ATS Antriebstechnik GmbH

AC Servomotors

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General Description

"ATS"-Servomotors

With the development of series ADS and NDS, **ATS Antriebstechnik GmbH** is now firmly established in the field of brushless servomotors. Sophisticated motor design was the basis for the successful market launch. Using electronic commutation of the motor's phase current by wearless and low-cost feedback systems (i.e. a resolver), durable motors can be produced which require no or low maintenance. The lifetime is limited only by the ball bearings or incorrect operating conditions.

The product series ADS and NDS are permanent-magnet synchronous servomotors. The major advantage: The heat generated in the stator can be dissipated directly through the aluminium housing. The request for a small rotor diameter and (resulting from this) a very low moment of inertia is only fulfilled by using high-energetic neodymium magnets. The result of all influences is an excellent dynamic that is not reached by conventional DC or AC motors.

At speeds of 1200 min^{-1} up to 6000 min^{-1}, the range of stall torque covers 0.6 to 90.5 Nm (for all motor sizes: 045, 056, 071 and 100). Higher torques can be achieved by mounting an external fan.

Key benefits using **ATS** servomotors:

Motor:	Brushless, requires no maintenance
Feedback Systems:	For example: hollow shaft resolver, brushless tachogenerator with rotor position sensor, different encoders of company Heidenhain and Sick Stegmann
High Protection Class:	Standard: IP 64 Optional: IP 65
Nominal Torque:	Reaching nominal torque at each speed which is less or equal rated speed in continuous operation mode (S1)
Excellent Dynamic	
High Range of Speed Control	
Various Options:	▪ Mounting of holding brake ▪ Mounting of incremental sensor ▪ Mounting of gear ▪ Mounting of fan ▪ Special shaft (For example: hollow shaft, teethed shaft or 2nd shaft end, etc.) ▪ Non-standard speeds (up to 10.000 min^{-1}) ▪ Reduced radial and axial tolerances
Customizing:	Various servo controllers (DC link voltage according to customer's needs)

Due to these characteristics and our high flexibility in fixing customers needs, **ATS** offers solutions for extreme demands.

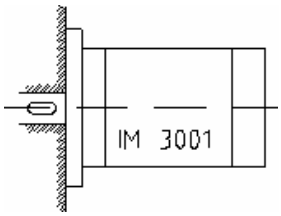
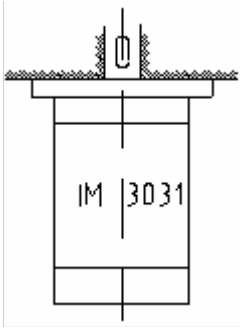
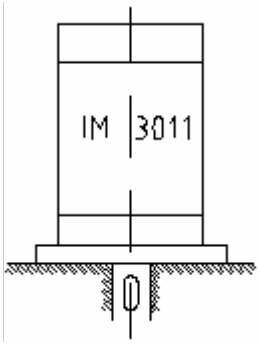
Why not discover yourself?

Technical Specifications

Mechanical Design

Types

According to DIN IEC 34, part 7: Three-phase servomotors will be delivered as basic type IM B5. These motors can be used without changes in derived types IM V1 or IM V3.

Short Symbol Code I	Short Symbol Code II	Image	Description
IM B5	IM 3001		2 end shields, no mounting feet, mounting flange, type A on drive side
IM V3	IM 3031		2 end shields, no mounting feet, mounting flange, type A on drive side, shaft and flange downwards
IM V1	IM 3011		2 end shields, no mounting feet, mounting flange, type A on drive side, shaft and flange upwards

Protection Class

- According to DIN IEC 34, part 5/ VDE 0530
- **ATS** servomotors will be delivered with protection class IP 64 / IP 65
- Protection class IP 64 does not refer to the shaft passage of these motors
- Optional oil-tight shaft passage on A side for gear mounting
- For protection class IP 65: A shaft sealing ring is used and the mechanical connections are sealed additionally

Housing

Size 045, 056, 071 and 100 made of aluminium alloy

End Shields

Size 045, 056, 071 and 100 made of aluminium or casting

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Dimensional Tolerances

Shaft end concentricity DIN 42955-12/81

Diameter of the cylindric shaft end *d*	Rotation tolerance (normal) *N*	(reduced) *R*
up to 10	0,03	0,015
>10 up to 18	0,035	0,018
>18 up to 30	0,04	0,021
> 30 up to 50	0,05	0,025

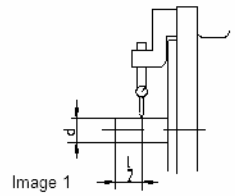

Image 1

Concentricity and axial run-out of mounting flange DIN 42955 page 2

Centring diameter of mounting flange b_1	Concentricity and axial run-out *N*	*R*
40 up to 100	0,08	0,04
> 100 up to 230	0,1	0,05

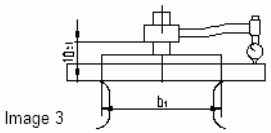

Image 3

Without given tolerances, all motor orders will be delivered with standard tolerance (*N*).

Shaft End

- Material of motor shafts: Ck 60
- Fit: up to 50 mm, ISO fit k6
- Fitting key: DIN 6885, page 1, type A
- Centring: DIN 332, page 1 or 2

Balancing

- Dynamic balancing with inserted half fitting key, according to DIN ISO 2373 with balancing class *R* (reduced)
- Balancing class *S* (special) is available on demand

General Definitions

Type Code

S/N/ADS 056 - S1 - 415 - 2000 - TS XXX-XXXX

- XXX-XXXX → article code
- TS → **feedback unit:** T = tachogenerator, R= resolver, I = pulse sensor
- 2000 → rated speed
- 415 → terminal voltage
- S1 → type length
- 056 → size
- S/N/ADS → S=Samarium / N=Neodymium / A = new design for size 071 and 100

Definitions

M_0	**[Nm]**	= stall torque
I_0	**[A]**	= stall current at speed 0 [min^{-1}]
M_n	**[Nm]**	= nominal torque at 100 % on-time
I_n	**[A]**	= nominal current at rated speed
n	**[min^{-1}]**	= rated speed
P_n	**[kW]**	= power at rated speed
ke	**[VS/1000min^{-1}]**	= voltage constant (phase/phase)
kv	**[Veff/1000min^{-1}]**	= voltage constant (phase/neutral point)
kt	**[Nm/A]**	= torque constant
Rk	**[Ω]**	= cold resistance (phase/phase)

Stall Torque

Stall torque M_0 can be supplied at n = 0 min^{-1} for an unlimited time. The motor consumes the current I_0 during this time.

