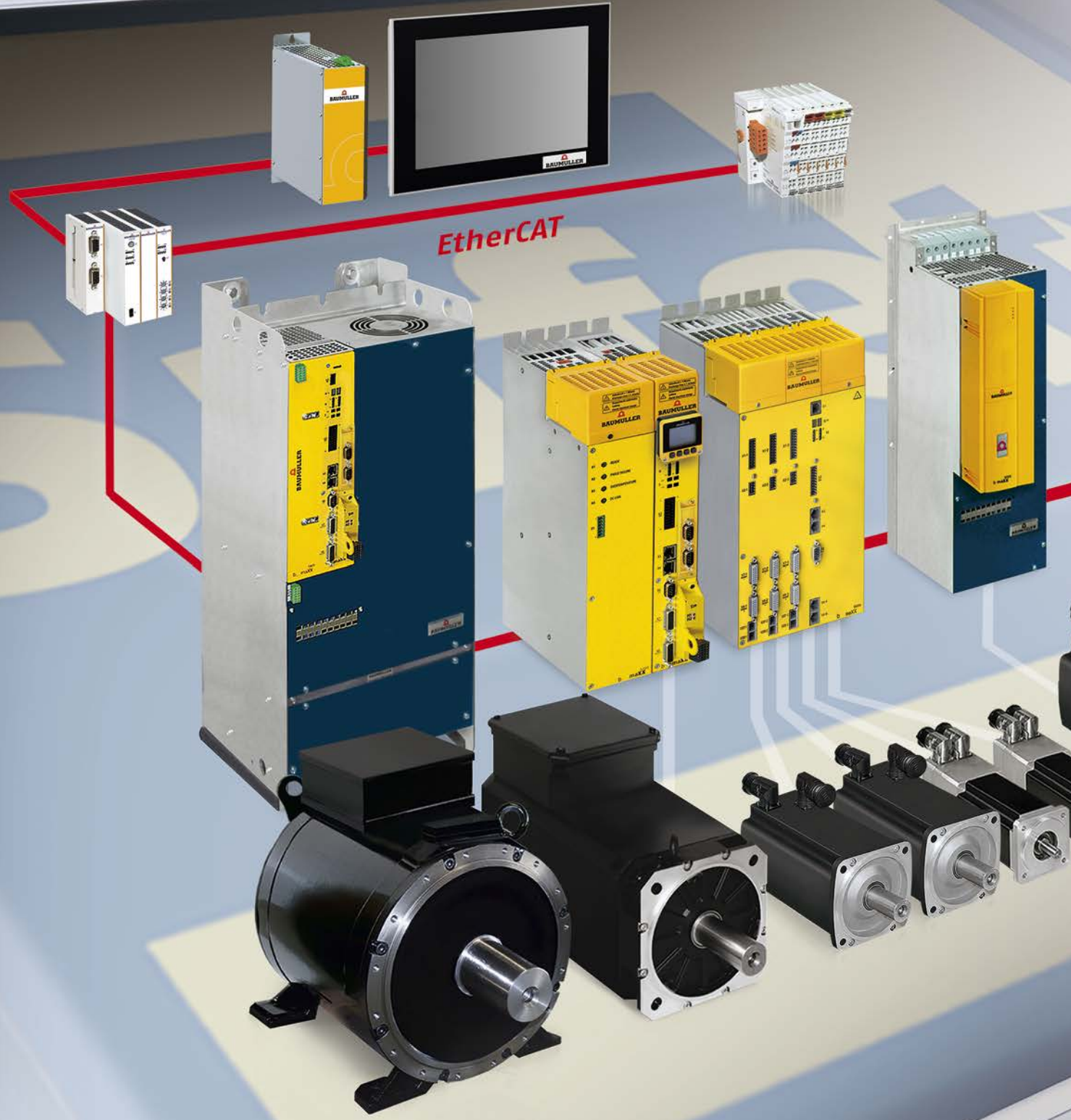


# Motors

be in motion



## Added value for our customers

Our goal is to enable more flexibility in your machine design and ensuring your machine uses the necessary productivity and efficiency in production, thereby giving your machines a competitive edge.

That is why the focus of our development is not just the entire system of a machine, but also the added value that we make available to our customers with the modularization of machines, the scalability of components and flexible technology blocks.

[www.baumueller.com](http://www.baumueller.com)



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## DSD2 28-132 Dynamic Motors



The DSD servo motor, which is designed for highly dynamic applications with the highest requirements on acceleration and the best start-stop qualities, is available in six sizes. The DSD range from Baumüller thereby offers a suitable solution for almost any automation application, such as in:

- ◎ Packaging machines
- ◎ Textile machines
- ◎ Plastics machines
- ◎ Handling machines
- ◎ Special machines
- ◎ Small robots

## DSD2 28-132 – Dynamic motors

- ⊙ Maximum dynamic response due to excellent torque/inertial mass ratio
- ⊙ Excellent smooth running characteristics
- ⊙ High overload capability
- ⊙ Smooth housing surface – not easily soiled
- ⊙ Sleek, uniform housing design
- ⊙ Almost no cogging effect
- ⊙ Permanent magnet synchronous servo motors
- ⊙ Main connection via turnable connector or terminal box
- ⊙ IP65 degree of protection, regardless of cooling method
- ⊙ Encoders: resolver, SinCos (optional), digital encoder (optional)
- ⊙ All types optionally with brake



The DSD series is available in an uncooled, air-cooled and a water-cooled version.



## DSD2 28-132 – Technical data

Type	P <sub>N</sub>		n <sub>N</sub>	J		M <sub>0</sub>		M <sub>0MAX</sub>	
	[kW]	[hp]		[kgcm <sup>2</sup> ]	[lb in <sup>2</sup> ]	[Nm]	[lbf ft]	[Nm]	[lbf ft]
DSD2-028	0.3-0.6	0.4-0.8	4500-6000	0.13-0.2	0.04-0.07	0.7-1.2	0.5-0.9	2.0-3.9	1.5-2.9
DSD2-036	0.4-0.9	0.5-1.2	4000-6000	0.18-0.4	0.06-0.14	1.2-2.8	0.9-2.1	2.8-8.4	2.1-6.2
DSD2-045	0.7-2.4	0.9-3.2	3000-6000	1.0-1.9	0.34-0.65	2.7-5.8	2.0-4.3	12-28	8.9-21
DSD2-056	1.3-12	1.7-16	2000-6000	3.6-6.6	1.2-2.3	7-30	5.2-22	25-57	18-42
DSD2-071	3.0-25	4.0-33	2000-6000	12-19	4.0-6.5	17-73	12-54	53-105	39-77
DSD2-100	1.9-42	2.5-56	1200-6000	52-105	18-36	42-210	31-155	105-280	77-206
DSD2-132	16-108	21-145	1000-6000	290-760	99-260	175-750	129-553	360-1050	266-774

Subject to change. The values specified are maximum values.  
For details, please refer to the relevant technical documentation.

