox is assembled with 4 pcs M-10 screws to the machine frame. The mounting positions are shown below. The assembly has to be made with great care to avoid any extra radial and axial load to the sliding shaft and to allow the shaft to move freely.

## Sliding Shaft Bearings and Sealings

The sliding shaft is supported from both ends with sliding bearings, which give the highest rigidity to the shaft. The sliding shaft has two special sealings.

## Materials

- Housing of grey cast iron
- The unit is painted with protective paint in color blue TM305KY5 (other colors on request)



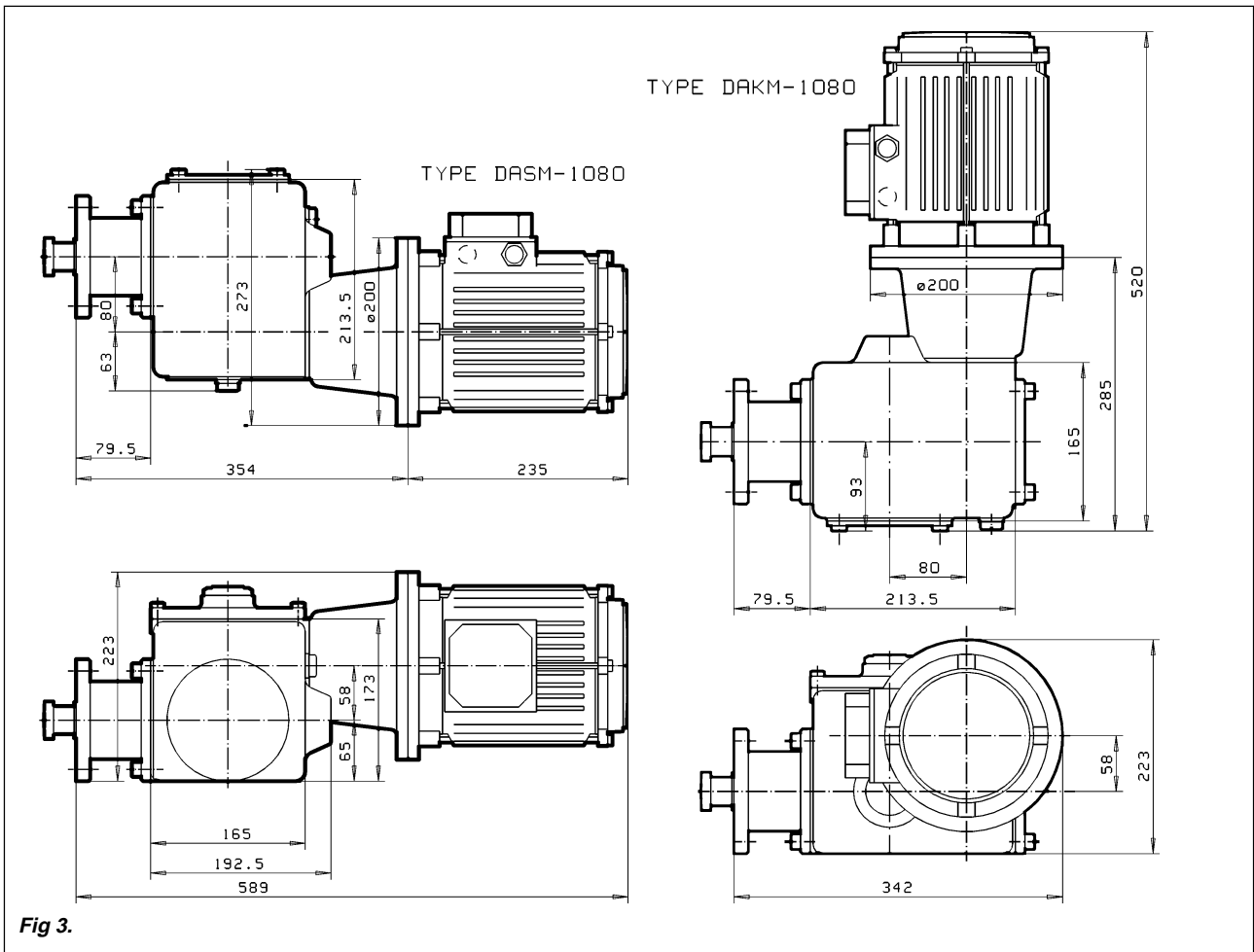
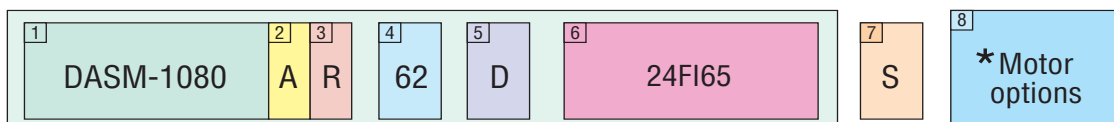
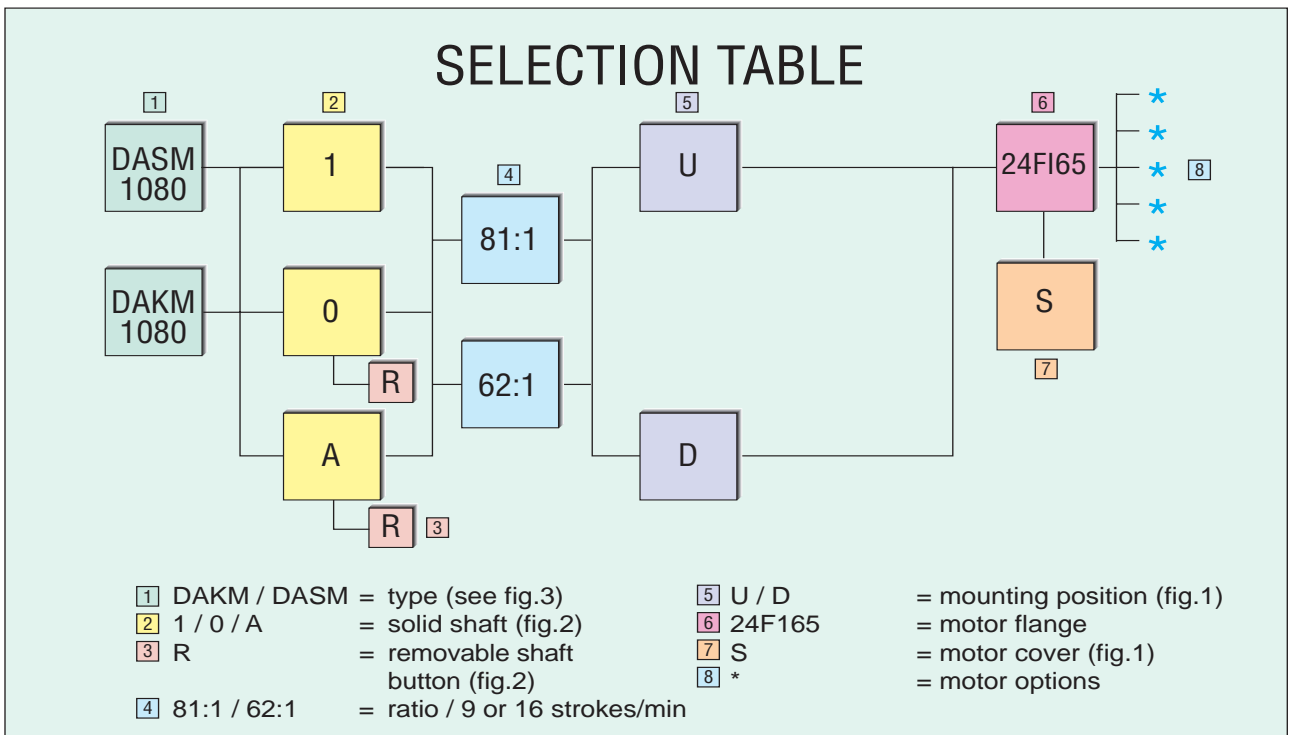
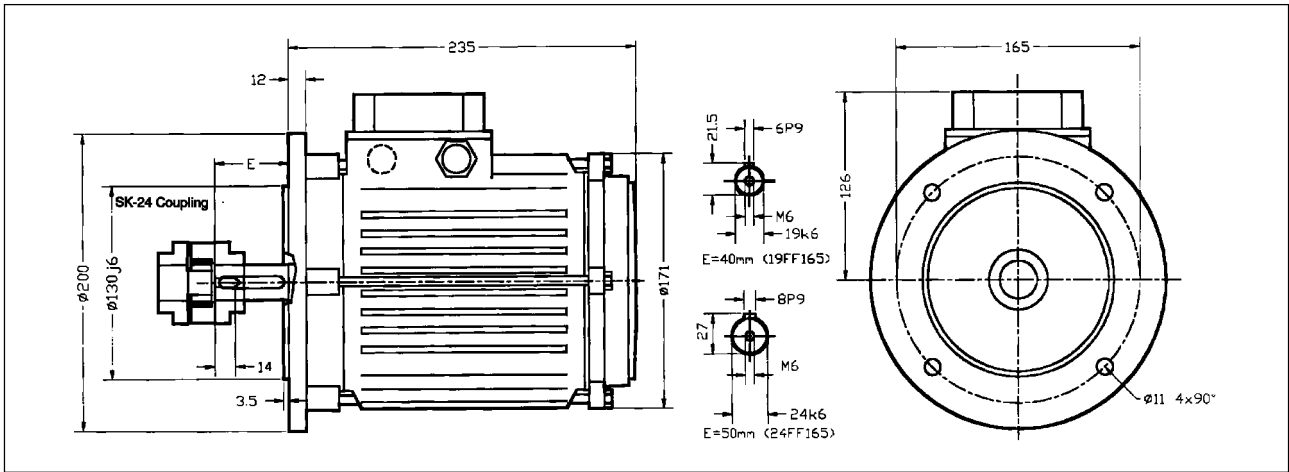


