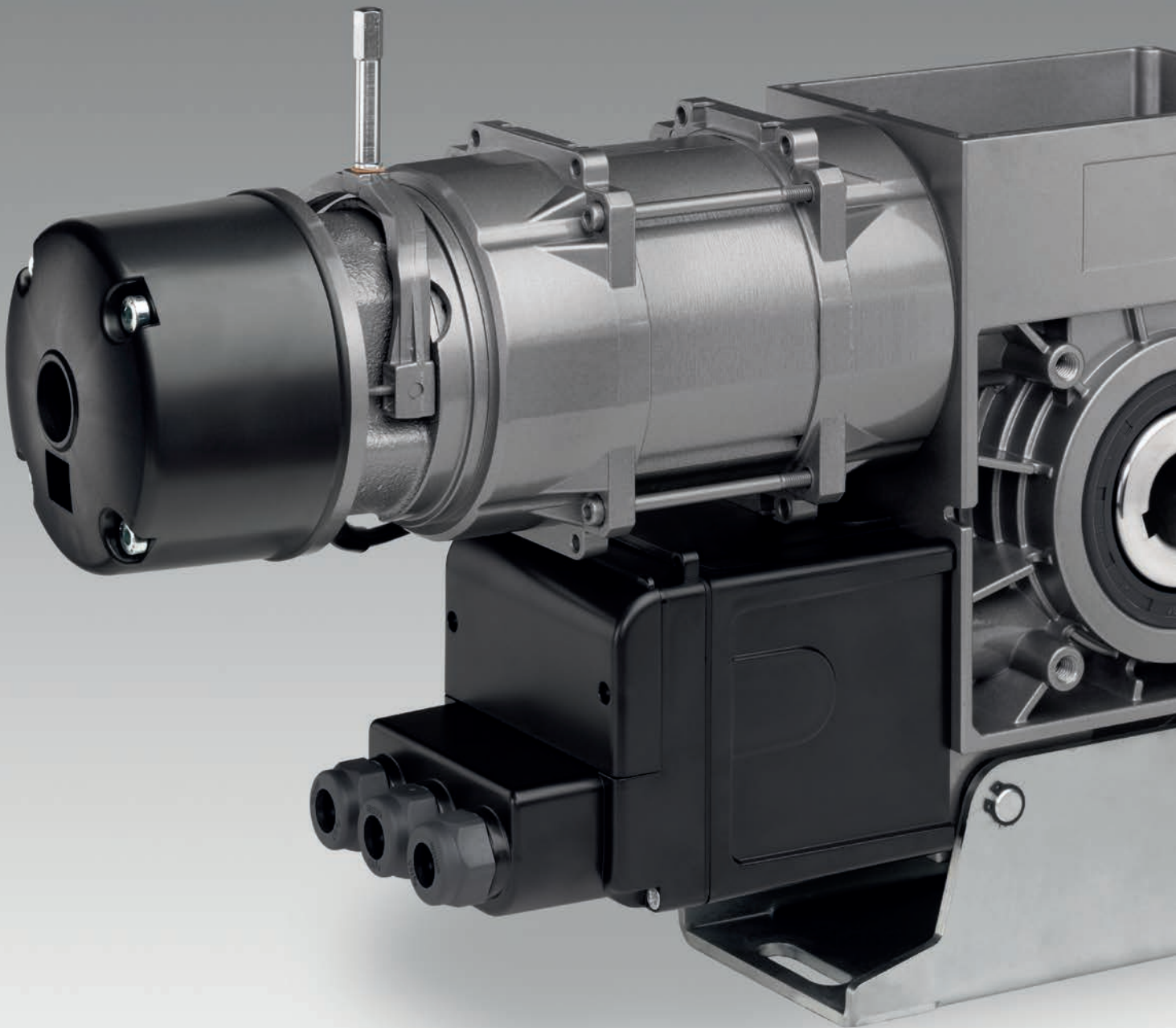


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QUALITY.
INDIVIDUAL SOLUTIONS.