Subject to change



## DSC1 45-100 Compact Motors



With its new DSC servo motors, Baumüller makes the torque motor servo-ready. The focus in this range is on increasing the performance data in favor of a higher torque density, while at the same time drastically reducing the overall volume by up to 30% compared to conventional servo motors. In spite of this, a typical speed range for servo motors of up to 4000 rpm is covered. The DSC 45-100 servo motors have a smooth housing surface to avoid a build-up of contamination, are particularly easy to mount, and have a high environmental protection classification.

- ◎ Packaging
- ◎ Textile
- ◎ Handling
- ◎ Robotics

## DSC1 45-100 – Compact motors

- ⊙ Compact design with high power density
- ⊙ IP65 degree of protection, regardless of cooling method
- ⊙ Main connection and encoder connection via rotatable connectors
- ⊙ Excellent smooth running characteristics
- ⊙ Smooth housing surface – not easily soiled
- ⊙ Sleek, uniform housing design
- ⊙ Permanent magnet synchronous servo motors
- ⊙ High overload capability
- ⊙ Almost no cogging effect
- ⊙ Encoders: resolver, SinCos (optional), digital encoder (optional)
- ⊙ All types optionally with brake



The DSC series is available in an uncooled, air-cooled and a water-cooled version.



## DSC1 45-100 – Technical data

Type	$P_N$		$n_N$	$J$		$M_0$		$M_{0MAX}$	
	[kW]	[hp]		[min <sup>-1</sup> ]	[kgcm <sup>2</sup> ]	[lb in <sup>2</sup> ]	[Nm]	[lbf ft]	[Nm]
DSC1-045	0.5-1.3	0.7-1.7	2000-4000	1.4-3.2	0.48-1.1	2.7-6.2	2.0-4.6	8.5-25	6.3-19
DSC1-056	0.6-5.3	0.8-7.1	900-4000	4.4-11	1.5-3.6	6.2-21	4.6-15	16-48	12-35
DSC1-071	1.2-14	1.6-19	750-4000	12.6-31	4.3-11	12-58	8.9-43	28-84	21-62
DSC1-100	2.3-18	3.1-24	850-3000	46-101	16-35	23-105	17-77	42-126	31-93

Subject to change. The values specified are maximum values.  
For details, please refer to the relevant technical documentation.

Subject to change

## DSP1 45–100

### For high speed performance



For applications with higher speed requirements, the “Pace” servo motors complement the existing DSC range, with speeds up to 6,000 rpm. The outfit is identical to that of the compact DSC servo motors and the DSD range of dynamic servo motors. Due to excellent acceleration and overload characteristics in addition to an increased speed and power range, the DSP motors are especially suitable for applications in:

- ◎ Handling machines
- ◎ Processing machines
- ◎ Servo pump drives



## DSP1 45-100 – For high speed performance

- ⊙ Compact design with a nominal rotary speed of up to 6000 min<sup>-1</sup>
- ⊙ IP65 degree of protection, regardless of cooling method
- ⊙ Main connection and encoder connection via rotatable connectors
- ⊙ Excellent smooth running characteristics
- ⊙ Smooth housing surface – not easily soiled
- ⊙ Sleek, uniform housing design
- ⊙ Permanent magnet synchronous servo motors
- ⊙ High overload capability
- ⊙ Almost no cogging effect
- ⊙ Encoders: resolver, SinCos (optional), digital encoder (on request)
- ⊙ All types optionally with brake



The DSP series is available in an uncooled, air-cooled and a water-cooled version.



## DSP1 45-100 Technical data

Type	P <sub>N</sub>		n <sub>N</sub> [min <sup>-1</sup> ]	J		M <sub>0</sub>		M <sub>0MAX</sub>	
	[kW]	[hp]		[kgcm <sup>2</sup> ]	[lb in <sup>2</sup> ]	[Nm]	[lbf ft]	[Nm]	[lbf ft]
DSP1-045	1.2-2.5	1.6-3.3	6000	1.3-2.8	0.44-0.96	2.2-5.1	1.6-3.8	8.7-26	6.4-19
DSP1-056	2.5-7.9	3.3-11	4000-6000	4.0-9.8	1.4-3.3	4.8-16	3.5-12	16-47	12-35
DSP1-071	4.4-27	5.9-36	4000-6000	12-28	4.1-9.5	8.7-48	6.4-35	26-80	19-59
DSP1-100	4.9-32	6.6-43	1000-6000	36-108	12-37	19-115	14-85	39-155	29-114

Subject to change. The values specified are maximum values.  
For details, please refer to the relevant technical documentation.

Subject to change

## DSH1 45–100 High Precision



The DSH motors score with a not noticeable notch position and thereby reaches an extremely high control quality especially associated to the Baumüller drive engineering. The DSH is the best solution for a variety of applications having a speed up to 5000 U/min and an extremely low notch position:

- © Robotics
- © Label printing machines
- © And many others

## DSH1 45-100 – High precision motors

- ⊙ Compact size having a high power density
- ⊙ Extremely low notch position
- ⊙ Low torque ripple
- ⊙ Degree of protection to IP65 independent of the cooling type
- ⊙ Main connection via a rotatable connector or a terminal housing
- ⊙ Excellent concentricity properties
- ⊙ Smooth housing surface – not susceptible to dirt
- ⊙ Uniform, slim-line type housing design
- ⊙ Permanent magnet synchronous servo motors
- ⊙ High overload capability
- ⊙ Encoders: resolver, SinCos (optional), digital encoder (optional)
- ⊙ All types can optionally be obtained with a brake



Die DSH series is soon available in an uncooled version.



## DSH1 45-100 Technical data \*

Type	P <sub>N</sub>		n <sub>N</sub>	J		M <sub>0</sub>		M <sub>0MAX</sub>	
	[kW]	[hp]		[kgcm <sup>2</sup> ]	[lb in <sup>2</sup> ]	[Nm]	[lbf ft]	[Nm]	[lbf ft]
DSH1-045	0.5-1.2	0.68-1.6	1000-5000	1.4-3.2	0.48-1.1	2.4-5.8	1.8-4.3	7.7-24	5.7-18
DSH1-056	0.6-2.7	0.81-3.7	1000-5000	4.4-11	1.5-3.6	5.6-13	4.1-9.6	14-43	10-32
DSH1-071	1.1-5.6	1.5-7.6	1000-4000	12.6-31	4.3-11	11-26	7.9-19	24-74	18-55
DSH1-100	2.1-9.2	2.8-12.5	1000-3000	46-101	16-35	21-55	15-40	38-122	28-90

Subject to change. The values specified are maximum values.  
For details, please refer to the relevant technical documentation.