Nominal Current
Nominal Torque

Nominal current is the value of the current the motor consumes at rated speed and nominal torque (100 % on-time).
Torque can be supplied for the whole speed range (n = 0 min^{-1} up to n = rated speed).

Peak Current I_S

Peak current should not exceed four times stall current. The real peak current is limited by maximum current of the used controller.

Stator Winding

Standard design: Insulation class “F” according to DIN 57530, part 1 to 3.
Temperature monitoring: 155 °C thermistor (standard)
Optional: Klixon / opener, PT100 or KTY

Notes for Data Sheets

The following motor data sheets refer to the given terminal voltage.
Tolerance for ke, kv, kt, Rk is up to ± 10%.
However, it is necessary to indicate explicitly that the specified motor data can be taken as a guide only, as these depend on the used servo controller (even at the same DC link voltage!).
For this reason, please contact us to check if your particular motor with the chosen servo controller is correctly sized.

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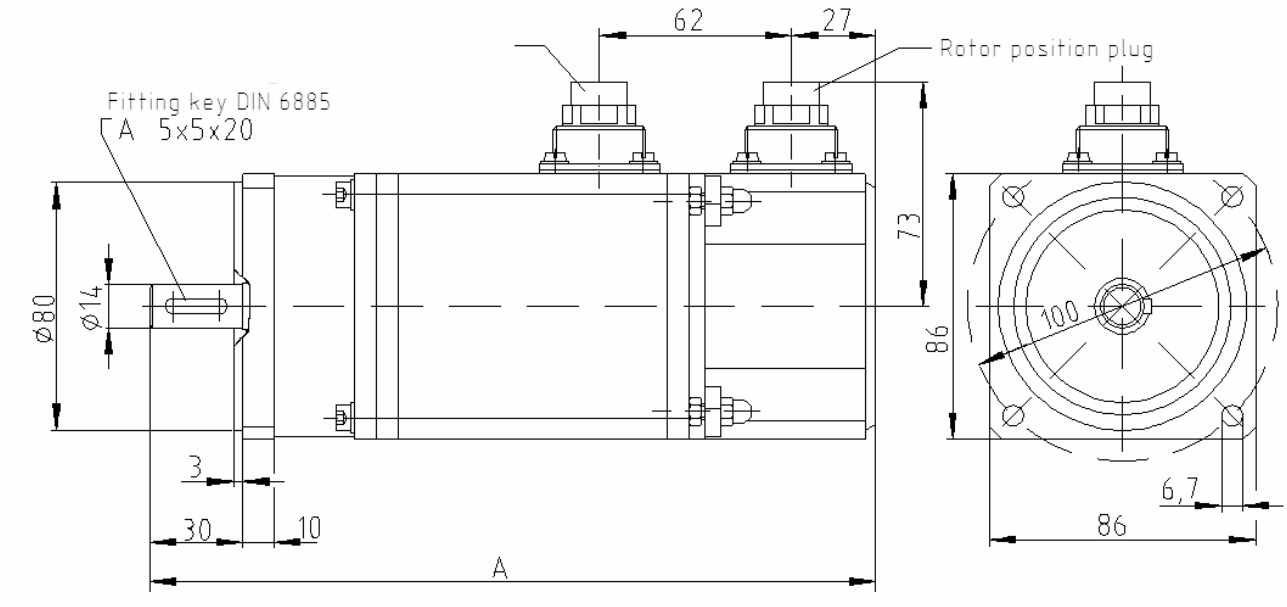
Data Sheet

NDS 045-S0-L2 (560 V DC link voltage = 415 V terminal voltage)



Type: NDS	n [min^{-1}]	M_0 [Nm]	M_n [Nm]	I_0 [A]	In [A]	kv [V/1000min^{-1}]	kt [Nm/A]	Rk [Ω]	L [mH]	J_{rot} [kgcm^2]	m [kg]	A [mm]
045-S0	2000	0,8	0,8	0,50	0,50	55,44	1,5885	138,30	288,60	0,56	3,0	234
045-M0	2000	1,7	1,5	0,86	0,75	69,40	1,9876	64,19	209,26	0,94	3,7	254
045-L0	2000	2,2	2,2	1,01	1,01	76,20	2,1832	39,59	48,92	1,34	4,5	274
045-L1	2000	2,9	2,9	1,33	1,33	95,92	2,1754	25,30	85,57	1,73	5,3	294
045-L2	2000	3,5	3,5	1,54	1,54	79,20	2,2693	20,18	68,12	2,12	6,1	314
045-S0	3000	0,8	0,7	0,63	0,55	44,38	1,2716	88,59	172,46	0,56	3,0	234
045-M0	3000	1,4	1,4	0,96	0,96	51,07	1,4633	34,79	107,83	0,94	3,7	254
045-L0	3000	2,1	2,0	1,42	1,35	51,62	1,4790	18,17	56,51	1,34	4,5	274
045-L1	3000	2,8	2,6	1,86	1,73	52,44	1,5024	12,07	39,27	1,73	5,3	294
045-L2	3000	3,3	3,3	2,16	2,16	53,26	1,5259	9,13	29,72	2,12	6,1	314
045-S0	4000	0,7	0,5	0,68	0,48	36,05	1,0329	58,46	109,44	0,56	3,0	234
045-M0	4000	1,4	1,3	1,25	1,16	39,05	1,1190	20,35	61,36	0,94	3,7	254
045-L0	4000	2,1	1,8	1,83	1,56	40,15	1,1503	10,99	33,41	1,34	4,5	274
045-L1	4000	2,8	2,1	2,39	1,79	40,97	1,1738	7,37	23,49	1,73	5,3	294
045-L2	4000	3,5	2,9	2,98	2,47	40,97	1,1738	5,10	17,25	2,12	6,1	314
045-S0	6000	0,7	0,5	0,95	0,68	25,95	0,7343	30,28	54,34	0,56	3,0	234
045-M0	6000	1,4	0,9	1,79	1,15	27,31	0,7825	9,95	29,15	0,94	3,7	254
045-L0	6000	2,1	1,7	2,63	2,13	27,86	0,7982	5,29	15,71	1,34	4,5	274
045-L1	6000	2,8	1,4	3,51	1,75	27,86	0,7982	3,41	10,63	1,73	5,3	294
045-L2	6000	3,4	1,1	4,24	1,37	27,99	0,8021	2,52	7,90	2,12	6,1	314