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DRIVES US.**

2018

HIGH-SPEED DOOR DRIVES

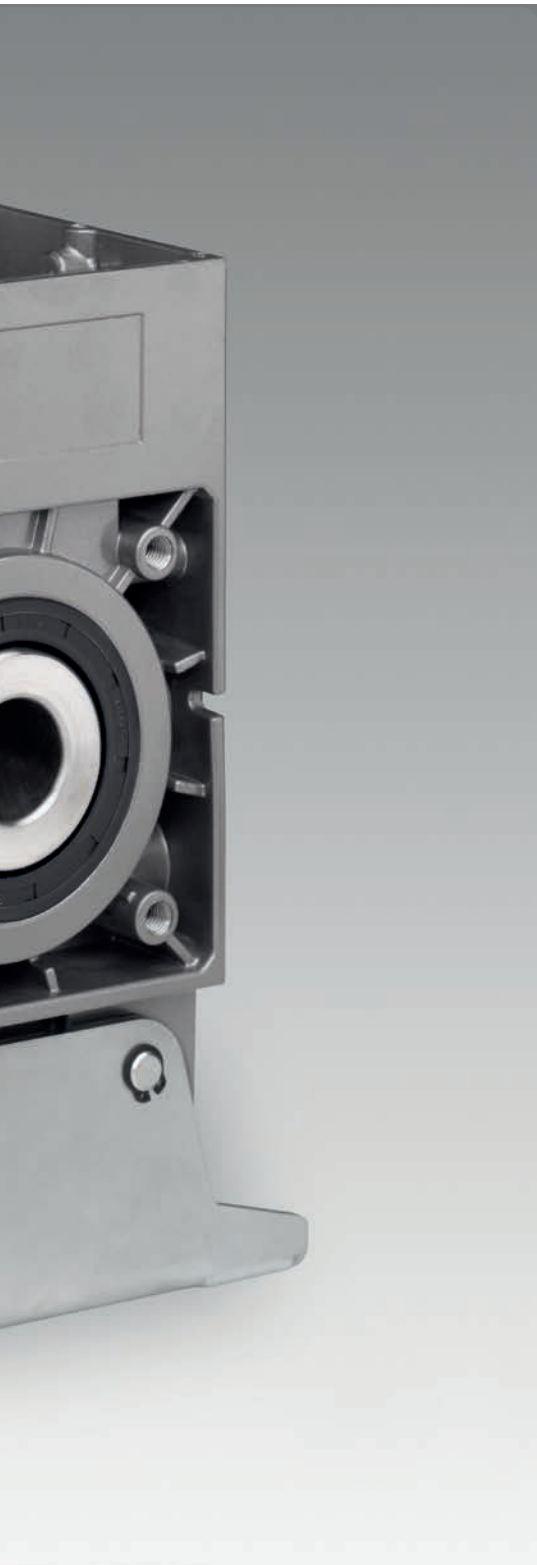


Section on high-speed door drives

MTZ

1

for flexible roll-up doors and high-speed roller shutters
Starting on page 38



MTZ

MTZ-S High-speed door drive for mains operation

MTZ-FU High-speed door drive for operation with a frequency converter

The MTZ series of drives provides the optimal solution for light-weight and heavy flexible roll-up doors as well as high-speed roller shutters. They offer a complete programme for this particular application, with model series extend up to 180 rpm and range from 40 to 440 Nm. MFZ high-speed door drives are compact, slip-on drives that are very easy to install on site. A maintenance-free safety catch device is already integrated in the drive and therefore offers the safest option for the door. We also have the flexibility to quickly realise custom solutions for individual customer requirements at any time.