\*) in preparation, preliminary data  
**Subject to change**

## DS 45–200 & DA 100–280 General Purpose



With shaft heights from 45 to 280 mm, Baumüller offers the widest range of synchronous and asynchronous motors with various cooling methods. The servo motor is suitable for all applications with the highest requirements on energy efficiency, such as:

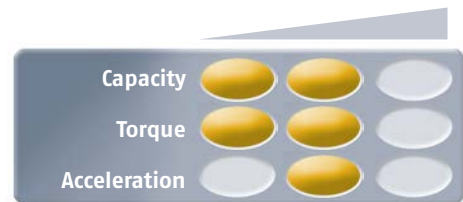
- ◎ Printing machines
- ◎ Packaging machines
- ◎ Textile machines
- ◎ Plastics machines
- ◎ Handling machines
- ◎ Special machines
- ◎ General mechanical engineering

## DS 45-100 – General Purpose (Synchronous)

- ⊙ High torque accuracy
- ⊙ High speed
- ⊙ Compact design
- ⊙ No wear and maintenance free
- ⊙ Permanent field servo motors
- ⊙ IP64/65 non-ventilated, IP54 surface-ventilated (DS 56-100)
- ⊙ Encoders: resolver, SinCos (optional)
- ⊙ All types optionally with brake



The DS series is available in an uncooled and air-cooled version.



## DS 45-100 – Technical data

Type	$P_N$		$n_N$	$J$		$M_0$		$M_{0MAX}$	
	[kW]	[hp]		[kgcm <sup>2</sup> ]	[lb in <sup>2</sup> ]	[Nm]	[lbf ft]	[Nm]	[lbf ft]
DS 45	0.25-1.3	0.34-1.7	3000-6000	1.5-3.4	0.51-1.2	0.8-3.2	0.6-2.4	3.4-15	2.5-11
DS 56	0.38-5.8	0.51-7.8	2000-6000	3.0-16	1.0-5.4	1.9-10	1.4-7.4	5.6-30	4.1-22
DS 71	1.5-12	2.0-16	2000-6000	15-50	5.0-17	7.0-22	5.2-16	23-72	17-53
DS 100	1.5-24	2.0-32	1200-6000	36-175	12-60	12-57	9.2-42	35-159	26-117

Subject to change. The values specified are maximum values.  
For details, please refer to the relevant technical documentation.

Subject to change



## DS2 100–200 – General Purpose (Synchronous)

- ⊙ Perfect acceleration characteristics
- ⊙ High power density
- ⊙ Excellent smooth running characteristics
- ⊙ High variability thanks to modular system
- ⊙ High level of efficiency
- ⊙ Permanent field servo motors
- ⊙ Unventilated IP54, ventilated IP23, IP54
- ⊙ Water-cooled IP54
- ⊙ Encoders: resolver, SinCos (optional), digital encoder (optional)
- ⊙ Optionally with brake



DS motors are available as air- and water-cooled model.



## DS2 100–200 – Technical data

Type	P <sub>N</sub>		n <sub>N</sub> [min <sup>-1</sup> ]	J		M <sub>0</sub>		M <sub>0MAX</sub>	
	[kW]	[hp]		[kgm <sup>2</sup> ]	[lb ft <sup>2</sup> ]	[Nm]	[lbf ft]	[Nm]	[lbf ft]
DS2-100	5.3–47	7–63	1000–3000	0.01–0.02	0.24–0.52	48–165	35–122	120–340	89–251
DS2-132	14–105	19–141	1000–3000	0.045–0.08	1.1–2.0	130–375	96–277	305–710	225–524
DS2-160	30–155	40–208	1000–3000	0.15–0.25	3.6–5.9	320–695	236–513	690–1210	509–892
DS2-200	39–295	52–396	500–2700	0.44–0.79	10–19	570–1340	420–988	1130–2190	833–1615

Subject to change. The values specified are maximum values.  
For details, please refer to the relevant technical documentation.

Subject to change

## DA 100-280 – General Purpose (Asynchronous)

- ⊙ Excellent smooth running characteristics
- ⊙ Model as asynchronous cage rotor
- ⊙ Extremely flexible due to modular design
- ⊙ Large field weakening range
- ⊙ High level of efficiency
- ⊙ Compact and robust design
- ⊙ High torque accuracy
- ⊙ Unventilated IP54, ventilated IP23, IP54
- ⊙ Water-cooled IP54
- ⊙ Encoders: resolver 2-pole, SinCos (optional)
- ⊙ All types optionally with brake



The DA main drives are available as air- and water-cooled model.



## DA 100-280 – Technical data

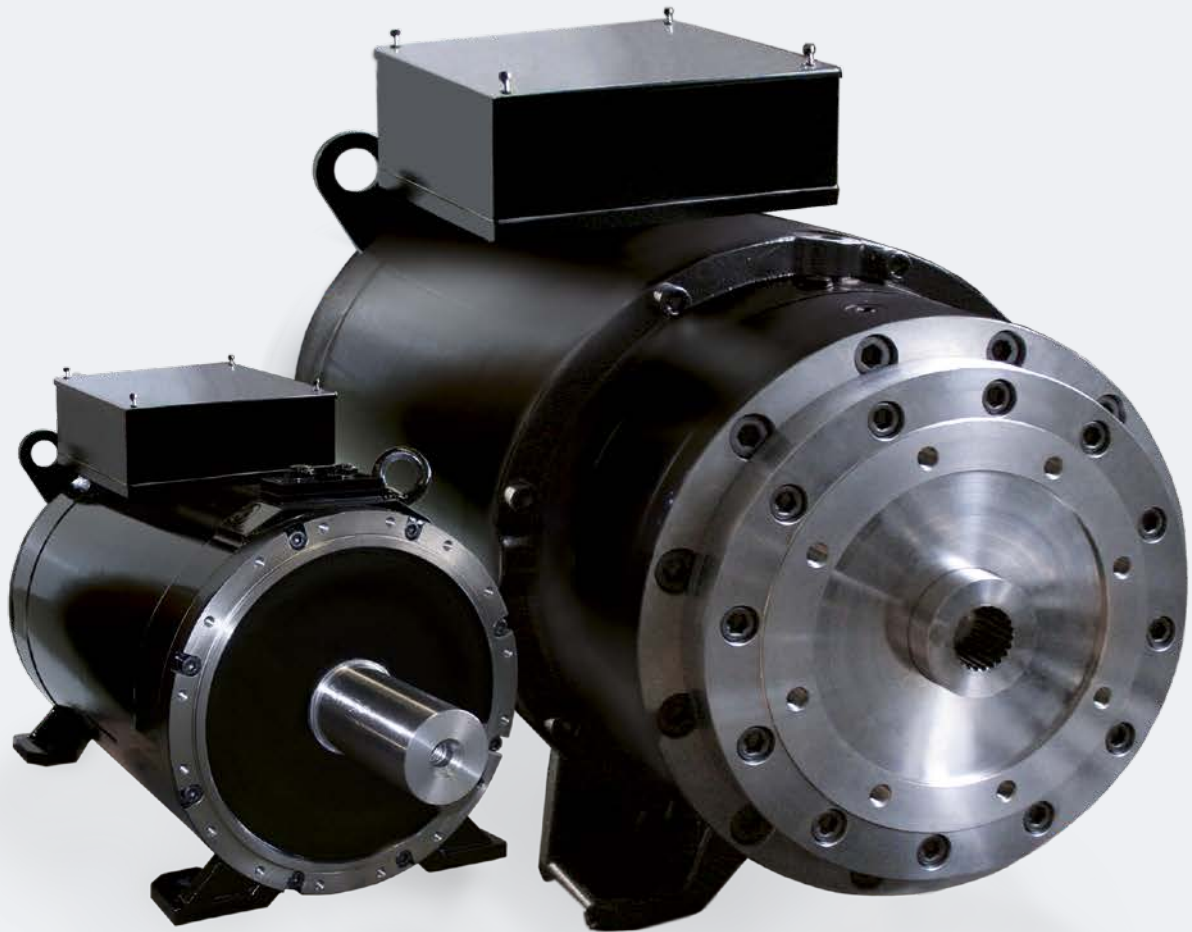
Type	$P_N$		$n_N$	$J$		$M_0$		$M_{0MAX}$	
	[kW]	[hp]		[kgm <sup>2</sup> ]	[lb ft <sup>2</sup> ]	[Nm]	[lbf ft]	[Nm]	[lbf ft]
DA 100	3.5-25	4.7-34	1000-3000	0.02-0.03	0.47-0.71	25-86	18-64	69-138	51-102
DA 132	10-50	13-67	1000-3000	0.07-0.12	1.7-2.8	73-215	54-159	192-344	142-254
DA 160	10-120	13-161	400-3000	0.24-0.35	5.7-8.3	175-573	129-423	464-917	342-676
DA 180	16-200	21-268	400-3000	0.51-0.68	12-16.1	277-955	204-704	764-1528	564-1127
DA 225	27-265	36-355	400-3000	1.3-2.1	31-49	388-1862	286-1373	1290-2979	952-2197
DA 280	82-400	110-536	750-2600	3.3-5.1	78-121	937-3262	691-2406	2100-5200	1549-3835

