DRUM MOTOR
DM SERIES
DM 0080

Practice-oriented, scalable and thought out in detail: The new drum motor DM 0080 makes it easy to build a completely individual conveyor system and is dimensioned for the higher requirements of permissible belt tension now demanded from industry and belt manufacturers alike.

With a broader speed spectrum, the DM 0080 covers all possible applications. The clever plug-and-play connection significantly simplifies the installation. Each motor is approved, tested, and modularized so that it can be produced and delivered around the world in the shortest amount of time.

The modular design of the DM 0080 allows a free combination of individual module groups, such as shaft, end housing, shell, steel or technopolymer gear, asynchronous or synchronous motor winding, to perfectly meet the requirements of an application. In addition, various options, such as encoder, brake, backstop, rubber laggings, etc., as well as different accessories are available.

With the platform concept of the DM 0080, it is possible to cover all internal logistics applications in the food processing sector, as well as in industry, distribution and airports.

The DM 0080 synchronous drum motor is also offered as oil-free variant. It is ideal for highly dynamic applications, conveyor systems in food processing, SmartBelt conveyors and many belt conveyors with servo driver.

Technical data

	Asynchronous squirrel cage motor	AC synchronous permanent magnet motor
Insulation class of motor windings	Class F, IEC 34 (VDE 0530)	Class F, IEC 34 (VDE 0530)
Voltage	230/400 V ±5 % (IEC 34/38) Most of the common international voltages and frequencies are available upon request	230 or 400 V
Frequency	50 Hz	200 Hz
Shaft seal, internal	NBR	NBR
Protection rate Motor*	IP69K	IP69K
Thermal controller	Bi-metal switch	Bi-metal switch
Operating mode	S1	S1
Ambient temperature, 3-phase motor	+2 to +40 °C Low temperature ranges on request	+2 to +40 °C Low temperature ranges on request
Ambient temperature, 3-phase motor for applications with form-fit belts or no belt	+2 to +25 °C	+2 to +40 °C

* The protection rate of the cable connector may deviate.

Design variants and accessories

Laggings	Lagging for friction drive belts Lagging for modular plastic belts Lagging for positive drive solid homogeneous belts
Sprockets	Sprockets
Options	Backstop Electromagnetic holding brake and rectifier* Encoder* Balancing Plug connection*
Oils	Food-grade oils (EU, FDA, NSF H1) Synchronous motors also available as oil-free variants
Certificate	cULus safety certificates
Accessories	Idler pulleys; conveyor rollers; mounting brackets; cables; inverters

A combination of encoder and safety holding brake is not possible. In addition, the use of a backstop with a synchronous motor is technically not meaningful.

* Depending on the option, the motor extends by 50 – 70 mm.

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Material variants

The following components can be selected for the drum motor and the electrical connection. The combination of components depends on the material used.

Component	Version	Aluminum	Mild steel	Stainless steel	Brass/nickel	Technopolymer
Shell	Crowned		●	●		
	Cylindrical		●	●		
	Cylindrical + key for sprockets		●	●		
End housing	Standard	●		●		
Shaft	Standard			●		
	Cross-drilled thread			●		
Gear boxes	Planetary gear box		●			●
Electrical connector	Straight connector			●	●	●
	Straight hygienic connector			●		
	Elbow connector			●		●
	Terminal box	●		●		●
	Straight plug connection			●		
	90° plug connection			●		
	90° hygienic connector			●		
Motor winding	Asynchronous motor					
	Synchronous motor					
External seal	PTFE					

Motor variants

Mechanical data for synchronous motors with steel gear

P_N [W]	n_P	gs	i	v [m/s]	n_A [min^{-1}]	M_A [Nm]	F_N [N]	M_{MAX}/M_A	FW_{MIN} [mm]	SL_{MIN} [mm]
145	8	3	164.23	0.08	18.3	65.0	1594	1.4	211	204
145	8	3	119.83	0.11	25.0	47.4	1163	2.1	211	204
145	8	3	103.89	0.12	28.9	41.1	1009	2.5	211	204
145	8	3	85.34	0.15	35.2	33.8	828	3.0	211	204
145	8	2	62.7	0.20	47.8	26.0	637	2.2	192	185
145	8	2	53.63	0.24	55.9	22.2	545	2.5	192	185
145	8	2	42.28	0.30	71.0	17.5	430	3.0	192	185
145	8	2	38.5	0.33	77.9	15.9	391	3.0	192	185
145	8	2	31.35	0.41	95.7	13.0	319	3.0	192	185
145	8	2	26.94	0.48	111.4	11.2	274	3.0	192	185
145	8	2	20.27	0.63	148.0	8.4	206	3.0	192	185
145	8	2	14.44	0.89	207.8	6.0	147	3.0	192	185
145	8	2	11.23	1.14	267.1	4.6	114	3.0	192	185
145	8	1	8.25	1.55	363.6	3.6	88	3.0	192	185
145	8	1	4.71	2.72	636.9	2.1	51	3.0	192	185
298	8	2	53.63	0.24	55.9	45.9	1125	1.2	222	215
298	8	2	42.28	0.30	71.0	36.1	887	1.5	222	215
298	8	2	38.5	0.33	77.9	32.9	808	1.6	222	215
298	8	2	31.35	0.41	95.7	26.8	658	3.0	222	215
298	8	2	26.94	0.48	111.4	23.0	565	3.0	222	215
298	8	2	20.27	0.63	148.0	17.3	425	3.0	222	215
298	8	2	14.44	0.89	207.8	12.3	303	3.0	222	215
298	8	2	11.23	1.14	267.1	9.6	236	3.0	222	215
298	8	1	8.25	1.55	363.6	7.4	183	3.0	222	215
298	8	1	4.71	2.72	636.9	4.3	104	3.0	222	215