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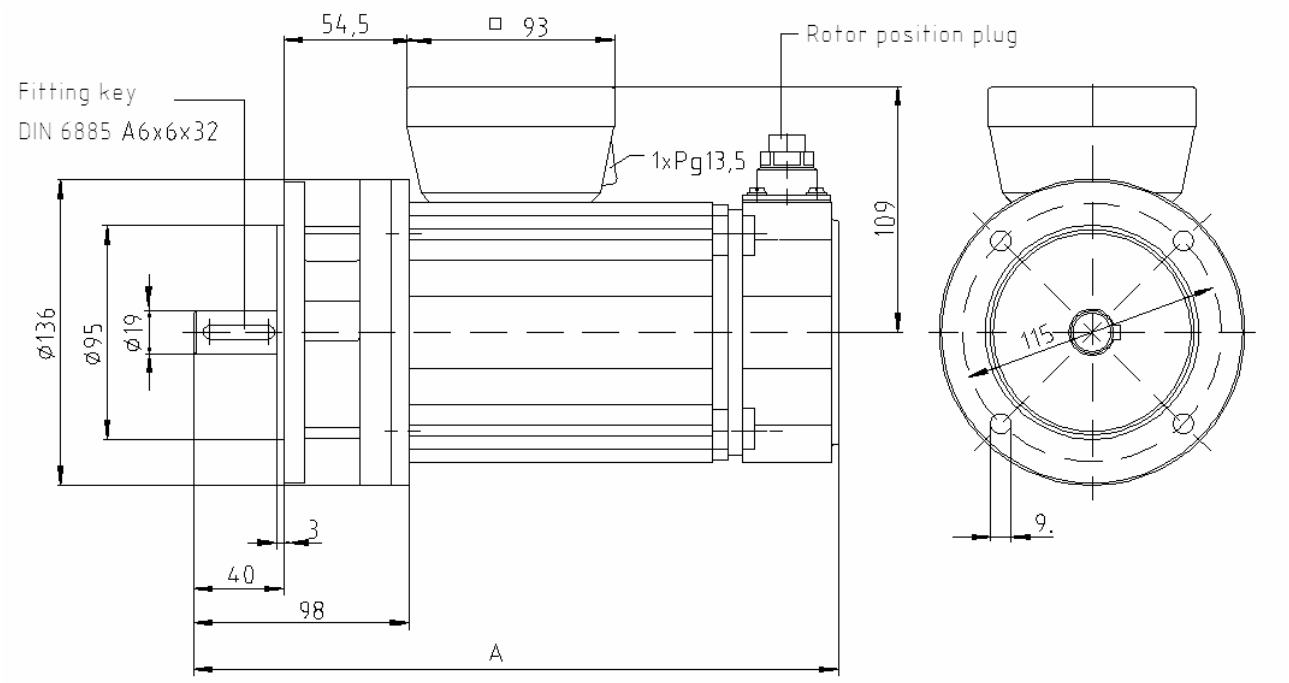
Data Sheet

NDS 056-S0-L1 (560 V DC link voltage = 415 V terminal voltage)



Type: NDS	n [min^{-1}]	M_0 [Nm]	M_n [Nm]	I_0 [A]	In [A]	kv [$V/1000min^{-1}$]	kt [Nm/A]	Rk [Ω]	L [mH]	J_{rot} [$kgcm^2$]	m [kg]	A [mm]
056-S0	2000	3,4	3,3	1,58	1,53	75,26	2,1563	23,73	29,27	5,61	7,3	269
056-S1	2000	5,0	5,0	2,25	2,25	77,54	2,2216	13,10	66,41	7,81	8,5	289
056-M0	2000	6,5	6,5	2,87	2,87	79,06	2,2652	8,97	47,99	10,01	9,7	309
056-M1	2000	8,1	8,1	3,54	3,54	79,82	2,2870	6,58	38,80	12,20	10,9	329
056-L0	2000	9,4	9,4	4,11	4,11	79,82	2,2870	4,96	32,10	14,40	12,1	349
056-L1	2000	11,6	11,6	5,02	5,02	80,70	2,3124	4,22	28,07	16,60	13,3	369
056-S0	3000	3,2	3,1	2,13	2,06	52,45	1,5029	11,53	44,96	5,61	7,3	269
056-S1	3000	4,9	4,5	3,19	2,93	53,59	1,5356	6,26	30,72	7,81	8,5	289
056-M0	3000	6,4	5,7	4,08	3,63	54,73	1,5682	4,30	22,35	10,01	9,7	309
056-M1	3000	7,9	7,4	5,00	4,69	55,11	1,5791	3,14	18,02	12,20	10,9	329
056-L0	3000	9,7	8,0	6,10	5,03	55,49	1,5900	2,40	15,15	14,40	12,1	349
056-L1	3000	10,9	9,0	6,92	5,71	54,99	1,5755	1,96	12,73	16,60	13,3	369
056-S0	4000	3,2	3,1	2,77	2,69	40,39	1,1544	6,80	25,98	5,61	7,3	269
056-S1	4000	4,9	3,8	4,17	3,23	41,05	1,1762	3,67	17,72	7,81	8,5	289
056-M0	4000	6,3	4,3	5,29	3,61	41,56	1,1910	2,48	12,69	10,01	9,7	309
056-M1	4000	8,0	6,1	6,68	5,09	41,81	1,1979	1,81	10,23	12,20	10,9	329
056-L0	4000	9,7	6,9	8,10	5,76	41,81	1,1979	1,36	8,49	14,40	12,1	349
056-L1	4000	11,0	8,2	9,21	6,87	41,68	1,1943	1,13	7,23	16,60	13,3	369
056-S0	6000	3,1	2,4	3,95	3,06	27,37	0,7841	3,14	11,73	5,61	7,3	269
056-S1	6000	4,7	2,6	5,83	3,23	28,13	0,8059	1,72	8,18	7,81	8,5	289
056-M0	6000	6,3	2,9	7,75	3,57	28,38	0,8132	1,16	5,83	10,01	9,7	309
056-M1	6000	7,7	3,1	9,43	3,80	28,51	0,8168	0,84	4,69	12,20	10,9	329
056-L0	6000	9,4	3,5	11,66	4,34	28,13	0,8059	0,62	3,79	14,40	12,1	349
056-L1	6000	10,7	3,7	13,16	4,55	28,38	0,8132	0,52	3,31	16,60	13,3	369