Subject to change. The values specified are maximum values.  
For details, please refer to the relevant technical documentation.

Subject to change

## DST2 135–560

### For high speed performance



With a torque of up to 80,000 Nm, the DST range from Baumüller meets the highest demands in direct-drive technology. The high-torque servo motor is therefore ideally suited for applications such as:

- ⊙ Plastics machines
- ⊙ Rotary tables or swivel axis
- ⊙ Printing machines
- ⊙ Press technology
- ⊙ Winders
- ⊙ Wire-drawing machines
- ⊙ Stretching units
- ⊙ Machine tools
- ⊙ Woodworking machines
- ⊙ Special machines
- ⊙ Ship propulsion

## DST2 135-560 – The powerful high-torque motors

- ⊙ Very good smooth running characteristics
- ⊙ Energy-efficiency is maintained through wide speed/load range
- ⊙ Suitable for sophisticated direct drive technology
- ⊙ High torque at low velocities
- ⊙ Low-noise
- ⊙ Water cooling in a stainless steel design
- ⊙ Compact and robust design
- ⊙ Smooth housing surface – easy to keep clean
- ⊙ Permanent field high-torque motors
- ⊙ IP54 type of protection
- ⊙ Encoders: Resolver, SinCos (option), digital encoder (optional)
- ⊙ Other encoders on request



DST high-torque motors are available in water-cooled versions.



## DST2 135-560 – Technical data

Typ	P <sub>N</sub>		n <sub>N</sub> [min <sup>-1</sup> ]	M <sub>0</sub>		M <sub>0MAX</sub>	
	[kW]	[hp]		[Nm]	[lbf ft]	[Nm]	[lbf ft]
DST2-135	2.7-60	3.6-80	175-1500	140-580	103-427	325-1110	240-819
DST2-200	5.5-126	7.4-169	150-1000	310-2030	229-1497	790-4450	583-3282
DST2-260	20-225	27-302	150-600	1160-4760	856-3510	2410-9800	1778-7228
DST2-315	16-280	21-375	100-500	1200-8600	885-6343	3330-18400	2456-13571
DST2-400	92-530	126-711	100-300	9500-20200	7007-14899	14800-31600	10916-23307
DST2-560 *	up to 1200	up to 1609	up to 300	up to 45000	up to 33190	up to 80000	up to 59000

Subject to change. The values specified are maximum values.  
For details, please refer to the relevant technical documentation.

\*) in preparation, preliminary data  
Subject to change

## ETA $\eta$ -Drive Integrated helical-bevel gearbox



This geared motor, which has been specially designed for the food and beverage industry, stands out with its minimal installed volume and its high system efficiency. The drive system for aseptic applications is based on a standard servo motor of the Baumüller DSC range, from which a motor-gearbox combination has been derived. The motor has thereby been optimized electrically and mechanically: The integrated connection technology permits a compact system design, and a special bearing concept also allows the integration of the two-stage bevel helical gearbox. In combination with the integrated synchronous motor, efficiency levels of up to 90 percent can be achieved.

The gear motor is designed as a shaft-mounted unit, and, due to its surface finish, is also suitable for aseptic applications, for example.

- © Food industry
- © Drinks industry
- © Pharmaceutical industry

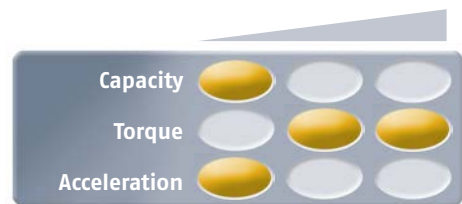


## ETA $\eta$ -Drive – Synchronous geared motors

- ⊙ Integrated connection technology
- ⊙ Efficiency-optimised gearbox
- ⊙ Compact construction with high power density
- ⊙ Permanent magnet excited synchronous motors
- ⊙ Encoderless operation (depends on converter)
- ⊙ Smooth, easy to clean surfaces
- ⊙ Fully enclosed design
- ⊙ Optional hollow stainless steel output shaft
- ⊙ Optional encoder
- ⊙ Brake on request
- ⊙ Completely maintenance-free
- ⊙ Protection class IP66



An uncooled version of the ETA $\eta$ -Drive is available.