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P_N [W]	n_P	gs	i	v [m/s]	n_A [min^{-1}]	M_A [Nm]	F_N [N]	M_{MAX}/M_A	FW_{MIN} [mm]	SL_{MIN} [mm]
425	8	2	38.5	0.33	77.9	46.8	1148	1.2	252	245
425	8	2	31.35	0.41	95.7	38.1	935	3.0	252	245
425	8	2	26.94	0.48	111.4	32.7	803	3.0	252	245
425	8	2	20.27	0.63	148.0	24.6	604	3.0	252	245
425	8	2	14.44	0.89	207.8	17.5	431	3.0	252	245
425	8	2	11.23	1.14	267.1	13.6	335	3.0	252	245
425	8	1	8.25	1.55	363.6	10.6	260	3.0	252	245
425	8	1	4.71	2.72	636.9	6.0	148	3.0	252	245
550	8	2	31.35	0.41	95.7	49.4	1212	2.0	282	275
550	8	2	26.94	0.47	111.4	42.4	1041	2.3	282	275
550	8	2	20.27	0.63	148.0	31.9	783	2.9	282	275
550	8	2	14.44	0.89	207.8	22.7	558	3.0	282	275
550	8	2	11.23	1.14	267.1	17.7	434	3.0	282	275
550	8	1	8.25	1.55	363.6	13.7	337	1.9	282	275
550	8	1	4.71	2.72	636.9	7.8	192	3.0	282	275

P_N = Rated power
n_P = Number of poles
gs = Gear stages
i = Speed ratio
v = Speed
n_A = Shell rated speed
M_A = Drum motor rated torque
F_N = Drum motor rated belt pull
M_{MAX}/M_A = Ratio of max. acceleration torque to rated torque
FW_{MIN} = Minimum drum width
SL_{MIN} = Minimum shell length

Electrical data for synchronous motors

P_N [W]	n_P	U_N [V]	I_N [A]	I_0 [A]	I_{MAX} [A]	f_N [Hz]	η	n_N [1/min]	J_R [$kgcm^2$]	M_N [Nm]	M_0 [Nm]	M_{MAX} [Nm]	R_M [Ω]	L_{SD} [mH]	L_{SQ} [mH]	k_e [V/krpm]	T_e [ms]	k_{TN} [Nm/A]	U_{SH} [V]
145	8	230	0.81	0.81	2.43	200	0.85	3000	0.14	0.46	0.46	1.38	21.6	45.6	53.7	41.57	4.97	0.57	4.37
145	8	400	0.47	0.47	1.41	200	0.83	3000	0.14	0.46	0.46	1.38	62.5	130.7	138.0	72.23	4.41	0.98	7.34
298	8	230	1.30	1.30	3.90	200	0.86	3000	0.28	0.95	0.95	2.85	10.2	27.8	29.3	47.46	5.75	0.73	3.32
298	8	400	0.78	0.78	2.34	200	0.87	3000	0.28	0.95	0.95	2.85	29.1	81.9	94.1	83.09	6.48	1.22	5.67
425	8	230	2.30	2.30	6.90	200	0.87	3000	0.42	1.35	1.35	4.05	5.66	16.3	19.4	45.81	6.86	0.59	3.25
425	8	400	1.32	1.32	3.96	200	0.86	3000	0.42	1.35	1.35	4.05	17.6	49.8	59.0	80.80	6.70	1.02	5.81
550	8	230	2.94	2.94	8.82	200	0.90	3000	0.60	1.75	1.75	5.25	3.89	10.2	11.8	38.45	6.06	0.59	2.86
550	8	400	1.70	1.70	5.10	200	0.90	3000	0.60	1.75	1.75	5.25	9.20	24.1	27.6	66.60	6.00	1.03	3.91

P_N = Rated power
n_P = Number of poles
U_N = Rated voltage
M_N = Rated torque of rotor
M_0 = Standstill torque
M_{MAX} = Maximum torque

