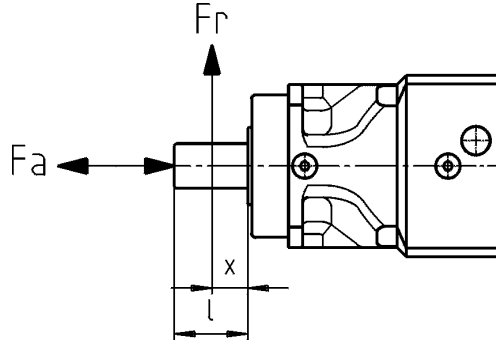


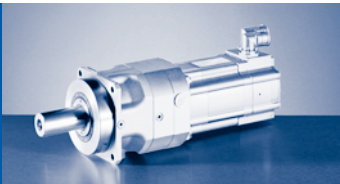
**Permissible radial force**  
 $F_{r_{zul}} = F_{r_{Tab}}$  at  $F_a = 0$

**Permissible axial force**  
 $F_{a_{zul}} = F_{a_{Tab}}$  at  $F_r = 0$

At  $F_r$  and  $F_a \neq 0$  please contact your Lenze sales office



Solid shaft with flange (GCN) Application of force $F_r$ : centre of shaft journal ( $x = l/2$ ) $F_{a_{Tab}}$ only valid for $F_r = 0$												
	GPA00-1/2		GPA01-1/2		GPA02-1/2		GPA03-1/2		GPA04-1/2		GPA05-1/2	
$n_2$ [r/min]	$F_{r_{Tab}}$ [N]	$F_{a_{Tab}}$ [N]	$F_{r_{Tab}}$ [N]	$F_{a_{Tab}}$ [N]	$F_{r_{Tab}}$ [N]	$F_{a_{Tab}}$ [N]	$F_{r_{Tab}}$ [N]	$F_{a_{Tab}}$ [N]	$F_{r_{Tab}}$ [N]	$F_{a_{Tab}}$ [N]	$F_{r_{Tab}}$ [N]	$F_{a_{Tab}}$ [N]
1000	1550	2300	2325	3200	3700	5400	4950	9400	7170	13500	11390	22500
900	1600		2400		3825		5125		7400		11750	
800	1675		2475		3950		5300		7670		12180	
700	1725		2600		4125		5525		7980		12680	
600	1825		2700		4325		5775		8360		13280	
500	1925		2850		4550		6100		8830		14020	
400	2050		3050		4875		6525		9450		15000	
300	2250		3350		5300		7100		10300		16350	
200	2525		3775		6000		8025		11630		18000	
$\leq 100$	2600		3800				9000		14000			
$F_{r_{max}}$												



### Backlash

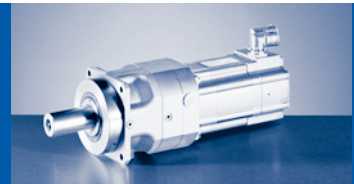
Gearbox type	Standard backlash (measured at 2% of gearbox output torque)
	[arcmin]
GPA00-1	Max. 6
GPA01-1	
GPA02-1	
GPA03-1	
GPA04-1	
GPA05-1	

Gearbox type	Standard backlash (measured at 2% of gearbox output torque)
	[arcmin]
GPA00-2	Max. 8
GPA01-2	
GPA02-2	
GPA03-2	
GPA04-2	
GPA05-2	

### Torsional stiffness

Gearbox type	Torsional stiffness
	[Nm/arcmin]
GPA00-1	3
GPA01-1	8.8
GPA02-1	23
GPA03-1	47
GPA04-1	145
GPA05-1	225

Gearbox type	Torsional stiffness
	[Nm/arcmin]
GPA00-2	2.8
GPA01-2	8
GPA02-2	20
GPA03-2	42
GPA04-2	125
GPA05-2	195



## GPA□□-1S GCN...RSO B0

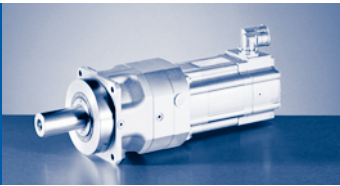
	06C N41	06F N41	06I N41	09D N41	09F N38	09H N41	09L N41	12D N20	12D N41	12H N15	12H N30	12H N35	12L N20	12L N41	
GPA00...	4		5	6	7	8	10								
GPA01...	5	6		8	9	10	11	10		13				16	
GPA02...				11	12	13	14	13		16				19	
GPA03...								21		24				27	
	14D N15	14D N36	14H N15	14H N32	14L N15	14L N32	14P N14	14P N32	19F N14	19F N30	19J N14	19J N30	19P N14	19P N30	
GPA02...	17		22		27		31								
GPA03...	25		30		34		39		37		44		54		
GPA04...										53		60		70	
GPA05...										68		75		85	

## GPA□□-2S GCN...RSO B0

	06C N41	06F N41	06I N41	09D N41	09F N38	09H N41	09L N41	12D N20	12D N41	12H N15	12H N30	12H N35	12L N20	12L N41	
GPA00...	5		6												
GPA01...	6	7		9	10	11	12								
GPA02...				13	14	15	17	15		18				21	
GPA03...								26		30				33	
	14D N15	14D N36	14H N15	14H N32	14L N15	14L N32	14P N14	14P N32	19F N14	19F N30	19J N14	19J N30	19P N14	19P N30	
GPA03...	31		36		40		45								
GPA04...										62		69		79	
GPA05...										90		97		107	

Note additional weights.

Weights in [kg] with oil capacity for mounting position A, all given as approximate values



## GPA [kg]

### GPA□□-1A GCN...RSO B0

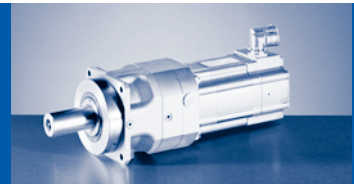
	10I N40 ...S00	13I N41 ...S00	13I N34 ...F10	14L N20 ...S00	14L N41 ...S00	14L N16 ...F10	14L N35 ...F10	17N N23 ...S00	17N N41 ...S00	
GPA00...	9									
GPA01...	10	14	15							
GPA02...	13	17	19	22		24		29		
GPA03...		26	27	30		32		38		
	17N N17 ...F10	17N N35 ...F10	19S N23 ...S00	19S N42 ...S00	19S N17 ...F10	19S N35 ...F10	21X N25 ...S00	21X N42 ...S00	21X N17 ...F10	21X N35 ...F10
GPA01...										
GPA02...	32									
GPA03...	41		60		63		75		79	
GPA04...			75		78		90		94	
GPA05...			90		94		105		109	

### GPA□□-2A GCN...RSO B0

	10I N40 ...S00	13I N41 ...S00	13I N34 ...F10	14L N20 ...S00	14L N41 ...S00	14L N16 ...F10	14L N35 ...F10	17N N23 ...S00	17N N41 ...S00	
GPA00...	9									
GPA01...	11	15	16							
GPA02...		19	21	24		26		32		
GPA03...										
	17N N17 ...F10	17N N35 ...F10	19S N23 ...S00	19S N42 ...S00	19S N17 ...F10	19S N35 ...F10	21X N25 ...S00	21X N42 ...S00	21X N17 ...F10	21X N35 ...F10
GPA02...	34									
GPA03...			65		68					
GPA04...			84		88		99		103	
GPA05...			111		115		126		130	

Note additional weights.

Weights in [kg] with oil capacity for mounting position A, all given as approximate values



### Additional weights MCS servo motors

	06C N41	06F N41	06I N41	09D N41	09F N38	09H N41	09L N41	12D N20	12D N41	12H N15	12H N30	12H N35	12L N20	12L N41
...P1	0.3			0.8				0.9						
...P2				0.5				1.2						
...SCS/SCM/SRM/SRS ...ECN/EQN	0.4			0.2				0.3						

	14D N15	14D N36	14H N15	14H N32	14L N15	14L N32	14P N14	14P N32	19F N14	19F N30	19J N14	19J N30	19P N14	19P N30
...P1	1.9						1.5							
...P2	3.1									4.3				
...SCS/SCM/SRM/SRS ...ECN/EQN							0.3							

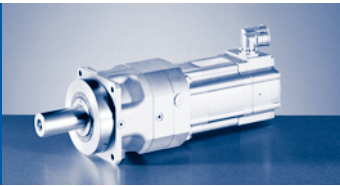
### Additional weights MCA servo motors

	10I N40 ...S00	13I N41 ...S00	13I N34 ...F10	14L N20 ...S00	14L N41 ...S00	14L N16 ...F10	14L N35 ...F10	17N N23 ...S00	17N N41 ...S00
...P1/P5								2.4	
...P2/P6	0.8	1.4		1.5					
...CDD ...ECN/EQN/EQI ...SCS/SCM/SRM/SRS/S20 ...T20	0.3	0.5		0.6			0.7		

	17N N17 ...F10	17N N35 ...F10	19S N23 ...S00	19S N42 ...S00	19S N17 ...F10	19S N35 ...F10	21X N25 ...S00	21X N42 ...S00	21X N17 ...F10	21X N35 ...F10
...P1/P5	2.4		4.8			5.0				
...P2/P6										
...CDD ...ECN/EQN/EQI ...SCS/SCM/SRM/SRS/S20 ...T20	0.7		1.0			1.1				

Weights in [kg]