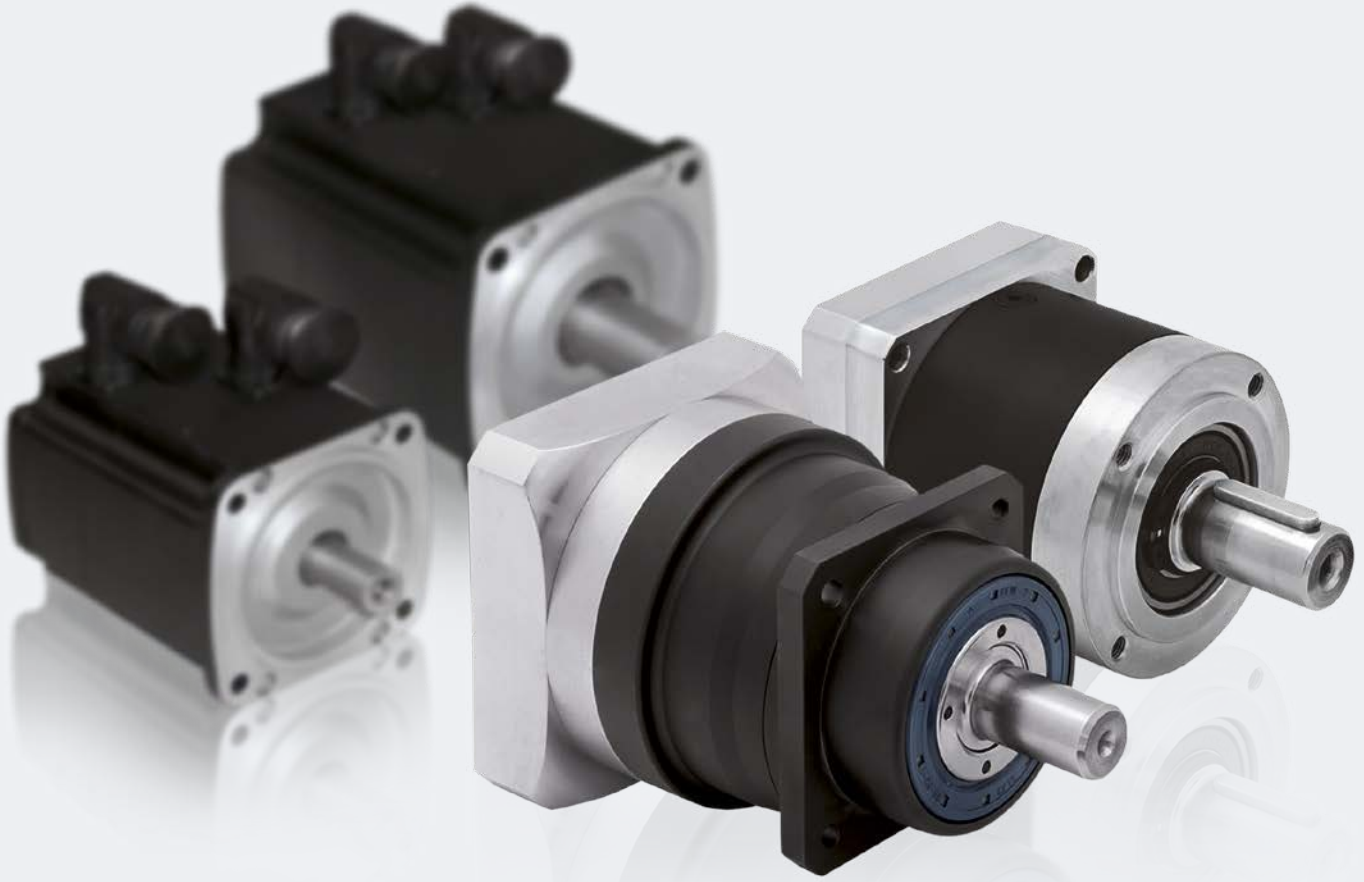
## ETA $\eta$ -Drive – Technical data

Typ	n <sub>1</sub> [min <sup>-1</sup> ]	Transmission ratio	n <sub>2</sub> [min <sup>-1</sup> ]	P <sub>N</sub>		M <sub>2</sub>	
				[kW]	[hp]	[Nm]	[lbt ft]
DSC 056... 10	1000	6 / 11 / 20 / 37	164 / 90 / 49 / 27	0.6-1.5	0.8-2.0	36-400	26-295
DSC 056... 20	2000	6 / 11 / 20 / 37	329 / 180 / 99 / 54	1.2-2.5	1.6-3.3	34-400	25-295
DSC 056... 30	3000	6 / 11 / 20 / 37	493 / 270 / 148 / 81	1.6-2.9	2.1-3.9	32-337	24-241

Subject to change. The values specified are maximum values.  
For details, please refer to the relevant technical documentation.

Subject to change

## BPx Planetary Gears



The BPx planetary gear ranges are perfectly matched to our servo motors, and is therefore ideally suited for applications with the highest demands on torque and dynamic response. Together with a wide range of transmission ratio gradings, almost any possible combination of motor and gear allows an optimal adaptation to customized applications.

The Baumüller planetary gear range is available in three versions, with various configuration options:

- ◎ The BPN series is the gearbox solution for high-technology applications and reflects a perfect combination of innovation, efficiency, and cost effectiveness.
- ◎ The BPE series is used in applications where extremely low torsional backlash is not required.
- ◎ The BPV series is able to withstand high torques as well as axial- and radial forces. Therefore, it is perfect for applications with high speed requirements.

## BPN Precision series

BPN is a precision gearbox for connection to standard flanged ends and shaft ends of the Baumüller DS, DSD, and DSC motor series. The gearbox series is available in standard, angle or flange versions.



BP	X	FS	Type code BPN:	
			FS	Frame Size
	X		N	= Precision
			NA	= Precision Angle
			NF	= Precision Flange
BP				Baumüller Planetary



## BPN/BPNA/BPNF – Technical data

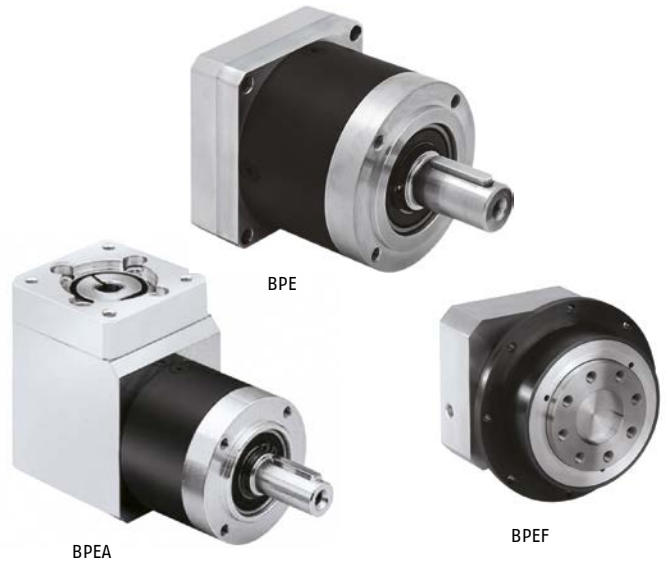
	Type	$n_{input\ max}$ [min <sup>-1</sup> ]	$M_{n2}$ [Nm]	[lbt ft]	i
	BPN 35	14000	27-77	20-57	3-100
	BPN 45	10000	60-150	44-111	3-100
	BPN 56	8500	125-300	92-221	3-100
	BPN 71	6500	305-1000	225-738	3-100
	BPN 95	6000	630-1800	465-1328	3-100
	BPNA 35	16000	22-77	16-57	4-100
	BPNA 45	16000	40-150	29-111	4-100
	BPNA 56	14000	75-300	55-221	4-100
	BPNA 71	9500	160-800	118-590	4-100
	BPNF 32	14000	27-77	20-57	4-100
	BPNF 45	14000	60-150	44-111	4-100
	BPNF 56	10000	125-300	92-221	4-100
	BPNF 71	8500	305-1000	225-738	4-100
	BPNF 100	6500	630-1800	465-1328	4-100

Subject to change. The values specified are maximum values.  
For details, please refer to the relevant technical documentation.