I_N = Rated current
I_0 = Standstill current
I_{MAX} = Maximum current
f_N = Rated frequency
η = Efficiency
n_N = Rated torque of rotor
J_R = Rotor moment of inertia
R_M = Phase to phase resistance
L_{SD} = d-axis inductance
L_{SQ} = q-axis inductance
k_e = EMF (mutual induction voltage constant)
T_e = Electrical time constant
k_{TN} = Torque constant
U_{SH} = Heating voltage

Mechanical data for synchronous motors with oil-free steel gear

P_N [W]	n_P	gs	i	v [m/s]	n_A [min^{-1}]	M_A [Nm]	F_N [N]	M_{MAX}/M_A	FW_{MIN} [mm]	SL_{MIN} [mm]
80	8	2	62.7	0.20	47.8	14.1	346	3.0	192	185
80	8	2	53.63	0.24	55.9	12.1	296	3.0	192	185
80	8	2	42.28	0.30	71.0	9.5	233	3.0	192	185
80	8	2	38.5	0.33	77.9	8.7	213	3.0	192	185
80	8	2	31.35	0.41	95.7	7.1	173	3.0	192	185
80	8	2	26.94	0.47	111.4	6.1	149	3.0	192	185
80	8	2	20.97	0.63	148.0	4.6	112	3.0	192	185
80	8	2	14.44	0.89	207.8	3.2	80	3.0	192	185
80	8	2	11.23	1.14	267.1	2.5	62	3.0	192	185
80	8	1	8.25	1.55	363.6	2.0	48	3.0	192	185
80	8	1	4.71	2.72	636.9	1.1	27	3.0	192	185
110	8	2	53.63	0.24	55.9	16.9	415	3.0	222	215
110	8	2	42.28	0.30	71.0	13.3	327	3.0	222	215
110	8	2	38.5	0.33	77.9	12.1	298	3.0	222	215
110	8	2	31.35	0.41	95.7	9.9	242	3.0	222	215
110	8	2	26.94	0.47	111.4	8.5	208	3.0	222	215
110	8	2	20.27	0.63	148.0	6.4	157	3.0	222	215
110	8	2	14.44	0.89	207.8	4.5	112	3.0	222	215
110	8	2	11.23	1.14	267.1	3.5	87	3.0	222	215
110	8	1	8.25	1.55	363.6	2.7	67	3.0	222	215
110	8	1	4.71	2.72	636.9	1.6	38	3.0	222	215

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P_N [W]	n_P	gs	i	v [m/s]	n_A [min^{-1}]	M_A [Nm]	F_N [N]	M_{MAX}/M_A	FW_{MIN} [mm]	SL_{MIN} [mm]
180	8	2	38.5	0.33	77.9	19.8	485	2.7	252	245
180	8	2	31.35	0.41	95.7	16.1	395	3.0	252	245
180	8	2	26.94	0.47	111.4	13.8	339	3.0	252	245
180	8	2	20.27	0.63	148.0	10.4	255	3.0	252	245
180	8	2	14.44	0.89	207.8	7.4	182	3.0	252	245
180	8	2	11.23	1.14	267.1	5.8	141	3.0	252	245
180	8	1	8.25	1.55	363.6	4.5	110	3.0	252	245
180	8	1	4.71	2.72	636.9	2.6	63	3.0	252	245
235	8	2	38.5	0.33	77.9	27.7	680	1.9	282	275
235	8	2	31.35	0.41	95.7	22.6	554	3.0	282	275
235	8	2	26.94	0.47	111.4	19.4	476	3.0	282	275
235	8	2	20.27	0.63	148.0	14.6	358	3.0	282	275
235	8	2	14.44	0.89	207.8	10.4	255	3.0	282	275
235	8	2	11.23	1.14	267.1	8.1	198	3.0	282	275
235	8	1	8.25	1.55	363.6	6.3	154	3.0	282	275
235	8	1	4.71	2.72	636.9	3.6	88	3.0	282	275

P_N = Rated power
n_P = Number of poles
gs = Gear stages
i = Speed ratio
v = Speed
n_A = Shell rated speed
M_A = Drum motor rated torque
F_N = Drum motor rated belt pull
M_{MAX}/M_A = Ratio of max. acceleration torque to rated torque
FW_{MIN} = Minimum drum width
SL_{MIN} = Minimum shell length