# GPA [Nm]

## GPA□□-□S (MCS)

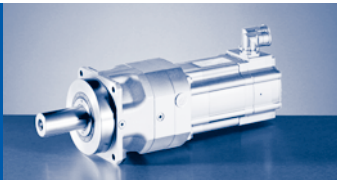
$M_{2GN} \leq 25 \text{ Nm}$

GPA00-1S				06CN41	06FN41	06IN41	09FN38	09HN41
				...500	...500	...500	...500	...500
i	$M_{2GN}$	$J_G$	$M_1$	0.60	1.20	1.50	3.10	3.80
			$n_1$	4050	4050	4050	3750	4050
			$I_{M230}$	2.6	2.9	3.2	5.0	6.8
			$I_{M400}$	1.3	1.5	1.6	2.5	3.4
			$P_N$	0.25	0.51	0.64	1.20	1.60
			$J_M$	0.17	0.25	0.33	1.53	1.93
3.000	20	0.22	$M_2$		4	4		
			c		5.8	4.6		
			$n_{2 \text{ Eck}}$		1350	1350		
			$n_{2 \text{ th}}$		867	867		
4.000	25	0.16	$M_2$		5	6	12	15
			c		5.4	4.4	2.1	1.7
			$n_{2 \text{ Eck}}$		1013	1013	938	1013
			$n_{2 \text{ th}}$		825	825	825	825
5.000	25	0.13	$M_2$		6	7	15	19
			c		4.3	3.5	1.7	1.4
			$n_{2 \text{ Eck}}$		810	810	750	810
			$n_{2 \text{ th}}$		660	660	660	660
7.000	25	0.12	$M_2$		8	10		
			c		3.1	2.5		
			$n_{2 \text{ Eck}}$		579	579		
			$n_{2 \text{ th}}$		571	571		
10.000	15	0.11	$M_2$	6	12	15		
			c	2.5	1.3	1.0		
			$n_{2 \text{ Eck}}$	405	405	405		
			$n_{2 \text{ th}}$	400	400	400		

GPA00-2S				06CN41	06FN41	06IN41
				...500	...500	...500
i	$M_{2GN}$	$J_G$	$M_1$	0.60	1.20	1.50
			$n_1$	4050	4050	4050
			$I_{M230}$	2.6	2.9	3.2
			$I_{M400}$	1.3	1.5	1.6
			$P_N$	0.25	0.51	0.64
			$J_M$	0.17	0.25	0.33
16.000	25	0.15	$M_2$	9	18	23
			c	2.8	1.4	1.1
			$n_{2 \text{ Eck}}$	253	253	253
			$n_{2 \text{ th}}$	253	253	253

M ... [Nm]  
 n ... [r/min]  
 J ... [kgcm<sup>2</sup>]

P ... [kW]  
 I ... [A]  
 i [-]  
 c [-]



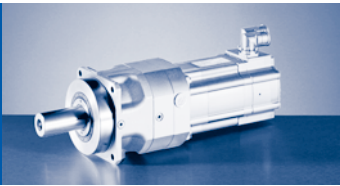
$M_{2GN} \leq 70 \text{ Nm}$

GPA01-1S				06FN41	06IN41	09FN38	09HN41	12HN15	12HN35	12LN20	12LN41
				...500	...500	...500	...500	...500	...500	...500	...500
i	$M_{2GN}$	$J_G$	$M_1$	1.20	1.50	3.10	3.80	10.00	7.50	13.50	11.00
			$n_1$	4050	4050	3750	4050	1500	3525	1950	4050
			$I_{M230}$	2.9	3.2	5.0	6.8	7.6		11.8	
			$I_{M400}$	1.5	1.6	2.5	3.4	3.8	5.7	5.9	10.2
			$P_N$	0.51	0.64	1.20	1.60	1.60	2.80	2.80	4.70
			$J_M$	0.25	0.33	1.53	1.93	7.42	7.42	10.72	10.72
3.000	56	0.71	$M_2$					29	22	40	32
			c				1.9	2.6	1.4	1.7	
			$n_{2 \text{ Eck}}$				500	1175	650	1350	
			$n_{2 \text{ th}}$				500	767	650	767	
4.000	70	0.52	$M_2$					39	29	53	43
			c				1.8	2.4	1.3	1.6	
			$n_{2 \text{ Eck}}$				375	881	488	1013	
			$n_{2 \text{ th}}$				375	725	488	725	
7.000	70	0.39	$M_2$			21	26	68	51		
			c			3.3	2.7	1.0	1.4		
			$n_{2 \text{ Eck}}$			536	579	214	504		
			$n_{2 \text{ th}}$			443	443	214	443		
10.000	45	0.36	$M_2$	12	15	30	37				
			c	3.9	3.1	1.5	1.2				
			$n_{2 \text{ Eck}}$	405	405	375	405				
			$n_{2 \text{ th}}$	310	310	310	310				

GPA01-2S				06CN41	06FN41	06IN41	09FN38	09HN41
				...500	...500	...500	...500	...500
i	$M_{2GN}$	$J_G$	$M_1$	0.60	1.20	1.50	3.10	3.80
			$n_1$	4050	4050	4050	3750	4050
			$I_{M230}$	2.6	2.9	3.2	5.0	6.8
			$I_{M400}$	1.3	1.5	1.6	2.5	3.4
			$P_N$	0.25	0.51	0.64	1.20	1.60
			$J_M$	0.17	0.25	0.33	1.53	1.93
16.000	70	0.16	$M_2$		18	23	47	58
			c		3.9	3.1	1.5	1.2
			$n_{2 \text{ Eck}}$		253	253	234	253
			$n_{2 \text{ th}}$		219	219	219	219
20.000	70	0.14	$M_2$		23	29		
			c		3.1	2.5		
			$n_{2 \text{ Eck}}$		203	203		
			$n_{2 \text{ th}}$		175	175		
28.000	70	0.12	$M_2$	16	32	40		
			c	4.4	2.2	1.8		
			$n_{2 \text{ Eck}}$	145	145	145		
			$n_{2 \text{ th}}$	136	136	136		

$M \dots$  [Nm]  
 $n \dots$  [r/min]  
 $J \dots$  [kgcm<sup>2</sup>]

$P \dots$  [kW]  
 $I \dots$  [A]  
 $i \dots$  [-]  
 $c \dots$  [-]



# GPA [Nm]

## GPA□□-□S (MCS)

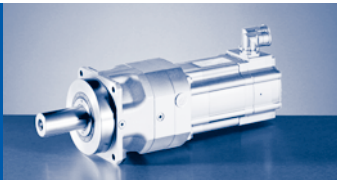
$M_{2GN} \leq 170 \text{ Nm}$

GPA02-1S				09FN38	09HN41	12HN15	12HN35	12LN20	12LN41	14DN15	
				...500	...500	...500	...500	...500	...500	...500	
i	$M_{2GN}$	$J_G$	$M_1$	3.10	3.80	10.00	7.50	13.50	11.00	9.20	
			$n_1$	3750	4050	1500	3525	1950	4050	1500	
			$I_{M230}$	5.0	6.8	7.6		11.8			
			$I_{M400}$	2.5	3.4	3.8	5.7	5.9	10.2	4.5	
			$P_N$	1.20	1.60	1.60	2.80	2.80	4.70	1.45	
			$J_M$	1.53	1.93	7.42	7.42	10.72	10.72	8.22	
3.000	135	3.10	$M_2$							27	
			c							5.0	
			$n_{2 \text{ Eck}}$								500
			$n_{2 \text{ th}}$								500
4.000	0	2.25	$M_2$			38					
			c			4.3					
			$n_{2 \text{ Eck}}$			375					
			$n_{2 \text{ th}}$			0					
4.000	170	2.25	$M_2$					53	43	36	
			c					3.2	4.0	4.7	
			$n_{2 \text{ Eck}}$					488	1013	375	
			$n_{2 \text{ th}}$					488	625	375	
5.000	170	1.52	$M_2$			49	37	66	54	45	
			c			3.5	4.6	2.6	3.2	3.8	
			$n_{2 \text{ Eck}}$			300	705	390	810	300	
			$n_{2 \text{ th}}$			300	500	390	500	300	
7.000	170	1.69	$M_2$			68	51	92	75	63	
			c			2.5	3.3	1.9	2.3	2.7	
			$n_{2 \text{ Eck}}$			214	504	279	579	214	
			$n_{2 \text{ th}}$			214	400	279	400	214	
10.000	110	1.18	$M_2$	30	37						
			c	3.6	3.0						
			$n_{2 \text{ Eck}}$	375	405						
			$n_{2 \text{ th}}$	280	280						

M ... [Nm]  
 n ... [r/min]  
 J ... [kgcm<sup>2</sup>]

P ... [kW]  
 I ... [A]  
 i [-]  
 c [-]



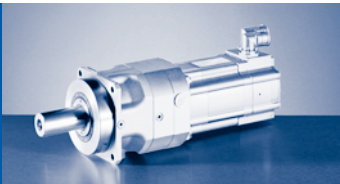


$M_{2GN} \leq 170 \text{ Nm}$

14DN36	14HN15	14HN32	14LN15	14LN32	14PN14	14PN32	GPA02-1S			
...500	...500	...500	...500	...500	...500	...500	$M_1$	$J_G$	$M_{2GN}$	i
7.50	16.00	14.00	23.00	17.20	30.00	21.00	$n_1$			
3600	1500	3225	1500	3225	1350	3225	$I_{M230}$			
							$I_{M400}$			
7.5	6.6	11.9	9.7	15.0	10.8	15.6	$P_N$			
2.80	2.50	4.70	3.60	5.80	4.20	7.10	$J_M$			
8.22	14.32	14.32	23.44	23.44	34.74	34.82	$M_2$			
	47	41	67	50	88	61	c	3.10	135	3.000
	2.9	3.3	2.0	2.7	1.5	2.2	$n_{2 \text{ Eck}}$			
	500	1075	500	1075	450	1075	$n_{2 \text{ th}}$			
	500	667	500	667	450	667				
							$M_2$			
							c	2.25	0	4.000
							$n_{2 \text{ Eck}}$			
							$n_{2 \text{ th}}$			
	62	55	90	67	117	82	$M_2$			
	2.7	3.1	1.9	2.5	1.5	2.1	c	2.25	170	4.000
	375	806	375	806	338	806	$n_{2 \text{ Eck}}$			
	375	625	375	625	338	625	$n_{2 \text{ th}}$			
37	78	68	112	84	146	102	$M_2$			
4.6	2.2	2.5	1.5	2.0	1.2	1.7	c	1.52	170	5.000
720	300	645	300	645	270	645	$n_{2 \text{ Eck}}$			
500	300	500	300	500	270	500	$n_{2 \text{ th}}$			
51	109	96	157	117		143	$M_2$			
3.3	1.6	1.8	1.1	1.5		1.2	c	1.69	170	7.000
514	214	461	214	461		461	$n_{2 \text{ Eck}}$			
400	214	400	214	400		400	$n_{2 \text{ th}}$			
							$M_2$			
							c	1.18	110	10.000
							$n_{2 \text{ Eck}}$			
							$n_{2 \text{ th}}$			