Fig 3.



# CUMEL DOCTOR DRIVE MOTORS



NTO135PB8B5U-120, MULTIVOLTAGE, 750 rpm, 0.28 kW, M1									
Voltage	U	V	380	500	660	690	440	575	
Frequency	f	Hz	50	50	50	50	60	60	
Connection			D	D	Y	Y	D	Y	
Power	P	kW	0,28	0,28	0,28	0,28	0,28	0,28	
Current	In	A	1,19	1,36	0,68	0,69	1,10	1,29	
Power Factor	cos		0,64	0,47	0,64	0,61	0,58	0,43	
Rotation Speed	n	r/min	670	715	670	680	840	870	

NTO135PB6B5U-90, MULTIVOLTAGE, 1000 rpm, 0.37 kW, M2									
Voltage	U	V	380	500	660	690	440	575	
Frequency	f	Hz	50	50	50	50	60	60	
Connection			D	D	Y	Y	D	Y	
Power	P	kW	0,37	0,37	0,37	0,37	0,37	0,37	
Current	In	A	1,04	1,02	0,60	0,59	0,92	0,95	
Power Factor	cos		0,76	0,61	0,76	0,74	0,72	0,57	
Rotation Speed	n	r/min	905	955	905	915	1120	1160	

NTO135PB6B5-VT, SINGLEVOLTAGE, 1000 rpm, 0.37 kW, M3									
Voltage	U	V	70	220	380	500	690	440	575
Frequency	f	Hz	50	50	50	50	50	60	60
Connection			Y	Y	Y	Y	Y	Y	Y
Power	P	kW	0,37	0,37	0,37	0,37	0,37	0,37	0,37
Current	In	A	6,20	2,00	1,04	1,02	0,63	0,92	0,95
Power Factor	cos		0,68	0,68	0,76	0,61	0,68	0,72	0,57
Rotation Speed	n	r/min	945	945	915	960	945	1130	1160

NTO135PB8B5-VT, SINGLEVOLTAGE, 750 rpm, 0.28 kW, M4									
Voltage	U	V	70	220	380	500	690	440	575
Frequency	f	Hz	50	50	50	50	50	60	60
Connection			Y	D	Y	Y	Y	Y	Y
Power	P	kW	0,28	0,28	0,28	0,28	0,28	0,28	0,28
Current	In	A	7,00	2,26	1,30	0,99	0,72	1,31	1,00
Power Factor	cos		0,58	0,58	0,58	0,58	0,58	0,51	0,51
Rotation Speed	n	r/min	670	670	670	670	670	823	823

Cumel is known as a manufacturer of high quality and reliable oscillators. This is one of the reasons several machine builders have chosen Cumel as their permanent supplier.