Characteristics

- 01 2 versions available
Version S for mains operation
Version FU for operation with a frequency converter

- 02 Integrated safety catch device, independent of position and speed, free of maintenance and wear, integrated damping

- 03 Self-aligning bearings

- 04 Rolled worm shaft

- 05 High holding force via additional magnetic brake

- 06 Dimension between centre lines 145 mm or 120 mm (only for MTZ 20 / MTZ 30)

- 07 Emergency hand crank for emergency operation (KU) or emergency hand chain (KE)

- 08 Straightforward conversion from crank to chain

- 09 End position setting via electronic absolute encoder or mechanical limit switch

- 10 Thermal protection in the motor windings

- 11 Higher motor duty cycle available. Identified by the addendum **HD**

- 12 Supply 230 / 400V / 50Hz / 3~ (custom solutions on request)

- 13 Plug-in connections

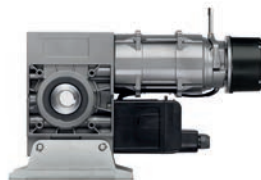
- 14 Version with external control, for combination with an extensive control programme
Supply: 230 / 400V / 3~
Frequency: 50 / 60 Hz
Control voltage: 24V-DC (Section 10 "Controls")

- 15 Frequency converter control optional. Increasing the drive motor speed (operation with frequency converter) reduces the drive torque. The following applies in this case: Increasing the drive motor speed by 10% reduces the drive torque by 5%.

- 16 Custom versions, such as different voltages and frequencies, other drive motor speeds, higher protection classes and sleeve shaft diameters, on request.