M ... [Nm]  
n ... [r/min]  
J ... [kgcm<sup>2</sup>]

P ... [kW]  
I ... [A]  
i [-]  
c [-]



# GPA [Nm]

## GPA□□-□S (MCS)

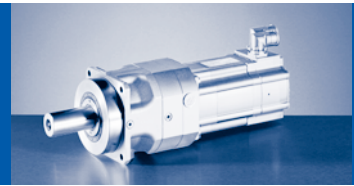
$M_{2GN} \leq 170 \text{ Nm}$

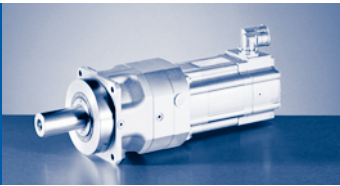
GPA02-2S				09FN38	09HN41	12HN15	12HN35	12LN41
				...500	...500	...500	...500	...500
i	$M_{2GN}$	$J_G$	$M_1$	3.10	3.80	10.00	7.50	11.00
			$n_1$	3750	4050	1500	3525	4050
			$I_{M230}$	5.0	6.8	7.6		
			$I_{M400}$	2.5	3.4	3.8	5.7	10.2
			$P_N$	1.20	1.60	1.60	2.80	4.70
			$J_M$	1.53	1.93	7.42	7.42	10.72
16.000	170	0.58	$M_2$	47	58	152	114	167
			c	3.6	2.9	1.1	1.5	1.0
			$n_{2 \text{ Eck}}$	234	253	94	220	253
			$n_{2 \text{ th}}$	194	194	94	194	194
20.000	170	0.48	$M_2$	59	72			
			c	2.9	2.4			
			$n_{2 \text{ Eck}}$	188	203			
			$n_{2 \text{ th}}$	155	155			
28.000	170	0.41	$M_2$	83	101			
			c	2.1	1.7			
			$n_{2 \text{ Eck}}$	134	145			
			$n_{2 \text{ th}}$	125	125			
35.000	170	0.40	$M_2$	103	126			
			c	1.7	1.4			
			$n_{2 \text{ Eck}}$	107	116			
			$n_{2 \text{ th}}$	100	100			

M ... [Nm]  
 n ... [r/min]  
 J ... [kgcm<sup>2</sup>]

P ... [kW]  
 I ... [A]  
 i [-]  
 c [-]

**GPA [Nm]**  
GPA□□-□S (MCS)





# GPA [Nm]

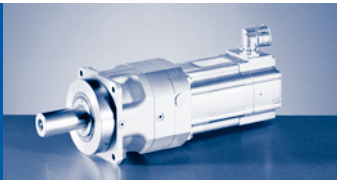
## GPA□□-□S (MCS)

$M_{2GN} \leq 360 \text{ Nm}$

GPA03-1S				12HN15	12HN35	12LN20	12LN41	14DN15	14DN36	14HN15	14HN32	14LN15
				...500	...500	...500	...500	...500	...500	...500	...500	...500
i	$M_{2GN}$	$J_G$	$M_1$	10.00	7.50	13.50	11.00	9.20	7.50	16.00	14.00	23.00
			$n_1$	1500	3525	1950	4050	1500	3600	1500	3225	1500
			$I_{M230}$	7.6		11.8						
			$I_{M400}$	3.8	5.7	5.9	10.2	4.5	7.5	6.6	11.9	9.7
			$P_N$	1.60	2.80	2.80	4.70	1.45	2.80	2.50	4.70	3.60
			$J_M$	7.42	7.42	10.72	10.72	8.22	8.22	14.32	14.32	23.44
3.000	290	9.31	$M_2$									
			c									
			$n_{2 \text{ Eck}}$									
			$n_{2 \text{ th}}$									
4.000	360	6.89	$M_2$									
			c									
			$n_{2 \text{ Eck}}$									
			$n_{2 \text{ th}}$									
5.000	360	5.97	$M_2$									
			c									
			$n_{2 \text{ Eck}}$									
			$n_{2 \text{ th}}$									
7.000	360	3.90	$M_2$							109	96	157
			c							3.3	3.8	2.3
			$n_{2 \text{ Eck}}$							214	461	214
			$n_{2 \text{ th}}$							214	371	214
10.000	220	3.53	$M_2$	98	73	132	107	90	73	156	137	224
			c	2.3	3.0	1.7	2.1	2.5	3.0	1.4	1.6	1.0
			$n_{2 \text{ Eck}}$	150	353	195	405	150	360	150	323	150
			$n_{2 \text{ th}}$	150	260	195	260	150	260	150	260	150

$M \dots$  [Nm]  
 $n \dots$  [r/min]  
 $J \dots$  [kgcm<sup>2</sup>]

$P \dots$  [kW]  
 $I \dots$  [A]  
 $i \dots$  [-]  
 $c \dots$  [-]

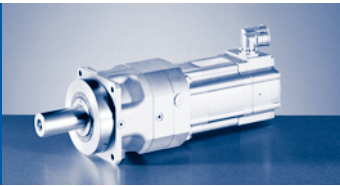


$M_{2GN} \leq 360 \text{ Nm}$

14LN32	14PN14	14PN32	19FN14	19FN30	19JN14	19JN30	19PN14	19PN30	GPA03-1S			
...500	...500	...500	...500	...500	...500	...500	...500	...500	$M_1$	$J_G$	$M_{2GN}$	$i$
17.20	30.00	21.00	27.00	21.00	40.00	29.00	51.00	32.00	$n_1$			
3225	1350	3225	1425	3000	1425	3000	1350	3000	$I_{M230}$			
									$I_{M400}$			
15.0	10.8	15.6	8.6	14.0	12.3	18.5	14.3	19.0	$P_N$			
5.80	4.20	7.10	4.00	6.60	6.00	9.10	7.20	10.00	$J_M$			
23.44	34.74	34.82	65.12	65.04	105.04	105.12	160.12	160.04	$M_2$			
			79	61	117	85	149	94	c	9.31	290	3.000
			3.7	4.7	2.5	3.4	2.0	3.1	$n_{2 \text{ Eck}}$			
			475	1000	475	1000	450	1000	$n_{2 \text{ th}}$			
			475	567	475	567	450	567				
			105	82	156	113	199	125	$M_2$	6.89	360	4.000
			3.4	4.4	2.3	3.2	1.8	2.9	c			
			356	750	356	750	338	750	$n_{2 \text{ Eck}}$			
			356	525	356	525	338	525	$n_{2 \text{ th}}$			
			132	102	195	141	249	156	$M_2$	5.97	360	5.000
			2.7	3.5	1.9	2.6	1.5	2.3	c			
			285	600	285	600	270	600	$n_{2 \text{ Eck}}$			
			285	420	285	420	270	420	$n_{2 \text{ th}}$			
117	205	143	184	143	273	198	348	218	$M_2$	3.90	360	7.000
3.1	1.8	2.5	2.0	2.5	1.3	1.8	1.0	1.7	c			
461	193	461	204	429	204	429	193	429	$n_{2 \text{ Eck}}$			
371	193	371	204	371	204	371	193	371	$n_{2 \text{ th}}$			
168		205							$M_2$	3.53	220	10.000
1.3		1.1							c			
323		323							$n_{2 \text{ Eck}}$			
260		260							$n_{2 \text{ th}}$			

M ... [Nm]  
n ... [r/min]  
J ... [kgcm<sup>2</sup>]

P ... [kW]  
I ... [A]  
i [-]  
c [-]



# GPA [Nm]

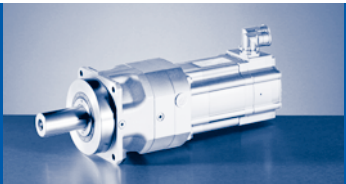
## GPA□□-□S (MCS)

$M_{2GN} \leq 360 \text{ Nm}$

GPA03-2S				12HN15	12HN35	12LN20	12LN41	14DN15	14DN36	14HN15	14HN32	14LN15	14LN32	14PN32	
				...500	...500	...500	...500	...500	...500	...500	...500	...500	...500	...500	
i	$M_{2GN}$	$J_G$	$M_1$	10.00	7.50	13.50	11.00	9.20	7.50	16.00	14.00	23.00	17.20	21.00	
			$n_1$	1500	3525	1950	4050	1500	3600	1500	3225	1500	3225	3225	
			$I_{M230}$	7.6		11.8									
			$I_{M400}$	3.8	5.7	5.9	10.2	4.5	7.5	6.6	11.9	9.7	15.0	15.6	
			$P_N$	1.60	2.80	2.80	4.70	1.45	2.80	2.50	4.70	3.60	5.80	7.10	
			$J_M$	7.42	7.42	10.72	10.72	8.22	8.22	14.32	14.32	23.44	23.44	34.82	
16.000	360	2.37	$M_2$	152	114	205	167	140	114	243	213	350	261	319	
			c	2.4	3.2	1.8	2.2	2.6	3.2	1.5	1.7	1.0	1.4	1.1	
			$n_{2 \text{ Eck}}$	94	220	122	253	94	225	94	202	94	202	202	202
			$n_{2 \text{ th}}$	94	181	122	181	94	181	94	181	94	181	181	181
20.000	360	2.02	$M_2$	190	143	257	209	175	143	304	266		327		
			c	1.9	2.5	1.4	1.7	2.1	2.5	1.2	1.4		1.1		
			$n_{2 \text{ Eck}}$	75	176	98	203	75	180	75	161		161		
			$n_{2 \text{ th}}$	75	145	98	145	75	145	75	145		145		
28.000	360	1.74	$M_2$	266	200	359	293								
			c	1.4	1.8	1.0	1.2								
			$n_{2 \text{ Eck}}$	54	126	70	145								
			$n_{2 \text{ th}}$	54	114	70	114								