Electrical data for oil-free synchronous motors

P_N [W]	n_P	U_N [V]	I_N [A]	I_0 [A]	I_{MAX} [A]	f_N [Hz]	η	n_N [1/min]	J_R [kgcm²]	M_N [Nm]	M_0 [Nm]	M_{MAX} [Nm]	R_M [Ω]	L_{SD} [mH]	L_{SQ} [mH]	k_e [V/krpm]	T_e [ms]	k_{TN} [Nm/A]	U_{SH} [V DC]
80	8	230	0.45	0.45	1.35	200	0.85	3000	0.14	0.25	0.25	0.75	21.62	45.6	53.7	41.57	4.97	0.57	2.43
80	8	400	0.26	0.26	0.78	200	0.83	3000	0.14	0.25	0.25	0.75	62.54	130.7	138.0	72.23	4.41	0.98	4.06
110	8	230	0.48	0.48	1.44	200	0.86	3000	0.28	0.35	0.35	1.05	10.20	27.8	29.3	47.46	5.75	0.73	1.22
110	8	400	0.29	0.29	0.87	200	0.87	3000	0.28	0.35	0.35	1.05	29.06	81.9	94.1	83.09	6.48	1.22	2.11
180	8	230	0.97	0.97	2.91	200	0.87	3000	0.42	0.57	0.57	1.71	5.66	16.3	19.4	45.81	6.86	0.59	1.37
180	8	400	0.56	0.56	1.69	200	0.86	3000	0.42	0.57	0.57	1.71	17.60	49.8	59.0	80.80	6.70	1.02	2.46
235	8	230	1.30	1.30	3.90	200	0.92	3000	0.60	0.75	0.75	2.25	3.89	10.2	11.8	38.45	6.06	0.58	1.26
235	8	400	0.75	0.75	2.25	200	0.92	3000	0.60	0.75	0.75	2.25	9.20	24.1	27.6	66.60	6.00	1.00	1.73

P_N = Rated power
n_P = Number of poles
U_N = Rated voltage
I_N = Rated current
I_0 = Standstill current
I_{MAX} = Maximum current
f_N = Rated frequency
η = Efficiency
n_N = Rated torque of rotor
J_R = Rotor moment of inertia
M_N = Rated torque of rotor
M_0 = Standstill torque
M_{MAX} = Maximum torque
R_M = Phase to phase resistance
L_{SD} = d-axis inductance
L_{SQ} = q-axis inductance
k_e = EMF (mutual induction voltage constant)
T_e = Electrical time constant
k_{TN} = Torque constant
U_{SH} = Heating voltage

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Mechanical data for 3-phase asynchronous motor with steel gear

P_N [W]	n_P	gs	i	v [m/s]	n_A [min^{-1}]	M_A [Nm]	F_N [N]	FW_{MIN} [mm]	SL_{MIN} [mm]
40	4	3	164.23	0.03	7.8	42.4	1040	219	212
40	4	3	119.83	0.05	10.7	30.9	759	219	212
40	4	3	103.89	0.05	12.3	26.8	658	219	212
40	4	3	85.34	0.06	15.0	22.0	541	219	212
40	4	2	62.70	0.09	20.4	16.9	416	200	193
40	4	2	53.63	0.10	23.8	14.5	356	200	193
40	4	2	42.28	0.13	30.2	11.4	281	200	193
40	4	2	38.50	0.14	33.2	10.4	256	200	193
40	4	2	31.35	0.17	40.8	8.5	208	200	193
40	4	2	26.94	0.20	47.4	7.3	179	200	193
40	4	2	20.27	0.27	63.0	5.5	135	200	193
75	2	3	164.23	0.07	16.2	38.1	936	219	212
75	2	3	119.83	0.10	22.2	27.8	683	219	212
75	2	3	103.89	0.11	25.6	24.1	592	219	212
75	2	3	85.34	0.13	31.2	19.8	486	219	212
75	2	2	62.70	0.18	42.4	15.2	374	200	193
75	2	2	53.63	0.21	49.6	13.0	320	200	193
75	2	2	42.28	0.27	62.9	10.3	252	200	193
75	2	2	38.50	0.30	69.1	9.4	230	200	193
75	2	2	31.35	0.36	84.8	7.6	187	200	193
75	2	2	26.94	0.42	98.7	6.5	161	200	193
75	2	2	20.27	0.56	131.2	4.9	121	200	193
75	2	2	14.44	0.79	184.1	3.5	86	200	193
75	2	2	11.23	1.01	236.8	2.7	67	200	193