MTZ 05



MTZ 20



MTZ 30

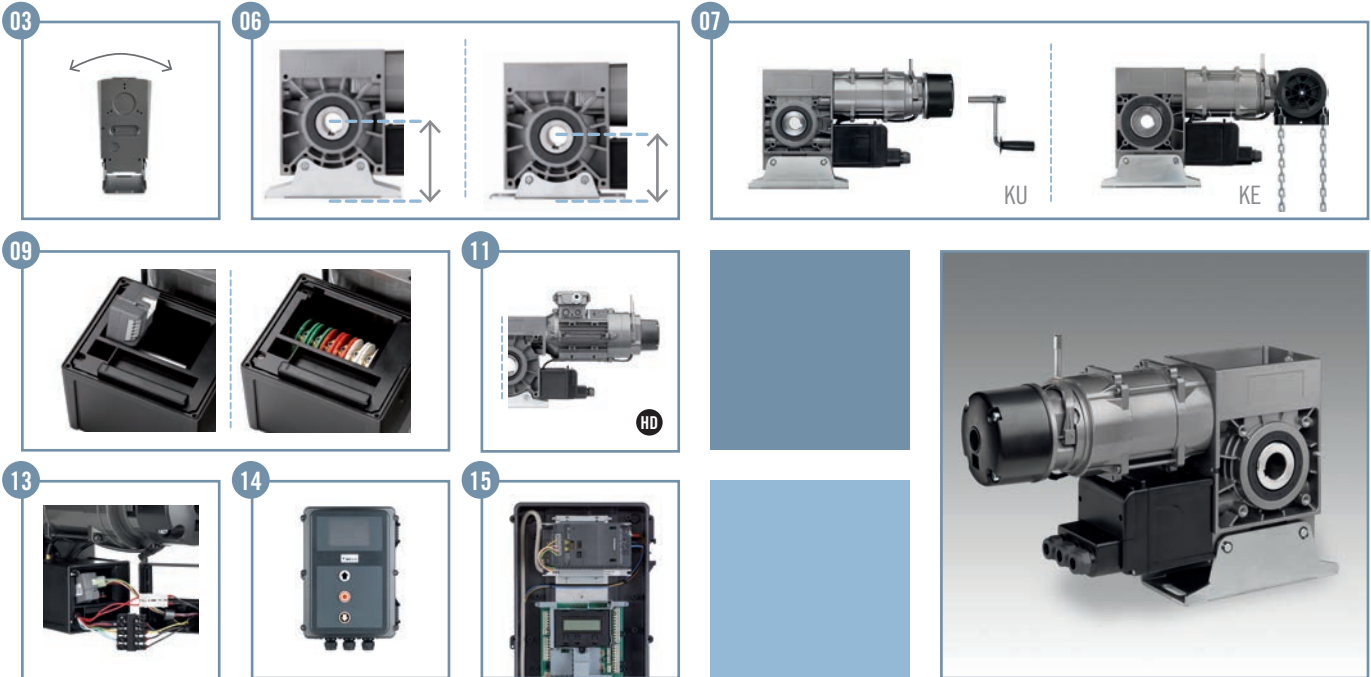


MTZ 50

HIGH-SPEED DOOR DRIVES

1

1



SUSPENDED WEIGHTS FLEXIBLE ROLL-UP DOOR

Selecting the appropriate high-speed door drive

To select the optimum drive solution, you will need the diameter of the winding shaft in mm and the suspended weight of the door in kg. With the help of these parameters, the appropriate high-speed door drive can be determined easily and reliably using this table. This table refers to the flexible roll-up door suspended weight. Corresponding tables for the roller shutter suspended weight are found on the next double page.



Drives for mains operation

Diameter (Ø outside) of the winding shaft in mm

	88,9	101,6	108,0	114,3	121,0	133,0	159,0	177,8	193,7	219,1	244,5
MTZ-S 05-4-45	69	60	57	54	51	47	40	35	33	29	26
MTZ-S 05-4-90	69	60	57	54	51	47	40	35	33	29	26
MTZ-S 05-4-115	69	60	57	54	51	47	40	35	33	29	26
MTZ-S 05-4-135	69	60	57	54	51	47	40	35	33	29	26
MTZ-S 20-5-135	86	76	72	68	64	59	49	44	41	36	35
MTZ-S 20-7-90	120	106	100	95	90	82	69	62	57	51	46
MTZ-S 20-7-65	120	106	100	95	90	82	69	62	57	51	46
MTZ-S 20-14-45	240	211	200	190	180	164	138	124	114	101	91
MTZ-S 30-10-150	172	151	143	136	128	117	99	89	82	72	65
MTZ-S 30-13-120	223	196	186	177	167	153	129	115	106	94	85
MTZ-S 30-14-70	240	211	200	190	180	164	138	124	114	101	91
MTZ-S 30-14-90	240	211	200	190	180	164	138	124	114	101	91
MTZ-S 30-16-45	275	242	229	217	205	188	158	142	130	116	104
MTZ-S 30-20-90	343	302	286	272	257	235	198	177	163	145	130
MTZ-S 50-24-105 HD	412	362	343	326	308	282	237	213	196	174	156
MTZ-S 50-27-52 HD	464	408	386	367	347	317	267	239	221	219	175
MTZ-S 50-44-52 HD	755	664	630	598	565	516	435	390	359	319	286

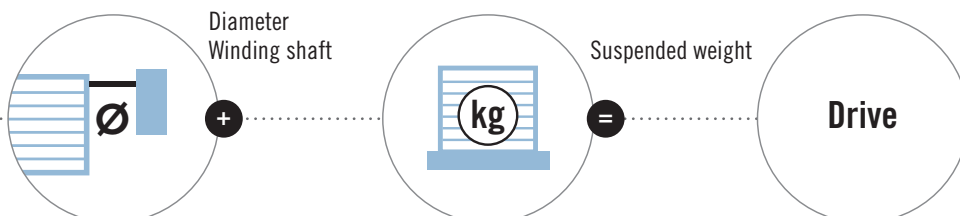
Maximum suspended weight in kg

The values in the table take into account 20% safety reserve and a sheeting thickness of 6 mm. In certain situations, the friction can be greater and this must be considered when calculating the values.

The MTZ-S series is not for operation with a frequency converter. The MTZ-FU series may be operated with a frequency converter at max. 87 Hz.

Custom solutions on request.