M ... [Nm]  
 n ... [r/min]  
 J ... [kgcm<sup>2</sup>]

P ... [kW]  
 I ... [A]  
 i [-]  
 c [-]



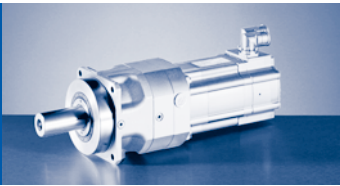
$M_{2GN} \leq 620 \text{ Nm}$

GPA04-1S				19FN14	19FN30	19JN14	19JN30	19PN14	19PN30
				...500	...500	...500	...500	...500	...500
i	$M_{2GN}$	$J_G$	$M_1$	27.00	21.00	40.00	29.00	51.00	32.00
			$n_1$	1425	3000	1425	3000	1350	3000
			$I_{M400}$	8.6	14.0	12.3	18.5	14.3	19.0
			$P_N$	4.00	6.60	6.00	9.10	7.20	10.00
			$J_M$	65.12	65.04	105.04	105.12	160.12	160.04
5.000	550	19.46	$M_2$	132		195	141	249	156
			c	4.2		2.8	3.9	2.2	3.5
			$n_{2 \text{ Eck}}$	285		285	600	270	600
			$n_{2 \text{ th}}$	285		285	340	270	340
7.000	550	25.90	$M_2$	184	143	273	198	348	218
			c	3.0	3.8	2.0	2.8	1.6	2.5
			$n_{2 \text{ Eck}}$	204	429	204	429	193	429
			$n_{2 \text{ th}}$	204	343	204	343	193	343
10.000	340	24.89	$M_2$	263	205				312
			c	1.3	1.7				1.1
			$n_{2 \text{ Eck}}$	143	300				300
			$n_{2 \text{ th}}$	143	240				240
10.000	360	24.89	$M_2$				283		
			c				1.3		
			$n_{2 \text{ Eck}}$				300		
			$n_{2 \text{ th}}$				240		

GPA04-2S				19FN14	19FN30	19JN14	19JN30	19PN30
				...500	...500	...500	...500	...500
i	$M_{2GN}$	$J_G$	$M_1$	27.00	21.00	40.00	29.00	32.00
			$n_1$	1425	3000	1425	3000	3000
			$I_{M400}$	8.6	14.0	12.3	18.5	19.0
			$P_N$	4.00	6.60	6.00	9.10	10.00
			$J_M$	65.12	65.04	105.04	105.12	160.04
16.000	550	7.33	$M_2$			550		
			c			1.0		
			$n_{2 \text{ Eck}}$			89		
			$n_{2 \text{ th}}$			89		
16.000	620	7.33	$M_2$	410	319		441	486
			c	1.5	1.9		1.4	1.3
			$n_{2 \text{ Eck}}$	89	188		188	188
			$n_{2 \text{ th}}$	89	169		169	169

M ... [Nm]  
n ... [r/min]  
J ... [kgcm<sup>2</sup>]

P ... [kW]  
I ... [A]  
i [-]  
c [-]



# GPA [Nm]

## GPA□□-□S (MCS)

$M_{2GN} \leq 1000 \text{ Nm}$

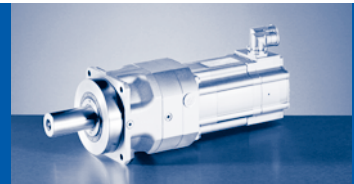
GPA05-1S				19FN14	19FN30	19JN14	19JN30	19PN14	19PN30
				...500	...500	...500	...500	...500	...500
i	$M_{2GN}$	$J_G$	$M_1$	27.00	21.00	40.00	29.00	51.00	32.00
			$n_1$	1425	3000	1425	3000	1350	3000
			$I_{M400}$	8.6	14.0	12.3	18.5	14.3	19.0
			$P_N$	4.00	6.60	6.00	9.10	7.20	10.00
			$J_M$	65.12	65.04	105.04	105.12	160.12	160.04
7.000	1000	21.36	$M_2$			273		348	
			c			3.7		2.9	
			$n_{2 \text{ Eck}}$			204		193	
			$n_{2 \text{ th}}$			204		193	
10.000	620	18.62	$M_2$	263	205	390	283	497	312
			c	2.4	3.0	1.6	2.2	1.3	2.0
			$n_{2 \text{ Eck}}$	143	300	143	300	135	300
			$n_{2 \text{ th}}$	143	220	143	220	135	220

GPA05-2S				19FN14	19FN30	19JN14	19JN30	19PN14	19PN30
				...500	...500	...500	...500	...500	...500
i	$M_{2GN}$	$J_G$	$M_1$	27.00	21.00	40.00	29.00	51.00	32.00
			$n_1$	1425	3000	1425	3000	1350	3000
			$I_{M400}$	8.6	14.0	12.3	18.5	14.3	19.0
			$P_N$	4.00	6.60	6.00	9.10	7.20	10.00
			$J_M$	65.12	65.04	105.04	105.12	160.12	160.04
16.000	1000	23.39	$M_2$	410	319	608	441	775	486
			c	2.4	3.1	1.6	2.3	1.3	2.1
			$n_{2 \text{ Eck}}$	89	188	89	188	84	188
			$n_{2 \text{ th}}$	89	156	89	156	84	156
20.000	1000	20.08	$M_2$	513	399	760	551	969	608
			c	2.0	2.5	1.3	1.8	1.0	1.6
			$n_{2 \text{ Eck}}$	71	150	71	150	68	150
			$n_{2 \text{ th}}$	71	125	71	125	68	125
28.000	1000	26.22	$M_2$	718	559	1000	771		851
			c	1.4	1.8	1.0	1.3		1.2
			$n_{2 \text{ Eck}}$	51	107	51	107		107
			$n_{2 \text{ th}}$	51	89	51	89		89

M ... [Nm]  
 n ... [r/min]  
 J ... [kgcm<sup>2</sup>]

P ... [kW]  
 I ... [A]  
 i [-]  
 c [-]



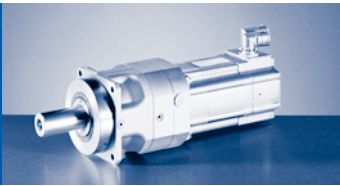


$M_{2GN} \leq 25 \text{ Nm}$

GPA00-1A				10IN40
				...500
i	$M_{2GN}$	$J_G$	$M_1$	2.00
			$n_1$	3950
			$I_{M400}$	2.4
			$P_N$	0.80
			$J_M$	2.44
4.000	25	0.16	$M_2$	8
			c	3.2
			$n_{2Eck}$	988
			$n_{2th}$	825
5.000	25	0.13	$M_2$	10
			c	2.6
			$n_{2Eck}$	790
			$n_{2th}$	660

M ... [Nm]  
n ... [r/min]  
J ... [kgcm<sup>2</sup>]

P ... [kW]  
I ... [A]  
i [-]  
c [-]



# GPA [Nm]

## GPA□□-□A (MCA)

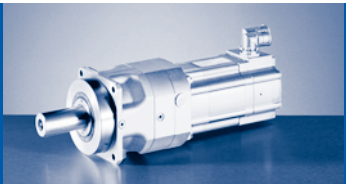
$M_{2GN} \leq 72 \text{ Nm}$

GPA01-1A				10IN40	13IN34	13IN41
				...500	...F10	...500
i	$M_{2GN}$	$J_G$	$M_1$	2.00	6.30	4.00
			$n_1$	3950	3410	4050
			$I_{M400}$	2.4	6.0	4.4
			$P_N$	0.80	2.20	1.70
			$J_M$	2.44	8.34	8.34
3.000	56	0.71	$M_2$		18	11
			c		3.0	4.8
			$n_{2 \text{ Eck}}$		1137	1350
			$n_{2 \text{ th}}$		767	767
4.000	70	0.52	$M_2$		24	15
			c		2.8	4.5
			$n_{2 \text{ Eck}}$		853	1013
			$n_{2 \text{ th}}$		725	725
7.000	70	0.39	$M_2$		43	27
			c		1.6	2.6
			$n_{2 \text{ Eck}}$		487	579
			$n_{2 \text{ th}}$		443	443
7.000	72	0.39	$M_2$	13		
			c	5.3		
			$n_{2 \text{ Eck}}$	564		
			$n_{2 \text{ th}}$	443		
10.000	46	0.36	$M_2$	19		
			c	2.4		
			$n_{2 \text{ Eck}}$	395		
			$n_{2 \text{ th}}$	310		

GPA01-2A				10IN40
				...500
i	$M_{2GN}$	$J_G$	$M_1$	2.00
			$n_1$	3950
			$I_{M400}$	2.4
			$P_N$	0.80
			$J_M$	2.44
16.000	70	0.16	$M_2$	30
			c	2.3
			$n_{2 \text{ Eck}}$	247
			$n_{2 \text{ th}}$	219

M ... [Nm]  
 n ... [r/min]  
 J ... [kgcm<sup>2</sup>]