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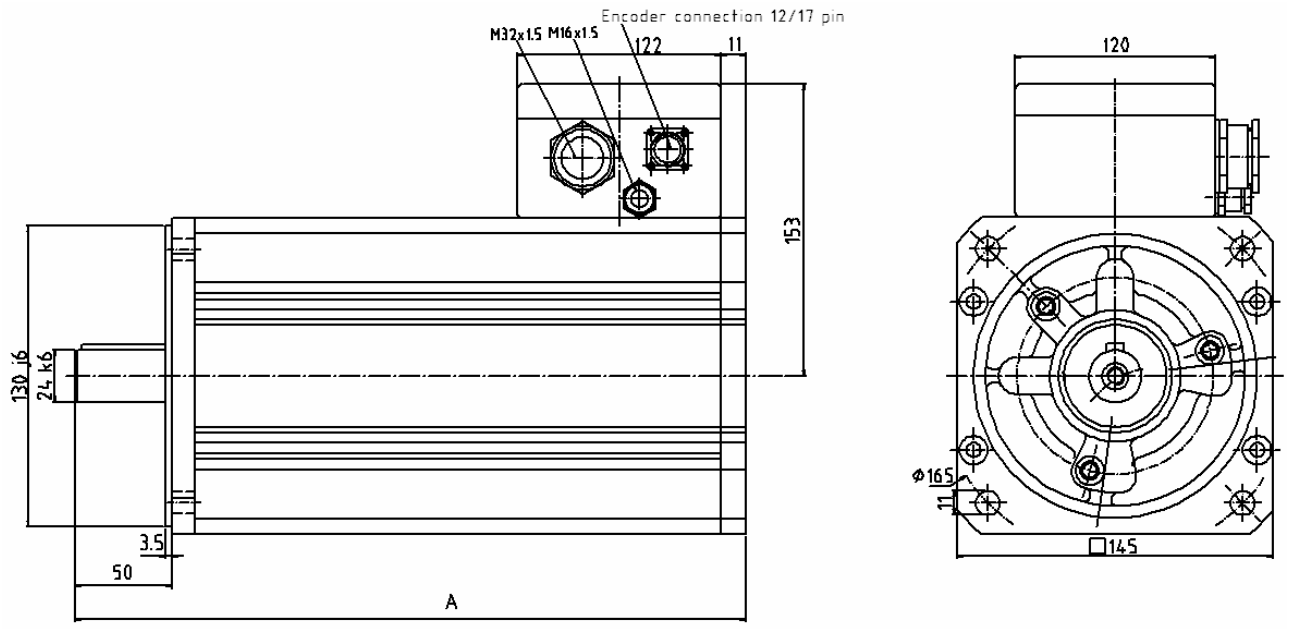
Data Sheet

ADS 071-K0-M1 (560 V DC link voltage = 415 V terminal voltage)



Type: NDS	n [min^{-1}]	M_0 [Nm]	M_n [Nm]	I_0 [A]	In [A]	kv [V/1000min^{-1}]	kt [Nm/A]	Rk [Ω]	L [mH]	J_{rot} [kgcm^2]	m [kg]	A [mm]
071-K0	2000	15,1	13,2	7,2	6,5	74,0	2,12	2,854	20,7	25,94	17,8	358
071-K1	2000	18,2	15,8	8,6	7,7	74,0	2,12	2,173	17,2	31,13	19,4	378
071-S0	2000	21,0	18,2	9,7	8,6	76,0	2,18	1,683	15,4	36,32	21,0	398
071-S1	2000	24,2	20,6	11,3	9,8	75,0	2,15	1,366	13,1	41,51	22,6	418
071-M0	2000	27,1	23,0	12,6	11,0	75,5	2,16	1,182	11,8	46,70	24,2	438
071-M1	2000	30,3	25,8	14,3	12,3	74,0	2,12	0,989	9,59	51,89	25,8	458
071-K0	3000	15,1	12,1	10,3	8,7	51,8	1,48	1,399	10,0	25,94	17,8	358
071-K1	3000	18,2	14,3	12,7	10,5	50,3	1,44	1,005	7,8	31,13	19,4	378
071-S0	3000	21,0	16,1	14,3	11,5	51,8	1,48	0,782	7,1	36,32	21,0	398
071-S1	3000	24,2	18,2	16,5	13,0	51,3	1,47	0,639	6,1	41,51	22,6	418
071-M0	3000	27,1	20,0	17,8	13,7	53,3	1,53	0,589	5,8	46,70	24,2	438
071-M1	3000	30,3	22,1	20,9	15,9	51,0	1,46	0,469	4,5	51,89	25,8	458
071-K0	4000	15,1	10,2	13,5	9,8	39,5	1,13	0,812	5,7	25,94	17,8	358
071-K1	4000	18,2	11,9	16,6	11,7	38,5	1,10	0,588	4,5	31,13	19,4	378
071-S0	4000	21,0	13,1	18,9	12,7	39,1	1,12	0,447	4,0	36,32	21,0	398
071-S1	4000	24,2	14,8	21,6	14,1	39,5	1,13	0,378	3,6	41,51	22,6	418
071-M0	4000	27,1	15,9	22,9	14,4	41,4	1,19	0,356	3,5	46,70	24,2	438
071-M1	4000	30,3	17,8	27,0	17,0	39,5	1,13	0,281	2,7	51,89	25,8	458