Straightforward drive selection





Drives for
frequency converter operation
Nominal frequency 50 Hz

Diameter (Ø outside) of the winding shaft in mm

	88,9	101,6	108,0	114,3	121,0	133,0	159,0	177,8	193,7	219,1	244,5
	50 Hz (87 Hz)										
MTZ-FU 05-4-135	69 (48)	60 (42)	57 (40)	54 (38)	51 (36)	47 (33)	40 (28)	35 (24)	33 (23)	29 (20)	26 (18)
MTZ-FU 05-4-180	69 (48)	60 (42)	57 (40)	54 (38)	51 (36)	47 (33)	40 (28)	35 (24)	33 (23)	29 (20)	26 (18)
MTZ-FU 05-6-180	103 (72)	91 (64)	86 (60)	82 (57)	77 (54)	70 (49)	59 (41)	53 (37)	49 (34)	43 (30)	39 (27)
MTZ-FU 05-7-75	120 (84)	106 (74)	100 (70)	95 (67)	90 (63)	82 (57)	69 (48)	62 (43)	57 (40)	51 (35)	46 (32)
MTZ-FU 05-7-90	120 (84)	106 (74)	100 (70)	95 (67)	90 (63)	82 (57)	69 (48)	62 (43)	57 (40)	51 (35)	46 (32)
MTZ-FU 05-10-45	172 (120)	151 (106)	143 (100)	136 (95)	128 (89)	117 (82)	99 (69)	89 (62)	82 (57)	72 (50)	65 (45)
MTZ-FU 20-9-70	155 (109)	136 (95)	129 (90)	122 (85)	116 (81)	106 (74)	89 (62)	80 (56)	73 (51)	65 (45)	58 (40)
MTZ-FU 20-9-90	155 (109)	136 (95)	129 (90)	122 (85)	116 (81)	106 (74)	89 (62)	80 (56)	73 (51)	65 (45)	58 (40)
MTZ-FU 20-9-135	155 (109)	136 (95)	129 (90)	122 (85)	116 (81)	106 (74)	89 (62)	80 (56)	73 (51)	65 (45)	58 (40)
MTZ-FU 20-14-45	240 (168)	211 (148)	200 (140)	190 (133)	180 (126)	164 (114)	138 (96)	124 (86)	114 (79)	101 (70)	91 (63)
MTZ-FU 30-10-150	172 (120)	151 (106)	143 (100)	136 (95)	128 (89)	117 (82)	99 (69)	89 (62)	82 (57)	72 (50)	65 (45)
MTZ-FU 30-10-180	172 (120)	151 (106)	143 (100)	136 (95)	128 (89)	117 (82)	99 (69)	89 (62)	82 (57)	72 (50)	65 (45)
MTZ-FU 30-13-60	223 (156)	196 (137)	186 (130)	177 (124)	167 (116)	153 (107)	129 (90)	115 (80)	106 (74)	94 (65)	85 (59)
MTZ-FU 30-13-90	223 (156)	196 (137)	186 (130)	177 (124)	167 (116)	153 (107)	129 (90)	115 (80)	106 (74)	94 (65)	85 (59)
MTZ-FU 30-15-150 HD 	258 (180)	227 (159)	215 (150)	204 (143)	193 (135)	176 (123)	148 (103)	133 (93)	122 (85)	109 (76)	97 (68)
MTZ-FU 30-16-180 HD 	275 (192)	242 (169)	229 (160)	217 (152)	205 (143)	188 (131)	158 (110)	142 (99)	130 (91)	116 (81)	104 (72)
MTZ-FU 30-18-60	309 (216)	272 (190)	258 (180)	245 (172)	231 (161)	211 (147)	178 (124)	160 (112)	147 (102)	130 (91)	117 (82)
MTZ-FU 30-18-120	309 (216)	272 (190)	258 (180)	245 (172)	231 (161)	211 (147)	178 (124)	160 (112)	147 (102)	130 (91)	117 (82)
MTZ-FU 30-20-90	343 (240)	302 (211)	286 (200)	272 (190)	257 (179)	235 (164)	198 (138)	177 (124)	163 (114)	145 (101)	130 (91)
MTZ-FU 30-25-90 HD 	429 (300)	378 (264)	358 (250)	340 (238)	321 (224)	293 (205)	247 (172)	222 (155)	204 (142)	181 (126)	162 (113)
MTZ-FU 30-32-60	549 (384)	483 (338)	458 (320)	435 (304)	411 (287)	375 (262)	316 (221)	284 (199)	261 (182)	232 (162)	208 (145)
MTZ-FU 30-33-45	567 (397)	498 (349)	472 (330)	449 (314)	424 (296)	387 (270)	326 (228)	293 (205)	270 (189)	239 (167)	214 (149)
MTZ-FU 50-29-105 HD 	498 (348)	438 (307)	415 (290)	394 (276)	372 (260)	340 (238)	287 (200)	257 (179)	236 (165)	210 (147)	188 (131)
MTZ-FU 50-33-105 HD 	567 (397)	498 (349)	472 (330)	449 (314)	424 (296)	387 (270)	326 (228)	293 (205)	270 (189)	239 (167)	214 (149)
MTZ-FU 50-44-52 HD 	755 (528)	664 (465)	630 (441)	598 (418)	565 (395)	516 (361)	435 (304)	390 (273)	359 (251)	319 (223)	286 (200)

