

AC helical geared motors  
6 to 90 W

# PANASONIC 3-Series Geared motors



**Lenze**  
**SELECTION**

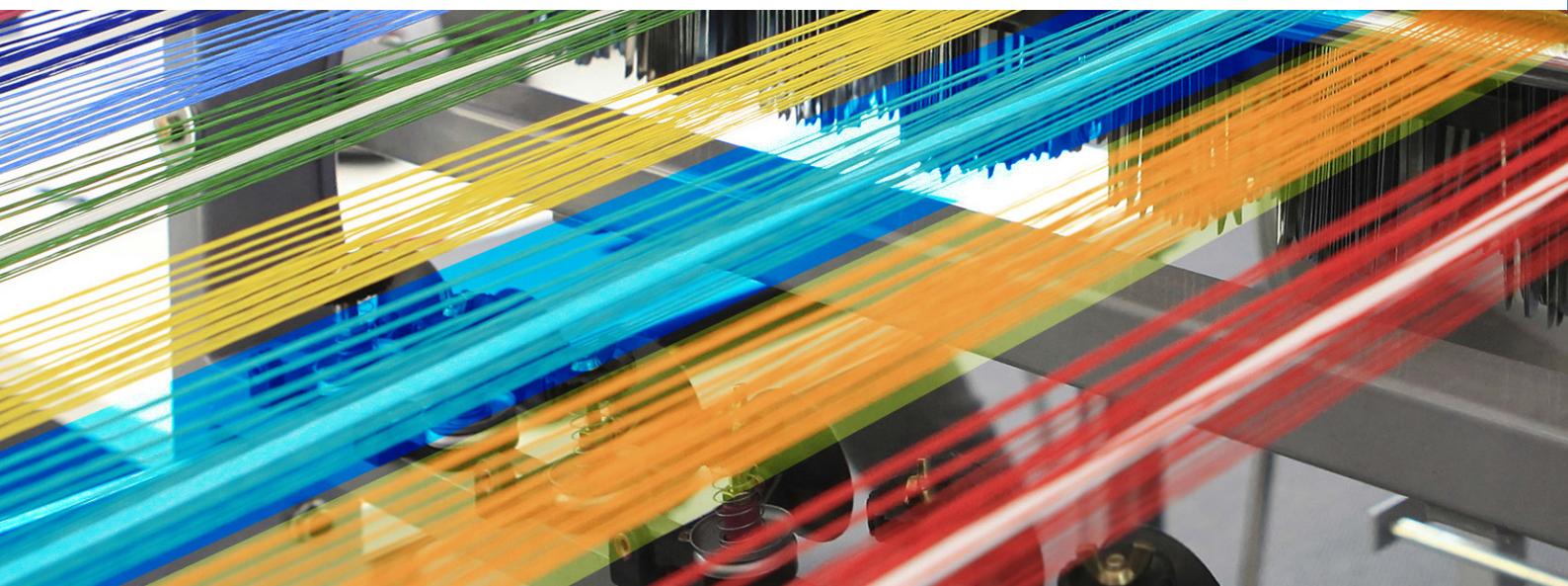


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Drive  
components  
are our world.



**Electromagnetically actuated clutches  
and brakes**



**Shaft couplings**



**Linear Motion**



**Belt drives**



**AC helical geared motors PANASONIC  
3-Series**



**Locking assemblies**



**Torque limiters**



**Universal joints**



**Hydraulic and electromechanical brakes**



**Hydraulic components**



**Cooling systems**



**Lenze**  
**SELECTION**

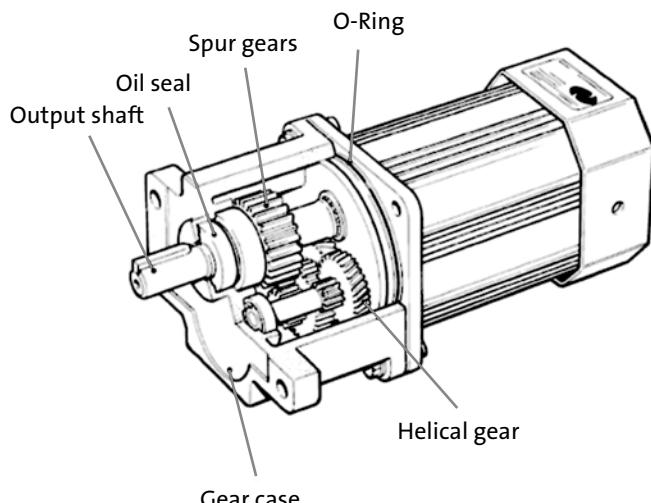
In electrical drive technology, a geared motor is a combination of a gearbox and an electric motor. The gearbox is a torque/speed converter. Depending on whether the output speed of the gearbox is higher or lower than the motor speed (input speed), one speaks of a ratio or reduction.

#### **Motor design**

The motors are AC current motors for mains operation or operation on a frequency inverter as a variable speed drive. All of the motors are 4-pole with a speed of 1500 rpm at 50 Hz, insulation class E and fitted with thermal protection (impedance current limitation at 6 W and thermal switch from 15 W) The models from 6 to 40 W are self-cooling. The geared motors with 60 and 90 W are cooled by a fan.

#### **Fields of application**

- Conveying belts
- Food processing machines
- Packaging machines
- Pumps
- Labelling machines
- Testing equipment



#### **Gearbox design**

The matching helical gearboxes are characterised by quality, durability (lubricated for life) and low-noise operation. Gearbox reductions from 3:1 to 200:1 are available. We also offer intermediate gearboxes with  $i=10$  to realise even higher ratios. If the intermediate gearboxes are used, a ratio of 2000:1 can thus be realised.



#### **The benefits at a glance**

- Compact design and high power
- Low-noise operation
- Gearboxes are lubricated for life and guarantee freedom from maintenance and a long service life
- CE/UL/cUL/CCC certified and RoHS conformity
- Power range from 6 to 90 W and torque up to 29.4 Nm
- Speed range from 500 rpm to 0.7 rpm
- IP 65 protection on request
- Complete unit in stock

**Load speed**

The actual output speed under load is typically 10–20% lower than the nominal speed. Motor speed – torque characteristics provide information on the speed/torque behaviour and are available on request. Nominal output speeds are based on the motor's nominal speed of 1,500 rpm

**Brake motors**

Brake motors have a built-in electromagnetically actuated spring-applied brake. This reduces the overrun time and creates a static braking torque. The run-on is between 2–4 revolutions. The brake is suitable for up to 6 switching operations a minute.

**Quick reversible motor**

When the motor is switched off, it is braked very quickly by the built-in, constant braking system. The overrun is essentially determined by the mass inertia and the type of load.

Motor power [W]	Braking torque [Ncm]	Overrun (revolutions)
6	0,59	5,0
15	1,27	4,5
25	1,47	5,5
40	3,92	6,0
60	3,92	6,0
90	3,92	6,0

	Geared motors, 3-phase Variable speed drive	Geared motors, 1-phase fixed speed	Geared motors, 1-phase quick reversible	Geared brake motors 1-phase/3-phase
				
<b>Supply voltage</b>	230 V and 400 V	230 V	230 V	230 V 400 V on request
<b>Output</b>	25 to 90 W	6 to 90 W	6 to 90 W	6 to 90 W
<b>Size</b>	80 mm to 90 mm	60 mm to 90 mm	60 mm to 90 mm	60 mm to 90 mm
<b>Operating mode</b>	S1 continuous operation	S1 continuous operation	S2 intermittent operation 30 min	6 and 15 W as well as 25 – 90 W/1-phase S2 intermittent operation 30 min  25 – 90 W/3-phase S1 continuous operation
<b>Further information</b>	<p>IP 54 protection</p> <p>3-phase motors provide a higher torque than single phase motors.</p> <p>The 230 V types allow variable speeds if an inverter is used.</p> <p>The 400 V types are designed for direct connection to the 3-phase mains.</p>	<p>These three-phase geared motors can be supplied with 1-phase 230V at 50 Hz for applications with a fixed speed</p> <p>The geared motors are compact, quiet and RoHS-compliant</p>	<p>Built-in constant friction brake system</p> <p>Shorter overrun and quick stop Ideal for quick reversible and start-stop applications</p> <p>The brake disk on the rotor is constantly braked with brake pads. If the motor is deenergised, this friction makes for a faster standstill.</p>	<p>Spring-applied brake as holding brake</p> <p>Built-in rectifier (supply voltage = motor voltage)</p> <p>The brake is released automatically when the motor is switched on, there is no friction. If the motor is switched off, the holding brake is once again applied.</p> <p>The overrun is approx. 2-4 revolutions, the brake is designed for up to 6 braking cycles a minute.</p>

	Gearbox design ... X	Gearbox design ... Z or Y	Gearbox design ... R or P
			
<b>Output</b>	6 to 40 W	60 to 90 W	60 to 90 W
<b>Gear reduction</b>	3:1 - 180:1	3:1 - 200:1	50:1 - 200:1
<b>Max. torque</b>	up to 9.8 Nm	up to 19.6 Nm	up to 29.4 Nm
<b>Flange mounting</b>	Square flange with stud bolt	Square flange with stud bolt (Z) Rectangular flange with lateral fastening (Y)	Square flange with stud bolt (R) Rectangular flange with lateral fastening (P).
<b>Further information</b>			Reinforced gearboxes (HT gearboxes) are used for higher ratios.

## Additional intermediate gearbox i = 10

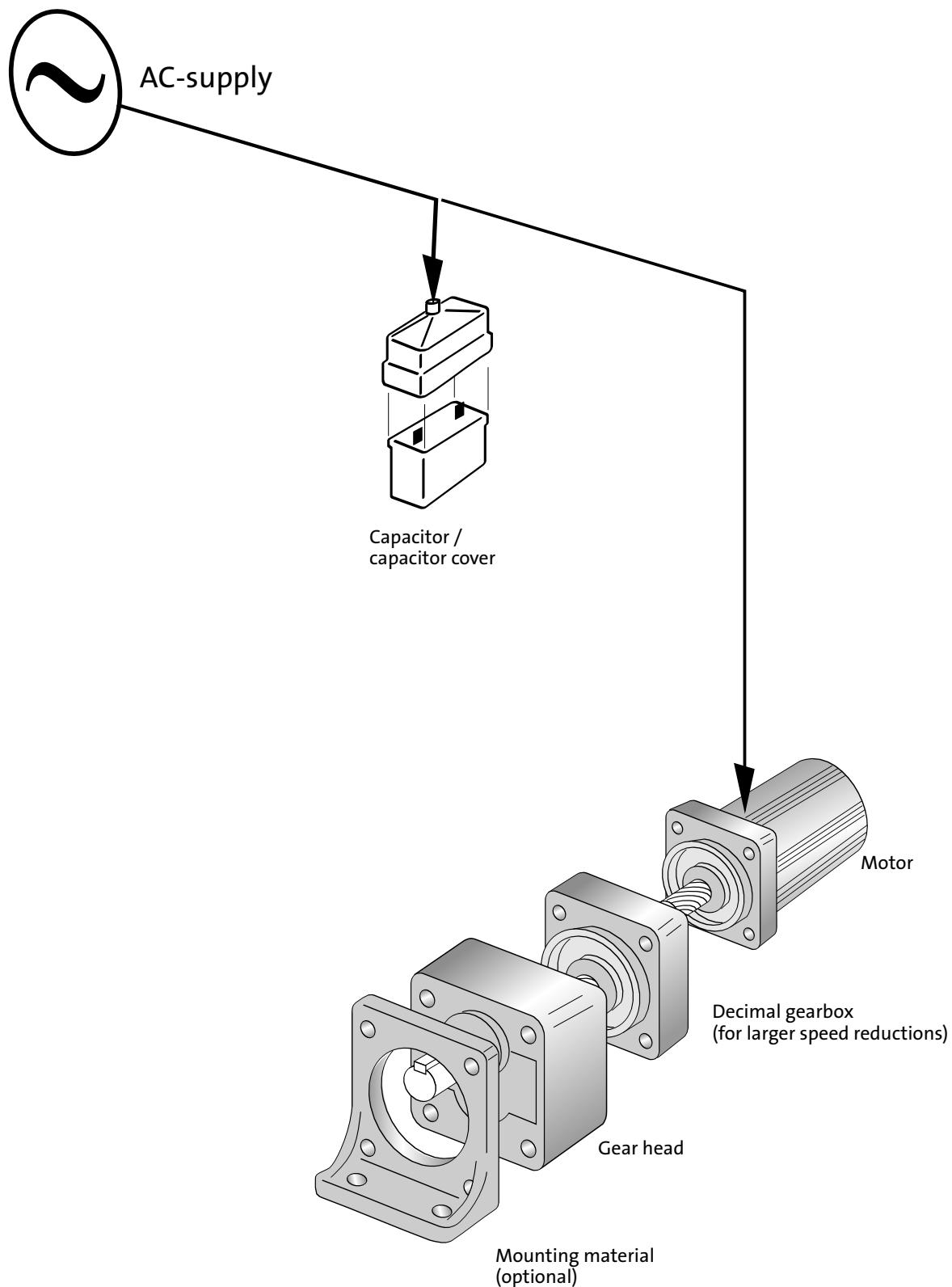
Intermediate gearboxes can be fitted for ratios > 180 or > 200.  
 If an intermediate gearbox is used, pay attention to the maximum torque of the upstream gearbox.



## Feet options

For all gearbox types with stud bolts can be fitted standard feet or side fixing feet.





## TECHNICAL FEATURES

- 3 x 400 V ± 10 % / 50 Hz
- S1 continuous operation
- IP 54 protection
- Overtemperature protector switch as NC contact
- CE/UL/cUL/CCC approval
- A sinus or du/dt filter is required for inverter operation

Geared motors					Type designation			Gearbox	Intermediate gearbox	Motor	Gearbox motor	Weight
Output	Output speed without load	Rated output speed	Rated output torque	Ratio	i <sub>ges</sub>	Type-no.	Type-no.	Type-no.	Order-no.	kg		
P <sub>n</sub>	n <sub>2</sub>	n <sub>2N</sub>	M <sub>2</sub>									
[Watt]	[1/min]	[1/min]	[Nm]									
25	500	442	0,4	3	MX8G 3B				PAN G3 025 MCG 500.0 XK1	2,5		
	300	266	0,7	5	MX8G 5B				PAN G3 025 MCG 300.0 XK1	2,5		
	200	177	1,1	7,5	MX8G 7.5B				PAN G3 025 MCG 200.0 XK1	2,5		
	150	133	1,5	10	MX8G 10B				PAN G3 025 MCG 150.0 XK1	2,5		
	100	88	2,2	15	MX8G 15B				PAN G3 025 MCG 100.0 XK1	2,5		
	75	66	2,9	20	MX8G 20B				PAN G3 025 MCG 075.0 XK1	2,5		
	60	53	3,6	25	MX8G 25B				PAN G3 025 MCG 060.0 XK1	2,5		
	50	45	4,1	30	MX8G 30B				PAN G3 025 MCG 050.0 XK1	2,5		
	30	27	6,8	50	MX8G 50B				PAN G3 025 MCG 030.0 XK1	2,5		
	20	18	7,8	75	MX8G 75B*				PAN G3 025 MCG 020.0 XK1	2,5		
	15	13	7,8	100	MX8G 100B*				PAN G3 025 MCG 015.0 XK1	2,5		
	12,5	11	7,8	120	MX8G 120B*				PAN G3 025 MCG 012.5 XK1	2,5		
	10	8,8	7,8	150	MX8G 150B*				PAN G3 025 MCG 010.0 XK1	2,5		
	8,3	7,4	7,8	180	MX8G 180B*				PAN G3 025 MCG 008.3 XK1	2,5		
	7,5	6,6	7,8	200	MX8G 20B*	MX8G 10XB			PAN G3 025 MCG 007.5 XK1	2,9		
	6,0	5,3	7,8	250	MX8G 25B*	MX8G 10XB			PAN G3 025 MCG 006.0 XK1	2,9		
	5,0	4,4	7,8	300	MX8G 30B*	MX8G 10XB			PAN G3 025 MCG 005.0 XK1	2,9		
	3,0	2,7	7,8	500	MX8G 50B*	MX8G 10XB			PAN G3 025 MCG 003.0 XK1	2,9		
	2,0	1,8	7,8	750	MX8G 75B*	MX8G 10XB			PAN G3 025 MCG 002.0 XK1	2,9		
	1,5	1,3	7,8	1000	MX8G 100B*	MX8G 10XB			PAN G3 025 MCG 001.5 XK1	2,9		
	1,3	1,1	7,8	1200	MX8G 120B*	MX8G 10XB			PAN G3 025 MCG 001.3 XK1	2,9		
	1,0	0,9	7,8	1500	MX8G 150B*	MX8G 10XB			PAN G3 025 MCG 001.0 XK1	2,9		
	0,8	0,7	7,8	1800	MX8G 180B*	MX8G 10XB			PAN G3 025 MCG 000.8 XK1	2,9		
40	500	450	0,7	3	MX9G 3B				PAN G3 040 MCG 500.0 XK1	4,0		
	300	270	1,1	5	MX9G 5B				PAN G3 040 MCG 300.0 XK1	4,0		
	200	180	1,7	7,5	MX9G 7.5B				PAN G3 040 MCG 200.0 XK1	4,0		
	150	135	2,3	10	MX9G 10B				PAN G3 040 MCG 150.0 XK1	4,0		
	100	90	3,4	15	MX9G 15B				PAN G3 040 MCG 100.0 XK1	4,0		
	75	67,5	4,2	20	MX9G 20B				PAN G3 040 MCG 075.0 XK1	4,0		
	60	54	5,3	25	MX9G 25B				PAN G3 040 MCG 060.0 XK1	4,0		
	50	45	6,3	30	MX9G 30B				PAN G3 040 MCG 050.0 XK1	4,0		
	30	27	9,8	50	MX9G 50B				PAN G3 040 MCG 030.0 XK1	4,0		
	20	18	9,8	75	MX9G 75B*				PAN G3 040 MCG 020.0 XK1	4,0		
	15	13,5	9,8	100	MX9G 100B*				PAN G3 040 MCG 015.0 XK1	4,0		
	12,5	11,3	9,8	120	MX9G 120B*				PAN G3 040 MCG 012.5 XK1	4,0		
	10	9	9,8	150	MX9G 150B*				PAN G3 040 MCG 010.0 XK1	4,0		
	8,3	7,5	9,8	180	MX9G 180B*				PAN G3 040 MCG 008.3 XK1	4,0		
	7,5	6,8	9,8	200	MX9G 20B*	MX9G 10XB			PAN G3 040 MCG 007.5 XK1	4,5		
	6,0	5,4	9,8	250	MX9G 25B*	MX9G 10XB			PAN G3 040 MCG 006.0 XK1	4,5		
	5,0	4,5	9,8	300	MX9G 30B*	MX9G 10XB			PAN G3 040 MCG 005.0 XK1	4,5		
	3,0	2,7	9,8	500	MX9G 50B*	MX9G 10XB			PAN G3 040 MCG 003.0 XK1	4,5		
	2,0	1,8	9,8	750	MX9G 75B*	MX9G 10XB			PAN G3 040 MCG 002.0 XK1	4,5		
	1,5	1,4	9,8	1000	MX9G 100B*	MX9G 10XB			PAN G3 040 MCG 001.5 XK1	4,5		
	1,3	1,1	9,8	1200	MX9G 120B*	MX9G 10XB			PAN G3 040 MCG 001.3 XK1	4,5		
	1,0	0,9	9,8	1500	MX9G 150B*	MX9G 10XB			PAN G3 040 MCG 001.0 XK1	4,5		
	0,8	0,8	9,8	1800	MX9G 180B*	MX9G 10XB			PAN G3 040 MCG 000.8 XK1	4,5		