## Mechanical Design

### Cooling

Motors have no cooling fan.

### Connection Cable

The motors are delivered with a preassembled two meter long cable. Other lengths are available on request.

### Cable Entry

The cable sleeve packing is according to IP 68.

We also supply oscillators for retrofitting of the oscillating drives and are willing to provide our knowledge for the redesigning work. In addition to our standard delivery program we manufacture tailor-made oscillating drives.

### Coupling

The doctor drive units are equipped with special flexible coupling type SK 24. This coupling is designer for doctor drives. The spider element withstands well long-time high temperatures. These units are also available as spare units.

Name	Type	Code
Coupling halves	19 mm	4135450003
	24 mm	4135450002

Spider	for 90°C	4135450005
	for 120°C	4135450001

### Degree of Protection

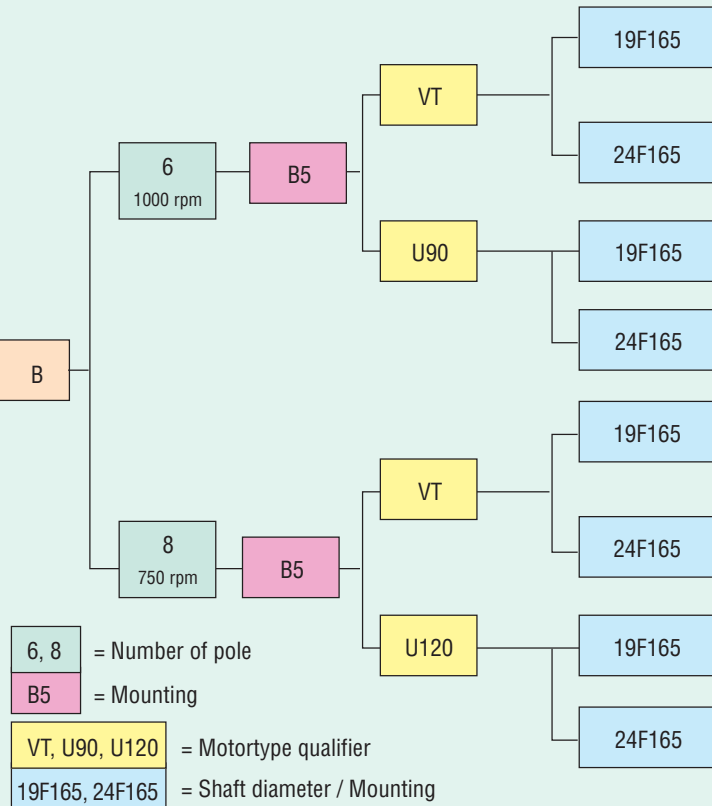
Motors comply with the degree of protection IP 67. All motors are tested to control the tightness of the whole construction.

## NTO - DOCTOR DRIVE MOTORS

Selection table

N	T	O	1	3	5	P	B
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N = Mechanical dim. according to IEC  
 T = Construction without cooling fan  
 O = Squirrel cage motor  
 1 3 5 = Frame size  
 P B = Packet length



### Types:

Cumel Doctor Drive - Motors		
Motor Code	Type	Voltage Range
M1	NTO135PB8B5U120-24F165	Multi voltage
M2	NTO135PB6B5U90-24F165	Multi voltage
M3	NTO135PB6B5VT-24F165	Specified voltage
M4	NTO135PB8B5VT-24F165	Specified voltage

### Bearings

Motors are fitted with high quality noise tested single-row deep-groove radial ball bearings. They are regreased by Cumel with special grease for high temperatures.

### Mechanical Connections

The run-out of the shaft, the concentricity of mounting spigot and the perpendicularity of the face of the flange are within the allowable limits according to IEC-72, 24FF165 or 19FF165.

### Materials

- The motor frames and the end-shields are pressure die-cast in a corrosion resistant aluminium alloy.
- Motors are painted with protective paint in color RAL.  
(other colors on request)
- Other motors on request.