Maximum suspended weight in kg

The values in the table take into account 20% safety reserve and a sheeting thickness of 6 mm. In certain situations, the friction can be greater and this must be considered when calculating the values.

The MTZ-S series is not for operation with a frequency converter. The MTZ-FU series may be operated with a frequency converter at max. 87 Hz.

Custom solutions on request.

SUSPENDED WEIGHTS ROLLER SHUTTER

Selecting the appropriate high-speed door drive

To select the optimum drive solution, you will need the diameter of the winding shaft in mm and the suspended weight of the door in kg. With the help of these parameters, the appropriate high-speed door drive can be determined easily and reliably using this table. This table refers to the roller shutter suspended weight. Corresponding tables for the flexible roll-up door suspended weight are found on the previous double page.



Drives for mains operation

Diameter (Ø outside) of the winding shaft in mm

	88,9	101,6	108,0	114,3	121,0	133,0	159,0	177,8	193,7	219,1	244,5
MTZ-S 05-4-45	57	51	49	47	45	41	35	32	30	27	24
MTZ-S 05-4-90	57	51	49	47	45	41	35	32	30	27	24
MTZ-S 05-4-115	57	51	49	47	45	41	35	32	30	27	24
MTZ-S 05-4-135	57	51	49	47	45	41	35	32	30	27	24
MTZ-S 20-5-135	72	64	61	59	56	52	44	40	37	33	30
MTZ-S 20-7-90	100	90	86	82	78	72	62	56	52	47	42
MTZ-S 20-7-65	100	90	86	82	78	72	62	56	52	47	42
MTZ-S 20-14-45	200	180	172	164	156	144	124	112	104	94	84
MTZ-S 30-10-150	143	129	123	117	112	103	89	80	75	67	61
MTZ-S 30-13-120	186	167	159	152	145	134	115	105	97	87	79
MTZ-S 30-14-70	200	180	172	164	156	144	124	112	104	94	84
MTZ-S 30-14-90	200	180	172	164	156	144	124	112	104	94	84
MTZ-S 30-16-45	229	206	196	187	179	165	142	129	119	107	97
MTZ-S 30-20-90	286	258	245	234	223	206	177	161	149	134	121
MTZ-S 50-24-105 HD	344	309	294	281	268	248	213	193	179	160	145
MTZ-S 50-27-52 HD	387	348	331	316	302	279	239	217	201	180	163
MTZ-S 50-44-52 HD	630	567	540	515	492	454	390	354	328	294	266

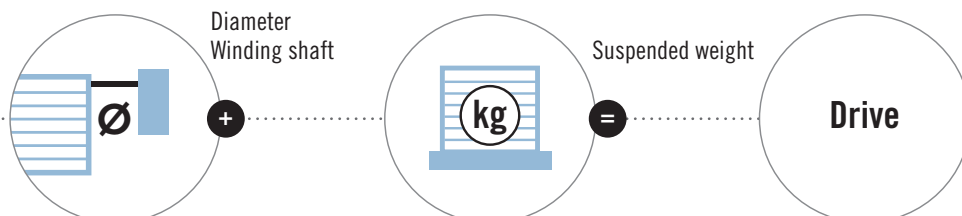
Maximum suspended weight in kg

The values in the table take into account 20% safety reserve and a sheeting thickness of 25 mm. In certain situations, e.g. for additional door seals or double skin profiles, the friction can be greater and this must be considered when calculating the values.