\* Torque limiter recommended



## TECHNICAL FEATURES

- 3 x 230 V ± 10 %/50 Hz
- S1 continuous operation
- IP 54 protection
- Overtemperature protector switch as NC contact
- CE/UL/cUL/CCC approval

Geared motors					Type designation			Gearbox	Intermediate gearbox	Motor	Gearbox motor	Weight
Output	Output speed without load	Rated output speed	Rated output torque	Ratio	Type-no.	Type-no.	Type-no.					
P <sub>n</sub>	n <sub>2</sub>	n <sub>2N</sub>	M <sub>2</sub>	i <sub>ges</sub>								
[Watt]	[1/min]	[1/min]	[Nm]									
25	500	440	0,4	3	MX8G 3B			M8MX25GK4YGA			PAN G3 025 MYG 500.0 XK1	2,5
	300	264	0,6	5	MX8G 5B						PAN G3 025 MYG 300.0 XK1	2,5
	200	176	1,0	7,5	MX8G 7.5B						PAN G3 025 MYG 200.0 XK1	2,5
	150	132	1,3	10	MX8G 10B						PAN G3 025 MYG 150.0 XK1	2,5
	100	88	1,9	15	MX8G 15B						PAN G3 025 MYG 100.0 XK1	2,5
	75	66	2,6	20	MX8G 20B						PAN G3 025 MYG 075.0 XK1	2,5
	60	53	3,2	25	MX8G 25B						PAN G3 025 MYG 060.0 XK1	2,5
	50	44	3,6	30	MX8G 30B						PAN G3 025 MYG 050.0 XK1	2,5
	30	26	6,0	50	MX8G 50B						PAN G3 025 MYG 030.0 XK1	2,5
	20	18	7,8	75	MX8G 75B*						PAN G3 025 MYG 020.0 XK1	2,5
	15	13	7,8	100	MX8G 100B*						PAN G3 025 MYG 015.0 XK1	2,5
	12,5	11	7,8	120	MX8G 120B*						PAN G3 025 MYG 012.5 XK1	2,5
	10	8,8	7,8	150	MX8G 150B*						PAN G3 025 MYG 010.0 XK1	2,5
	8,3	7,3	7,8	180	MX8G 180B*						PAN G3 025 MYG 008.3 XK1	2,5
	7,5	6,6	7,8	200	MX8G 20B*	MX8G 10XB					PAN G3 025 MYG 007.5 XK1	2,9
	6,0	5,3	7,8	250	MX8G 25B*	MX8G 10XB					PAN G3 025 MYG 006.0 XK1	2,9
	5,0	4,4	7,8	300	MX8G 30B*	MX8G 10XB					PAN G3 025 MYG 005.0 XK1	2,9
	3,0	2,6	7,8	500	MX8G 50B*	MX8G 10XB					PAN G3 025 MYG 003.0 XK1	2,9
	2,0	1,8	7,8	750	MX8G 75B*	MX8G 10XB					PAN G3 025 MYG 002.0 XK1	2,9
	1,5	1,3	7,8	1000	MX8G 100B*	MX8G 10XB					PAN G3 025 MYG 001.5 XK1	2,9
	1,3	1,1	7,8	1200	MX8G 120B*	MX8G 10XB					PAN G3 025 MYG 001.3 XK1	2,9
	1,0	0,9	7,8	1500	MX8G 150B*	MX8G 10XB					PAN G3 025 MYG 001.0 XK1	2,9
	0,8	0,7	7,8	1800	MX8G 180B*	MX8G 10XB					PAN G3 025 MYG 000.8 XK1	2,9
40	500	447	0,7	3	MX9G 3B			M9MX40GK4YGA			PAN G3 040 MYG 500.0 XK1	4,0
	300	277	1,1	5	MX9G 5B						PAN G3 040 MYG 300.0 XK1	4,0
	200	179	1,6	7,5	MX9G 7.5B						PAN G3 040 MYG 200.0 XK1	4,0
	150	134	2,2	10	MX9G 10B						PAN G3 040 MYG 150.0 XK1	4,0
	100	89,3	3,3	15	MX9G 15B						PAN G3 040 MYG 100.0 XK1	4,0
	75	67,0	4,1	20	MX9G 20B						PAN G3 040 MYG 075.0 XK1	4,0
	60	53,6	5,1	25	MX9G 25B						PAN G3 040 MYG 060.0 XK1	4,0
	50	44,7	6,1	30	MX9G 30B						PAN G3 040 MYG 050.0 XK1	4,0
	30	26,8	9,8	50	MX9G 50B						PAN G3 040 MYG 030.0 XK1	4,0
	20	17,9	9,8	75	MX9G 75B*						PAN G3 040 MYG 020.0 XK1	4,0
	15	13,4	9,8	100	MX9G 100B*						PAN G3 040 MYG 015.0 XK1	4,0
	12,5	11,2	9,8	120	MX9G120B*						PAN G3 040 MYG 012.5 XK1	4,0
	10	8,9	9,8	150	MX9G 150B*						PAN G3 040 MYG 010.0 XK1	4,0
	8,3	7,4	9,8	180	MX9G 180B*						PAN G3 040 MYG 008.3 XK1	4,0
	7,5	6,7	9,8	200	MX9G 20B*	MX9G 10XB					PAN G3 040 MYG 007.5 XK1	4,5
	6,0	5,4	9,8	250	MX9G 25B*	MX9G 10XB					PAN G3 040 MYG 006.0 XK1	4,5
	5,0	4,5	9,8	300	MX9G 30B*	MX9G 10XB					PAN G3 040 MYG 005.0 XK1	4,5
	3,0	2,7	9,8	500	MX9G 50B*	MX9G 10XB					PAN G3 040 MYG 003.0 XK1	4,5
	2,0	1,8	9,8	750	MX9G 75B*	MX9G 10XB					PAN G3 040 MYG 002.0 XK1	4,5
	1,5	1,3	9,8	1000	MX9G 100B*	MX9G 10XB					PAN G3 040 MYG 001.5 XK1	4,5
	1,3	1,1	9,8	1200	MX9G 120B*	MX9G 10XB					PAN G3 040 MYG 001.3 XK1	4,5
	1,0	0,9	9,8	1500	MX9G 150B*	MX9G 10XB					PAN G3 040 MYG 001.0 XK1	4,5
	0,8	0,7	9,8	1800	MX9G 180B*	MX9G 10XB					PAN G3 040 MYG 000.8 XK1	4,5

\* Torque limiter recommended



## TECHNICAL FEATURES

- 230 V ± 10 %/50 Hz
- S1 continuous operation
- IP 22 protection (cable downwards)
- incl. motor capacitors 0,6/1,2 µF
- 15 W motors with overtemperature protector switch as NC contact
- CE/UL/cUL/CCC approval

Geared motors					Type designation			Geared motor	Weight
Output	Output speed without load	Rated output speed	Rated output torque	Ratio	Gearbox	Intermediate gearbox	Motor		
P <sub>n</sub>	n <sub>2</sub>	n <sub>2N</sub>	M <sub>2</sub>	i <sub>ges</sub>	Type-no.	Type-no.	Type-no.	Order-no.	kg
[Watt]	[1/min]	[1/min]	[Nm]						
6	500	417	0,11	3,0	MX6G 3BA			PAN G3 006 1GG 500.0 XL1	1,0
	300	250	0,18	5,0	MX6G 5BA			PAN G3 006 1GG 300.0 XL1	1,0
	200	167	0,27	7,5	MX6G 7.5BA			PAN G3 006 1GG 200.0 XL1	1,0
	150	125	0,33	10,0	MX6G 10BA			PAN G3 006 1GG 150.0 XL1	1,0
	100	83	0,50	15,0	MX6G 15BA			PAN G3 006 1GG 100.0 XL1	1,0
	75	63	0,66	20,0	MX6G 20BA			PAN G3 006 1GG 075.0 XL1	1,0
	60	50	0,83	25,0	MX6G 25BA			PAN G3 006 1GG 060.0 XL1	1,0
	50	42	1,00	30,0	MX6G 30B			PAN G3 006 1GG 050.0 XL1	1,0
	30	25	1,70	50,0	MX6G 50B			PAN G3 006 1GG 030.0 XL1	1,0
	20	17	2,30	75,0	MX6G 75B*			PAN G3 006 1GG 020.0 XL1	1,0
	15	13	2,50*	100,0	MX6G 100B*			PAN G3 006 1GG 015.0 XL1	1,0
	12,5	10	2,50*	120,0	MX6G 120B*			PAN G3 006 1GG 012.5 XL1	1,0
	10	8,3	2,50*	150,0	MX6G 150B*			PAN G3 006 1GG 010.0 XL1	1,0
	8,3	6,9	2,50*	180,0	MX6G 180B*			PAN G3 006 1GG 008.3 XL1	1,0
	7,5	6,3	2,50*	200,0	MX6G 20BA*	MX6G10XB		PAN G3 006 1GG 007.5 XL1	1,2
	6	5	2,50*	250,0	MX6G 25BA*	MX6G10XB		PAN G3 006 1GG 006.0 XL1	1,2
	5	4,2	2,50*	200,0	MX6G 30B*	MX6G10XB		PAN G3 006 1GG 005.0 XL1	1,2
	3	2,5	2,50*	500,0	MX6G 50B*	MX6G10XB		PAN G3 006 1GG 003.0 XL1	1,2
	2	1,7	2,50*	750,0	MX6G 75B*	MX6G10XB		PAN G3 006 1GG 002.0 XL1	1,2
	1,5	1,3	2,50*	1000,0	MX6G 100B*	MX6G10XB		PAN G3 006 1GG 001.5 XL1	1,2
	1,3	1	2,50*	1200,0	MX6G 120B*	MX6G10XB		PAN G3 006 1GG 001.3 XL1	1,2
	1	0,8	2,50*	1500,0	MX6G 150B*	MX6G10XB		PAN G3 006 1GG 001.0 XL1	1,2
	0,8	0,7	2,50*	1800,0	MX6G 180B*	MX6G10XB		PAN G3 006 1GG 000.8 XL1	1,2
15	500	433	0,27	3,0	MX7G 3BA			PAN G3 015 1GG 500.0 XL1	1,6
	300	260	0,45	5,0	MX7G 5BA			PAN G3 015 1GG 300.0 XL1	1,6
	200	173	0,67	7,5	MX7G 7.5BA			PAN G3 015 1GG 200.0 XL1	1,6
	150	130	0,83	10,0	MX7G 10BA			PAN G3 015 1GG 150.0 XL1	1,6
	100	87	1,24	15,0	MX7G 15BA			PAN G3 015 1GG 100.0 XL1	1,6
	75	65	1,65	20,0	MX7G 20BA			PAN G3 015 1GG 075.0 XL1	1,6
	60	52	2,10	25,0	MX7G 25BA			PAN G3 015 1GG 060.0 XL1	1,6
	50	43	2,50	30,0	MX7G 30B			PAN G3 015 1GG 050.0 XL1	1,6
	30	26	4,10	50,0	MX7G 50B			PAN G3 015 1GG 030.0 XL1	1,6
	20	17	4,90*	75,0	MX7G 75B*			PAN G3 015 1GG 020.0 XL1	1,6
	15	13	4,90*	100,0	MX7G 100B*			PAN G3 015 1GG 015.0 XL1	1,6
	12,5	11	4,90*	120,0	MX7G 120B*			PAN G3 015 1GG 012.5 XL1	1,6
	10	8,7	4,90*	150,0	MX7G 150B*			PAN G3 015 1GG 010.0 XL1	1,6
	8,3	7,2	4,90*	180,0	MX7G 180B*			PAN G3 015 1GG 008.3 XL1	1,6
	7,5	6,5	4,90*	200,0	MX7G 20BA*	MX7G 10XB		PAN G3 015 1GG 007.5 XL1	2,0
	6	5,2	4,90*	250,0	MX7G 25BA*	MX7G 10XB		PAN G3 015 1GG 006.0 XL1	2,0
	5	4,3	4,90*	300,0	MX7G 30B*	MX7G 10XB		PAN G3 015 1GG 005.0 XL1	2,0
	3	2,6	4,90*	500,0	MX7G 50B*	MX7G 10XB		PAN G3 015 1GG 003.0 XL1	2,0
	2	1,7	4,90*	750,0	MX7G 75B*	MX7G 10XB		PAN G3 015 1GG 002.0 XL1	2,0
	1,5	1,3	4,90*	1000,0	MX7G 100B*	MX7G 10XB		PAN G3 015 1GG 001.5 XL1	2,0
	1,3	1,1	4,90*	1200,0	MX7G 120B*	MX7G 10XB		PAN G3 015 1GG 001.3 XL1	2,0
	1	0,9	4,90*	1500,0	MX7G 150B*	MX7G 10XB		PAN G3 015 1GG 001.0 XL1	2,0
	0,8	0,7	4,90*	1800,0	MX7G 180B*	MX7G 10XB		PAN G3 015 1GG 000.8 XL1	2,0

\* Torque limiter recommended

## TECHNICAL FEATURES

- 230 V ± 10 %/50 Hz
- S1 continuous operation
- IP 54 protection
- incl. motor capacitors  
0,6/1,2 µF
- Overtemperature protector switch as NC contact
- CE/UL/cUL/CCC approval

Geared motors					Type designation			Gearbox	Intermediate gearbox	Motor	Gearbox motor	Weight
Output	Output speed without load	Rated output speed	Rated output torque	Ratio	Type-no.	Type-no.	Type-no.				Order-no	kg
P <sub>n</sub>	n <sub>2</sub>	n <sub>2N</sub>	M <sub>2</sub>	i <sub>ges</sub>								
[Watt]	[1/min]	[1/min]	[Nm]									
25	500	417	0,5	3	MX8G 3B			M81X25GK4GGA			PAN G3 025 1GG 500.0 XK1	2,2
	300	250	0,8	5	MX8G 5B						PAN G3 025 1GG 300.0 XK1	2,2
	200	167	1,2	7,5	MX8G 7.5B						PAN G3 025 1GG 200.0 XK1	2,2
	150	125	1,5	10	MX8G 10B						PAN G3 025 1GG 150.0 XK1	2,2
	100	83	2,3	15	MX8G 15B						PAN G3 025 1GG 100.0 XK1	2,2
	75	63	3,1	20	MX8G 20B						PAN G3 025 1GG 075.0 XK1	2,2
	60	50	3,8	25	MX8G 25B						PAN G3 025 1GG 060.0 XK1	2,2
	50	42	4,3	30	MX8G 30B						PAN G3 025 1GG 050.0 XK1	2,2
	30	25	7,1	50	MX8G 50B						PAN G3 025 1GG 030.0 XK1	2,2
	20	17	7,8	75	MX8G 75B*						PAN G3 025 1GG 020.0 XK1	2,2
	15	13	7,8	100	MX8G 100B*						PAN G3 025 1GG 015.0 XK1	2,2
	12,5	10	7,8	120	MX8G 120B*						PAN G3 025 1GG 012.5 XK1	2,2
	10	8,3	7,8	150	MX8G 150B*						PAN G3 025 1GG 010.0 XK1	2,2
	8,3	6,9	7,8	180	MX8G 180B*						PAN G3 025 1GG 008.3 XK1	2,2
	7,5	6,3	7,8	200	MX8G 20B*	MX8G 10XB					PAN G3 025 1GG 007.5 XK1	2,6
	6,0	5	7,8	250	MX8G 25B*	MX8G 10XB					PAN G3 025 1GG 006.0 XK1	2,6
	5,0	4,2	7,8	300	MX8G 30B*	MX8G 10XB					PAN G3 025 1GG 005.0 XK1	2,6
	3,0	2,5	7,8	500	MX8G 50B*	MX8G 10XB					PAN G3 025 1GG 003.0 XK1	2,6
	2,0	1,7	7,8	750	MX8G 75B*	MX8G 10XB					PAN G3 025 1GG 002.0 XK1	2,6
	1,5	1,3	7,8	1000	MX8G 100B*	MX8G 10XB					PAN G3 025 1GG 001.5 XK1	2,6
	1,3	1	7,8	1200	MX8G 120B*	MX8G 10XB					PAN G3 025 1GG 001.3 XK1	2,6
	1,0	0,8	7,8	1500	MX8G 150B*	MX8G 10XB					PAN G3 025 1GG 001.0 XK1	2,6
	0,8	0,7	7,8	1800	MX8G 180B*	MX8G 10XB					PAN G3 025 1GG 000.8 XK1	2,6
40	500	425	0,7	3	MX9G 3B			M91X40GK4GGA			PAN G3 040 1GG 500.0 XK1	3,6
	300	255	1,1	5	MX9G 5B						PAN G3 040 1GG 300.0 XK1	3,6
	200	170	1,7	7,5	MX9G 7.5B						PAN G3 040 1GG 200.0 XK1	3,6
	150	128	2,3	10	MX9G 10B						PAN G3 040 1GG 150.0 XK1	3,6
	100	85	3,4	15	MX9G 15B						PAN G3 040 1GG 100.0 XK1	3,6
	75	64	4,2	20	MX9G 20B						PAN G3 040 1GG 075.0 XK1	3,6
	60	51	5,3	25	MX9G 25B						PAN G3 040 1GG 060.0 XK1	3,6
	50	43	6,3	30	MX9G 30B						PAN G3 040 1GG 050.0 XK1	3,6
	30	26	9,8	50	MX9G 50B						PAN G3 040 1GG 030.0 XK1	3,6
	20	17	9,8	75	MX9G 75B*						PAN G3 040 1GG 020.0 XK1	3,6
	15	13	9,8	100	MX9G 100B*						PAN G3 040 1GG 015.0 XK1	3,6
	12,5	11	9,8	120	MX9G 120B*						PAN G3 040 1GG 012.5 XK1	3,6
	10	8,5	9,8	150	MX9G 150B*						PAN G3 040 1GG 010.0 XK1	3,6
	8,3	7,1	9,8	180	MX9G 180B*						PAN G3 040 1GG 008.3 XK1	3,6
	7,5	6,4	9,8	200	MX9G 20B*	MX9G 10XB					PAN G3 040 1GG 007.5 XK1	4,1
	6,0	5,1	9,8	250	MX9G 25B*	MX9G 10XB					PAN G3 040 1GG 006.0 XK1	4,1
	5,0	4,3	9,8	300	MX9G 30B*	MX9G 10XB					PAN G3 040 1GG 005.0 XK1	4,1
	3,0	2,6	9,8	500	MX9G 50B*	MX9G 10XB					PAN G3 040 1GG 003.0 XK1	4,1
	2,0	1,7	9,8	750	MX9G 75B*	MX9G 10XB					PAN G3 040 1GG 002.0 XK1	4,1
	1,5	1,3	9,8	1000	MX9G 100B*	MX9G 10XB					PAN G3 040 1GG 001.5 XK1	4,1
	1,3	1,1	9,8	1200	MX9G 120B*	MX9G 10XB					PAN G3 040 1GG 001.3 XK1	4,1
	1,0	0,9	9,8	1500	MX9G 150B*	MX9G 10XB					PAN G3 040 1GG 001.0 XK1	4,1
	0,8	0,7	9,8	1800	MX9G 180B*	MX9G 10XB					PAN G3 040 1GG 000.8 XK1	4,1