P_N [W]	n_P	gs	i	v [m/s]	n_A [min^{-1}]	M_A [Nm]	F_N [N]	FW_{MIN} [mm]	SL_{MIN} [mm]
80	4	3	119.83	0.05	10.9	59.8	1467	269	262
80	4	3	103.89	0.05	12.6	51.8	1272	269	262
80	4	3	85.34	0.07	15.3	42.6	1045	269	262
80	4	2	62.70	0.09	20.9	32.7	804	250	243
80	4	2	53.63	0.10	24.4	28.0	687	250	243
80	4	2	42.28	0.13	30.9	22.1	542	250	243
80	4	2	38.50	0.15	34.0	20.1	494	250	243
80	4	2	31.35	0.18	41.7	16.4	402	250	243
80	4	2	26.94	0.21	48.6	14.1	345	250	243
80	4	2	20.27	0.28	64.5	10.6	260	250	243
80	4	2	14.44	0.39	90.6	7.5	185	250	243
80	4	2	11.23	0.50	116.5	5.9	144	250	243
80	4	1	8.25	0.68	158.5	4.5	112	250	243
80	4	1	4.71	1.18	277.7	2.6	64	250	243
140	2	3	119.83	0.10	23.0	50.5	1239	269	262
140	2	3	103.89	0.11	26.5	43.8	1074	269	262
140	2	3	85.34	0.14	32.3	36.0	883	269	262
140	2	2	62.70	0.19	43.9	27.7	679	250	243
140	2	2	53.63	0.22	51.3	23.7	580	250	243
140	2	2	42.28	0.28	65.1	18.6	458	250	243
140	2	2	38.50	0.31	71.5	17.0	417	250	243
140	2	2	31.35	0.38	87.8	13.8	339	250	243
140	2	2	26.94	0.44	102.2	11.9	292	250	243
140	2	2	20.27	0.58	135.8	8.9	219	250	243
140	2	2	14.44	0.81	190.7	6.4	156	250	243
140	2	2	11.23	1.05	245.1	5.0	122	250	243
140	2	1	8.25	1.42	333.7	3.8	94	250	243
140	2	1	4.71	2.49	584.5	2.2	54	250	243

P_N = Rated power
n_P = Number of poles
gs = Gear stages
i = Speed ratio
v = Speed
n_A = Shell rated speed
M_A = Drum motor rated torque
F_N = Drum motor rated belt pull
FW_{MIN} = Minimum drum width
SL_{MIN} = Minimum shell length

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Mechanical data for 3-phase asynchronous motor with technopolymer gear

P_N [W]	n_P	gs	i	v [m/s]	n_A [min^{-1}]	M_A [Nm]	F_N [N]	FW_{MIN} [mm]	SL_{MIN} [mm]
40	4	3	78.55	0.07	16.3	20.3	498	239	232
40	4	3	71.56	0.08	17.9	18.5	454	239	232
40	4	3	63.51	0.09	20.1	16.4	403	239	232
40	4	3	52.92	0.10	24.1	13.7	336	239	232
40	4	3	48.79	0.11	26.2	12.6	309	239	232
40	4	3	43.3	0.13	29.5	11.2	275	239	232
40	4	2	19.2	0.28	66.6	5.2	128	239	232
40	4	2	16	0.34	79.9	4.3	106	239	232
40	4	2	13.09	0.42	97.6	3.5	87	239	232
75	2	3	78.55	0.14	33.9	18.2	448	239	232
75	2	3	71.56	0.16	37.2	16.6	408	239	232
75	2	3	63.51	0.18	41.9	14.7	362	239	232
75	2	3	52.92	0.21	50.2	12.3	302	239	232
75	2	3	48.79	0.23	54.5	11.3	278	239	232
75	2	3	43.3	0.26	61.4	10.1	247	239	232
75	2	2	19.2	0.59	138.5	4.7	114	239	232
75	2	2	16	0.71	166.2	3.9	95	239	232
75	2	2	13.09	0.87	203.1	3.2	78	239	232

P_N = Rated power
n_P = Number of poles
gs = Gear stages
i = Speed ratio
v = Speed
n_A = Shell rated speed
M_A = Drum motor rated torque
F_N = Drum motor rated belt pull
FW_{MIN} = Minimum drum width
SL_{MIN} = Minimum shell length

Electrical data for 3-phase asynchronous motor

P_N [W]	n_P	n_N [min^{-1}]	f_N [Hz]	U_N [V]	I_N [A]	cosφ	η	J_R [$kgcm^2$]	I_S/I_N	M_S/M_N	M_B/M_N	M_P/M_N	M_N [Nm]	R_M [Ω]	$U_{SH\Delta}$ [V]	U_{SHY} [V]
40	4	1278	50	230	0.38	2	0.37	0.67	1.93	1.31	1.51	1.31	0.3	294.5	40.3	–
40	4	1278	50	400	0.22	2	0.36	0.67	1.93	1.31	1.51	1.31	0.3	294.5	–	70
75	2	2659	50	230	0.46	0.82	0.5	0.67	3.04	1.48	1.70	1.48	0.27	164.4	31	–
75	2	2659	50	400	0.27	0.82	0.58	0.67	3.04	1.48	1.70	1.48	0.27	164.4	–	54.6
80	4	1308	50	230	0.64	0.68	0.46	1.25	2.20	1.46	1.65	1.46	0.58	132.5	28.8	–
80	4	1308	50	400	0.37	0.68	0.46	1.25	2.20	1.46	1.65	1.46	0.58	132.5	–	50
140	2	2796	50	230	0.65	0.79	0.68	1.25	3.86	1.88	2.03	1.88	0.49	72.7	18.7	–
140	2	2796	50	400	0.38	0.79	0.67	1.25	3.86	1.88	2.03	1.88	0.49	72.7	–	32.7