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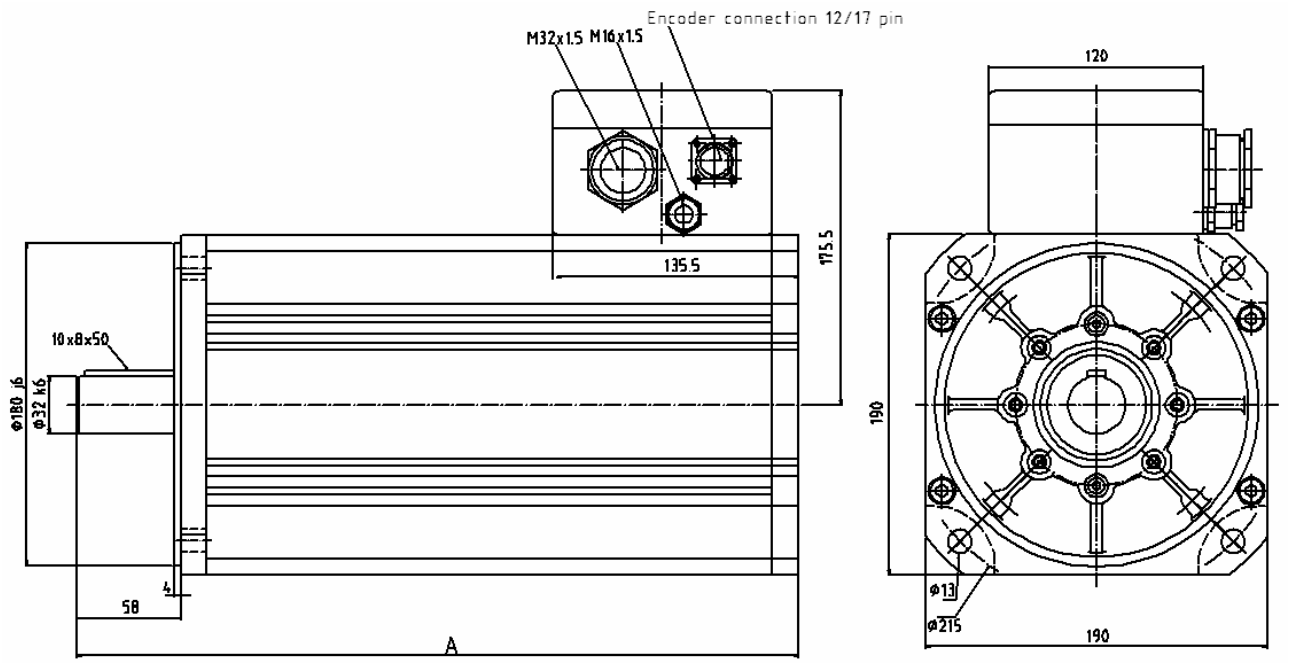
Data Sheet

ADS 100-K0-L1 (560 V DC link voltage = 415 V terminal voltage)



Type: NDS	n [min^{-1}]	M_0 [Nm]	M_n [Nm]	I_0 [A]	In [A]	kv [$V/1000min^{-1}$]	kt [Nm/A]	Rk [Ω]	L [mH]	J_{rot} [$kgcm^2$]	m [kg]	A [mm]
100-K0	1200	39,4	36,0	12,0	11,2	114,1	3,27	1,486	27,1	96,40	31,5	403
100 K1	1200	46,9	42,2	14,2	13,0	117,2	3,36	1,134	22,7	113,60	36,5	433
100-S0	1200	54,2	48,4	16,2	14,7	116,9	3,35	0,856	18,4	130,80	41,5	463
100 S1	1200	61,5	54,9	18,6	16,9	114,2	3,27	0,675	15,3	147,90	46,5	493
100-M0	1200	68,8	61,4	20,5	18,6	117,3	3,36	0,565	13,4	165,10	51,5	523
100 M1	1200	76,1	67,1	23,1	20,7	116,2	3,33	0,502	12,3	182,30	56,5	553
100-L0	1200	83,4	72,9	26,4	23,5	110,3	3,16	0,434	10,9	199,40	61,5	583
100 L1	1200	90,5	78,4	27,4	24,2	115,9	3,32	0,387	10,0	216,60	66,5	613
100-K0	2000	39,4	33,3	18,8	16,2	73,3	2,10	0,614	10,9	96,40	31,5	403
100 K1	2000	46,9	38,8	23,5	18,8	71,4	2,04	0,420	8,3	113,60	36,5	433
100-S0	2000	54,2	44,5	25,8	21,6	73,3	2,10	0,342	7,2	130,80	41,5	463
100 S1	2000	61,5	49,7	30,8	24,1	71,4	2,04	0,264	5,9	147,90	46,5	493
100-M0	2000	68,8	54,9	35,3	28,8	68,1	1,95	0,217	5,0	165,10	51,5	523
100 M1	2000	76,1	59,4	38,1	28,2	73,4	2,10	0,200	4,8	182,30	56,5	553
100-L0	2000	83,4	63,7	42,8	32,4	68,8	1,97	0,166	4,1	199,40	61,5	583
100 L1	2000	90,5	67,9	44,4	33,3	71,0	2,04	0,146	3,7	216,60	66,5	613
100-K0	3000	39,4	30,3	26,3	20,3	52,4	1,50	0,320	5,6	96,40	31,5	403
100 K1	3000	46,9	33,2	31,3	22,7	52,7	1,51	0,229	4,4	113,60	36,5	433
100-S0	3000	54,2	36,1	34,7	23,8	54,5	1,56	0,192	4,0	130,80	41,5	463
100 S1	3000	61,5	38,6	41,0	26,6	52,3	1,50	0,142	3,1	147,90	46,5	493
100-M0	3000	68,8	41,0	48,1	29,7	49,9	1,43	0,116	2,7	165,10	51,5	523
100 M1	3000	76,1	43,6	50,7	30,1	52,0	1,49	0,101	2,4	182,30	56,5	553
100-L0	3000	83,4	46,2	54,9	31,5	53,1	1,52	0,096	2,4	199,40	61,5	583
100 L1	3000	90,5	48,6	60,3	33,7	52,3	1,50	0,079	2,0	216,60	66,5	613