\* Torque limiter recommended

## TECHNICAL FEATURES

- 230 V ± 10 %/50 Hz
- S1 continuous operation
- IP 54 protection
- incl. motor capacitors  
4,5/6,0 µF
- Overtemperature protector switch as NC contact
- CE/UL/cUL/CCC approval

## # Gearbox type

Z: 60-90 W square flange

R: 60-90 W square flange, high torque

Y: 60-90 W rectangular flange

P: 60-90 W rectangular flange, high torque

Getriebemotoren						Typenbezeichnung			Geared motor	Weight	Weight (HT) High Torque
Output	Output speed without load	Rated output speed	Rated output torque	Nominal torque (HT)	Ratio	Gearbox	Intermediate gearbox	Motor			
P <sub>n</sub>	n <sub>2</sub>	n <sub>2N</sub>	M <sub>2</sub>	M <sub>2</sub>	i <sub>ges</sub>	Type-no.	Type-no.	Type-no.	Order-no.	kg	
[Watt]	[1/min]	[1/min]	[Nm]	[Nm]							
60	500	408	1,1	-	3	M#9G 3B			PAN G3 060 1GG 500.0 #K1	4,2	-
	300	260	1,8	-	5	M#9G 5B			PAN G3 060 1GG 300.0 #K1	4,2	-
	200	173	2,7	-	7,5	M#9G 7.5B			PAN G3 060 1GG 200.0 #K1	4,2	-
	150	130	3,5	-	10	M#9G 10B			PAN G3 060 1GG 150.0 #K1	4,2	-
	100	87	5	-	15	M#9G 15B			PAN G3 060 1GG 100.0 #K1	4,2	-
	75	65	6,6	-	20	M#9G 20B			PAN G3 060 1GG 075.0 #K1	4,2	-
	60	52	8,3	-	25	M#9G 25B			PAN G3 060 1GG 060.0 #K1	4,2	-
	50	43	9,9	-	30	M#9G 30B			PAN G3 060 1GG 050.0 #K1	4,2	-
	30	26	15,4	15,4	50	M#9G 50B			PAN G3 060 1GG 030.0 #K1	4,2	4,4
	20	17	19,6	23,1	75	M#9G 75B*			PAN G3 060 1GG 020.0 #K1	4,2	4,4
	15	13	19,6	29,4	100	M#9G 100B*			PAN G3 060 1GG 015.0 #K1	4,2	4,4
	12,5	11	19,6	29,4	120	M#9G 120B*			PAN G3 060 1GG 012.5 #K1	4,2	4,4
	10	8,7	19,6	29,4	150	M#9G 150B*			PAN G3 060 1GG 010.0 #K1	4,2	4,4
	7,5	6,5	19,6	29,4	200	M#9G 200B*			PAN G3 060 1GG 007.5 #K1	4,9	4,4
	6,0	5,2	19,6	-	250	M#9G 25B*	MZ9G 10 XB		PAN G3 060 1GG 006.0 #K1	4,9	-
	5,0	4,3	19,6	-	300	M#9G 30B*	MZ9G 10 XB		PAN G3 060 1GG 005.0 #K1	4,9	-
	3,0	2,6	19,6	29,4	500	M#9G 50B*	MZ9G 10 XB		PAN G3 060 1GG 003.0 #K1	4,9	5,1
	2,0	1,7	19,6	29,4	750	M#9G 75B*	MZ9G 10 XB		PAN G3 060 1GG 002.0 #K1	4,9	5,1
	1,5	1,3	19,6	29,4	1000	M#9G 100B*	MZ9G 10 XB		PAN G3 060 1GG 001.5 #K1	4,9	5,1
	1,3	1,1	19,6	29,4	1200	M#9G 120B*	MZ9G 10 XB		PAN G3 060 1GG 001.3 #K1	4,9	5,1
	1,0	0,9	19,6	29,4	1500	M#9G 150B*	MZ9G 10 XB		PAN G3 060 1GG 001.0 #K1	4,9	5,1
	0,8	0,7	19,6	29,4	1800	M#9G 180B*	MZ9G 10 XB		PAN G3 060 1GG 000.8 #K1	4,9	5,1
	0,7	0,7	19,6	-	2000	M#9G 200B*	MZ9G 10 XB		PAN G3 060 1GG 000.7 #K1	4,9	-
90	500	442	1,1	-	3	M#9G 3B			PAN G3 090 1GG 500.0 #K1	4,7	-
	300	265	2,8	-	5	M#9G 5B			PAN G3 090 1GG 300.0 #K1	4,7	-
	200	177	4,2	-	7,5	M#9G 7.5B			PAN G3 090 1GG 200.0 #K1	4,7	-
	150	133	5,6	-	10	M#9G 10B			PAN G3 090 1GG 150.0 #K1	4,7	-
	100	88	7,8	-	15	M#9G 15B			PAN G3 090 1GG 100.0 #K1	4,7	-
	75	66	10,4	-	20	M#9G 20B			PAN G3 090 1GG 075.0 #K1	4,7	-
	60	53	12,9	-	25	M#9G 25B			PAN G3 090 1GG 060.0 #K1	4,7	-
	50	44	15,5	-	30	M#9G 30B			PAN G3 090 1GG 050.0 #K1	4,7	-
	30	27	19,6	-	50	M#9G 50B			PAN G3 090 1GG 030.0 #K1	4,7	-
	20	18	19,6	-	75	M#9G 75B*			PAN G3 090 1GG 020.0 #K1	4,7	-
	15	13	19,6	-	100	M#9G 100B*			PAN G3 090 1GG 015.0 #K1	4,7	-
	12,5	11	19,6	-	120	M#9G 120B*			PAN G3 090 1GG 012.5 #K1	4,7	-
	10	8,8	19,6	-	150	M#9G 150B*			PAN G3 090 1GG 010.0 #K1	4,7	-
	7,5	6,6	19,6	-	200	M#9G 200B*			PAN G3 090 1GG 007.5 #K1	4,7	-
	6,0	5,3	19,6	-	250	M#9G 25B*	MZ9G 10XB		PAN G3 090 1GG 006.0 #K1	5,4	-
	5,0	4,4	19,6	-	300	M#9G 30B*	MZ9G 10XB		PAN G3 090 1GG 005.0 #K1	5,4	-
	3,0	2,5	19,6	-	500	M#9G 50B*	MZ9G 10XB		PAN G3 090 1GG 003.0 #K1	5,4	-
	2,0	1,7	19,6	-	750	M#9G 75B*	MZ9G 10XB		PAN G3 090 1GG 002.0 #K1	5,4	-
	1,5	1,3	19,6	-	1000	M#9G 100B*	MZ9G 10XB		PAN G3 090 1GG 001.5 #K1	5,4	-
	1,3	1	19,6	-	1200	M#9G 120B*	MZ9G 10XB		PAN G3 090 1GG 001.3 #K1	5,4	-
	1,0	0,8	19,6	-	1500	M#9G 150B*	MZ9G 10XB		PAN G3 090 1GG 001.0 #K1	5,4	-
	0,8	0,7	19,6	-	1800	M#9G 180B*	MZ9G 10XB		PAN G3 090 1GG 000.8 #K1	5,4	-
	0,7	0,6	19,6	-	2000	M#9G 200B*	MZ9G 10XB		PAN G3 090 1GG 000.7 #K1	5,4	-

\* Torque limiter recommended

## TECHNICAL FEATURES

- 230 V ± 10 %/50 Hz
- S1 continuous operation
- IP 20 protection
- IP 22 protection (cable downwards)
- incl. motor capacitors 0,8/1,3 µF
- 15 W motors with overtemperature protector switch as NC contact
- CE/UL/cUL/CCC approval

Geared motors					Type designation			Gearbox	Intermediate gearbox	Motor	Gearbox motor	Weight
Output	Output speed without load	Rated output speed	Rated output torque	Ratio	Type-no.	Type-no.	Type-no.					
P <sub>n</sub>	[Watt]	n <sub>2</sub>	n <sub>2N</sub>	M <sub>2</sub>	i <sub>ges</sub>							
6	500	433	0,1	3	MX6G 3BA			M6RX6G4GGA			PAN G3 006 RGG 500.0 XL1	1,0
	300	260	0,2	5	MX6G 5BA						PAN G3 006 RGG 300.0 XL1	1,0
	200	173	0,3	7,5	MX6G 7.5BA						PAN G3 006 RGG 200.0 XL1	1,0
	150	130	0,4	10	MX6G 10BA						PAN G3 006 RGG 150.0 XL1	1,0
	100	87	0,5	15	MX6G 15BA						PAN G3 006 RGG 100.0 XL1	1,0
	75	65	0,7	20	MX6G 20BA						PAN G3 006 RGG 075.0 XL1	1,0
	60	52	0,9	25	MX6G 25BA						PAN G3 006 RGG 060.0 XL1	1,0
	50	43	1	30	MX6G 30B						PAN G3 006 RGG 050.0 XL1	1,0
	30	26	1,7	50	MX6G 50B						PAN G3 006 RGG 030.0 XL1	1,0
	20	17	2,5	75	MX6G 75B*						PAN G3 006 RGG 020.0 XL1	1,0
	15	13	2,5	100	MX6G 100B*						PAN G3 006 RGG 015.0 XL1	1,0
	12,5	11	2,5	120	MX6G 120B*						PAN G3 006 RGG 012.5 XL1	1,0
	10	8,7	2,5	150	MX6G 150B*						PAN G3 006 RGG 010.0 XL1	1,0
	8,3	7,2	2,5	180	MX6G 180B*						PAN G3 006 RGG 008.3 XL1	1,0
	7,5	6,5	2,5	200	MX6G 20BA*	MX6G10XB					PAN G3 006 RGG 007.5 XL1	1,2
	6	5,2	2,5	250	MX6G 25BA*	MX6G10XB					PAN G3 006 RGG 006.0 XL1	1,2
	5	4,3	2,5	200	MX6G 30B*	MX6G10XB					PAN G3 006 RGG 005.0 XL1	1,2
	3	2,6	2,5	500	MX6G 50B*	MX6G10XB					PAN G3 006 RGG 003.0 XL1	1,2
	2	1,7	2,5	750	MX6G 75B*	MX6G10XB					PAN G3 006 RGG 002.0 XL1	1,2
	1,5	1,3	2,5	1000	MX6G 100B*	MX6G10XB					PAN G3 006 RGG 001.5 XL1	1,2
	1,3	1,1	2,5	1200	MX6G 120B*	MX6G10XB					PAN G3 006 RGG 001.3 XL1	1,2
	1	0,9	2,5	1500	MX6G 150B*	MX6G10XB					PAN G3 006 RGG 001.0 XL1	1,2
	0,8	0,7	2,5	1800	MX6G 180B*	MX6G10XB					PAN G3 006 RGG 000.8 XL1	1,2
15	500	433	0,3	3	MX7G 3BA			M7RX15G4GGA			PAN G3 015 RGG 500.0 XL1	1,6
	300	260	0,5	5	MX7G 5BA						PAN G3 015 RGG 300.0 XL1	1,6
	200	173	0,7	7,5	MX7G 7.5BA						PAN G3 015 RGG 200.0 XL1	1,6
	150	130	0,8	10	MX7G 10BA						PAN G3 015 RGG 150.0 XL1	1,6
	100	87	1,2	15	MX7G 15BA						PAN G3 015 RGG 100.0 XL1	1,6
	75	65	1,7	20	MX7G 20BA						PAN G3 015 RGG 075.0 XL1	1,6
	60	52	2,1	25	MX7G 25BA						PAN G3 015 RGG 060.0 XL1	1,6
	50	43	2,5	30	MX7G 30B						PAN G3 015 RGG 050.0 XL1	1,6
	30	26	4,1	50	MX7G 50B						PAN G3 015 RGG 030.0 XL1	1,6
	20	17	4,9	75	MX7G 75B*						PAN G3 015 RGG 020.0 XL1	1,6
	15	13	4,9	100	MX7G 100B*						PAN G3 015 RGG 015.0 XL1	1,6
	12,5	11	4,9	120	MX7G 120B*						PAN G3 015 RGG 012.5 XL1	1,6
	10	8,7	4,9	150	MX7G 150B*						PAN G3 015 RGG 010.0 XL1	1,6
	8,3	7,2	4,9	180	MX7G 180B*						PAN G3 015 RGG 008.3 XL1	1,6
	7,5	6,5	4,9	200	MX7G 20BA*	MX7G10XB					PAN G3 015 RGG 007.5 XL1	2
	6	5,2	4,9	250	MX7G 25BA*	MX7G10XB					PAN G3 015 RGG 006.0 XL1	2
	5	4,3	4,9	300	MX7G 30B*	MX7G10XB					PAN G3 015 RGG 005.0 XL1	2
	3	2,6	4,9	500	MX7G 50B*	MX7G10XB					PAN G3 015 RGG 003.0 XL1	2
	2	1,7	4,9	750	MX7G 75B*	MX7G10XB					PAN G3 015 RGG 002.0 XL1	2
	1,5	1,3	4,9	1000	MX7G 100B*	MX7G10XB					PAN G3 015 RGG 001.5 XL1	2
	1,3	1,1	4,9	1200	MX7G 120B*	MX7G10XB					PAN G3 015 RGG 001.3 XL1	2
	1	0,9	4,9	1500	MX7G 150B*	MX7G10XB					PAN G3 015 RGG 001.0 XL1	2
	0,8	0,7	4,9	1800	MX7G 180B*	MX7G10XB					PAN G3 015 RGG 000.8 XL1	2

\* Torque limiter recommended

## 1-phase geared motors 230 V | 25 and 40 W – quick reversible

## TECHNICAL FEATURES

- 230 V ± 10 %/50 Hz
- 25 W - S1 continuous operation  
40 W - S2 intermittent operation  
30 min
- IP 54 protection
- incl. motor capacitors  
2,0/3,5 µF
- Overtemperature protector switch  
as NC contact
- CE/UL/cUL/CCC approval