P_N = Rated power
n_P = Number of poles
n_N = Rated speed of rotor
f_N = Rated frequency
U_N = Rated voltage
I_N = Rated current
cosφ = Power factor
η = Efficiency
J_R = Rotor moment of inertia

I_S/I_N = Ratio of startup current – rated current
M_S/M_N = Ratio of startup torque – rated torque
M_B/M_N = Ratio of pull-out torque – rated torque
M_P/M_N = Ratio of pull-up torque – rated torque
M_N = Rated torque of rotor
R_M = Branch resistance
$U_{SH\Delta}$ = Heater voltage in delta connection
U_{SHY} = Heater voltage in star connection

DRUM MOTOR
DM SERIES
DM 0080

Mechanical data for 1-phase asynchronous motor with steel gear

P_N [W]	n_P	gs	i	v [m/s]	n_A [1/min]	M_A [Nm]	F_N [N]	FW_{MIN} [mm]	SL_{MIN} [mm]
25	4	3	119.83	0.05	11.0	18.5	455	269	262
25	4	3	103.89	0.05	12.7	16.1	395	269	262
25	4	3	85.34	0.07	15.5	13.2	324	269	262
25	4	2	62.7	0.09	21.1	10.2	249	250	243
25	4	2	53.63	0.11	24.6	8.7	213	250	243
25	4	2	42.28	0.13	31.2	6.8	168	250	243
25	4	2	38.5	0.15	34.3	6.2	153	250	243
25	4	2	31.35	0.18	42.1	5.1	125	250	243
25	4	2	26.94	0.21	49.0	4.4	107	250	243
25	4	2	20.27	0.28	65.1	3.3	81	250	243
75	2	3	119.83	0.10	22.9	26.8	658	269	262
75	2	3	103.89	0.11	26.5	23.2	570	269	262
75	2	3	85.34	0.14	32.2	19.1	468	269	262
75	2	2	62.7	0.19	43.9	14.7	360	250	243
75	2	2	53.63	0.22	51.3	12.5	308	250	243
75	2	2	42.28	0.28	65.0	9.9	243	250	243
75	2	2	38.5	0.31	71.4	9.0	221	250	243
75	2	2	31.35	0.37	87.7	7.3	180	250	243
75	2	2	26.94	0.44	102.1	6.3	155	250	243
75	2	2	20.27	0.58	135.7	4.7	116	250	243
75	2	2	14.44	0.81	190.4	3.4	83	250	243
75	2	2	11.23	1.04	244.9	2.6	64	250	243

P_N [W]	n_P	gs	i	v [m/s]	n_A [1/min]	M_A [Nm]	F_N [N]	FW_{MIN} [mm]	SL_{MIN} [mm]
85	2	3	119.83	0.10	22.9	30.9	759	269	262
85	2	3	103.89	0.11	26.5	26.8	658	269	262
85	2	3	85.34	0.14	32.2	22.0	540	269	262
85	2	2	62.7	0.19	43.9	16.9	415	250	243
85	2	2	53.63	0.22	51.3	14.5	355	250	243
85	2	2	42.28	0.28	65.0	11.4	280	250	243
85	2	2	38.5	0.31	71.4	10.4	255	250	243
85	2	2	31.35	0.37	87.7	8.5	208	250	243
85	2	2	26.94	0.44	102.1	7.3	178	250	243
85	2	2	20.27	0.58	135.7	5.5	134	250	243
85	2	2	14.44	0.81	190.4	3.9	96	250	243
85	2	2	11.23	1.04	244.9	3.0	74	250	243
110	2	3	119.83	0.10	23.0	39.2	961	269	262
110	2	3	103.89	0.11	26.5	34.0	833	269	262
110	2	3	85.34	0.14	32.2	27.9	684	269	262
110	2	2	62.7	0.19	43.9	21.4	526	250	243
110	2	2	53.63	0.22	51.3	18.3	450	250	243
110	2	2	42.28	0.28	65.0	14.5	355	250	243
110	2	2	38.5	0.31	71.4	13.2	323	250	243
110	2	2	31.35	0.37	87.7	10.7	263	250	243
110	2	2	26.94	0.44	102.1	9.2	226	250	243
110	2	2	20.27	0.58	135.7	6.9	170	250	243
110	2	2	14.44	0.81	190.5	4.9	121	250	243
110	2	2	11.23	1.05	244.9	3.8	94	250	243

P_N = Rated power
n_P = Number of poles
gs = Gear stages
i = Speed ratio
v = Speed
n_A = Shell rated speed
M_A = Drum motor rated torque
F_N = Drum motor rated belt pull
FW_{MIN} = Minimum drum width
SL_{MIN} = Minimum shell length