P ... [kW]  
 I ... [A]  
 i [-]  
 c [-]



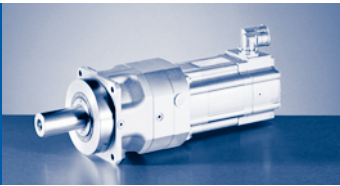
$M_{2GN} \leq 170 \text{ Nm}$

GPA02-1A				10IN40	13IN34	14LN16	14LN20	14LN35	14LN41	17NN17	17NN23	17NN35	17NN41	
				...500	...F10	...F10	...500	...F10	...500	...F10	...500	...F10	...500	
i	$M_{2GN}$	$J_G$	$M_1$	2.00	6.30	12.00	6.70	10.80	5.40	21.50	10.80	19.00	9.50	
			$n_1$	3950	3410	1635	2000	3455	4100	1680	2300	3480	4110	
			$I_{M400}$	2.4	6.0	4.8	3.3	9.1	5.8	8.5	5.5	15.8	10.2	
			$P_N$	0.80	2.20	2.10	1.40	3.90	2.30	3.80	2.60	6.90	4.10	
			$J_M$	2.44	8.34	19.32	19.24	19.24	19.24	36.04	36.04	36.04	36.04	
3.000	135	3.10	$M_2$			34		31		62	31	55	27	
			c			3.8		4.3		2.1	4.3	2.4	4.8	
			$n_{2 \text{ Eck}}$			545		1152		560		767	1160	1370
			$n_{2 \text{ th}}$			545		667		560		667	667	667
4.000	170	2.25	$M_2$			46		41		83	41	74	36	
			c			3.6		4.0		2.0	4.0	2.3	4.6	
			$n_{2 \text{ Eck}}$			409		864		420		575	870	1028
			$n_{2 \text{ th}}$			409		625		420		575	625	625
5.000	170	1.52	$M_2$		29	58	31	52		105	52	92	45	
			c		5.5	2.9	5.2	3.2	1.6	3.2	1.8	3.7		
			$n_{2 \text{ Eck}}$		682	327	400	691	336	460	696	822		
			$n_{2 \text{ th}}$		500	327	400	500	336	460	500	500		
7.000	170	1.69	$M_2$		42	81	45	73	36	147	73	130	64	
			c		3.9	2.1	3.7	2.3	4.6	1.2	2.3	1.3	2.6	
			$n_{2 \text{ Eck}}$		487	234	286	494	586	240	329	497	587	
			$n_{2 \text{ th}}$		400	234	286	400	400	240	329	400	400	
10.000	110	1.18	$M_2$	19										
			c	5.6										
			$n_{2 \text{ Eck}}$	395										
			$n_{2 \text{ th}}$	280										

GPA02-2A				10IN40	13IN34	13IN41
				...500	...F10	...500
i	$M_{2GN}$	$J_G$	$M_1$	2.00	6.30	4.00
			$n_1$	3950	3410	4050
			$I_{M400}$	2.4	6.0	4.4
			$P_N$	0.80	2.20	1.70
			$J_M$	2.44	8.34	8.34
16.000	170	0.58	$M_2$	29	96	60
			c	5.5	1.8	2.8
			$n_{2 \text{ Eck}}$	247	213	253
			$n_{2 \text{ th}}$	194	194	194
20.000	170	0.48	$M_2$	37		
			c	4.4		
			$n_{2 \text{ Eck}}$	198		
			$n_{2 \text{ th}}$	155		
28.000	170	0.41	$M_2$	53		
			c	3.2		
			$n_{2 \text{ Eck}}$	141		
			$n_{2 \text{ th}}$	125		
35.000	170	0.40	$M_2$	66		
			c	2.5		
			$n_{2 \text{ Eck}}$	113		
			$n_{2 \text{ th}}$	100		

$M \dots$  [Nm]  
 $n \dots$  [r/min]  
 $J \dots$  [kgcm<sup>2</sup>]

$P \dots$  [kW]  
 $I \dots$  [A]  
 $i$  [-]  
 $c$  [-]



# GPA [Nm]

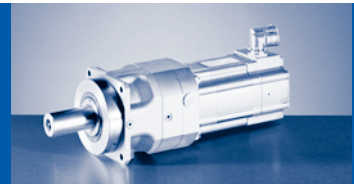
## GPA□□-□A (MCA)

$M_{2GN} \leq 360 \text{ Nm}$

GPA03-1A				13IN34	13IN41	14LN16	14LN20	14LN35	14LN41	17NN17	17NN23	17NN35
				...F10	...S00	...F10	...S00	...F10	...S00	...F10	...S00	...F10
i	$M_{2GN}$	$J_G$	$M_1$	6.30	4.00	12.00	6.70	10.80	5.40	21.50	10.80	19.00
			$n_1$	3410	4050	1635	2000	3455	4100	1680	2300	3480
			$I_{M400}$	6.0	4.4	4.8	3.3	9.1	5.8	8.5	5.5	15.8
			$P_N$	2.20	1.70	2.10	1.40	3.90	2.30	3.80	2.60	6.90
			$J_M$	8.34	8.34	19.32	19.24	19.24	19.24	36.04	36.04	36.04
3.000	290	9.31	$M_2$									
			c									
			$n_{2 \text{ Eck}}$ $n_{2 \text{ th}}$									
4.000	360	6.89	$M_2$									
			c									
			$n_{2 \text{ Eck}}$ $n_{2 \text{ th}}$									
5.000	360	5.97	$M_2$									
			c									
			$n_{2 \text{ Eck}}$ $n_{2 \text{ th}}$									
7.000	360	3.90	$M_2$			79		71		145	71	128
			c			4.4		4.9		2.4	4.9	2.8
			$n_{2 \text{ Eck}}$ $n_{2 \text{ th}}$			234 234		494 371		240 240	329 329	497 371
10.000	220	3.53	$M_2$	60	37	117	64	105	51	211	105	186
			c	3.6	5.6	1.9	3.4	2.1	4.2	1.0	2.1	1.2
			$n_{2 \text{ Eck}}$ $n_{2 \text{ th}}$	341 260	405 260	164 164	200 200	346 260	410 260	168 168	230 230	348 260

M ... [Nm]  
n ... [r/min]  
J ... [kgcm<sup>2</sup>]

P ... [kW]  
I ... [A]  
i [-]  
c [-]

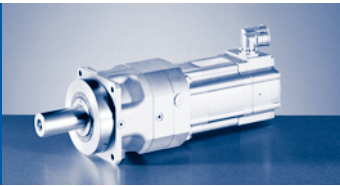


$M_{2GN} \leq 360 \text{ Nm}$

17NN41	19SN17	19SN23	19SN35	19SN42	21XN17	21XN25	21XN35	21XN42	GPA03-1A			
...S00	...F10	...S00	...F10	...S00	...F10	...S00	...F10	...S00	$M_1$	$J_G$	$M_{2GN}$	$i$
9.50	36.30	16.30	36.00	12.00	61.40	24.60	55.00	17.00	$n_1$			
4110	1700	2340	3510	4150	1710	2490	3520	4160	$I_{M400}$			
10.2	13.9	8.2	28.7	14.0	22.5	13.5	42.5	19.8	$P_N$			
4.10	6.40	4.00	13.20	5.20	11.00	6.40	20.30	7.40	$J_M$			
36.04	72.12	72.12	72.04	72.12	180.04	180.04	180.04	180.04	$M_2$			
	105		104		179	70	160	48	$c$	9.31	290	3.000
	2.7		2.7		1.6	4.0	1.8	5.8	$n_{2 \text{ Eck}}$			
	567		1170		570	830	1173	1387	$n_{2 \text{ th}}$			
	567		567		567	567	567	567				
	140	61	139						$M_2$	6.89	360	4.000
	2.5	5.6	2.6						$c$			
	425	585	878						$n_{2 \text{ Eck}}$			
	425	525	525						$n_{2 \text{ th}}$			
	176	77	175		300	118	269	80	$M_2$	5.97	360	5.000
	2.0	4.5	2.0		1.2	3.0	1.3	4.3	$c$			
	340	468	702		342	498	704	832	$n_{2 \text{ Eck}}$			
	340	420	420		342	420	420	420	$n_{2 \text{ th}}$			
62	248	109	246	79					$M_2$	3.90	360	7.000
5.5	1.5	3.2	1.5	4.4					$c$			
587	243	334	501	593					$n_{2 \text{ Eck}}$			
371	243	334	371	371					$n_{2 \text{ th}}$			
92									$M_2$	3.53	220	10.000
2.4									$c$			
411									$n_{2 \text{ Eck}}$			
260									$n_{2 \text{ th}}$			

M ... [Nm]  
n ... [r/min]  
J ... [kgcm<sup>2</sup>]

P ... [kW]  
I ... [A]  
i [-]  
c [-]



# GPA [Nm]

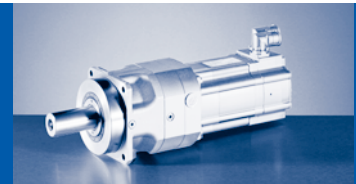
## GPA□□-□A (MCA)