Geared motors					Type designation			Gearbox	Intermediate gearbox	Motor	Gearbox motor	Weight
Output	Output speed without load	Rated output speed	Rated output torque	Ratio	Type-no.	Type-no.	Type-no.					
P <sub>n</sub>	n <sub>2</sub>	n <sub>2N</sub>	M <sub>2</sub>	i <sub>ges</sub>								
[Watt]	[1/min]	[1/min]	[Nm]									
25	500	425	0,5	3	MX8G 3B			M8RX25GK4GG1			PAN G3 025 RGG 500.0 XK1	2,2
	300	255	0,8	5	MX8G 5B						PAN G3 025 RGG 300.0 XK1	2,2
	200	170	1,2	7,5	MX8G 7.5B						PAN G3 025 RGG 200.0 XK1	2,2
	150	128	1,5	10	MX8G 10B						PAN G3 025 RGG 150.0 XK1	2,2
	100	85	2,3	15	MX8G 15B						PAN G3 025 RGG 100.0 XK1	2,2
	75	64	3,1	20	MX8G 20B						PAN G3 025 RGG 075.0 XK1	2,2
	60	51	3,8	25	MX8G 25B						PAN G3 025 RGG 060.0 XK1	2,2
	50	43	4,3	30	MX8G 30B						PAN G3 025 RGG 050.0 XK1	2,2
	30	26	7,1	50	MX8G 50B						PAN G3 025 RGG 030.0 XK1	2,2
	20	17	7,8	75	MX8G 75B*						PAN G3 025 RGG 020.0 XK1	2,2
	15	13	7,8	100	MX8G 100B*						PAN G3 025 RGG 015.0 XK1	2,2
	12,5	11	7,8	120	MX8G 120B*						PAN G3 025 RGG 012.5 XK1	2,2
	10	8,5	7,8	150	MX8G 150B*						PAN G3 025 RGG 010.0 XK1	2,2
	8,3	7,1	7,8	180	MX8G 180B*						PAN G3 025 RGG 008.3 XK1	2,2
	7,5	6,4	7,8	200	MX8G 20B*	MX8G 10XB					PAN G3 025 RGG 007.5 XK1	2,6
	6,0	5,1	7,8	250	MX8G 25B*	MX8G 10XB					PAN G3 025 RGG 006.0 XK1	2,6
	5,0	4,3	7,8	200	MX8G 30B*	MX8G 10XB					PAN G3 025 RGG 005.0 XK1	2,6
	3,0	2,6	7,8	500	MX8G 50B*	MX8G 10XB					PAN G3 025 RGG 003.0 XK1	2,6
	2,0	1,7	7,8	750	MX8G 75B*	MX8G 10XB					PAN G3 025 RGG 002.0 XK1	2,6
	1,5	1,3	7,8	1000	MX8G 100B*	MX8G 10XB					PAN G3 025 RGG 001.5 XK1	2,6
	1,3	1,1	7,8	1200	MX8G 120B*	MX8G 10XB					PAN G3 025 RGG 001.3 XK1	2,6
	1,0	0,9	7,8	1500	MX8G 150B*	MX8G 10XB					PAN G3 025 RGG 001.0 XK1	2,6
	0,8	0,7	7,8	1800	MX8G 180B*	MX8G 10XB					PAN G3 025 RGG 000.8 XK1	2,6
40	500	434	0,8	3	MX9G 3B			M9RX40GK4GG1			PAN G3 040 RGG 500.0 XK1	3,6
	300	260	1,3	5	MX9G 5B						PAN G3 040 RGG 300.0 XK1	3,6
	200	173	2	7,5	MX9G 7.5B						PAN G3 040 RGG 200.0 XK1	3,6
	150	130	2,7	10	MX9G 10B						PAN G3 040 RGG 150.0 XK1	3,6
	100	87	4	15	MX9G 15B						PAN G3 040 RGG 100.0 XK1	3,6
	75	65	5	20	MX9G 20B						PAN G3 040 RGG 075.0 XK1	3,6
	60	52	6,2	25	MX9G 25B						PAN G3 040 RGG 060.0 XK1	3,6
	50	43	7,4	30	MX9G 30B						PAN G3 040 RGG 050.0 XK1	3,6
	30	26	9,8	50	MX9G 50B						PAN G3 040 RGG 030.0 XK1	3,6
	20	17	9,8	75	MX9G 75B*						PAN G3 040 RGG 020.0 XK1	3,6
	15	13	9,8	100	MX9G 100B*						PAN G3 040 RGG 015.0 XK1	3,6
	12,5	11	9,8	120	MX9G 120B*						PAN G3 040 RGG 012.5 XK1	3,6
	10	8,7	9,8	150	MX9G 150B*						PAN G3 040 RGG 010.0 XK1	3,6
	8,3	7,2	9,8	180	MX9G 180B*						PAN G3 040 RGG 008.3 XK1	3,6
	7,5	6,5	9,8	200	MX9G 20B*	MX9G 10XB					PAN G3 040 RGG 007.5 XK1	4,1
	6,0	5,2	9,8	250	MX9G 25B*	MX9G 10XB					PAN G3 040 RGG 006.0 XK1	4,1
	5,0	4,3	9,8	300	MX9G 30B*	MX9G 10XB					PAN G3 040 RGG 005.0 XK1	4,1
	3,0	2,6	9,8	500	MX9G 50B*	MX9G 10XB					PAN G3 040 RGG 003.0 XK1	4,1
	2,0	1,7	9,8	750	MX9G 75B*	MX9G 10XB					PAN G3 040 RGG 002.0 XK1	4,1
	1,5	1,3	9,8	1000	MX9G 100B*	MX9G 10XB					PAN G3 040 RGG 001.5 XK1	4,1
	1,3	1,1	9,8	1200	MX9G 120B*	MX9G 10XB					PAN G3 040 RGG 001.3 XK1	4,1
	1,0	0,9	9,8	1500	MX9G 150B*	MX9G 10XB					PAN G3 040 RGG 001.0 XK1	4,1
	0,8	0,7	9,8	1800	MX9G 180B*	MX9G 10XB					PAN G3 040 RGG 000.8 XK1	4,1

\* Torque limiter recommended



## TECHNICAL FEATURES

- 230 V ± 10 %/50 Hz
- S2 intermittent operation 30 min
- IP 20 protection
- IP 22 protection (cable downwards)
- incl. motor capacitors 0.8/1.3 µF
- 15 W motors with overtemperature protector switch as NC contact
- CE/UL/cUL/CCC approval

Geared motors					Type designation			Gearbox	Intermediate gearbox	Motor	Geared motor	Weight
Output	Output speed without load	Rated output speed	Rated output torque	Ratio	Type-no.	Type-no.	Type-no.				Order-no.	kg
P <sub>n</sub>	[Watt]	n <sub>2</sub>	n <sub>2N</sub>	M <sub>2</sub>	i <sub>ges</sub>							
6	500	433	0,11	3,0	MX6G 3BA			M6RX6GB4GGA			PAN G3 006 BGG 500.0 XL1	1,2
	300	260	0,18	5,0	MX6G 5BA						PAN G3 006 BGG 300.0 XL1	1,2
	200	173	0,27	7,5	MX6G 7.5BA						PAN G3 006 BGG 200.0 XL1	1,2
	150	130	0,36	10,0	MX6G 10BA						PAN G3 006 BGG 150.0 XL1	1,2
	100	87	0,53	15,0	MX6G 15BA						PAN G3 006 BGG 100.0 XL1	1,2
	75	65	0,64	20,0	MX6G 20BA						PAN G3 006 BGG 075.0 XL1	1,2
	60	52	0,89	25,0	MX6G 25BA						PAN G3 006 BGG 060.0 XL1	1,2
	50	43	1	30,0	MX6G 30B						PAN G3 006 BGG 050.0 XL1	1,2
	30	26	1,7	50,0	MX6G 50B						PAN G3 006 BGG 030.0 XL1	1,2
	20	17	2,5	75,0	MX6G 75B*						PAN G3 006 BGG 020.0 XL1	1,2
	15	13	2,5	100,0	MX6G 100B*						PAN G3 006 BGG 015.0 XL1	1,2
	12,5	11	2,5	120,0	MX6G 120B*						PAN G3 006 BGG 012.5 XL1	1,2
	10	9	2,5	150,0	MX6G 150B*						PAN G3 006 BGG 010.0 XL1	1,2
	8,3	7	2,5	180,0	MX6G 180B*						PAN G3 006 BGG 008.3 XL1	1,2
15	500	433	0,27	3,0	MX7G 3BA			M7RX15GB4GGA			PAN G3 015 BGG 500.0 XL1	1,6
	300	260	0,44	5,0	MX7G 5BA						PAN G3 015 BGG 300.0 XL1	1,6
	200	173	0,66	7,5	MX7G 7.5BA						PAN G3 015 BGG 200.0 XL1	1,6
	150	130	0,89	10,0	MX7G 10BA						PAN G3 015 BGG 150.0 XL1	1,6
	100	87	1,3	15,0	MX7G 15BA						PAN G3 015 BGG 100.0 XL1	1,6
	75	65	1,8	20,0	MX7G 20BA						PAN G3 015 BGG 075.0 XL1	1,6
	60	52	2,2	25,0	MX7G 25BA						PAN G3 015 BGG 060.0 XL1	1,6
	50	43	2,5	30,0	MX7G 30B						PAN G3 015 BGG 050.0 XL1	1,6
	30	26	4,1	50,0	MX7G 50B						PAN G3 015 BGG 030.0 XL1	1,6
	20	17	4,9*	75,0	MX7G 75B*						PAN G3 015 BGG 020.0 XL1	1,6
	15	13	4,9*	100,0	MX7G 100B*						PAN G3 015 BGG 015.0 XL1	1,6
	12,5	11	4,9*	120,0	MX7G 120B*						PAN G3 015 BGG 012.5 XL1	1,6
	10	9	4,9*	150,0	MX7G 150B*						PAN G3 015 BGG 010.0 XL1	1,6
	8,3	7	4,9*	180,0	MX7G 180B*						PAN G3 015 BGG 008.3 XL1	1,6

\* Torque limiter recommended

The brake connection voltage is ensured by the main terminal voltage with the rectifier integrated in the geared motor.

## TECHNICAL FEATURES

- 230 V ± 10 %/50 Hz
- S2 intermittent operation 30 min
- IP44 protection
- incl. motor capacitors 2,0/3,5 µF
- Overtemperature protector switch as NC contact
- CE/UL/cUL/CCC approval

Geared motors					Type designation			Gearbox	Intermediate gearbox	Motor	Gearbox motor	Weight
Output	Output speed without load	Rated output speed	Rated output torque	Ratio	i <sub>ges</sub>	Typ-no.	Type-no.	Type-no.	Type-no.	Order-no.	kg	
P <sub>n</sub>	n <sub>2</sub>	n <sub>2N</sub>	M <sub>2</sub>									
[Watt]	[1/min]	[1/min]	[Nm]									
25	500	425	0,46	3,0	MX8G 3B			M8RX25GR4GG1		PAN G3 025 BGG 500.0 XK1	2,5	
	300	255	0,77	5,0	MX8G 5B					PAN G3 025 BGG 300.0 XK1	2,5	
	200	170	1,2	7,5	MX8G 7.5B					PAN G3 025 BGG 200.0 XK1	2,5	
	150	128	1,5	10,0	MX8G 10B					PAN G3 025 BGG 150.0 XK1	2,5	
	100	85	2,3	15,0	MX8G 15B					PAN G3 025 BGG 100.0 XK1	2,5	
	75	64	3,1	20,0	MX8G 20B					PAN G3 025 BGG 075.0 XK1	2,5	
	60	51	3,8	25,0	MX8G 25B					PAN G3 025 BGG 060.0 XK1	2,5	
	50	43	4,3	30,0	MX8G 30B					PAN G3 025 BGG 050.0 XK1	2,5	
	30	26	7,1	50,0	MX8G 50B					PAN G3 025 BGG 030.0 XK1	2,5	
	20	17	7,8	75,0	MX8G 75B*					PAN G3 025 BGG 020.0 XK1	2,5	
	15	13	7,8	100,0	MX8G 100B*					PAN G3 025 BGG 040.0 XK1	2,5	
	12,5	11	7,8	120,0	MX8G 120B*					PAN G3 025 BGG 012.5 XK1	2,5	
	10	9	7,8	150,0	MX8G 150B*					PAN G3 025 BGG 010.0 XK1	2,5	
	8,3	7	7,8	180,0	MX8G 180B*					PAN G3 025 BGG 008.3 XK1	2,5	
40	500	450	0,68	3,0	MX9G 3B			M9RX40GR4GG1		PAN G3 040 BGG 500.0 XK1	4,0	
	300	270	1,1	5,0	MX9G 5B					PAN G3 040 BGG 300.0 XK1	4,0	
	200	180	1,7	7,5	MX9G 7.5B					PAN G3 040 BGG 200.0 XK1	4,0	
	150	135	2,3	10,0	MX9G 10B					PAN G3 040 BGG 150.0 XK1	4,0	
	100	90	3,4	15,0	MX9G 15B					PAN G3 040 BGG 100.0 XK1	4,0	
	75	68	4,2	20,0	MX9G 20B					PAN G3 040 BGG 075.0 XK1	4,0	
	60	54	5,3	25,0	MX9G 25B					PAN G3 040 BGG 060.0 XK1	4,0	
	50	45	6,3	30,0	MX9G 30B					PAN G3 040 BGG 050.0 XK1	4,0	
	30	27	9,8	50,0	MX9G 50B					PAN G3 040 BGG 030.0 XK1	4,0	
	20	18	9,8	75,0	MX9G 75B*					PAN G3 040 BGG 020.0 XK1	4,0	
	15	14	9,8	100,0	MX9G 100B*					PAN G3 040 BGG 040.0 XK1	4,0	
	12,5	11	9,8	120,0	MX9G 120B*					PAN G3 040 BGG 012.5 XK1	4,0	
	10	9	9,8	150,0	MX9G 150B*					PAN G3 040 BGG 010.0 XK1	4,0	
	8,3	8	9,8	180,0	MX9G 180B*					PAN G3 040 BGG 008.3 XK1	4,0	

\* Torque limiter recommended

The brake connection voltage is ensured by the main terminal voltage with the rectifier integrated in the geared motor.

## TECHNICAL FEATURES

- 230 V ± 10 %/50 Hz
- S2 intermittent operation 30 min
- IP44 protection
- incl. motor capacitors 5,0/7,0 µF
- Overtemperature protector switch as NC contact
- CE/UL/cUL/CCC approval

## # Gearbox type

Z: 60-90 W square flange

R: 60-90 W square flange, high torque

Y: 60-90 W rectangular flange

P: 60-90 W rectangular flange, high torque

Output	Geared motors					Type designation			Geared motor	Weight	Weight (HT) High Torque
	Output speed without load	Rated output speed	Rated output torque	Nominal torque (HT)	Ratio	Gearbox	Intermediate gearbox	Motor			
P <sub>n</sub> [Watt]	n <sub>2</sub> [1/min]	n <sub>2N</sub> [1/min]	M <sub>2</sub> [Nm]	M <sub>2</sub> [Nm]	i <sub>ges</sub>	Type-no.	Type-no.	Type-no.	Order-no.	kg	
60	500	433	1,1	-	3,0	M#9G 5B			PAN G3 060 BGG 500.0 #K1	4,6	-
	300	260	1,8	-	5,0	M#9G 5B			PAN G3 060 BGG 300.0 #K1	4,6	-
	200	173	2,7	-	7,5	M#9G 7.5B			PAN G3 060 BGG 200.0 #K1	4,6	-
	150	130	3,6	-	10,0	M#9G 10B			PAN G3 060 BGG 150.0 #K1	4,6	-
	100	87	5	-	15,0	M#9G 15B			PAN G3 060 BGG 100.0 #K1	4,6	-
	75	65	6,6	-	20,0	M#9G 20B			PAN G3 060 BGG 075.0 #K1	4,6	-
	60	52	8,3	-	25,0	M#9G 25B			PAN G3 060 BGG 060.0 #K1	4,6	-
	50	43	9,9	-	30,0	M#9G 30B			PAN G3 060 BGG 050.0 #K1	4,6	-
	30	26	15,4	15,4	50,0	M#9G 50B			PAN G3 060 BGG 030.0 #K1	4,6	5,4
	20	17	19,6	23,1	75,0	M#9G 75B*			PAN G3 060 BGG 020.0 #K1	4,6	5,4
	15	13	19,6	29,4	100,0	M#9G 100B*			PAN G3 060 BGG 015.0 #K1	4,6	5,4
	12,5	11	19,6	29,4	120,0	M#9G 120B*			PAN G3 060 BGG 012.5 #K1	4,6	5,4
	10	9	19,6	29,4	150,0	M#9G 150B*			PAN G3 060 BGG 010.0 #K1	4,6	5,4
	7,5	7	19,6	29,4	180,0	M#9G 200B*			PAN G3 060 BGG 007.5 #K1	4,6	5,4
90	500	425	1,6	-	3,0	M#9G 3B			PAN G3 090 BGG 500.0 #K1	5,2	-
	300	255	2,7	-	5,0	M#9G 5B			PAN G3 090 BGG 300.0 #K1	5,2	-
	200	170	4,1	-	7,5	M#9G 7.5B			PAN G3 090 BGG 200.0 #K1	5,2	-
	150	128	5,4	-	10,0	M#9G 10B			PAN G3 090 BGG 150.0 #K1	5,2	-
	100	85	7,5	-	15,0	M#9G 15B			PAN G3 090 BGG 100.0 #K1	5,2	-
	75	64	10,1	-	20,0	M#9G 20B			PAN G3 090 BGG 075.0 #K1	5,2	-
	60	51	12,6	-	25,0	M#9G 25B			PAN G3 090 BGG 060.0 #K1	5,2	-
	50	43	15,1	-	30,0	M#9G 30B			PAN G3 090 BGG 050.0 #K1	5,2	-
	30	26	19,6	-	50,0	M#9G 50B			PAN G3 090 BGG 030.0 #K1	5,2	-
	20	17	19,6	-	75,0	M#9G 75B*			PAN G3 090 BGG 020.0 #K1	5,2	-
	15	13,5	19,6	-	100,0	M#9G 100B*			PAN G3 090 BGG 015.0 #K1	5,2	-
	12,5	11,8	19,6	-	120,0	M#9G 120B*			PAN G3 090 BGG 012.5 #K1	5,2	-
	10	9	19,6	-	150,0	M#9G 150B*			PAN G3 090 BGG 010.0 #K1	5,2	-
	7,5	6	19,6	-	180,0	M#9G 200B*			PAN G3 090 BGG 007.5 #K1	5,2	-

\* Torque limiter recommended

The brake connection voltage is ensured by the main terminal voltage with the rectifier integrated in the geared motor.