DRUM MOTOR
DM SERIES
DM 0080

Mechanical data for 1-phase asynchronous motor with technopolymer gear

P_N [W]	n_P	gs	i	v [m/s]	n_A [1/min]	M_A [Nm]	F_N [N]	FW_{MIN} [mm]	SL_{MIN} [mm]
25	4	3	115.2	0.05	11.5	17.8	436	287	280
25	4	3	96	0.06	13.8	14.8	364	287	280
25	4	3	78.55	0.07	16.8	12.1	297	287	280
25	4	3	71.56	0.08	18.4	11	271	287	280
75	2	3	96	0.12	28.6	21.4	525	287	280
75	2	3	78.55	0.15	35	17.5	430	287	280
75	2	3	71.56	0.16	38.4	16	391	287	280
75	2	3	63.51	0.19	43.3	14.2	347	287	280
85	2	3	78.55	0.15	35	20.2	496	287	280
85	2	3	71.56	0.16	38.4	18.4	452	287	280
85	2	3	63.51	0.19	43.3	16.3	401	287	280
110	2	3	63.51	0.19	43.3	20.7	508	287	280
110	2	3	52.92	0.22	52	17.2	423	287	280
110	2	3	48.79	0.24	56.4	15.9	390	287	280
110	2	3	43.3	0.27	63.5	14.1	346	287	280
110	2	2	19.2	0.61	143.2	6.6	162	287	280
110	2	2	16	0.73	171.9	5.5	135	287	280
110	2	2	13.09	0.90	210.1	4.5	110	287	280

P_N = Rated power
n_P = Number of poles
gs = Gear stages
i = Speed ratio
v = Speed
n_A = Shell rated speed
M_A = Drum motor rated torque
F_N = Drum motor rated belt pull
FW_{MIN} = Minimum drum width
SL_{MIN} = Minimum shell length

Electrical data for 1-phase asynchronous motor

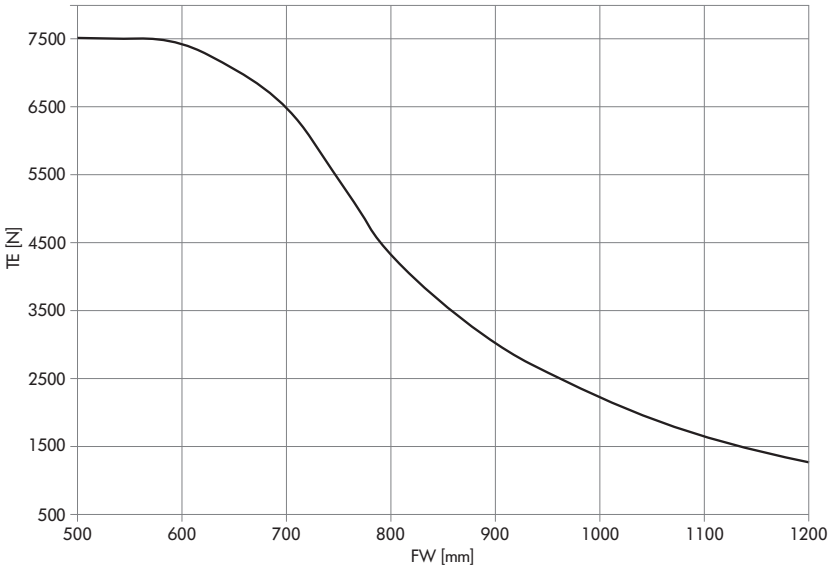
P_N [W]	n_P	n_N [min^{-1}]	f_N [Hz]	U_N [V]	I_N [A]	cosφ	η	J_R [$kgcm^2$]	I_S/I_N	M_S/M_N	M_B/M_N	M_P/M_N	M_N [Nm]	R_M [Ω]	$U_{SH\sim}$ [V DC]	C_R [µF]
25	4	1320	50	230	0.39	1	0.28	1.3	2.19	1.11	1.37	1.11	0.18	150	44	3
50	2	2750	50	230	0.54	1	0.4	0.9	3.08	0.94	1.71	0.94	0.17	82	33	3
75	2	2750	50	230	0.68	1	0.48	1	3.19	0.74	1.37	0.74	0.26	66	34	4
85	2	2750	50	230	0.73	0.98	0.52	1.3	5.24	0.93	1.6	0.93	0.3	52	28	6
110	2	2750	50	230	0.94	1	0.51	1.3	1.97	0.73	1.15	0.73	0.38	51	36	8

P_N = Rated power
n_P = Number of poles
n_N = Rated speed of rotor
f_N = Rated frequency
U_N = Rated voltage
I_N = Rated current
cosφ = Power factor
η = Efficiency
J_R = Rotor moment of inertia
I_S/I_N = Ratio of startup current – rated current
M_S/M_N = Ratio of startup torque – rated torque
M_B/M_N = Ratio of pull-out torque – rated torque
M_P/M_N = Ratio of pull-up torque – rated torque
M_N = Rated torque of rotor
R_M = Branch resistance
$U_{SH\sim}$ = Heater voltage for DC units
C_R = Capacitor size