$M_{2GN} \leq 360 \text{ Nm}$

GPA03-2A				13IN34	13IN41	14LN16	14LN20	14LN35	14LN41	17NN17	17NN23	17NN35	17NN41	
				...F10	...500	...F10	...500	...F10	...500	...F10	...500	...F10	...500	
i	$M_{2GN}$	$J_G$	$M_1$	6.30	4.00	12.00	6.70	10.80	5.40	21.50	10.80	19.00	9.50	
			$n_1$	3410	4050	1635	2000	3455	4100	1680	2300	3480	4110	
			$I_{M400}$	6.0	4.4	4.8	3.3	9.1	5.8	8.5	5.5	15.8	10.2	
			$P_N$	2.20	1.70	2.10	1.40	3.90	2.30	3.80	2.60	6.90	4.10	
			$J_M$	8.34	8.34	19.32	19.24	19.24	19.24	36.04	36.04	36.04	36.04	
16.000	360	2.37	$M_2$	94	58	183	100	164	80	330	164	291	144	
			c	3.7	5.9	2.0	3.5	2.2	4.3	1.1	2.2	1.2	2.5	
			$n_{2Eck}$	213	253	102	125	216	256	105	144	218	257	
			$n_{2th}$	181	181	102	125	181	181	105	144	181	181	
20.000	360	2.02	$M_2$	119	74	229	126	206	101		206		181	
			c	3.0	4.7	1.6	2.8	1.7	3.5		1.7		2.0	
			$n_{2Eck}$	171	203	82	100	173	205		115		206	
			$n_{2th}$	145	145	82	100	145	145		115		145	
28.000	360	1.74	$M_2$	167	105									
			c	2.1	3.4									
			$n_{2Eck}$	122	145									
			$n_{2th}$	114	114									

M ... [Nm]  
 n ... [r/min]  
 J ... [kgcm<sup>2</sup>]

P ... [kW]  
 I ... [A]  
 i [-]  
 c [-]



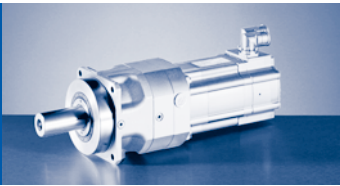
$M_{2GN} \leq 550 \text{ Nm}$

GPA04-1A				195N17	195N23	195N35	195N42	21XN17	21XN25	21XN35	21XN42
				...F10	...S00	...F10	...S00	...F10	...S00	...F10	...S00
i	$M_{2GN}$	$J_G$	$M_1$	36.30	16.30	36.00	12.00	61.40	24.60	55.00	17.00
			$n_1$	1700	2340	3510	4150	1710	2490	3520	4160
			$I_{M400}$	13.9	8.2	28.7	14.0	22.5	13.5	42.5	19.8
			$P_N$	6.40	4.00	13.20	5.20	11.00	6.40	20.30	7.40
			$J_M$	72.12	72.12	72.04	72.12	180.04	180.04	180.04	180.04
3.000	420	29.42	$M_2$					178	69	159	
			c					2.3	5.8	2.6	
			$n_{2 \text{ Eck}}$					570	830	1173	
			$n_{2 \text{ th}}$					467	467	467	
4.000	550	22.06	$M_2$					238	92	212	
			c					2.3	5.7	2.6	
			$n_{2 \text{ Eck}}$					428	623	880	
			$n_{2 \text{ th}}$					425	425	425	
5.000	550	19.46	$M_2$	174		173					
			c	3.1		3.1					
			$n_{2 \text{ Eck}}$	340		702					
			$n_{2 \text{ th}}$	340		340					
7.000	550	25.90	$M_2$	246	107	244		420	165	376	112
			c	2.2	4.9	2.2		1.3	3.3	1.5	4.7
			$n_{2 \text{ Eck}}$	243	334	501		244	356	503	594
			$n_{2 \text{ th}}$	243	334	343		244	343	343	343
10.000	340	24.89	$M_2$		158		115				
			c		2.1		2.9				
			$n_{2 \text{ Eck}}$		234		415				
			$n_{2 \text{ th}}$		234		240				

GPA04-2A				195N23		195N42	
				...S00		...S00	
i	$M_{2GN}$	$J_G$	$M_1$	16.30		12.00	
			$n_1$	2340		4150	
			$I_{M400}$	8.2		14.0	
			$P_N$	4.00		5.20	
			$J_M$	72.12		72.12	
16.000	550	7.33	$M_2$	247		181	
			c	2.2		3.0	
			$n_{2 \text{ Eck}}$	146		259	
			$n_{2 \text{ th}}$	146		169	

M ... [Nm]  
n ... [r/min]  
J ... [kgcm<sup>2</sup>]

P ... [kW]  
I ... [A]  
i [-]  
c [-]



# GPA [Nm]

## GPA□□-□A (MCA)

$M_{2GN} \leq 1000 \text{ Nm}$

GPA05-1A				21XN17	21XN25	21XN35	21XN42
				...F10	...S00	...F10	...S00
i	$M_{2GN}$	$J_G$	$M_1$	61.40	24.60	55.00	17.00
			$n_1$	1710	2490	3520	4160
			$I_{M400}$	22.5	13.5	42.5	19.8
			$P_N$	11.00	6.40	20.30	7.40
			$J_M$	180.04	180.04	180.04	180.04
10.000	620	18.62	$M_2$	602	237	538	162
			c	1.0	2.6	1.2	3.7
			$n_{2 \text{ Eck}}$	171	249	352	416
			$n_{2 \text{ th}}$	171	220	220	220

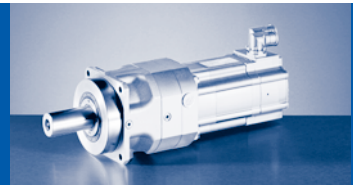
GPA05-2A				21XN17	21XN25	21XN35	21XN42
				...F10	...S00	...F10	...S00
i	$M_{2GN}$	$J_G$	$M_1$	61.40	24.60	55.00	17.00
			$n_1$	1710	2490	3520	4160
			$I_{M400}$	22.5	13.5	42.5	19.8
			$P_N$	11.00	6.40	20.30	7.40
			$J_M$	180.04	180.04	180.04	180.04
16.000	1000	23.39	$M_2$	943	372	844	254
			c	1.1	2.7	1.2	3.8
			$n_{2 \text{ Eck}}$	107	156	220	260
			$n_{2 \text{ th}}$	107	156	156	156

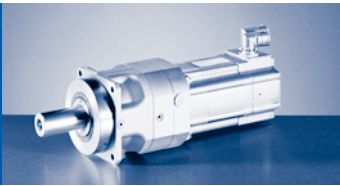
M ... [Nm]  
 n ... [r/min]  
 J ... [kgcm<sup>2</sup>]

P ... [kW]  
 I ... [A]  
 i [-]  
 c [-]



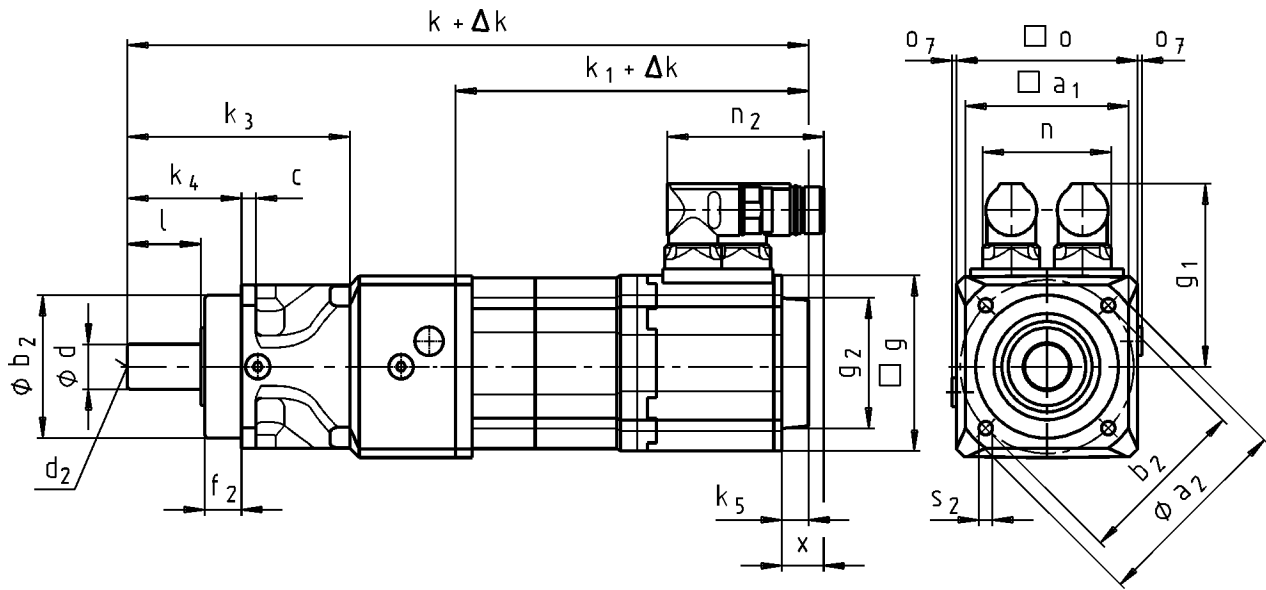
**GPA [Nm]**  
GPA□□-□A (MCA)





# GPA [mm]

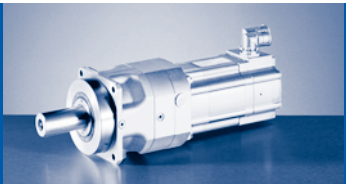
## GPA□□-1S (MCS)



### GPA□□-1S GCN ... RSO

		06C N41	06F N41	06I N41	09D N41	09F N38	09H N41	09L N41	12D N20	12D N41	12H N15	12H N30	12H N35	12L N20	12L N41	
GPA00...	o	65			89											
	k	265	295	325	316	336	356	396								
GPA01...	o	80			89							116				
	k		323	353	344	364	384	424	349		389		429			
GPA02...	o				102							116				
	k				392	412	432	472	397		437		477			
GPA03...	o											142				
	k								455		495		535			
...RSO B0 <sup>1)</sup>	$\Delta k$	0														
...RSO P□ <sup>1)</sup>	$\Delta k$	19			20											
	$k_1$	132	162	192	183	203	223	263	188		228		268			
	g	62			89				116							
...RSO	$k_5$	0			13				14							
	$g_2$	□ 62			Ø 67				Ø 72							
	$g_1$	76			90				105							
	$n_2$	64							78							
	n	58							63							
	x	21							18							