## TECHNICAL FEATURES

- 3 x 230 V ± 10 %/50 Hz
- S1 continuous operation
- IP44 protection
- Overtemperature protector switch as NC contact
- CE/UL/cUL/CCC approval

Getriebemotoren					Typenbezeichnung			Geared motor	Weight
Output	Output speed without load	Rated output speed	Rated output torque	Ratio	Gearbox	Intermediate gearbox	Motor		
P <sub>n</sub>	n <sub>2</sub>	n <sub>2N</sub>	M <sub>2</sub>	i <sub>ges</sub>	Type-no.	Type-no.	Type-no.	Order-no.	kg
25	500	458	0,41	3,0	MX8G 3B			M8MX25GR4YG1	PAN G3 025 BYG 500,0 XK1 2,5
	300	275	0,69	5,0	MX8G 5B				PAN G3 025 BYG 300,0 XK1 2,5
	200	183	1	7,5	MX8G 7,5B				PAN G3 025 BYG 200,0 XK1 2,5
	150	138	1,4	10,0	MX8G 10B				PAN G3 025 BYG 150,0 XK1 2,5
	100	92	2,1	15,0	MX8G 15B				PAN G3 025 BYG 100,0 XK1 2,5
	75	69	2,8	20,0	MX8G 20B				PAN G3 025 BYG 075,0 XK1 2,5
	60	55	3,4	25,0	MX8G 25B				PAN G3 025 BYG 060,0 XK1 2,5
	50	46	3,8	30,0	MX8G 30B				PAN G3 025 BYG 050,0 XK1 2,5
	30	28	6,4	50,0	MX8G 50B				PAN G3 025 BYG 030,0 XK1 2,5
	20	18	7,8	75,0	MX8G 75B*				PAN G3 025 BYG 020,0 XK1 2,5
	15	14	7,8	100,0	MX8G 100B*				PAN G3 025 BYG 015,0 XK1 2,5
	12,5	11	7,8	120,0	MX8G 120B*				PAN G3 025 BYG 012,5 XK1 2,5
	10	9	7,8	150,0	MX8G 150B*				PAN G3 025 BYG 010,0 XK1 2,5
	8,3	8	7,8	180,0	MX8G 180B*				PAN G3 025 BYG 008,3 XK1 2,5
40	500	467	0,66	3,0	MX9G 3B			M9MX40GR4YG1	PAN G3 040 BYG 500,0 XK1 4,0
	300	280	1,1	5,0	MX9G 5B				PAN G3 040 BYG 300,0 XK1 4,0
	200	187	1,6	7,5	MX9G 7,5B				PAN G3 040 BYG 200,0 XK1 4,0
	150	140	2,2	10,0	MX9G 10B				PAN G3 040 BYG 150,0 XK1 4,0
	100	93	3,3	15,0	MX9G 15B				PAN G3 040 BYG 100,0 XK1 4,0
	75	70	4,4	20,0	MX9G 20B				PAN G3 040 BYG 075,0 XK1 4,0
	60	56	5,5	25,0	MX9G 25B				PAN G3 040 BYG 060,0 XK1 4,0
	50	47	6,1	30,0	MX9G 30B				PAN G3 040 BYG 050,0 XK1 4,0
	30	28	9,8	50,0	MX9G 50B				PAN G3 040 BYG 030,0 XK1 4,0
	20	19	9,8	75,0	MX9G 75B*				PAN G3 040 BYG 020,0 XK1 4,0
	15	14	9,8	100,0	MX9G 100B*				PAN G3 040 BYG 015,0 XK1 4,0
	12,5	12	9,8	120,0	MX9G 120B*				PAN G3 040 BYG 012,5 XK1 4,0
	10	9	9,8	150,0	MX9G 150B*				PAN G3 040 BYG 010,0 XK1 4,0
	8,3	8	9,8	180,0	MX9G 180B*				PAN G3 040 BYG 008,3 XK1 4,0

\* Torque limiter recommended

The brake connection voltage is ensured by the main terminal voltage with the rectifier integrated in the geared motor.

## TECHNICAL FEATURES

- 3 x 230 V ± 10 %/50 Hz
- S1 continuous operation
- IP 44 protection
- Overtemperature protector switch as NC contact
- CE/UL/cUL/CCC approval

## # Gearbox type

Z: 60-90 W square flange

R: 60-90 W square flange, high torque

Y: 60-90 W rectangular flange

P: 60-90 W rectangular flange, high torque

Geared motors						Type designation			Gearbox	Intermediate gearbox	Motor	Geared motor	Weight	Weight (HT) High Torque
Output	Output speed without load	Rated output speed	Rated output torque	Nominal torque (HT)	Ratio	Type-no.	Type-no.	Type-no.				Order-no.	kg	
P <sub>n</sub>	[Watt]	n <sub>2</sub>	n <sub>2N</sub>	M <sub>2</sub>	M <sub>2</sub>	i <sub>ges</sub>								
60	500	467	1	-	3,0	M#9G 3B			M9MZ60GR4YG1			PAN G3 060 BYG 500.0 #K1	4,6	-
	300	280	1,7	-	5,0	M#9G 5B						PAN G3 060 BYG 300.0 #K1	4,6	-
	200	187	2,5	-	7,5	M#9G 7.5B						PAN G3 060 BYG 200.0 #K1	4,6	-
	150	140	3,1	-	10,0	M#9G 10B						PAN G3 060 BYG 150.0 #K1	4,6	-
	100	93	4,6	-	15,0	M#9G 15B						PAN G3 060 BYG 100.0 #K1	4,6	-
	75	70	5,7	-	20,0	M#9G 20B						PAN G3 060 BYG 075.0 #K1	4,6	-
	60	56	7,2	-	25,0	M#9G 25B						PAN G3 060 BYG 060.0 #K1	4,6	-
	50	47	8,6	-	30,0	M#9G 30B						PAN G3 060 BYG 050.0 #K1	4,6	-
	30	28	14,4	15,1	50,0	M#9G 50B						PAN G3 060 BYG 030.0 #K1	4,6	5,4
	20	19	19,6	22,6	75,0	M#9G 75B*						PAN G3 060 BYG 020.0 #K1	4,6	5,4
	15	14	19,6	29,4	100,0	M#9G 100B*						PAN G3 060 BYG 015.0 #K1	4,6	5,4
	12,5	12	19,6	29,4	120,0	M#9G 120B*						PAN G3 060 BYG 012.5 #K1	4,6	5,4
	10	9	19,6	29,4	150,0	M#9G 150B*						PAN G3 060 BYG 010.0 #K1	4,6	5,4
	7,5	8	19,6	29,4	180,0	M#9G 200B*						PAN G3 060 BYG 007.5 #K1	4,6	5,4
90	500	467	1,5	-	3,0	M#9G 3B			M9MZ90GR4YG1			PAN G3 090 BYG 500.0 #K1	5,2	-
	300	280	2,5	-	5,0	M#9G 5B						PAN G3 090 BYG 300.0 #K1	5,2	-
	200	187	3,8	-	7,5	M#9G 7.5B						PAN G3 090 BYG 200.0 #K1	5,2	-
	150	140	5	-	10,0	M#9G 10B						PAN G3 090 BYG 150.0 #K1	5,2	-
	100	93	7	-	15,0	M#9G 15B						PAN G3 090 BYG 100.0 #K1	5,2	-
	75	70	9,3	-	20,0	M#9G 20B						PAN G3 090 BYG 075.0 #K1	5,2	-
	60	56	12	-	25,0	M#9G 25B						PAN G3 090 BYG 060.0 #K1	5,2	-
	50	47	14	-	30,0	M#9G 30B						PAN G3 090 BYG 050.0 #K1	5,2	-
	30	28	21,7	-	50,0	M#9G 50B						PAN G3 090 BYG 030.0 #K1	5,2	-
	20	19	19,6	-	75,0	M#9G 75B*						PAN G3 090 BYG 020.0 #K1	5,2	-
	15	14	19,6	-	100,0	M#9G 100B*						PAN G3 090 BYG 015.0 #K1	5,2	-
	12,5	12	19,6	-	120,0	M#9G 120B*						PAN G3 090 BYG 012.5 #K1	5,2	-
	10	9,3	19,6	-	150,0	M#9G 150B*						PAN G3 090 BYG 010.0 #K1	5,2	-
	7,5	7	19,6	-	180,0	M#9G 200B*						PAN G3 090 BYG 007.5 #K1	5,2	-

\* Torque limiter recommended

The brake connection voltage is ensured by the main terminal voltage with the rectifier integrated in the geared motor.

**Motor data****1-phase motors 230 V**

Design:	Supply voltage:	Operating mode:	
1-phase motors, standard		230 V, 50 Hz	S1 continuous operation

Motor data	Motor type-no.						
	M61X6G4GGA	M71X15G4GGA	M81X25GK4GGA	M91X40GK4GGA	M91Z60GK4GGA	M91Z90GK4GGA	
	Output [Watt]	6	15	25	40	60	90
	Weight [kg]	0,67	1,10	1,50	2,40	2,70	3,20
	Rated current [A]	0,11	0,16	0,28	0,37	0,61	0,89
	Input power [Watt]	23	36	59	79	129	185
	Rated speed [1/min]	1250	1300	1250	1275	1300	1250
	Rated torque [Nm]	0,046	0,11	0,19	0,3	0,44	0,69
	Starting current [A]	0,15	0,28	0,48	0,72	1,10	1,50
	Starting torque [Nm]	0,05	0,11	0,16	0,28	0,53	0,68
	Capacitor [μF]	0,6	1,2	1,5	2,5	4,5	6,0
	Capacitor [V]	450	450	450	450	450	450
	Type of protection IP	IP 20	IP 20	IP 54	IP 54	IP 54	IP 54
	Insulation class	B	B	B	B	B	B
	Approvals	UL/cUL/CE/CCC	UL/cUL/CE/CCC	UL/cUL/CE/CCC	UL/cUL/CE/CCC	UL/cUL/CE/CCC	UL/cUL/CE/CCC
	Thermostat	nein	ja	ja	ja	ja	ja
	Braking current [A]	n/a	n/a	n/a	n/a	n/a	n/a
	Brake input power [W]	n/a	n/a	n/a	n/a	n/a	n/a
	Brake holding torque [Nm]	n/a	n/a	n/a	n/a	n/a	n/a

**1-phase motors 230 V quick reversible**

Design:	Supply voltage:	Operating mode:	
1-phase motors, quick reversible		230 V, 50 Hz	S2 intermittent operation

Motor data	Motor type-no.						
	M6RX6G4GGA	M7RX15G4GGA	M8RX25GK4GG1	M9RX40GK4GG1	M9RZ60GK4GG1	M9RZ90GK4GG1	
	Output [Watt]	6	15	25	40	60	90
	Weight [kg]	0,67	1,10	1,80	2,80	3,00	3,30
	Rated current [A]	0,12	0,18	0,28	0,4	0,66	0,92
	Input power [Watt]	26	40	62	92	145	202
	Rated speed [1/min]	1300	1275	1275	1300	1275	1250
	Rated torque [Nm]	0,044	0,11	0,19	0,29	0,45	0,69
	Starting current [A]	0,15	0,28	0,49	0,74	1,10	1,60
	Starting torque [Nm]	0,06	0,09	0,19	0,33	0,57	0,79
	Capacitor [μF]	0,8	1,3	2,0	3,5	5,0	7,0
	Capacitor [V]	450	450	450	450	450	450
	Type of protection IP	IP 20	IP 20	IP 54	IP 54	IP 54	IP 54
	Insulation class	B	B	B	B	B	B
	Approvals	UL/cUL/CE/CCC	UL/cUL/CE/CCC	UL/cUL/CE/CCC	UL/cUL/CE/CCC	UL/cUL/CE/CCC	UL/cUL/CE/CCC
	Thermostat	nein	ja	ja	ja	ja	ja
	Braking current [A]	n/a	n/a	n/a	n/a	n/a	n/a
	Brake input power [W]	n/a	n/a	n/a	n/a	n/a	n/a
	Brake holding torque [Nm]	n/a	n/a	n/a	n/a	n/a	n/a

## 1-phase brake motors 230 V

**Design:**  
1-phase brake motors

**Supply voltage:**  
230 V, 50 Hz

**Operating mode:**  
S2 intermittent operation

Motor data	Motor type-no.					
	M6RX6GB4GGA	M7RX15GB4GGA	M8RX25GR4GG1	M9RX40GR4GG1	M9RZ60GR4GG1	M9RZ90GR4GG1
<b>Output</b>	[Watt]	0,85	15	25	40	60
<b>Weight</b>	[kg]	0,85	1,10	1,80	2,80	3,10
<b>Rated current [A]</b>	[A]	0,12	0,17	0,27	0,36	0,62
<b>Input power</b>	[Watt]	26	39	59	84	135
<b>Rated speed</b>	[1/min]	1300	1300	1275	1350	1300
<b>Rated torque</b>	[Nm]	0,044	0,11	0,19	0,28	0,44
<b>Starting current</b>	[A]	0,16	0,28	0,48	0,76	1,20
<b>Starting torque</b>	[Nm]	0,07	0,11	0,21	0,43	0,62
<b>Capacitor</b>	[μF]	0,8	1,3	2,0	3,5	5,0
<b>Capacitor</b>	[V]	450	450	450	450	450
<b>Type of protection</b>	IP	IP 20	IP 20	IP 44	IP 44	IP 44
<b>Insulation class</b>		B	B	B	B	B
<b>Approvals</b>		UL/cUL/CE/CCC	UL/cUL/CE/CCC	UL/cUL/CE/CCC	UL/cUL/CE/CCC	UL/cUL/CE/CCC
<b>Thermostat</b>		nein	ja	ja	ja	ja
<b>Braking current</b>	[A]	0,02	0,03	0,03	0,05	0,05
<b>Brake input power</b>	[W]	4	6	6	9	10
<b>Brake holding torque</b>	[Nm]	0,05	0,08	0,10	0,20	0,39

## 3-phase motors 230 V

**Design:**  
3-phase motors

**Supply voltage:**  
230 V, 50 Hz

**Operating mode:**  
S1 continuous operation

Motor data	Motor type-no.			
	M8MX25GK4YGA	M9MX40GK4YGA	M9MZ60GK4YGA	M9MZ90GK4YGA
<b>Output</b>	[Watt]	25	40	60
<b>Weight</b>	[kg]	1,80	2,80	3,00
<b>Rated current [A]</b>	[A]	0,23	0,28	0,4
<b>Input power</b>	[Watt]	49	66	98
<b>Rated speed</b>	[1/min]	1320	1340	1320
<b>Rated torque</b>	[Nm]	0,16	0,27	0,41
<b>Starting current</b>	[A]	0,64	0,91	1,30
<b>Starting torque</b>	[Nm]	0,50	0,63	0,87
<b>Capacitor</b>	[μF]	n/a	n/a	n/a
<b>Capacitor</b>	[V]	n/a	n/a	n/a
<b>Type of protection</b>	IP	IP54	IP54	IP54
<b>Insulation class</b>		B	B	B
<b>Approvals</b>		UL/cUL/CE/CCC	UL/cUL/CE/CCC	UL/cUL/CE/CCC
<b>Thermostat</b>		ja	ja	ja
<b>Braking current</b>	[A]	n/a	n/a	n/a
<b>Brake input power</b>	[W]	n/a	n/a	n/a
<b>Brake holding torque</b>	[Nm]	n/a	n/a	n/a

**Motor data****3-phase motors 400 V**

<b>Design:</b> 3-phase motors	<b>Supply voltage:</b> 400 V, 50 Hz	<b>Operating mode:</b> S1 continuous operation
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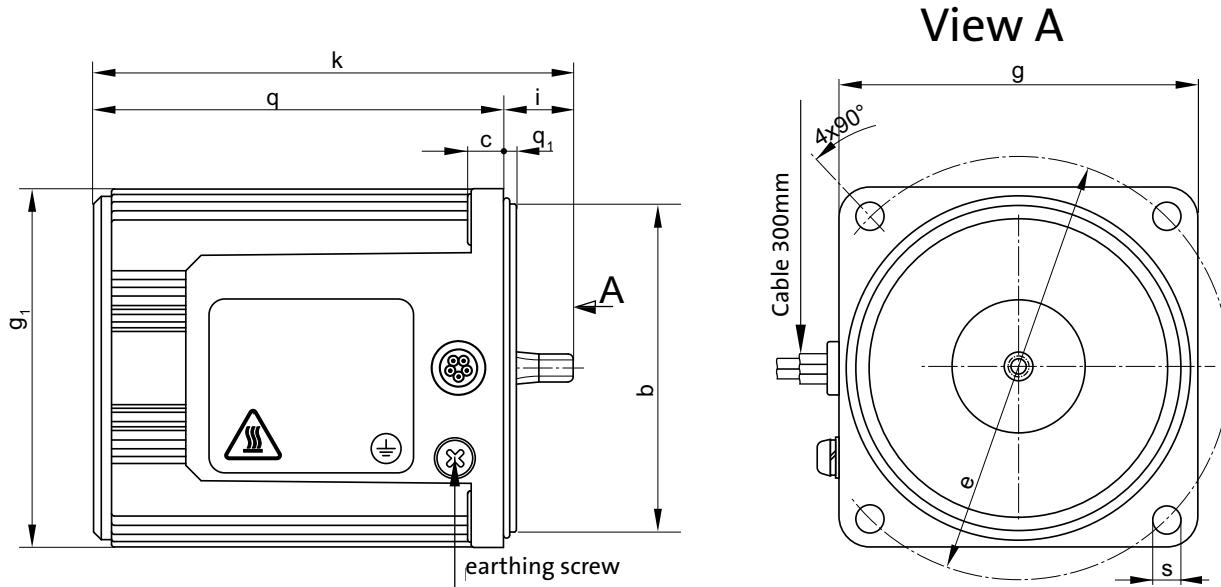
Motor data	Motor type-no.				
	M8MX25GK4CGA	M9MX40GK4CGA	M9MZ60GK4CGA	M9MZ90GK4CGA	
	<b>Output</b> [Watt]	25	40	60	90
	<b>Weight</b> [kg]	1,80	2,80	3,00	3,30
	<b>Rated current [A]</b>	0,12	0,15	0,22	0,31
	<b>Input power</b> [Watt]	52	66	103	144
	<b>Rated speed</b> [1/min]	1325	1350	1325	1350
	<b>Rated torque</b> [Nm]	0,18	0,28	0,43	0,64
	<b>Starting current</b> [A]	0,32	0,47	0,65	1,00
	<b>Starting torque</b> [Nm]	0,56	0,74	1,00	1,60
	<b>Capacitor</b> [μF]	n/a	n/a	n/a	n/a
	<b>Capacitor</b> [V]	n/a	n/a	n/a	n/a
	<b>Type of protection</b>	IP54	IP54	IP54	IP54
	<b>Insulation class</b>	B	B	B	B
	<b>Approvals</b>	UL/cUL/CE/CCC	UL/cUL/CE/CCC	UL/cUL/CE/CCC	UL/cUL/CE/CCC
	<b>Thermostat</b>	ja	ja	ja	ja
	<b>Braking current</b> [A]	n/a	n/a	n/a	n/a
	<b>Brake input power</b> [W]	n/a	n/a	n/a	n/a
	<b>Brake holding torque</b> [Nm]	n/a	n/a	n/a	n/a