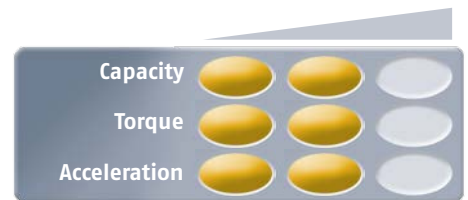
Subject to change

## BPE Economy series

The Economy version (standard, angled, or flanged) is available for simple applications with less stringent torque and speed requirements.



BP	X	FS	Type code BPE:
			FS Frame Size
	X		E = Economy
			EA = Economy Angle
			EF = Economy Flange
			BP Baumüller Planetary



## BPE/BPEA/BPEF – Technical data

	Type	$n_{input\ max}$ [min <sup>-1</sup> ]	$M_{n2}$ [Nm]	[lbt ft]	i
	BPE 20	18000	5-20	4-15	3-512
	BPE 30	13000	15-44	11-32	3-512
	BPE 30/35	13000	15-44	11-32	3-512
	BPE 40	7000	38-130	28-96	3-512
	BPE 40/45	7000	38-130	28-96	3-512
	BPE 60	6500	95-260	70-192	3-512
	BPE 60/56	6500	95-260	70-192	3-512
	BPE 80	6500	400-800	295-590	3-64
	BPEA 20	18000	4-20	3-15	3-512
	BPEA 30	13000	14-44	10-32	3-512
	BPEA 30/35	13000	14-44	10-32	3-512
	BPEA 40	7000	38-130	28-96	3-512
	BPEA 40/45	7000	38-130	28-96	3-512
	BPEA 60/56	6500	80-260	59-192	3-512
	BPEA 60	6500	80-260	59-192	3-512
	BPEA 80	6500	400-800	295-590	3-64
	BPEF 32	13000	15-44	11-32	3-64
	BPEF 45	7000	38-130	28-96	3-64
	BPEF 56	6500	95-260	70-192	3-64

## BPV Velocity series

The BPV gear version is perfect for applications with high speed requirements, due to its helical-toothed planet gear. Furthermore, this version withstands extreme torques and in addition it is able to absorb high axial- and radial forces. Therewith the velocity series is a suitable gear extension for DSP- and DSC- Baumüller motors. It can be obtained in a standard version as well as in a flange version.



BPV



BPVF

BP	X	FS	Type code BPE:
			FS Frame Size
	X		V = Precision
			VF = Precision Flange
			BP Baumüller Planetary



## BPV/BPVF – Technical data

	Type	$n_{input\ max}$ [min <sup>-1</sup> ]	$M_{n2}$ [Nm]	[lbt ft]	i
	BPV 35	14000	40	29	3-100
	BPF 45	14000	80	59	3-100
	BPV 56	10000	180	132	3-100
	BPV 71	8500	470	346	3-100
	BPV 95	6500	950	700	3-100
	BPVF 32	14000	40	29	4-100
	BPVF 45	14000	80	59	4-100
	BPVF 56	10000	180	132	4-100
	BPVF 71	8500	470	346	4-100
	BPVF 100	6500	950	700	4-100

Subject to change. The values specified are maximum values.  
For details, please refer to the relevant technical documentation.

Subject to change



# Automation solutions by Baumüller

Automation solutions  
Planning & development  
Project management  
Hardware & software engineering  
Control cabinet design  
Sheet metal solutions  
Components  
Electrical installation  
Commissioning  
Expansion of existing systems  
Technical support worldwide  
Assembly  
Training  
Service  
Maintenance  
Repair  
Retrofit



You can contact us on our Service Hotline +49 (0) 911 5432-133 twenty-four hours a day on 365 days of the year.

Cooperation with development partners, who contribute to the entire solution in a system-oriented way, is a precondition if you want to concentrate on your own competencies in the field of machine building. If your automation partner supports you during the realization of your system concept, you receive the development, project management and the optimal adaptation of a drive solution from one source.

From the plastics to the packaging industry, from the textile to the printing industry, Baumüller is

an innovative system partner of the capital goods industry. We provide solutions for automation, electrical and drive engineering throughout the entire life cycle of a plant.

It goes without saying that in addition to our complete package consisting of engineering, installation, commissioning and services, we offer customer service with perfect coverage – namely anywhere in the world and at any time.

**We are the partner for your success.**

**Planning and development:** Baumüller is an innovative development partner of machine builders. Already in the early product development stages, we concept and develop an economical and technologically future-proof plant together with you.

**Project management:** Our project leaders ensure the implementation of turnkey equipment.

**Hardware and software engineering:** From the dimensioning via cabling to air conditioning of your control cabinets, we design your hardware taking account of all design and manufacturing options that are technologically innovative, user-oriented and as economical as possible.

**Control cabinet design and sheet metal solutions:** From sheet pieces to completely wired control cabinets, Baumüller has realized individual solutions for well-known machine and plant builders as well as for medical and electro engineering for years. In order to meet the needs and requirements of the capital goods industry of demand-oriented products, as a competent system partner we offer everything from one source. From planning to construction, over sheet metal production and series wiring up to assembly and installation on site – worldwide. Our control cabinet design is certified according to UL 508a.



**Electrical installation and Commissioning:** You construct the mechanics of your system, we design and install the electronics. Whether inhouse or worldwide at your customer's site – with our software solutions and drive technologies we set your machine ideas in motion. For the worldwide installation and commissioning of your systems, we always take account of the respective country-specific standards.

**Expansion of existing systems:** Innovative and customer-specific products require state-of-the-art production methods and machine functions. Using an adaptation or expansion of your existing machine architecture, you quickly achieve an increased flexibility and availability of your systems – while allowing you to estimate your expenses and manage your investments.

**Technical support worldwide:** Whether it is remote diagnosis and remote maintenance using telecommunication or the Internet, through our 24-hour hotline or our contact partners at branch offices onsite in more than 40 locations worldwide – the experts from Baumüller provide full explanations to all your questions concerning automation and drive solutions.

**Assembly:** The Nürmont Installations GmbH & Co. KG has over twenty years of experience in the field of assembly and relocation of machines and plants. Nürmont operates globally and offers solutions from one source. Beginning with project planning up to after sales service – also as a main contractor – Nürmont covers all relevant services in the assembly and relocation field. Together with logistics, special part manufacturing and electrical assembly, as well as commissioning and service support.

**Training:** Only with well-trained employees you can quickly respond to challenges. We offer training onsite and in our training center. On the basics of electrical drive engineering, on maintenance of switching stations, controllers and drives, and on selective troubleshooting in the broader range of printing technology and drive engineering. In cooperation with you, we create a flexible training program that is specifically tailored to the training needs of your employees.

**Service:** The correct repair and spare parts must instantly be available to immediately remedy a failure of your system. In cooperation with you, we develop an extensive service plan and make a technically sound and cost-optimized selection of components that you should keep on hand. We ensure the functional state of your stock of spare parts and deliver components that are missing in an emergency – day and night via express.

**Maintenance:** A professionally maintained machine means safety. Safeguarded production and safety for your employees. Our Condition Monitoring Systems, for example, recognize in advance possible causes of failure and increase the availability of your machine.