The MTZ-S series is not for operation with a frequency converter. The MTZ-FU series may be operated with a frequency converter at max. 87 Hz.

Custom solutions on request.







Straightforward drive selection





Drives for frequency converter operation
Nominal frequency 50 Hz

Diameter (Ø outside) of the winding shaft in mm

	50 Hz (87 Hz)										
	88,9	101,6	108,0	114,3	121,0	133,0	159,0	177,8	193,7	219,1	244,5
MTZ-FU 05-4-135	57 (39)	51 (35)	49 (34)	47 (33)	45 (32)	41 (29)	35 (25)	32 (22)	30 (21)	27 (19)	24 (17)
MTZ-FU 05-4-180	57 (39)	51 (35)	49 (34)	47 (33)	45 (32)	41 (29)	35 (25)	32 (22)	30 (21)	27 (19)	24 (17)
MTZ-FU 05-6-180	86 (60)	77 (53)	74 (52)	70 (49)	67 (47)	62 (43)	53 (37)	48 (34)	45 (32)	40 (28)	36 (25)
MTZ-FU 05-7-75	100 (70)	90 (63)	86 (60)	82 (57)	78 (55)	72 (50)	62 (43)	56 (39)	52 (36)	47 (33)	42 (29)
MTZ-FU 05-7-90	100 (70)	90 (63)	86 (60)	82 (57)	78 (55)	72 (50)	62 (43)	56 (39)	52 (36)	47 (33)	42 (29)
MTZ-FU 05-10-45	143 (100)	129 (90)	123 (86)	117 (82)	112 (78)	103 (72)	89 (62)	80 (56)	75 (53)	67 (47)	61 (43)
MTZ-FU 20-9-70	129 (90)	116 (81)	110 (77)	105 (74)	101 (71)	93 (65)	80 (56)	72 (50)	67 (47)	60 (42)	54 (38)
MTZ-FU 20-9-90	129 (90)	116 (81)	110 (77)	105 (74)	101 (71)	93 (65)	80 (56)	72 (50)	67 (47)	60 (42)	54 (38)
MTZ-FU 20-9-135	129 (90)	116 (81)	110 (77)	105 (74)	101 (71)	93 (65)	80 (56)	72 (50)	67 (47)	60 (42)	54 (38)
MTZ-FU 20-14-45	200 (140)	180 (126)	172 (120)	164 (115)	156 (109)	144 (101)	124 (87)	112 (78)	104 (73)	94 (66)	84 (59)
MTZ-FU 30-10-150	143 (100)	129 (90)	123 (86)	117 (82)	112 (78)	103 (72)	89 (62)	80 (56)	75 (53)	67 (47)	61 (43)
MTZ-FU 30-10-180	143 (100)	129 (90)	123 (86)	117 (82)	112 (78)	103 (72)	89 (62)	80 (56)	75 (53)	67 (47)	61 (43)
MTZ-FU 30-13-60	186 (130)	167 (116)	159 (111)	152 (106)	145 (102)	134 (94)	115 (81)	105 (74)	97 (68)	87 (61)	79 (55)
MTZ-FU 30-13-90	186 (130)	167 (116)	159 (111)	152 (106)	145 (102)	134 (94)	115 (81)	105 (74)	97 (68)	87 (61)	79 (55)
MTZ-FU 30-15-150 HD 	215 (150)	193 (135)	184 (129)	176 (123)	168 (118)	155 (109)	133 (93)	121 (85)	112 (78)	100 (70)	91 (64)
MTZ-FU 30-16-180 HD 	229 (160)	206 (144)	196 (137)	187 (131)	179 (125)	165 (116)	142 (99)	129 (90)	119 (83)	107 (75)	97 (68)
MTZ-FU 30-18-60	258 (180)	232 (162)	221 (155)	211 (148)	201 (141)	186 (130)	160 (112)	145 (102)	134 (94)	120 (84)	109 (76)
MTZ-FU 30-18-120	258 (180)	232 (162)	221 (155)	211 (148)	201 (141)	186 (130)	160 (112)	145 (102)	134 (94)	120 (84)	109 (76)
MTZ-FU 30-20-90	286 (200)	258 (180)	245 (172)	234 (164)	223 (156)	206 (144)	177 (124)	161 (113)	149 (104)	134 (94)	121 (85)
MTZ-FU 30-25-90 HD 	358 (250)	322 (225)	307 (215)	293 (205)	279 (195)	258 (181)	222 (155)	201 (141)	186 (130)	167 (117)	151 (106)
MTZ-FU 30-32-60	458 (320)	412 (288)	392 (274)	375 (263)	357 (250)	330 (231)	284 (199)	257 (180)	239 (167)	214 (150)	194 (136)
MTZ-FU 30-33-45	473 (331)	425 (297)	405 (284)	386 (270)	369 (258)	341 (239)	293 (205)	265 (186)	246 (172)	220 (154)	200 (140)
MTZ-FU 50-29-105 HD 	415 (290)	374 (261)	356 (249)	340 (238)	324 (227)	299 (209)	257 (180)	233 (163)	216 (151)	194 (136)	176 (123)
MTZ-FU 50-33-105 HD 	473 (331)	425 (297)	405 (284)	386 (270)	369 (258)	341 (239)	293 (205)	265 (186)	246 (172)	220 (154)	200 (140)
MTZ-FU 50-44-52 HD 	630 (441)	567 (396)	540 (378)	515 (361)	492 (344)	454 (318)	390 (273)	354 (248)	328 (230)	294 (206)	266 (186)