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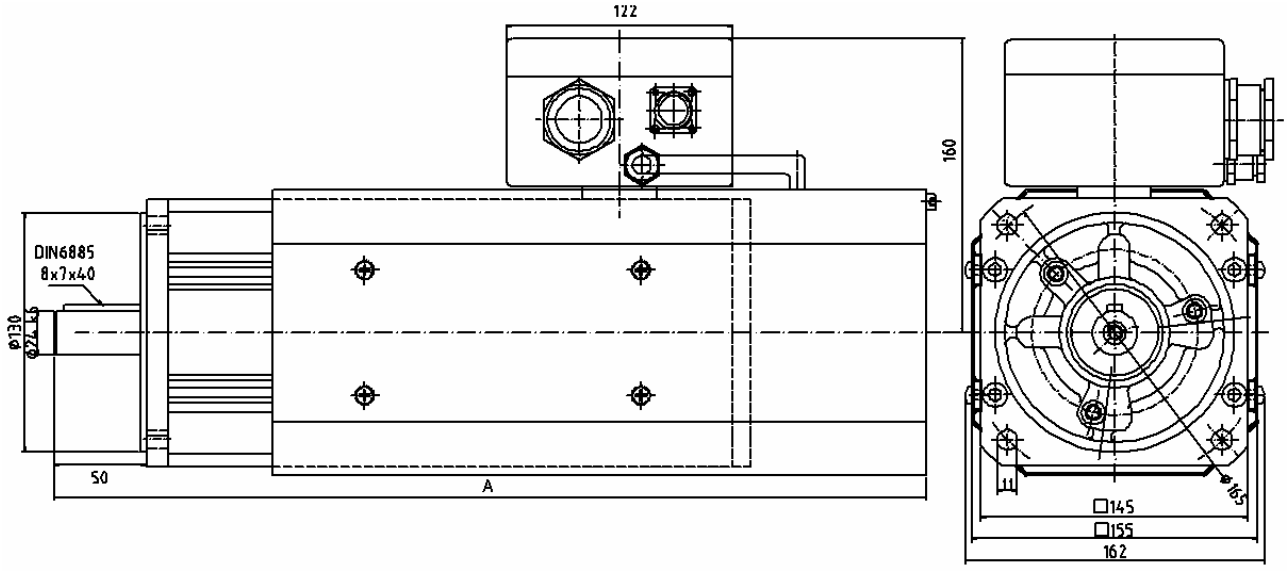
Data Sheet

ADS 071-K0-M1 with separate fan (560 V DC link voltage = 415 V terminal voltage)



Type: NDS	n [min^{-1}]	M_0 [Nm]	M_n [Nm]	I_0 [A]	In [A]	kv [V/1000min^{-1}]	kt [Nm/A]	Rk [Ω]	L [mH]	J_{rot} [$kgcm^2$]	m [kg]	A [mm]
071-K0	2000	21,20	20,50	10,10	9,90	74,0	2,12	2,854	20,7	25,94	19,8	455
071-K1	2000	25,50	24,50	12,10	11,80	74,0	2,12	2,173	17,2	31,13	21,4	475
071-S0	2000	29,40	28,20	13,60	13,20	76,0	2,18	1,683	15,4	36,32	23,0	495
071-S1	2000	33,90	32,00	15,90	15,10	75,0	2,15	1,366	13,1	41,51	24,6	515
071-M0	2000	37,90	35,70	17,70	16,90	75,5	2,16	1,182	11,8	46,70	26,2	535
071-M1	2000	42,40	39,90	19,80	19,00	74,0	2,12	0,989	9,59	51,89	27,8	555
071-K0	3000	21,20	20,00	14,40	14,00	51,8	1,48	1,399	10,0	25,94	19,8	455
071-K1	3000	25,50	23,60	17,80	17,00	50,3	1,44	1,005	7,8	31,13	21,4	475
071-S0	3000	29,40	26,60	20,00	18,60	51,8	1,48	0,782	7,1	36,32	23,0	495
071-S1	3000	33,90	30,00	23,20	21,00	51,3	1,47	0,639	6,1	41,51	24,6	515
071-M0	3000	37,90	34,30	24,90	23,00	53,3	1,53	0,589	5,8	46,70	26,2	535
071-M1	3000	42,40	37,50	28,80	26,00	51,0	1,46	0,469	4,5	51,89	27,8	555
071-K0	4000	21,20	18,50	18,80	17,10	39,5	1,13	0,812	5,7	25,94	19,8	455
071-K1	4000	25,50	21,40	23,30	20,30	38,5	1,10	0,588	4,5	31,13	21,4	475
071-S0	4000	29,40	24,40	26,40	22,70	39,1	1,12	0,447	4,0	36,32	23,0	495
071-S1	4000	33,90	27,70	30,10	25,50	39,5	1,13	0,378	3,6	41,51	24,6	515
071-M0	4000	37,90	31,40	32,00	27,40	41,4	1,19	0,356	3,5	46,70	26,2	535
071-M1	4000	42,40	34,10	37,70	31,40	39,5	1,13	0,281	2,7	51,89	27,8	555

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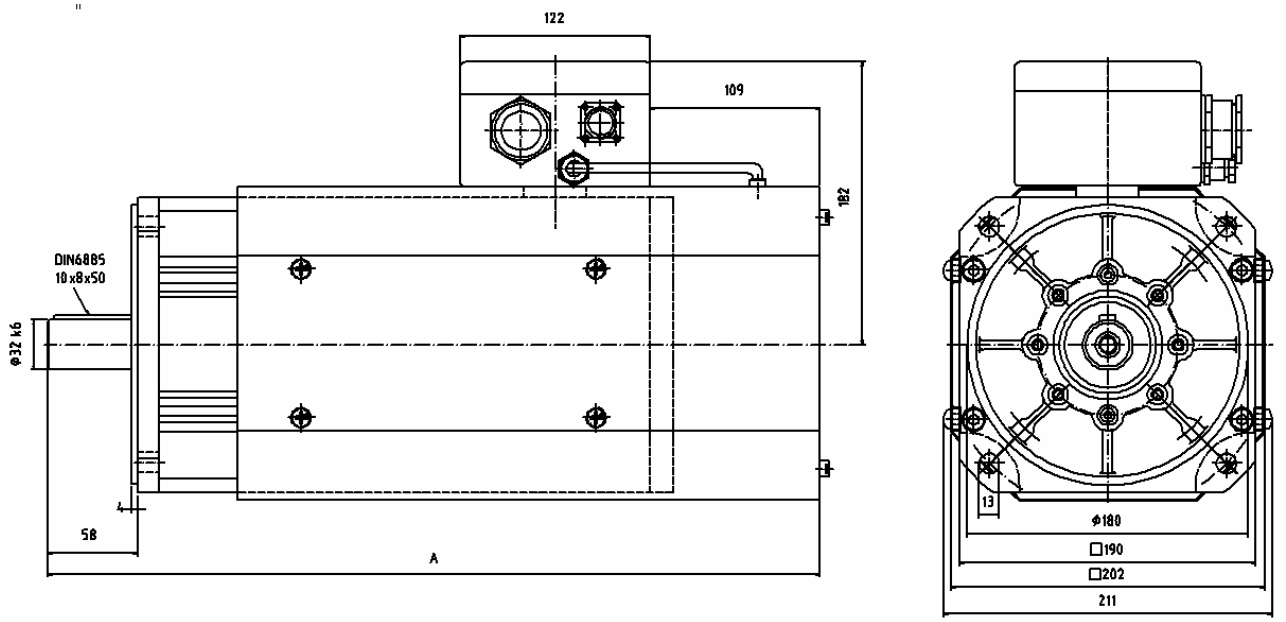
Data Sheet