**Repair:** The extensive experience, our know-how, as well as the technical equipment of our worldwide subsidiaries are the basis for high quality repair of your electronical units and electrical machines, from exchanging broken parts up to general overhaul – independent of the manufacturer.

**Retrofit:** We retrofit existing systems with up-to-date drive systems, control cabinets and user interfaces, so that your system can execute a failure-free, state-of-the-art production. With a retrofit of your existing machine architecture, you are able to achieve higher system flexibility and availability in a very short time.

# ProMaster Engineering Framework



The more intuitive the engineering, the more efficient will be the automation solution. ProMaster allows you to introduce new machine concepts to the marketplace more quickly and you systematically increase the added value of your machine.

Consistent machine configuration, parametrization, programming and diagnosis are the fundamental aspects for a machine-oriented application. The implementation of the independent standards such as Motion Control functionalities in accordance

with PLCopen or EtherCAT field bus are used. Your knowledge is managed in the form of parameters and functions in data-sets and libraries – over the entire machine life cycle.



## Operating and visualizing with the b maXX HMI

With the b maXX HMI series, Baumüller offers a space-saving HMI with touch panel in the sizes 4.3 up to 15.4 inches. The b maXX HMI is available in the product lines Standard and Performance thereby offering optimal scalability. The HMIs are equipped for future applications also relating to developments in relation to Industry 4.0. The visualization on the HMI can be standard or web-based. The user-friendly and well-structured operating and visualization tool enables efficient engineering and the modification of the machine, as required by the production process, on the HMI.



## Drive-Integrated control system

The intelligent control b maXX-drivePLC, which is completely integrated in the Engineering Framework ProMaster, allows a very fast access to the setpoints and actual values of the drive controller. With this, the drive function can now be extended by complex motion control-, technology- and control functions. Furthermore, with the use of the softdrivePLC, Baumüller has integrated SPS functions directly in the controller and thus additional control hardware for specific applications is no longer necessary. In this way, a decentralized control architecture for the programming in accordance to IEC 61131 was created. Control jobs, as for example simple calculations of digital inputs as well as extremely sophisticated control algorithms, can now be easily implemented via the parameterization tool ProDrive.



## b maXX Controller PLC – modular and safe

The b maXX Controller PLC consistently implements the concept of scalability and modularity for flexible individual adapting by the mechanical engineer. Thus the b maXX PLC02-Safe has extended the standard motion control range by a two-channel safety control system that fulfils the requirements of IEC 61508 to SIL3 and EN 13849 to PL e. This is the first certificated EtherCAT Motion Control PLC with integrated safety function.



## b maXX-PCC – PC based PLC

The calculation performance of an industrial PC in combination with a powerful PLC supplements the range of control systems with a reliable and innovative platform. It is equipped with components of the highest level of performance and is based on open standards in the fields of automation and IT. Multi-core processor architecture provides decisive advantages for automation solutions: various different functions can be distributed and the calculation performance can be allocated to the various tasks. It therefore not only fulfils the high real-time requirements of calculation-intensive applications in a control system, it also takes on additional tasks such as visualization or IT linking on a platform. Both box and panel versions are available.





## b maXX Servo Controllers



### b maXX 5000 – Unachieved dynamics and compactness

News from the pioneer of direct drive technology: We present to you the new alignable drive system b maXX 5000 as supplement of our successful b maXX 4000 range. The new range offers a performance spectrum of 1 kW to 100 kW in a rack system and up to 315 kW as a mono output. With power supplied and regenerative systems, b maXX 5000 can be use worldwide as an energy efficient drive system. With its Connect Drive System, which enables you to commission our drives efficiently and economically, it displays the perfect expansion of our existing product range.

By simply plugging in the SAF module the user can quickly and flexibly respond to new security requirements. The b maXX 5000 ideally met with the scalable security functionality of the modules the guidelines of EN ISO 13849 up to SIL 3.

### **b maXX 4000 – Modular, scalable, open**

Baumüller's approved automation and drive solution b maXX can be adapted to the corresponding demands with respect to performance and equipment through its modularity and flexibility. b maXX 4000 offers a power spectrum from 1.1 kW up to 315 kW with different cooling concepts, such as air and water cooling or cold plate variants. With the series b maXX 4100 a regenerative system is at your disposal, which inserts itself smoothly into the automation solution b maXX. Functional safety relay integrated into the drive available as an option. The peak load and rated load devices (b maXX 4600/4700) supplement the proven bmaXX series and are available in five frame sizes. Whether you need maximum output for continuous operation or only for short durations, the b maXX series offers a customized drive solution for every application.



### **b maXX 3000 – Versatile mini servo controller**

The servo inverter b maXX 3300 is a high-quality servo controller with integrated position control for power ratings up to 5 kW. b maXX 3300 excels through its compact, space-saving design. The field-oriented control provides for excellent performance. Higher-level speed and position control ensure dynamic and exact positioning. The servo controller is specifically designed for operation with servomotors of the DSC, DSP and DSD series and the pancake and linear motor series from Baumüller. Functional safety features integrated into the drive are available, as is a manual control device.



### **b maXX 2000 – Compact mini servo controller**

b maXX 2000 rounds off the converter and controller generation b maXX at the lower end of the power range. The mini servo controller b maXX 2400 (< 60 V) is specifically designed for operation with the DSD 28–36 servomotors and the pancake and linear motor series from Baumüller.



### **b maXX 1000 – Highly efficient frequency converter**

For a vector control of standard electric motors Baumüller added an high-efficient and easy to operate frequency converter into the program: The b maXX 1000 is available in three sizes with capacity ranges from 0.2 to 11 kW. An integrated EMV filter and various protection and overload monitoring functions ensure a troublefree operation. An extensive control and data management system ensures a continuously and exact overview of the current drive status.