**3-phase brake motors 230 V**

<b>Design:</b> 3-phase brake motors	<b>Supply voltage:</b> 230 V, 50 Hz	<b>Operating mode:</b> S1 continuous operation
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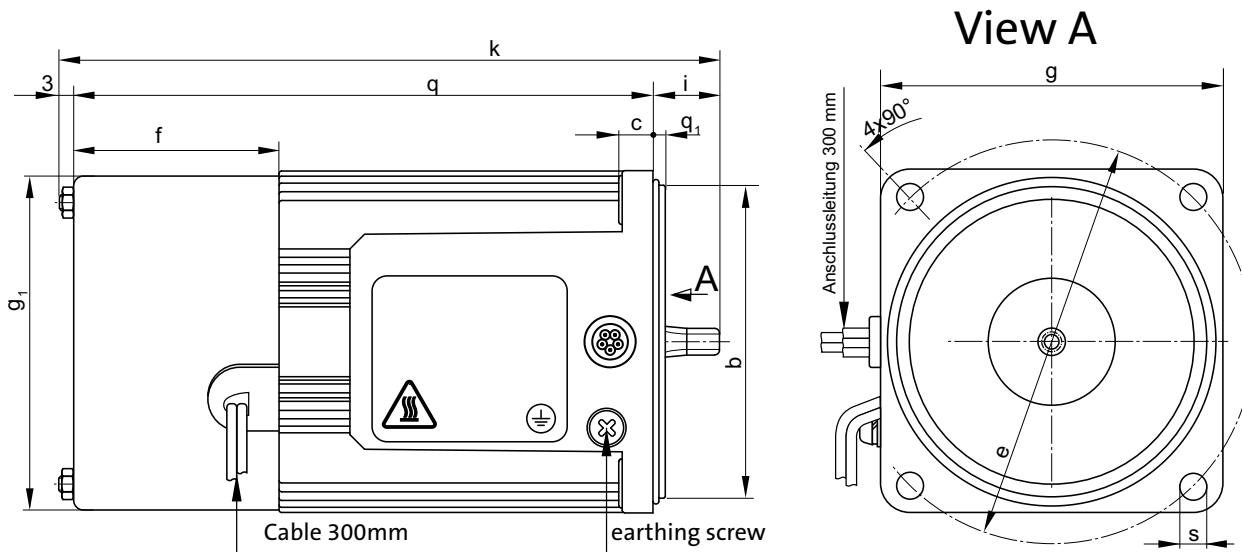
Motor data	Motor type-no.				
	M8MX25GR4YG1	M9MX40GR4YG1	M9MZ60GR4YG1	M9MZ90GR4YG1	
	<b>Output</b> [Watt]	25	40	60	90
	<b>Weight</b> [kg]	1,80	2,80	3,10	3,70
	<b>Rated current [A]</b>	0,29	0,33	0,47	0,7
	<b>Input power</b> [Watt]	56	69	98	145
	<b>Rated speed</b> [1/min]	1375	1400	1400	1400
	<b>Rated torque</b> [Nm]	0,17	0,27	0,41	0,62
	<b>Starting current</b> [A]	0,67	1,00	1,40	2,10
	<b>Starting torque</b> [Nm]	0,74	1,00	1,50	2,30
	<b>Capacitor</b> [μF]	n/a	n/a	n/a	n/a
	<b>Capacitor</b> [V]	n/a	n/a	n/a	n/a
	<b>Type of protection</b>	IP44	IP44	IP44	IP44
	<b>Insulation class</b>	B	B	B	B
	<b>Approvals</b>	UL/cUL/CE/CCC	UL/cUL/CE/CCC	UL/cUL/CE/CCC	UL/cUL/CE/CCC
	<b>Thermostat</b>	ja	ja	ja	ja
	<b>Braking current</b> [A]	0,03	0,05	0,05	0,05
	<b>Brake input power</b> [W]	6	7	7	7
	<b>Brake holding torque</b> [Nm]	0,10	0,20	0,39	0,39

## Motor dimensions 6 and 15 W



## 1-phase and quick reversible motors

Motor type	b	c	e	f	g	g <sup>1</sup>	i	k	q	q <sup>1</sup>	s	l	m	n
M6□X6G4GGA	54	7	70	-	61	65	13	88	75	2,5	4,5	-	-	-
M7□X15G4GGA	64	7	82	-	70	74	13,6	93,6	80	2,5	5,5	-	-	-



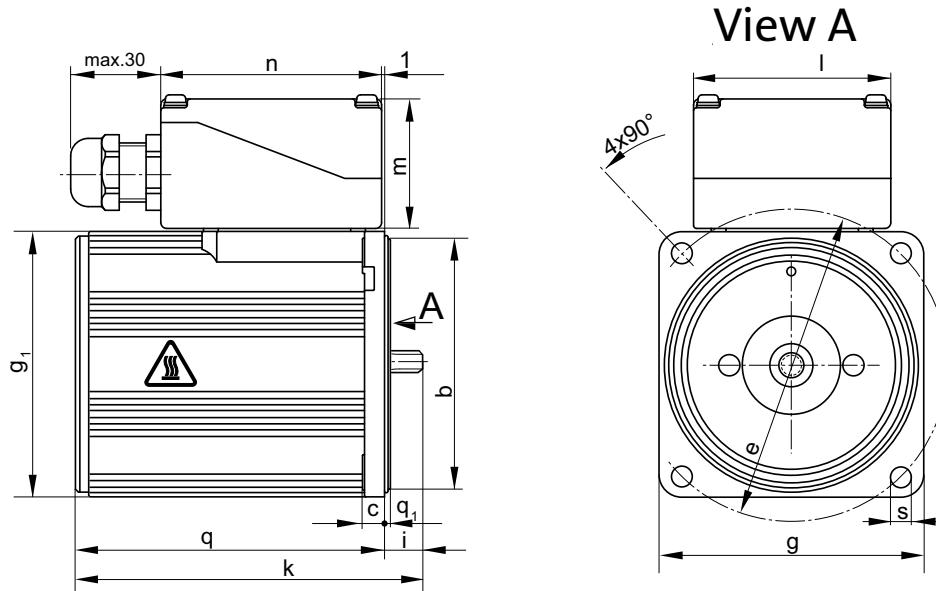
## 1-phase brake motors

Motor type	b	c	e	f	g	g <sup>1</sup>	i	k	q	q <sup>1</sup>	s	l	m	n
M6RX6GB4GGA	54	7	70	42,5	60	65	13	130,5	114,5	2,5	4,5	-	-	-
M7RX15GB4GGA	64	7	82	42,5	70	74	13,6	135,6	119	2,5	5,5	-	-	-

All dimensions in mm

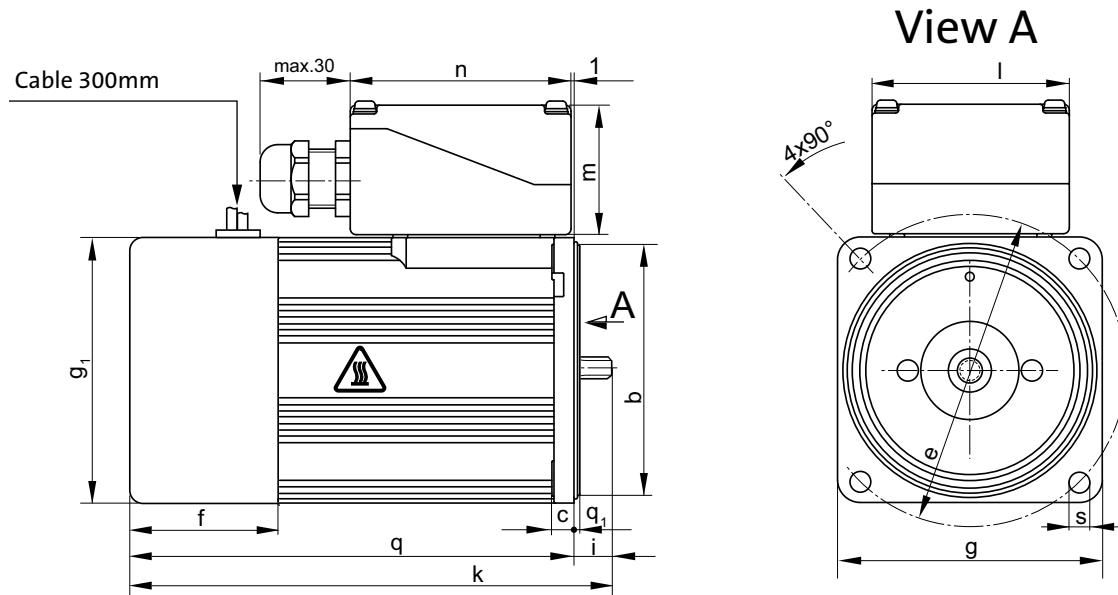
## Motor dimensions

## Motor dimensions 25 and 40 W



1-phase and quick reversible motors, 3-phase motors

Motor type no.	b	c	e	f	g	g <sup>1</sup>	i	k	q	q <sup>1</sup>	s	l	m	n
M8□X25GK4□G□	75	7	94	-	80	86	11,3	96,3	85	2	5,5	67	45	75
M9□X40GK4□G□	85	7,5	104	-	90	95	12,8	117,8	105	2	6,5	67	45	75

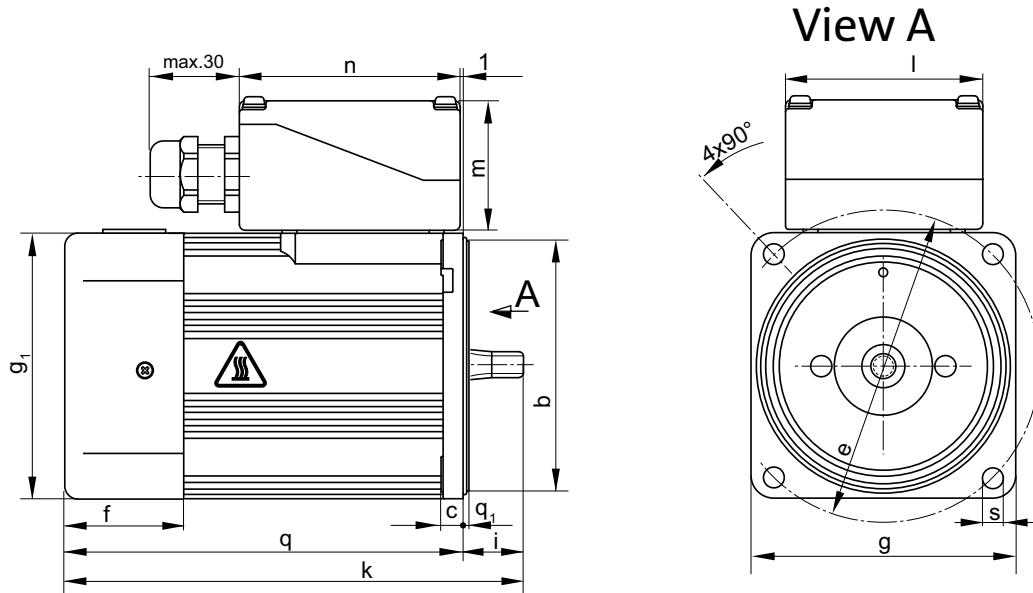


1-phase and 3-phase brake motors

Motor type no.	b	c	e	f	g	g <sup>1</sup>	i	k	q	q <sup>1</sup>	s	l	m	n
M8□X25GR4□□1	75	7	94	47,5	80	86	11,3	140	128	2	5,5	67	45	75
M9□X40GR4□□1	85	7,5	104	50,5	90	95	12,8	163,8	151	2	6,5	67	45	75

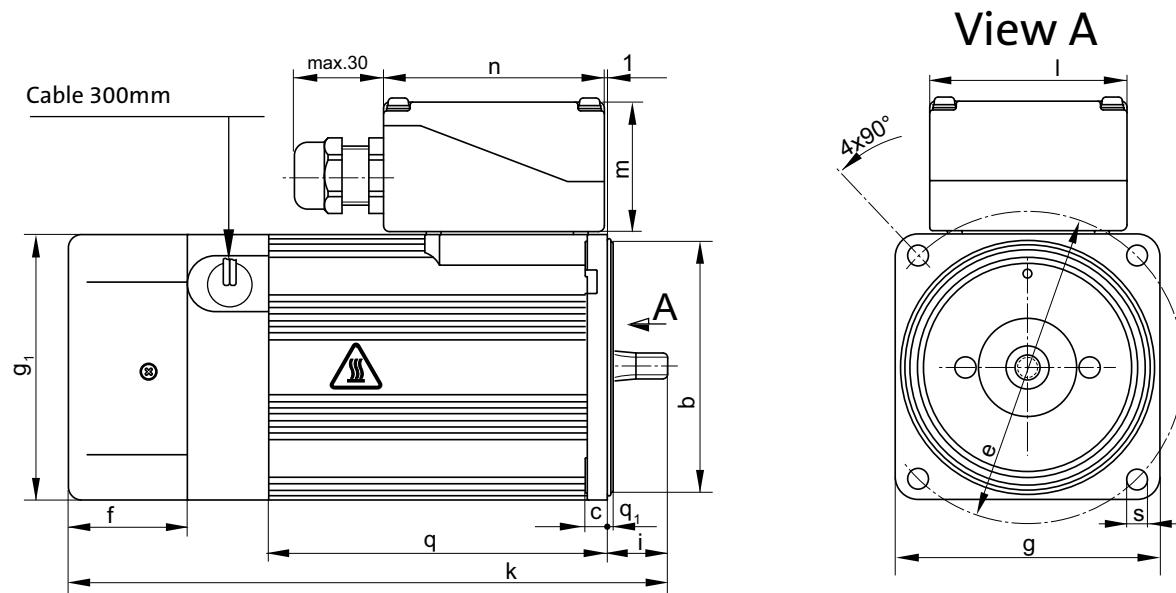
All dimensions in mm

## Motor dimensions 60 and 90 W



1-phase and quick reversible motors, 3-phase motors

Motor type no.	b	c	e	f	g	g <sup>1</sup>	i	k	q	q <sup>1</sup>	s	l	m	n
M9□Z60GK4□G□	85	7,5	104	40	90	92	20,5	140,5	120	2	6,5	67	45	75
M9□Z90GK4□G□	85	7,5	104	40	90	92	20,5	155,5	135	2	6,5	67	45	75



1-phase and 3-phase brake motors

Motor type no.	b	c	e	f	g	g <sup>1</sup>	i	k	q	q <sup>1</sup>	s	l	m	n
M9□Z60GR4□□1	85	7,5	104	40	90	92	20,5	189	168,5	2	6,5	67	45	75
M9□Z90GR4□□1	85	7,5	104	40	90	92	20,5	204	183,5	2	6,5	67	45	75

All dimensions in mm

**Gearbox data****Gearbox data**

Gearbox data	Output	[Watt]	Gearbox type					
			MX6GxxxB	MX7GxxxB	MX8GxxxB	MX9GxxxB	MZ9GxxxB	MY9GxxxB
			[mm]	60	70	80	90	90
Ratio	3	0,10	0,24	0,39	0,66	0,66		
	5	0,16	0,39	0,66	1,08	1,57		
	7,5	0,25	0,59	0,98	1,57	2,35		
	10	0,33	0,80	1,27	2,25	3,14		
	12,5	0,40	0,98	1,57	2,74	3,92		
	15	0,49	1,18	1,96	3,23	4,70		
	18	0,59	1,37	2,35	3,92	5,59		
	20	0,66	1,57	2,55	4,41	6,27		
	25	0,79	1,86	3,14	5,29	7,55		
	30	0,95	2,25	3,82	6,34	9,11		
	36	1,18	2,74	4,61	7,94	11,00		
	50	1,57	3,82	6,37	9,80	15,20		
	60	1,86	4,61	7,64	9,80	17,80		
	75	2,25	4,90	7,84	9,80	19,60		
	90	2,45	4,90	7,84	9,80	19,60		
	100	2,45	4,90	7,84	9,80	19,60		
	120	2,45	4,90	7,84	9,80	19,60		
	150	2,45	4,90	7,84	9,80	19,60		
	180	2,45	4,90	7,84	9,80	19,60		
	200	-	-	-	-	19,60		

Gearbox data	Output	[Watt]	Gearbox type					
			MR9GxxxB	MP9GxxxB	MZ9GxxxB	MY9GxxxB	MR9GxxxB	MP9GxxxB
			[mm]	60	90	90	90	90
Ratio	3				1,37			
	5				2,25			
	7,5				3,43			
	10				4,51			
	12,5				5,68			
	15				6,76			
	18				8,04			
	20				9,02			
	25				10,90			
	30				13,00			-
	36				15,70			-
	50	15,20			19,60		21,20	
	60	18,20			19,60		25,50	
	75	22,10			19,60		29,40	
	90	26,50			19,60		29,40	
	100	29,40			19,60		29,40	
	120	29,40			19,60		29,40	
	150	29,40			19,60		29,40	
	180	29,40			19,60		29,40	
	200	29,40			19,60		29,40	

Gearboxes with a high torque are only available with a high ratio.

Gearboxes with a high torque are only available with a high ratio.