<sup>1)</sup> → 801 - SRS/SRM/ECN/EQN/EQI/C20



GPA□□-1S GCN ... RSO

		14D N15	14D N36	14H N15	14H N32	14L N15	14L N32	14P N14	14P N32	19F N14	19F N30	19J N14	19J N30	19P N14	19P N30
GPA02...	o	142													
	k	410		450		490		530							
GPA03...	o	142													
	k	468		508		548		588		487		527		587	
GPA04...	o	192													
	k									528		568		628	
GPA05...	o	212													
	k									579		619		679	
...RSO B0 <sup>1)</sup>	Δ k	0													
...RSO P□ <sup>1)</sup>	Δ k	28													
	k <sub>1</sub>	201		241		281		321		220		260		320	
	g	143													
...RSO	k <sub>5</sub>	24													
	g <sub>2</sub>	Ø 78													
	g <sub>1</sub>		116		147	116	147	141	172	141	172	141	172	141	172
	n <sub>2</sub>		78		94	78	94	78	94	78	94	78	94	78	94
	n		63		80	63	80	63	80	63	80	63	80	63	80
	x		16		38	16	38	16	36	16	36	16	36	16	36

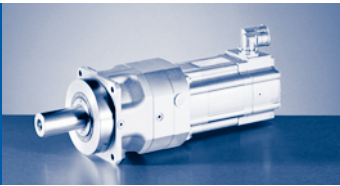
<sup>1)</sup> → 801 - SRS/SRM/ECN/EQN/EQI/C20

GPA□□-1S GCN

	k <sub>3</sub>			k <sub>4</sub>			o <sub>7</sub>			
GPA00...	94			48			2			
GPA01...	109			56						
GPA02...	146			88			3			
GPA03...	189			112						
GPA04...	213			143						
GPA05...	255									

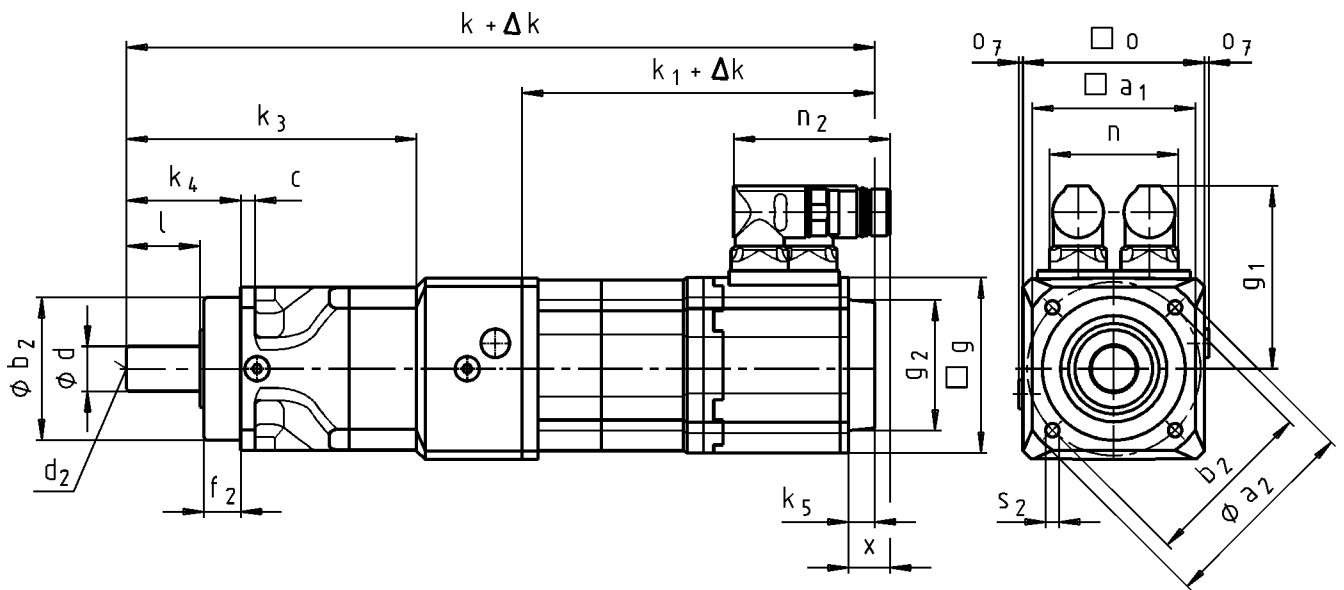
  

	d	l	d <sub>2</sub>	a <sub>1</sub>	a <sub>2</sub>	b <sub>2</sub>	c <sub>2</sub>	e <sub>2</sub>	f <sub>2</sub>	s <sub>2</sub>
	k <sub>6</sub>					g <sub>6</sub>				4x90°
GPA00...	16	28	M5	65	80	60	6	68	18	5.5
GPA01...	22	36	M8	80	100	70	7	85		6.6
GPA02...	32	58	M12	102	140	90	10	120	28	9
GPA03...	40	82	M16	142	188	130	12	165		11
GPA04...	55		M20	182	250	160	15	215	27	13
GPA05...	75	105		212	290	180	17	250	35	17



# GPA [mm]

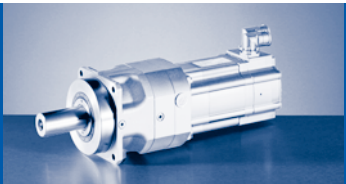
## GPA□□-2S (MCS)



### GPA□□-2S GCN ... RSO

		06C N41	06F N41	06I N41	09D N41	09F N38	09H N41	09L N41	12D N20	12D N41	12H N15	12H N30	12H N35	12L N20	12L N41	
GPA00...	o	65														
	k	296	326	356												
GPA01...	o	80			89											
	k	313	343	373	364	384	404	444								
GPA02...	o				102				116							
	k				419	439	459	499	424	464		504				
GPA03...	o								142							
	k								488	528		568				
...RSO B0 <sup>1)</sup>	$\Delta k$	0														
...RSO P□ <sup>1)</sup>	$\Delta k$	19			20											
	$k_1$	132	162	192	183	203	223	263	188		228		268			
	g	62			89				116							
...RSO	$k_5$	0			13				14							
	$g_2$	□ 62			Ø 67				Ø 72							
	$g_1$	76			90				105							
	$n_2$	64			78											
	n	58			63											
	x	21							18							

<sup>1)</sup> → 801 - SRS/SRM/ECN/EQN/EQI/C20



GPA□□-2S GCN ... RSO

		14D N15	14D N36	14H N15	14H N32	14L N15	14L N32	14P N32	19F N14	19F N30	19J N14	19J N30	19P N14	19P N30	
GPA03...	o	142													
	k	501		541		581	621								
GPA04...	o							192							
	k							558		598		658			
GPA05...	o							212							
	k							648		688		748			
...RSO B0 <sup>1)</sup>	Δ k	0													
...RSO P□ <sup>1)</sup>	Δ k	28						34			44				
	k <sub>1</sub>	201		241		281	321	220		260		320			
	g	143						192							
...RSO	k <sub>5</sub>	24						15							
	g <sub>2</sub>	Ø 78													
	g <sub>1</sub>	116			147			141	172	141	172	141	172	141	172
	n <sub>2</sub>	78			94			78	94	78	94	78	94	78	94
	n	63			80			63	80	63	80	63	80	63	80
	x	16			38			16	36	16	36	16	36	16	36

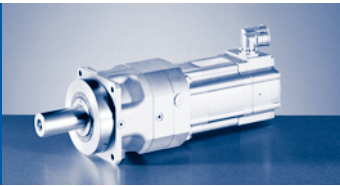
<sup>1)</sup> → 801 - SRS/SRM/ECN/EQN/EQI/C20

GPA□□-2S GCN

	k <sub>3</sub>			k <sub>4</sub>			o <sub>7</sub>			
GPA00...	125			48			2			
GPA01...	142			56						
GPA02...	184			88						
GPA03...	237			112			3			
GPA04...	261			143						
GPA05...	334									

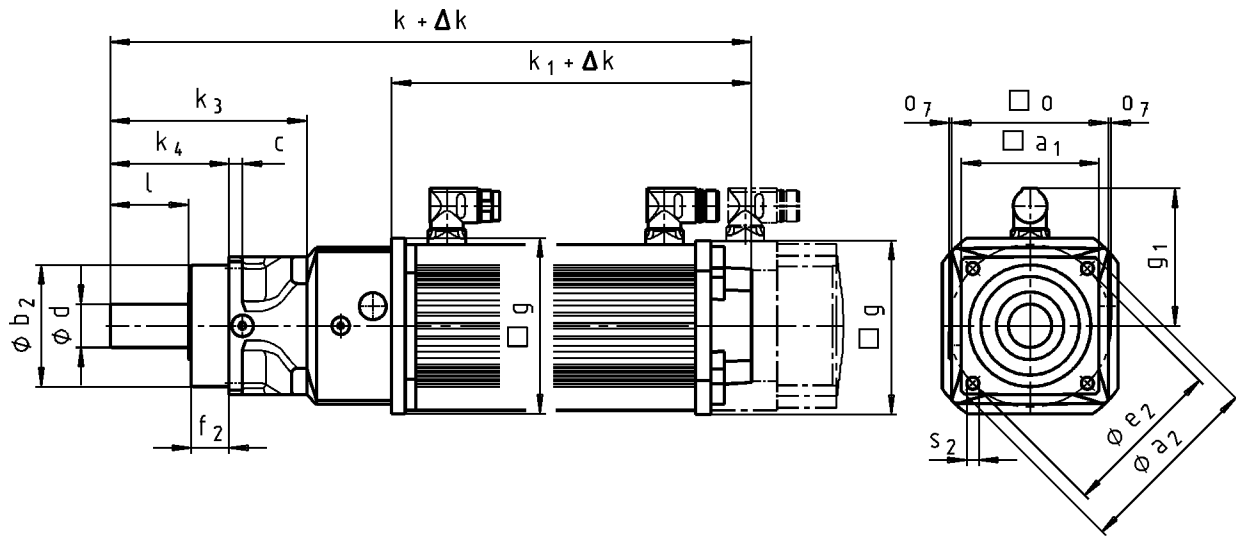
  

	d	l	d <sub>2</sub>	a <sub>1</sub>	a <sub>2</sub>	b <sub>2</sub>	c <sub>2</sub>	e <sub>2</sub>	f <sub>2</sub>	s <sub>2</sub>
	k <sub>6</sub>					g <sub>6</sub>				4x90°
GPA00...	16	28	M5	65	80	60	6	68	18	5.5
GPA01...	22	36	M8	80	100	70	7	85		6.6
GPA02...	32	58	M12	102	140	90	10	120	28	9
GPA03...	40	82	M16	142	188	130	12	165		11
GPA04...	55		M20	182	250	160	15	215		27
GPA05...	75	105		212	290	180	17	250	35	17