ADS 100-K0-L1 with separate fan (560 V DC link voltage = 415 V terminal voltage)



Type: NDS	n [min^{-1}]	M_0 [Nm]	M_n [Nm]	I_0 [A]	In [A]	kv [$V/1000min^{-1}$]	kt [Nm/A]	Rk [Ω]	L [mH]	J_{rot} [$kgcm^2$]	m [kg]	A [mm]
100-K0	1200	55,2	51,3	16,9	15,9	114,1	3,27	1,486	27,1	96,40	34,6	497
100 K1	1200	65,7	61,9	19,6	18,7	117,2	3,36	1,134	22,7	113,60	39,6	527
100-S0	1200	76,0	72,3	22,7	21,8	116,9	3,35	0,856	18,4	130,80	44,6	557
100 S1	1200	86,1	82,1	26,4	25,4	114,2	3,27	0,675	15,3	147,90	49,6	587
100-M0	1200	96,3	91,4	28,7	27,5	117,3	3,36	0,565	13,4	165,10	54,6	617
100 M1	1200	106,5	100,8	32,0	30,6	116,2	3,33	0,502	12,3	182,30	59,6	647
100-L0	1200	116,7	109,4	37,0	35,1	110,3	3,16	0,434	10,9	199,40	64,6	677
100 L1	1200	126,5	120,0	38,2	36,6	115,9	3,32	0,387	10,0	216,60	69,6	707
100-K0	2000	55,2	49,0	26,3	23,7	73,3	2,10	0,614	10,9	96,40	34,6	497
100 K1	2000	65,7	58,0	32,3	28,7	71,4	2,04	0,420	8,3	113,60	39,6	527
100-S0	2000	76,0	69,4	36,2	33,5	73,3	2,10	0,342	7,2	130,80	44,6	557
100 S1	2000	86,1	77,5	42,3	38,5	71,4	2,04	0,264	5,9	147,90	49,6	587
100-M0	2000	96,3	83,5	49,4	43,5	68,1	1,95	0,217	5,0	165,10	54,6	617
100 M1	2000	106,5	92,6	50,8	44,7	73,4	2,10	0,200	4,8	182,30	59,6	647
100-L0	2000	116,7	101,4	59,3	52,2	68,8	1,97	0,166	4,1	199,40	64,6	677
100 L1	2000	126,5	111,0	62,1	55,2	71,0	2,04	0,146	3,7	216,60	69,6	707
100-K0	3000	55,2	45,0	36,8	30,6	52,4	1,50	0,320	5,6	96,40	34,6	497
100 K1	3000	65,7	52,3	43,6	35,4	52,7	1,51	0,229	4,4	113,60	39,6	527
100-S0	3000	76,0	62,0	48,8	40,5	54,5	1,56	0,192	4,0	130,80	44,6	557
100 S1	3000	86,1	67,4	57,5	45,8	52,3	1,50	0,142	3,1	147,90	49,6	587
100-M0	3000	96,3	72,8	67,4	51,9	49,9	1,43	0,116	2,7	165,10	54,6	617
100 M1	3000	106,5	78,3	71,5	53,6	52,0	1,49	0,101	2,4	182,30	59,6	647
100-L0	3000	116,7	87,9	76,8	58,9	53,1	1,52	0,096	2,4	199,40	64,6	677
100 L1	3000	126,5	94,7	84,4	64,4	52,3	1,50	0,079	2,0	216,60	69,6	707

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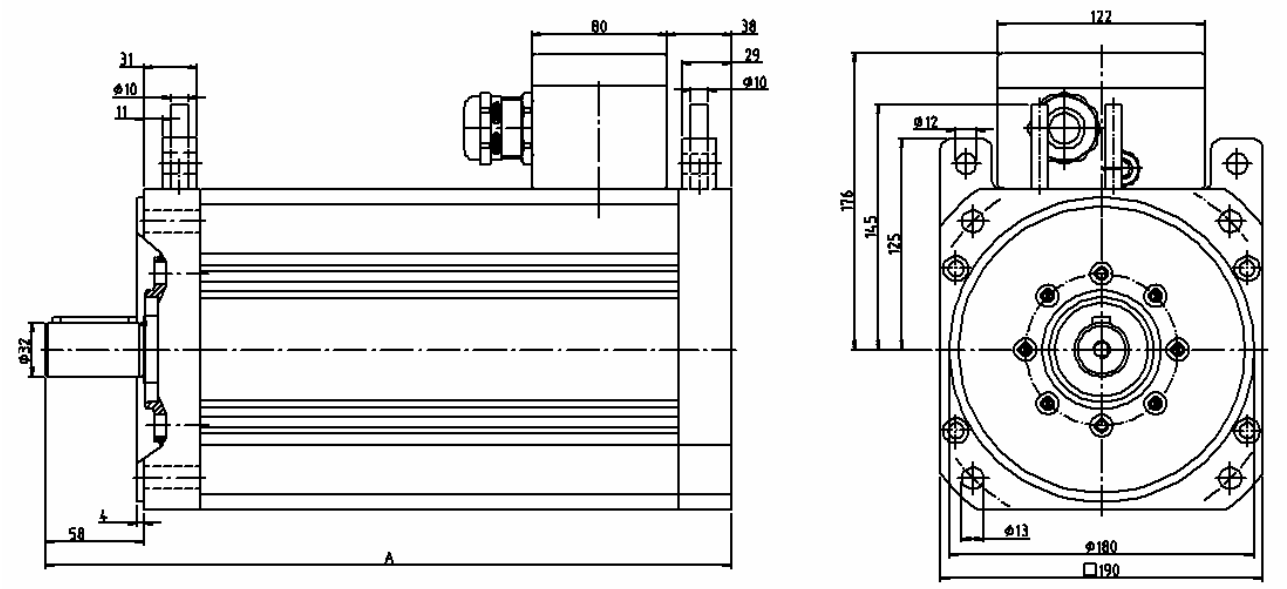
Data Sheet