## Gearbox data – Transmission ratio

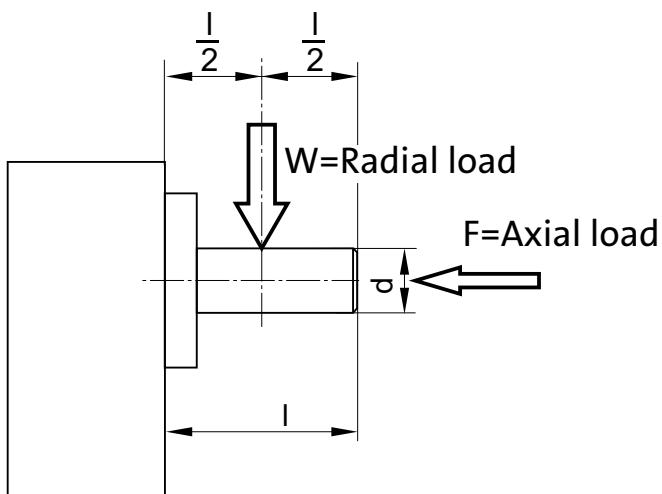
Gearbox data	Gearbox type					
	MX6GxxxB	MX7GxxxB	MX8GxxxB	MX9GxxxB	MZ9GxxxB	MY9GxxxB
	Ball bearing					
Size	[mm]	60	70	80	90	90
Weight	[kg]	0,34	0,54	0,60	1,20	1,50
Transmission ratio	3					
	5					
	7,5					
	10					
	12,5					
	15					
	18					
	20					
	25					
	30					
	36					
	50					
	60					
	75					
	90					
	100					
	120					
	150					
	180					
	200					

Gearbox data	Gearbox type						
	MR9GxxxB	MP9GxxxB	MX6G10XB	MX7G10XB	MX8G10XB	MX9G10XB	MZ9G10XB
	Ball bearing						
Size	[mm]	90	90	60	70	80	90
Weight	[kg]	1,70	1,70	0,23	0,35	0,39	0,53
Transmission ratio	3						
	5						
	7,5						
	10						
	12,5						
	15						
	18						
	20						
	25						
	30						
	36						
	50						
	60						
	75						
	90						
	100						
	120						
	150						
	180						
	200						

## Axial and radial loads

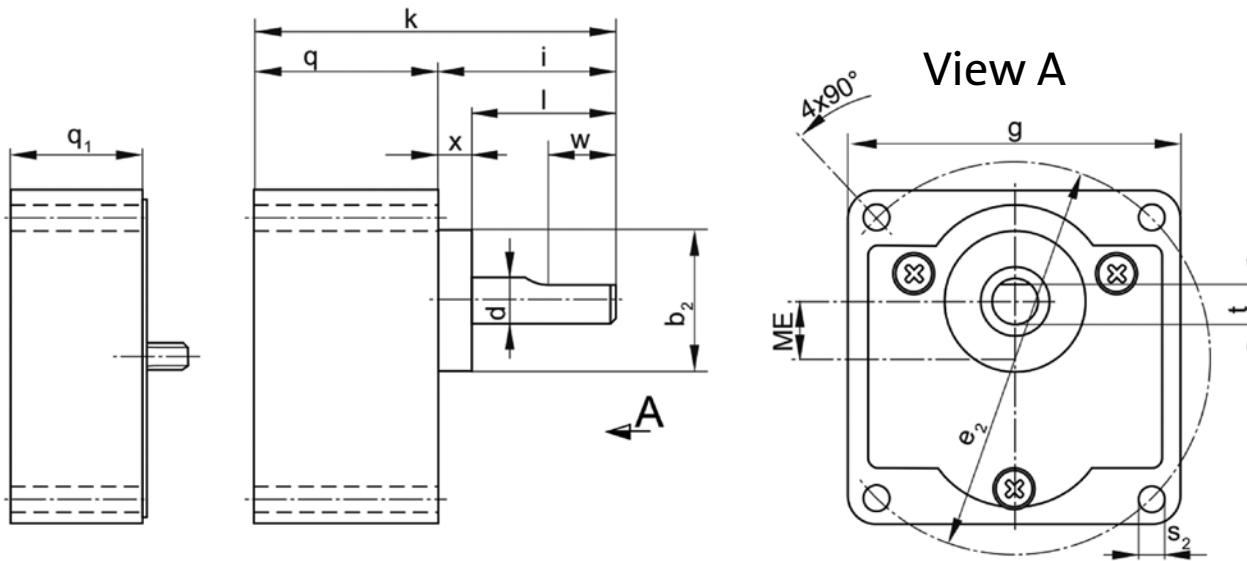
The radial force defines the size of the bending force active half way along the output shaft.

The bending force occurs particularly in belt and chain drives. No bending forces occur in applications with flexible couplings. Axial and radial loads have a major influence on the service life of the gearbox. The loads shown in the table below are maximum values and must not be exceeded – however, they can occur simultaneously.

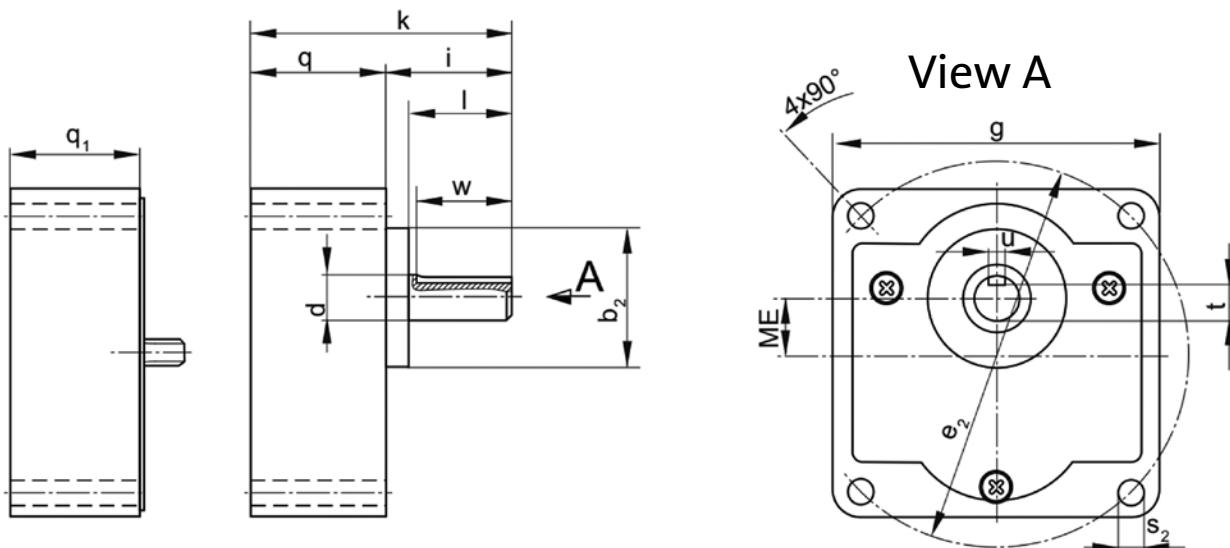


Ball bearing gearbox		Max. output torque (Nm)	Max. axial load (N)	Max. radial load (N)
Dimension	Type			
60x60 mm	MX6GxxxB	2,45	29	98
70x70 mm	MX7GxxxB	4,9	39	196
80x80 mm	MX8GxxxB	7,84	49	294
90x90 mm	MX9GxxxB	9,8	98	392
90x90 mm	MZ9GxxxB	19,6	147	588
90x90 mm	MY9GxxxB	19,6	147	588
90x90 mm	MR9GxxxB	29,4	147	784
90x90 mm	MP9GxxxB	29,4	147	784

## Gearbox dimensions



Getriebetyp	a	b	$a_1$	$b_1$	$b_2$	$c_1$	$c_2$	$e_2$	g	$k^{(1)}$	$q^{(1)}$	$q_1^{(2)}$	i	$s_2$	ME	x	d	l	t	u	w	Decimal gearbox
MX6GXB	-	-	-	-	25	-	-	70	60	58(65)	26(33)	24,5	32	4,5	10	6	8	26	7	-	12	MX6G10XB



Getriebetyp	a	b	$a_1$	$b_1$	$b_2$	$c_1$	$c_2$	$e_2$	g	$k^{(1)}$	$q^{(1)}$	$q_1^{(2)}$	i	$s_2$	ME	x	d	l	t	u	w	Decimal gearbox
MX7GXB	-	-	-	-	30	-	-	82	70	62(68)	30(36)	28	32	5,5	15	5	10	27	7,5	4	25	MX7G10XB
MX8GXB	-	-	-	-	30	-	-	94	80	62	30	30	32	5,5	15	6	10	26	7,5	4	25	MX8G10XB
MX9GXB	-	-	-	-	36	-	-	104	90	69	37	35	32	7	18	5	12	27	9,5	4	25	MX9G10XB
MZ9GXB	-	-	-	-	34	-	-	104	90	98	60	43	38	7	18	7	15	29	12	5	25	MZ9G10XB

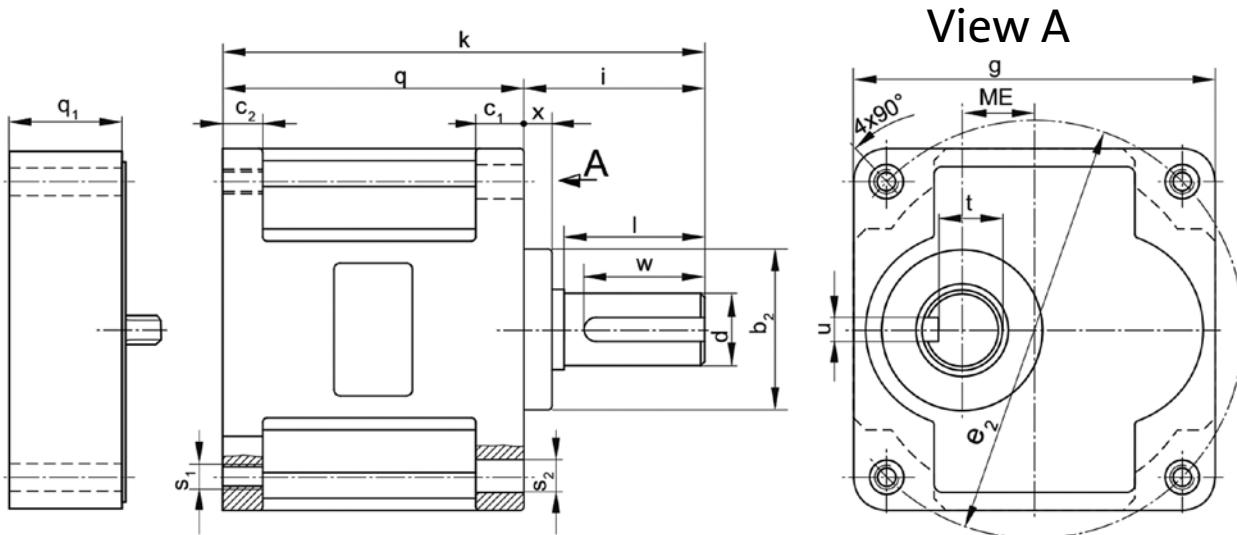
All dimensions in mm

(1) The values shown in brackets relate to ratios of 20:1 or higher

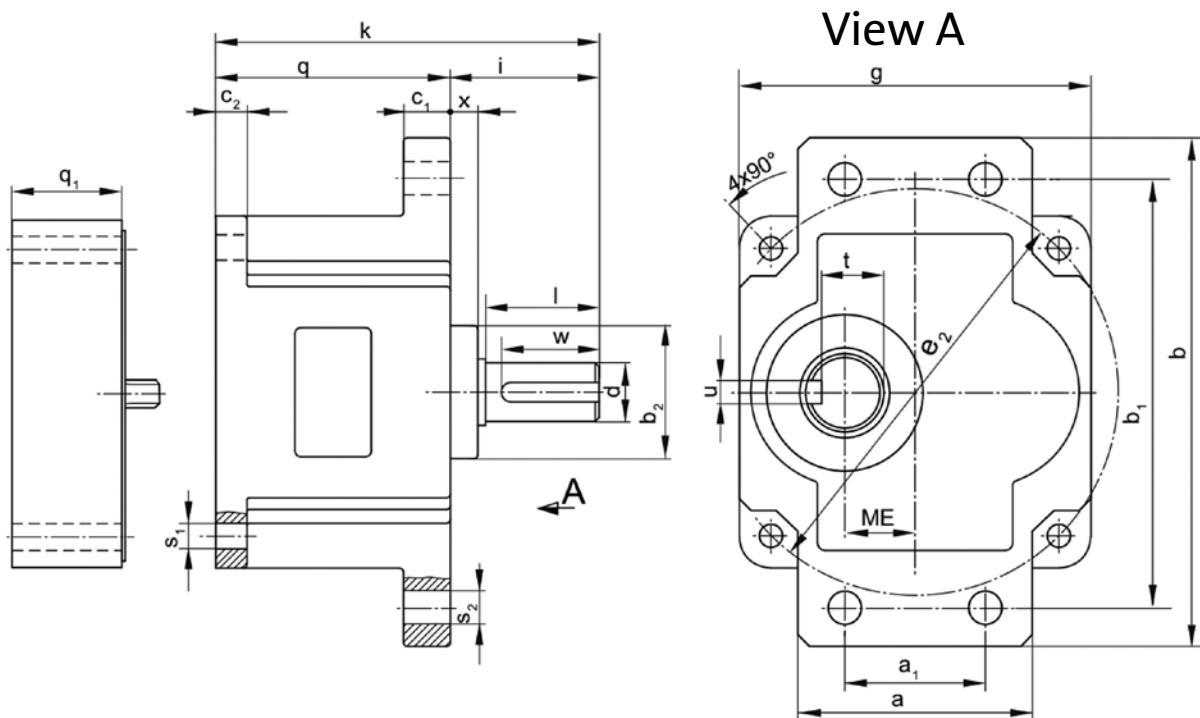
(2) Extension, decimal gearbox

## Gearbox dimensions

## Dimension Gearbox



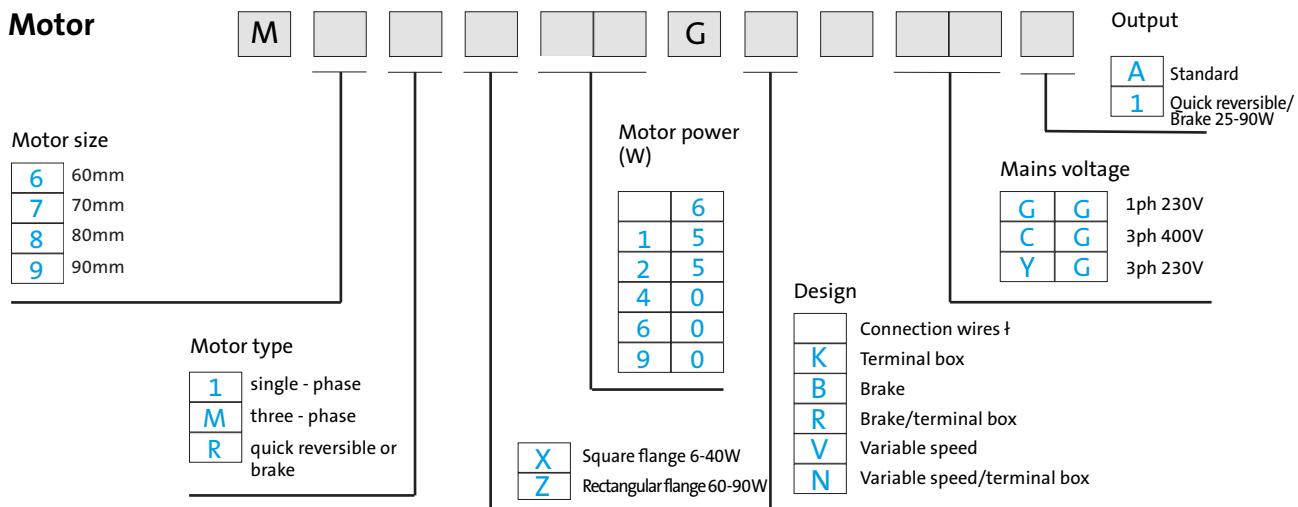
Gearbox type	a	b	$a_1$	$b_1$	$b_2$	$c_1$	$c_2$	$e_2$	g	k	q	$q_1^{(2)}$	i	$s_1$	$s_2$	ME	x	d	l	t	u	w	Decimal gearbox
MR9GXB	-	-	-	-	40	12	10	104	90	120	75	43	45	M6	8,5	18	7	18	35	14,5	6	30	MZ9G10XB



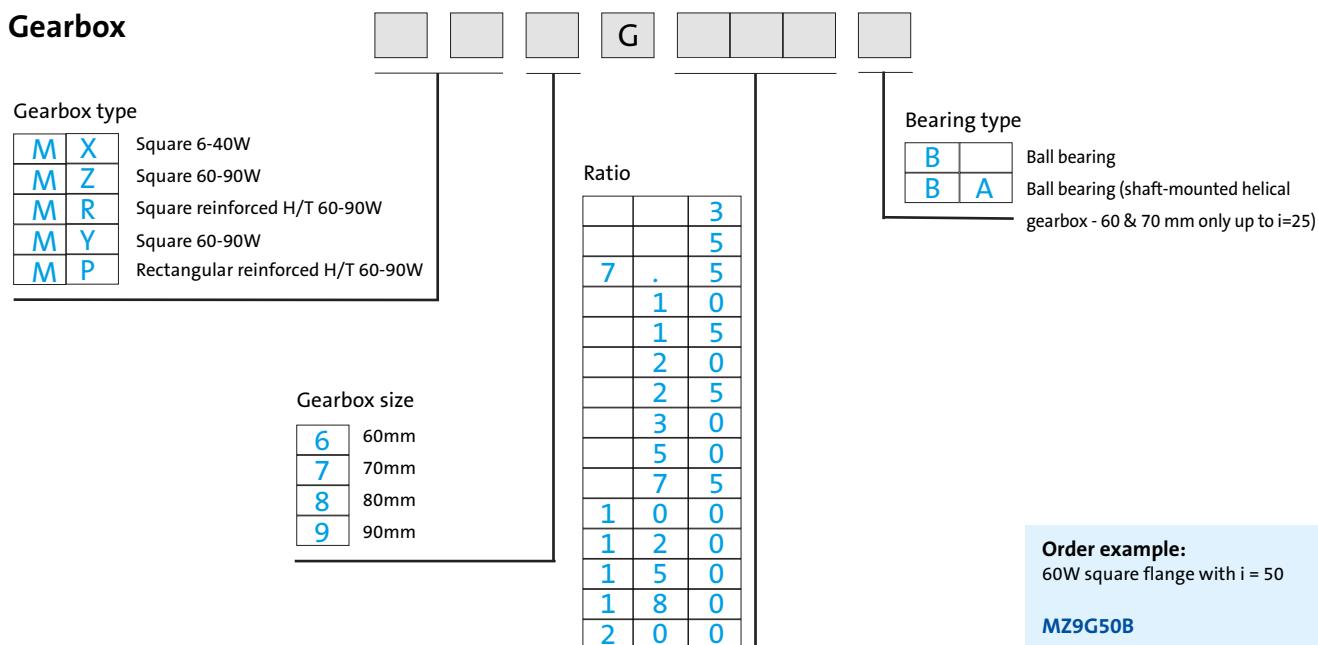
Gearbox type	a	b	$a_1$	$b_1$	$b_2$	$c_1$	$c_2$	$e_2$	g	k	q	$q_1^{(2)}$	i	$s_1$	$s_2$	ME	x	d	l	t	u	w	Decimal gearbox
MY9GXB	60	130	36	110	30	12	8	104	90	98	60	43	38	8,5	6,5	18	7	15	29	12	5	25	MZ9G10XB
MP9GXB	60	130	36	110	30	12	8	104	90	120	75	43	45	8,5	5,5	18	7	18	35	14,5	6	30	MZ9G10XB