# GPA [mm]

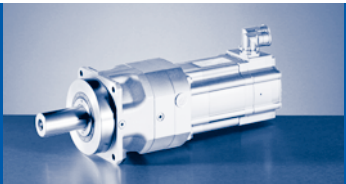
## GPA□□-1A (MCA)



### GPA□□-1A GCN ... RSO

		10I N40 ...S00	13I N41 ...S00	13I N34 ...F10	14L N20 ...S00	14L N41 ...S00	14L N16 ...F10	14L N35 ...F10	17N N23 ...S00	17N N41 ...S00
GPA00...	o	89								
	k	395								
GPA01...	o	89	116							
	k	423	432	500						
GPA02...	o	102	116				142			
	k	471	479	547	510		572		548	
GPA03...	o					142				
	k		537	605	568		630		606	
...RSO B0 <sup>1)</sup>	$\Delta k$					0				
...RSO P□ <sup>1)</sup>	$\Delta k$	25	35			33			35	
	$k_1$	262	271	339	302		364		340	
	g	102	131			142			165	
	$g_1$	90	102			109			118	

<sup>1)</sup> → 803 - SRS/SRM/ECN/EQN/EQI/S20/T20/CDD



GPA□□-1A GCN ... RSO

		17N N17 ...F10	17N N35 ...F10	19S N23 ...S00	19S N42 ...S00	19S N17 ...F10	19S N35 ...F10	21X N25 ...S00	21X N42 ...S00	21X N17 ...F10	21X N35 ...F10
GPA02...	o	142									
	k	637									
GPA03...	o	142		192				214			
	k	695		668		765		756		852	
GPA04...	o			192							
	k			709		806		777		873	
GPA05...	o			212							
	k			760		857		829		925	
...RSO B0 <sup>1)</sup>	Δ k			0							
...RSO P□ <sup>1)</sup>	Δ k	35		38				42			
	k <sub>1</sub>	429		401		498		470		566	
	g	165		192				214			
	g <sub>1</sub>	118		161				172			

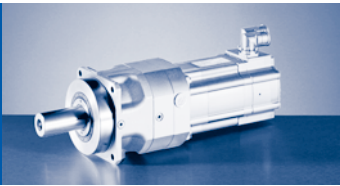
<sup>1)</sup> →  803 - SRS/SRM/ECN/EQN/EQI/S20/T20/CDD

GPA□□-1A GCN

	k <sub>3</sub>			k <sub>4</sub>			o <sub>7</sub>			
GPA00...	94			48			2			
GPA01...	109			56						
GPA02...	146			88						
GPA03...	189			112			3			
GPA04...	213									
GPA05...	255			143						

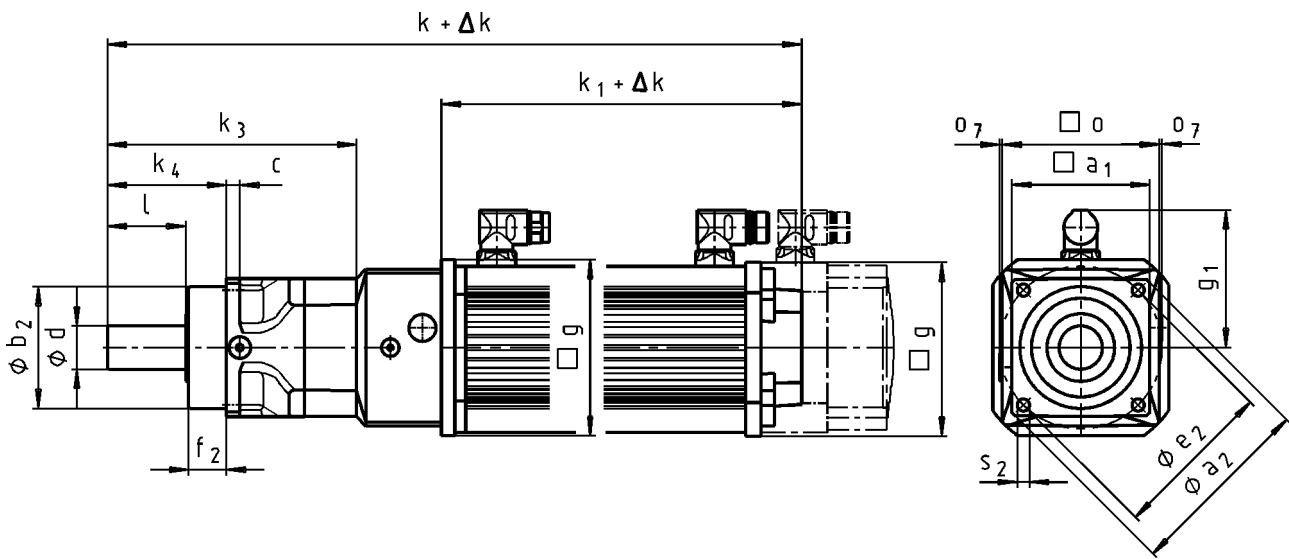
  

	d	l	d <sub>2</sub>	a <sub>1</sub>	a <sub>2</sub>	b <sub>2</sub>	c <sub>2</sub>	e <sub>2</sub>	f <sub>2</sub>	s <sub>2</sub>
	k6					g6				4x90°
GPA00...	16	28	M5	65	80	60	6	68	18	5.5
GPA01...	22	36	M8	80	100	70	7	85		6.6
GPA02...	32	58	M12	102	140	90	10	120	28	9
GPA03...	40	82	M16	142	188	130	12	165		11
GPA04...	55		M20	182	250	160	15	215	27	13
GPA05...	75	105		212	290	180	17	250	35	17



# GPA [mm]

## GPA□□-2A (MCA)

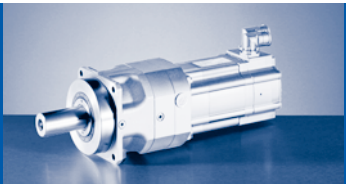


### GPA□□-2A GCN ... RSO

		10I N40 ...S00	13I N41 ...S00	13I N34 ...F10	14L N20 ...S00	14L N41 ...S00	14L N16 ...F10	14L N35 ...F10	17N N23 ...S00	17N N41 ...S00
GPA01...	o	89								
	k	443								
GPA02...	o	102	116							
	k	498	507	575						
GPA03...	o					142				
	k		571	639	602		664		640	
...RSO B0 <sup>1)</sup>	$\Delta k$	0								
...RSO P□ <sup>1)</sup>	$\Delta k$	25	35		33				35	
	$k_1$	262	271	339	302		364		340	
	g	102	131		142				165	
	$g_1$	90	102		109				118	

<sup>1)</sup> → 803 - SRS/SRM/ECN/EQN/EQI/S20/T20/CDD





**GPA□□-2A GCN ... RSO**

		17N N17 ...F10	17N N35 ...F10	19S N23 ...S00	19S N42 ...S00	19S N17 ...F10	19S N35 ...F10	21X N25 ...S00	21X N42 ...S00	21X N17 ...F10	21X N35 ...F10
GPA03...	o	142									
	k	729									
GPA04...	o			192							
	k			739	836						
GPA05...	o					212					
	k			829	926		898		994		
...RSO B0 <sup>1)</sup>	Δ k	0									
...RSO P□ <sup>1)</sup>	Δ k	35		38		42					
	k <sub>1</sub>	429		401		498		470		566	
	g	165		192		214					
	g <sub>1</sub>	118		161		172					

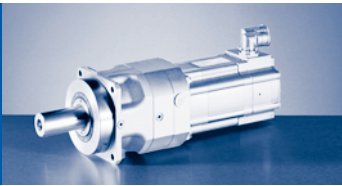
<sup>1)</sup> →  803 - SRS/SRM/ECN/EQN/EQI/S20/T20/CDD

**GPA□□-2A GCN**

	k <sub>3</sub>			k <sub>4</sub>				o <sub>7</sub>			
GPA01...	142			56				2			
GPA02...	184			88							
GPA03...	237			112							
GPA04...	261			143				3			
GPA05...	334										

	d	l	d <sub>2</sub>	a <sub>1</sub>	a <sub>2</sub>	b <sub>2</sub>	c <sub>2</sub>	e <sub>2</sub>	f <sub>2</sub>	s <sub>2</sub>
	k6					g6				4x90°
GPA01...	22	36	M8	80	100	70	7	85	18	6.6
GPA02...	32	58	M12	102	140	90	10	120	28	9
GPA03...	40	82	M16	142	188	130	12	165		11
GPA04...	55		M20	182	250	160	15	215	27	13
GPA05...	75	105		212	290	180	17	250	35	17



**GPA [mm]**  
GPA□□-2A (MCA)