ADS 100-K0-L1 with water-cooled end shield (560 V DC link voltage = 415 V terminal voltage)



Type: NDS	n [min^{-1}]	M_0 [Nm]	M_n [Nm]	I_0 [A]	In [A]	kv [V/1000min^{-1}]	kt [Nm/A]	Rk [Ω]	L [mH]	J_{rot} [kgcm^2]	m [kg]	A [mm]
100-K0	1200	55,2	51,3	16,9	15,9	114,1	3,27	1,486	27,1	96,40	34,6	405
100 K1	1200	65,7	61,9	19,6	18,7	117,2	3,36	1,134	22,7	113,60	39,6	435
100-S0	1200	76,0	72,3	22,7	21,8	116,9	3,35	0,856	18,4	130,80	44,6	465
100 S1	1200	86,1	82,1	26,4	25,4	114,2	3,27	0,675	15,3	147,90	49,6	495
100-M0	1200	96,3	91,4	28,7	27,5	117,3	3,36	0,565	13,4	165,10	54,6	525
100 M1	1200	106,5	100,8	32,0	30,6	116,2	3,33	0,502	12,3	182,30	59,6	555
100-L0	1200	116,7	109,4	37,0	35,1	110,3	3,16	0,434	10,9	199,40	64,6	585
100 L1	1200	126,5	120,0	38,2	36,6	115,9	3,32	0,387	10,0	216,60	69,6	615
100-K0	2000	55,2	49,0	26,3	23,7	73,3	2,10	0,614	10,9	96,40	34,6	405
100 K1	2000	65,7	58,0	32,3	28,7	71,4	2,04	0,420	8,3	113,60	39,6	435
100-S0	2000	76,0	69,4	36,2	33,5	73,3	2,10	0,342	7,2	130,80	44,6	465
100 S1	2000	86,1	77,5	42,3	38,5	71,4	2,04	0,264	5,9	147,90	49,6	495
100-M0	2000	96,3	83,5	49,4	43,5	68,1	1,95	0,217	5,0	165,10	54,6	525
100 M1	2000	106,5	92,6	50,8	44,7	73,4	2,10	0,200	4,8	182,30	59,6	555
100-L0	2000	116,7	101,4	59,3	52,2	68,8	1,97	0,166	4,1	199,40	64,6	585
100 L1	2000	126,5	111,0	62,1	55,2	71,0	2,04	0,146	3,7	216,60	69,6	615
100-K0	3000	55,2	45,0	36,8	30,6	52,4	1,50	0,320	5,6	96,40	34,6	405
100 K1	3000	65,7	52,3	43,6	35,4	52,7	1,51	0,229	4,4	113,60	39,6	435
100-S0	3000	76,0	62,0	48,8	40,5	54,5	1,56	0,192	4,0	130,80	44,6	465
100 S1	3000	86,1	67,4	57,5	45,8	52,3	1,50	0,142	3,1	147,90	49,6	495
100-M0	3000	96,3	72,8	67,4	51,9	49,9	1,43	0,116	2,7	165,10	54,6	525
100 M1	3000	106,5	78,3	71,5	53,6	52,0	1,49	0,101	2,4	182,30	59,6	555
100-L0	3000	116,7	87,9	76,8	58,9	53,1	1,52	0,096	2,4	199,40	64,6	585
100 L1	3000	126,5	94,7	84,4	64,4	52,3	1,50	0,079	2,0	216,60	69,6	615

Holding Brakes

Mechanical Brakes

All below listed AC servomotors can be equipped with a holding brake.

Please note: Please pay attention to connection polarity.
Brakes may be operated only with plane direct voltage!

The following holding brakes (with 24 V direct voltage) are available:

Motor type	Possible brake type
NDS 045 S0	a
NDS 045 M0	a
NDS 045 L0	a
NDS 045 L1	a
NDS 045 L2	a
NDS 056 S0	c, d
NDS 056 S1	c, d
NDS 056 M0	c, d
NDS 056 M1	d
NDS 056 L0	d
NDS 056 L1	d
ADS 071 K0 – M1	i
ADS 100 K0 – L0	l

Brake types	a	c	d	i	l
Holding torque (Nm)	3	7	12	28	80
Inertia ($kgcm^2$)	0,15	1,1	1,0	13,5	30,0
Power (W)	10	14	18	22,3	32
Weight (kg)	0,3	0,65	0,65	2,4	3,8
Max. speed (min^{-1})*1000				10	8

Options

We offer various options:

Gear	Different suppliers (For example: Neugart, etc.)
Encoder	Different suppliers (For example: Heidenhain, Sick Stegmann, etc.)
Holding Brakes	Suitable for NDS and ADS motors
Separate Fan	
Second Shaft End	
Hollow Shafts	
Special Shafts	
Special Speeds	**up to 10.000 min^{-1}**
Protection Class IP 65	Radial shaft seal
Tropics Protection	
Dimensions of Flange and Shaft with reduced tolerances	
Shaft End at A Side (Drive) without Slot	

Servo Controller

As motor specialist, **ATS Antriebstechnik GmbH** is not involved in development and manufacture of necessary controllers for servo motors. **ATS** aims to adapt each motor perfectly to the servo controller chosen by the customer.
ATS delivers also complete drive packages (motor and controller) depending on customers request, because of a close contact to many controller manufacturers:

- Antek Antriebstechnik GmbH
- ARADEX AG
- ESR Pollmeier GmbH & Co
- LTi Drives GmbH
- Metronix Meßgeräte und Elektronik GmbH
- SSD / Eurotherm Antriebe
- Unitek Industrie Elektronik GmbH

Adaptation of **ATS servomotors** to controllers of above listed manufacturers has already proven successful in many cases.