All dimensions in mm

- (1) The values shown in brackets relate to ratios of 20:1 or higher  
 (2) Extension, decimal gearbox

**Motor**

**Order example:**  
25W 1-phase 230V brake motor  
with terminal box.  
**M8RX25GR4GG1**

**Gearbox**

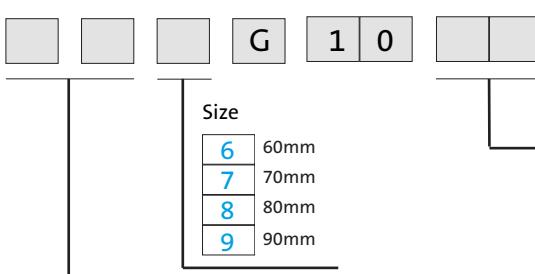
**Order example:**  
60W square flange with i = 50  
**MZG50B**

**Intermediate gearbox/  
Decimal gearbox**

(additional data for speeds of  
7.5 rpm and lower)

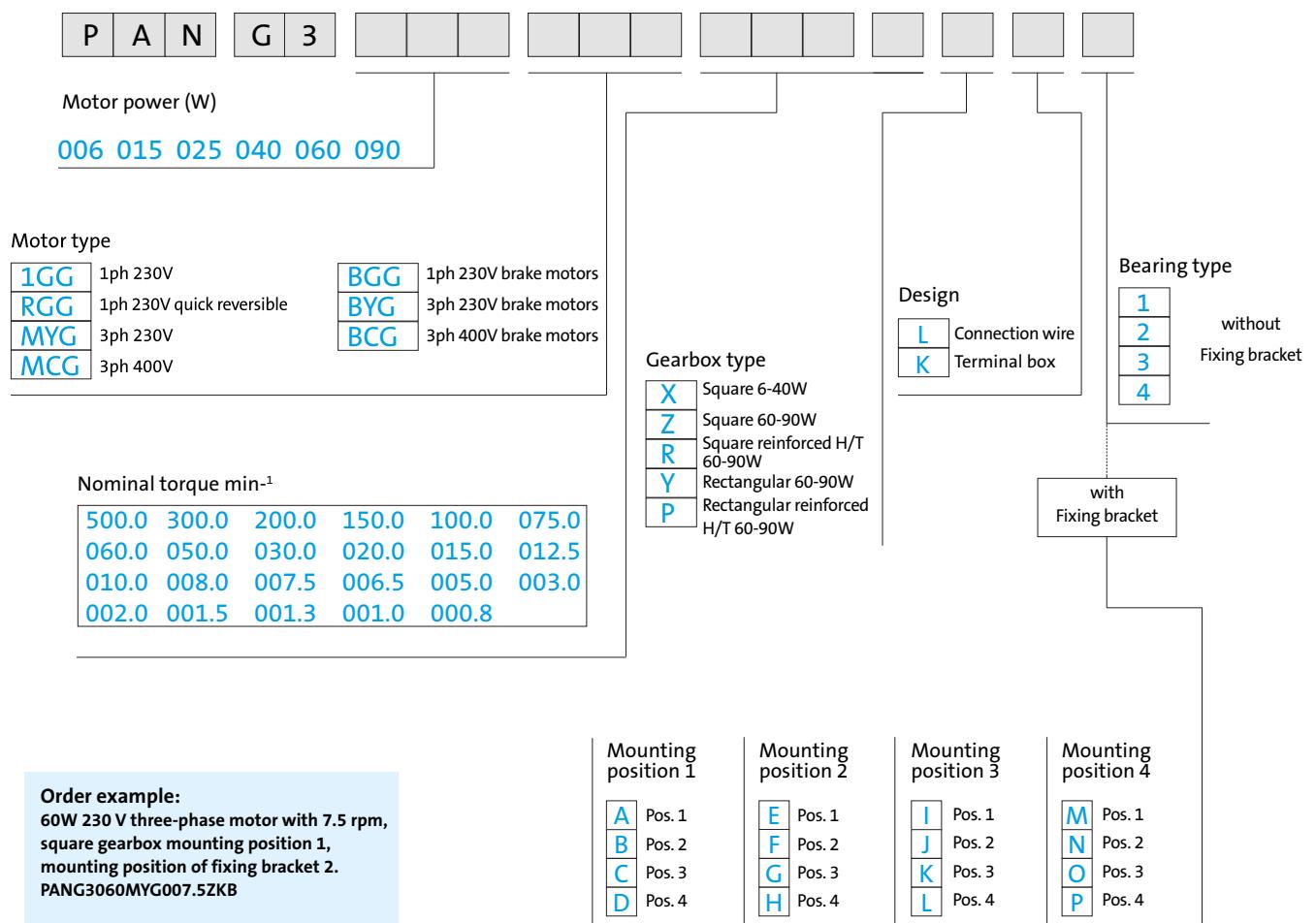
**Power output**

M	X	6-40W
M	Z	60-90W

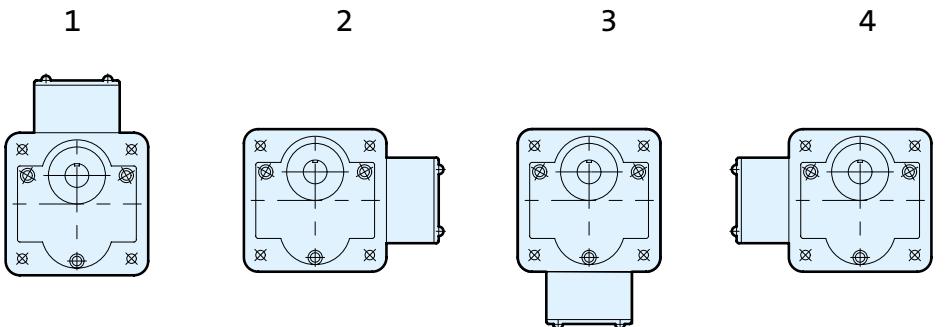


**Order example:**  
90W Intermediate gearboxes  
**MZG10XB**

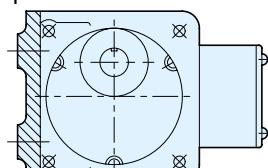
## Geared motor module

**Mounting position: electrical connection**

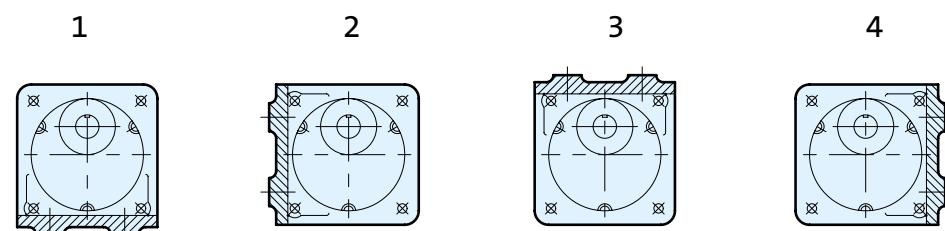
The geared motor is shown from the front in the drawings. If nothing is specified in the purchase order, mounting position 1 will be delivered.



**Example**  
Terminal box in  
position 2

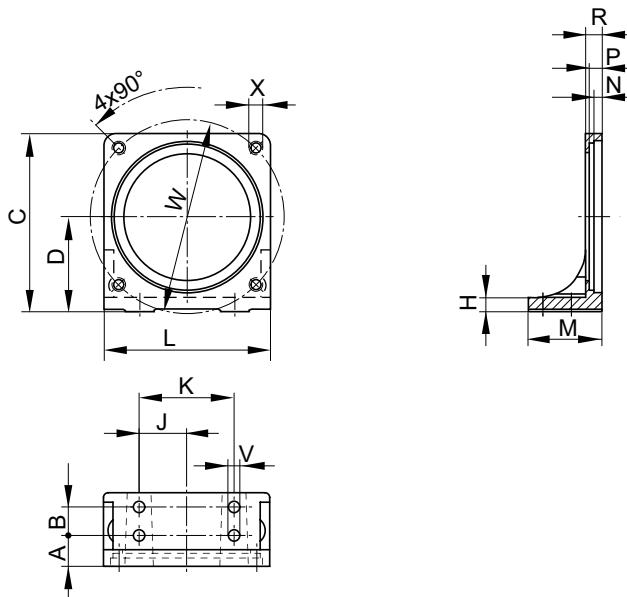
**Mounting position: Fixing bracket**

The geared motor is shown from the front in the drawings.  
If nothing is specified in the purchase order, no fixing bracket will be delivered.



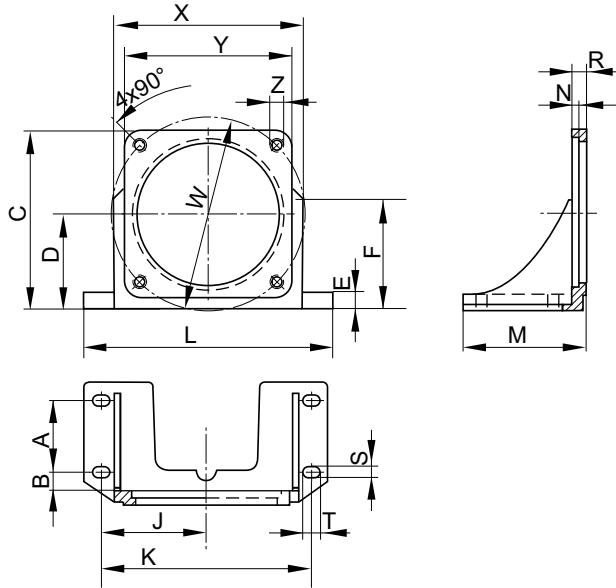
Fixing bracket in  
position 2

## Standard feet



Standard feet																
	angle type	A	B	C	D	H	J	K	L	M	N	P	R	V	W	X
6 W	M6B2	12	8	65	35	6	17	34	60	25	3	5,5	6	Ø 4,8	Ø 70	M4
15 W	M7B2	13	12	75	40	6	20	40	70	31	3,5	5,5	7	Ø 4,8	Ø 82	M5
25 W	M8B2	15	14	85	45	6	23	46	80	35	3,5	—	7	Ø 5,5	Ø 94	M5
40-90 W	M9B2	20	20	95	50	8	28	56	90	46	3,5	—	8	Ø 7,0	Ø 104	M6

## Side fixing feet



Side fixing feet																			
	angle type	A	B	C	D	H	J	K	L	M	N	R	S	T	U	W	X	Y	Z
25 W	M8B3	35	9	89	48	8	51	102	128	60	3,5	7	5,5	8,4	54	Ø 94	90	81	M5
40-90 W	M9B3	40	9	98,5	53	10	56	112	130	67	3,5	10	5,4	8,4	60	Ø 104	100	91	M6

All dimensions in mm

## Couplings

### General information

Couplings usually connect the drive and output end and allow the transmission of torque whilst simultaneously compensating for any misalignment.

### Functions of couplings

Couplings may have different tasks and assume different functions depending on their type and design. The main functions of couplings are:

- Connect the drive end and output end (e.g. two shafts)
- Transmit torque (i.e. drive power at a certain speed)
- Compensate for shaft misalignments
- Damp vibrations
- Fast installation
- Reduction of restoring forces
- Protect the drive train
- Electrically insulating

### Types of couplings

One can differentiate between four main categories of coupling:



For applications with our PANASONIC 3-Series, torsionally flexible couplings are normally used. We will be pleased to dimension the ideal coupling for your application.

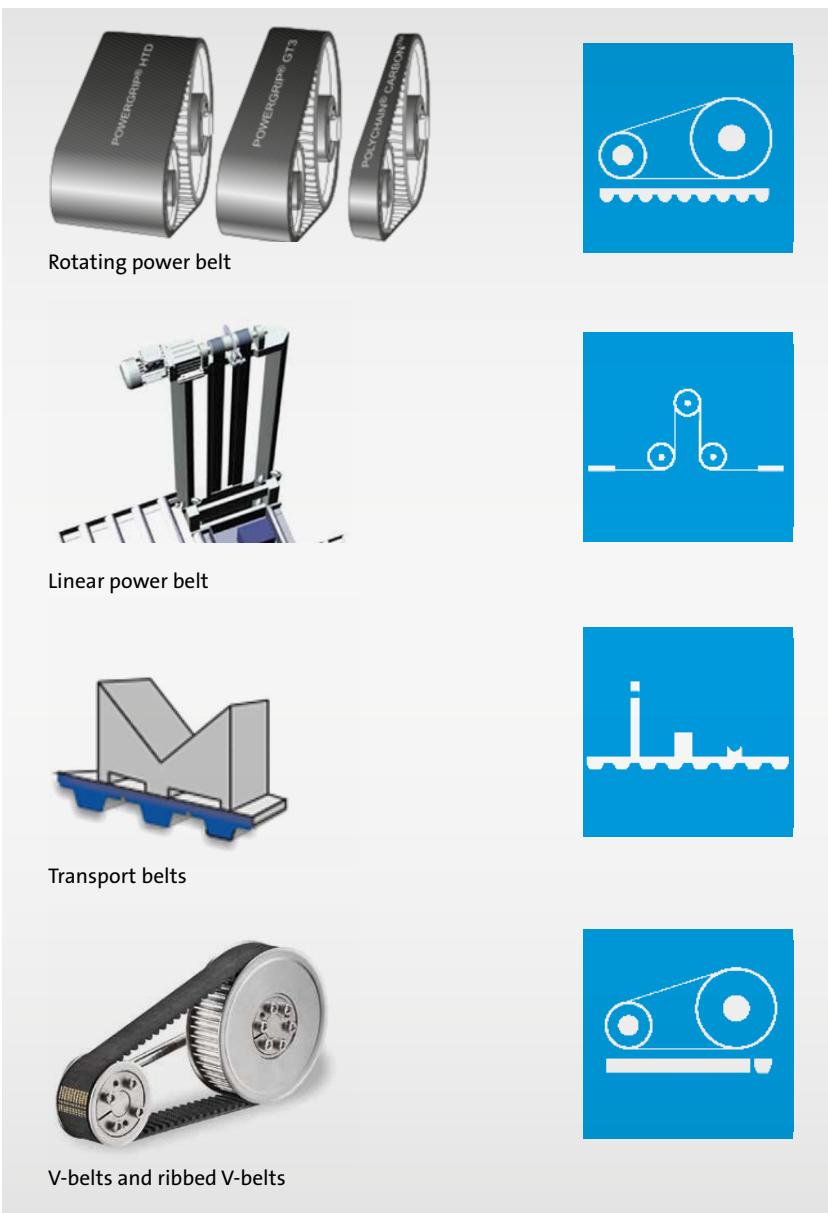
## Belts

### General information

A high degree of cost-effectiveness, maintenance-free nature and low-noise running - there are many good reasons to opt for a belt drive.

Toothed belt drives ensure a positive-fit, absolutely synchronous and slip-free power transmission. The efficiency is around 98%. V-ribbed belt drives transmit the force/torque with an efficiency of around 95% in a frictionally engaged fashion.

### Types of belts



Different belts with different tension members are used depending on the type of application, the power to be transmitted and the ambient conditions.

Our application technicians provide professional support when it comes to selecting and dimensioning the best belt drive for your machine.

## Locking assemblies

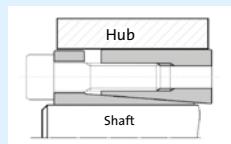
### Locking assemblies

#### General information

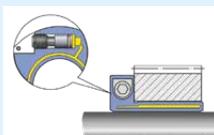
Locking assemblies (mechanical clamping assemblies, hydraulic locking bushes) are used for the force-fit/friction-fit and backlash-free transmission of torque and axial forces between shafts and hubs. Increases in productivity and reductions in set-up times and standstills are two important factors today. The choice of the correct shaft-hub connection is thus crucial.

#### Mechanical clamping assemblies (internal clamping assemblies)

Are positioned between the cleaned shaft and hub. Two tapered faces are pressed against each other by tightening the clamping screw. This results in a friction-locked connection between clamping set and shaft and between clamping set and hub.

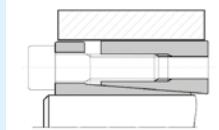


#### Hydraulic locking bushes



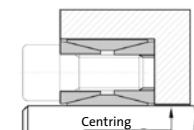
#### Self-centring

Shaft and hub are centred in relation to each other by means of a clamping set. Additional centring of the hub is not necessary.



#### Not Self-centring

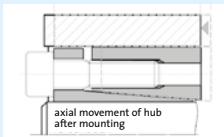
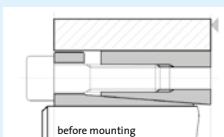
Centring between shaft and hub necessary



Hydraulic locking bushes are double-walled steel sleeves that contain a hydraulic medium. Pressure is exerted on the medium by tightening the pressure screw(s). This results in a uniform expansion of the steel sleeve against the shaft and hub. This results in a frictionally engaged shaft/hub connection.

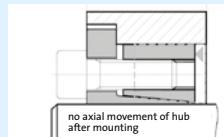
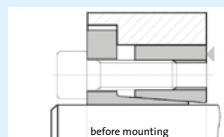
#### With axial hub movement ...

... during mounting of the clamping set. Catalogue values are applicable if hub can be displaced freely.



#### Without axial hub movement ...

... during mounting of the clamping set.



Details and more information about mechanical locking elements are available on our website at [www.Lenze-Selection.com](http://www.Lenze-Selection.com)