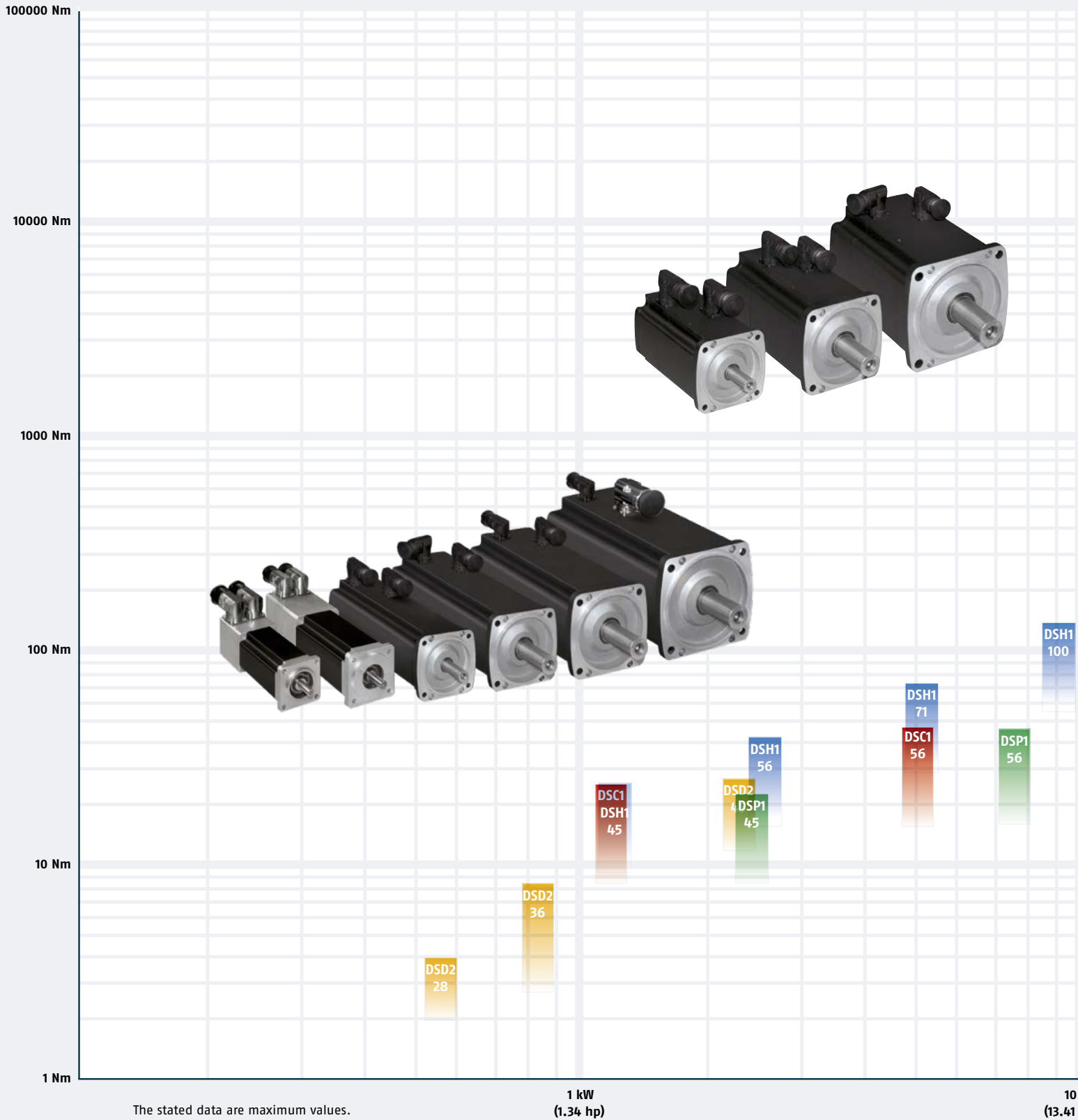
### **DSDI/DSMI – Motors with integrated control/power electronics**

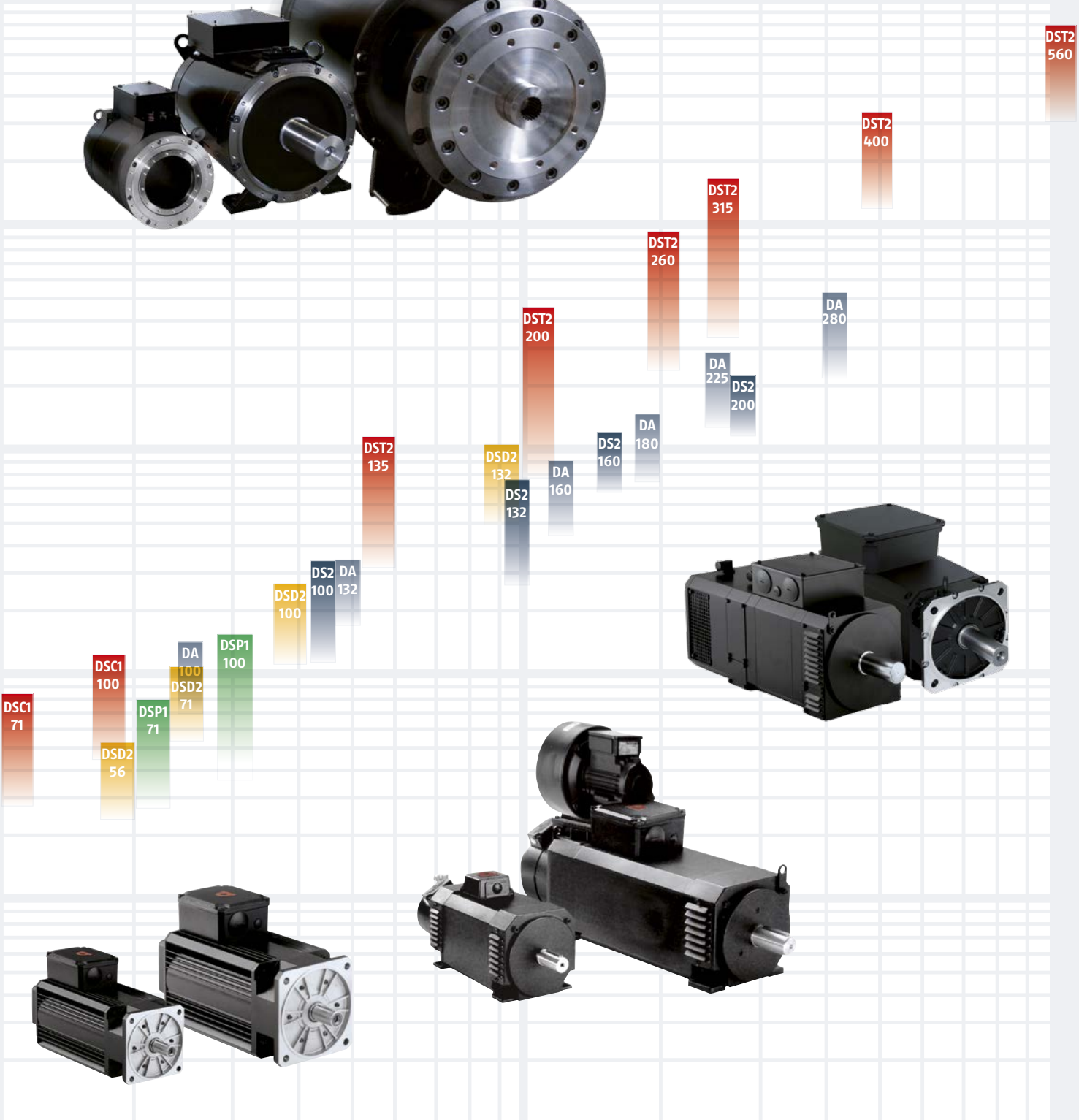
The model ranges DSDI and DSMI are servo motors with integrated control and power electronics that meet the requirements of modern, decentralized drive architectures in automation. The DSDI is a highly dynamic motor and the DSMI is a high torque servo drive. Power range 170–385 W (0.23–0.52 hp), speeds up to 6000 min<sup>-1</sup>, type of protection up to IP65





# Range of motors





kW  
hp)

100 kW  
(134.10 hp)

1000 kW  
(1340 hp)



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