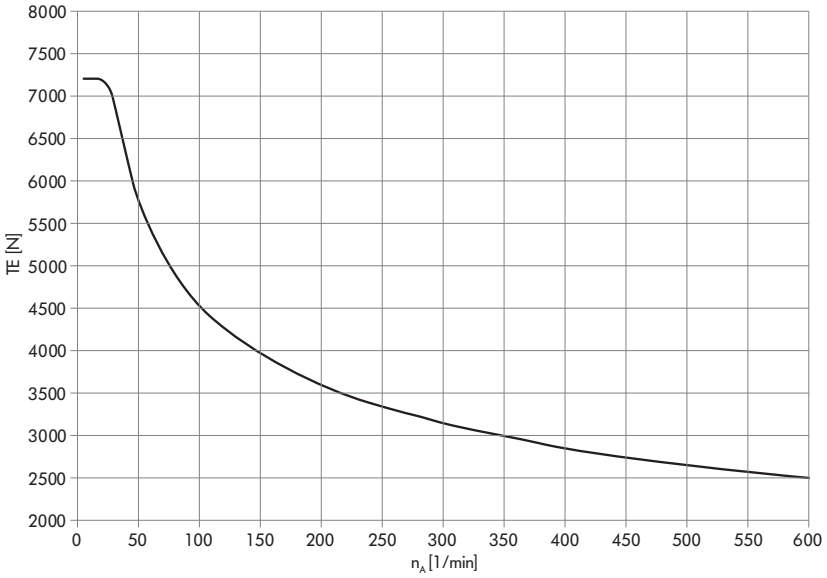
DRUM MOTOR
DM SERIES
DM 0080

Belt tension diagrams

Belt tension depending on drum width



Belt tension depending on rated speed of shell

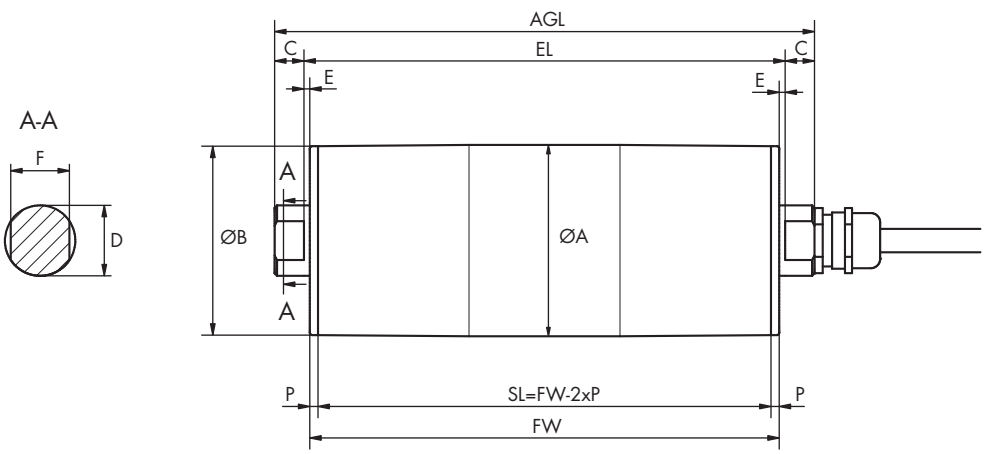


Note: The correct value for the maximum permissible belt tension is determined from the speed of the drum motor. When selecting the motor, also check whether the maximum permissible TE value fits the desired drum width (FW). The belt tension diagrams apply only to standard shafts.

TE = Belt tension
n_A = Shell rated speed
FW = Drum width

Dimensions

Drum motor



Type		A [mm]	B [mm]	C [mm]	D [mm]	S [mm]	F [mm]	P [mm]	SL [mm]	EL [mm]	AGL [mm]
DM 0080 crowned	Standard	81.5	80.5	12.5	30	2.5	25	3.5	FW – 7	FW + 5	FW + 30
	Optional	81.5	80.5	12.5	25	2.5	20	3.5	FW – 7	FW + 5	FW + 30
	Optional	81.5	80.5	12.5	17	2.5	13.5	3.5	FW – 7	FW + 5	FW + 30
DM 0080 cylindrical	Standard	81	81	12.5	30	2.5	25	3.5	FW – 7	FW + 5	FW + 30
	Optional	81	81	12.5	25	2.5	20	3.5	FW – 7	FW + 5	FW + 30
	Optional	81	81	12.5	17	2.5	13.5	3.5	FW – 7	FW + 5	FW + 30
DM 0080 cylindrical + key	Standard	81.7	81.7	12.5	30	2.5	25	3.5	FW – 7	FW + 5	FW + 30
	Optional	81.7	81.7	12.5	25	2.5	20	3.5	FW – 7	FW + 5	FW + 30
	Optional	81.7	81.7	12.5	17	2.5	13.5	3.5	FW – 7	FW + 5	FW + 30