Maximum suspended weight in kg

The values in the table take into account 20% safety reserve and a sheeting thickness of 25 mm. In certain situations, e.g. for additional door seals or double skin profiles, the friction can be greater and this must be considered when calculating the values.

The MTZ-S series is not for operation with a frequency converter. The MTZ-FU series may be operated with a frequency converter at max. 87 Hz.

Custom solutions on request.

TECHNICAL DATA

MTZ-S high-speed door drives for mains operation

1

High-speed door drives

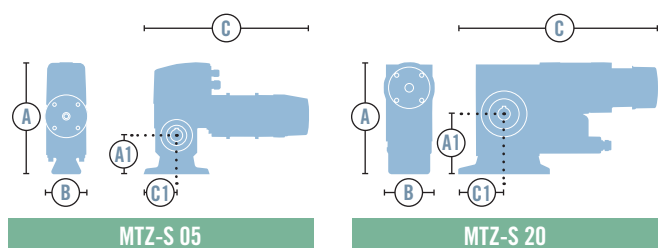
MTZ-S 05

MTZ-S 20

		MTZ-S 05				MTZ-S 20			
		MTZ-S 05-4-45	MTZ-S 05-4-90	MTZ-S 05-4-115	MTZ-S 05-4-135	MTZ-S 20-14-45	MTZ-S 20-7-65	MTZ-S 20-7-90	MTZ-S 20-5-135
Drive torque	Nm	40	40	40	40	140	70	70	50
Drive motor speed	min ⁻¹	45	90	115	135	45	65	90	135
Maximum safety catch torque	Nm	309	309	309	258	784	784	784	784
Certificate no. of the safety catch device		..... Door FV 6 / 092 .....				..... Door FV 9 / 147 / 1			
Motor output	kW	0,55	0,55	0,75	0,55	1,1	0,75	0,75	1,1
Operating voltage	V	230/400/3~	230/400/3~	230/400/3~	230 / 400 / 3~	230/400/3~	230/400/3~	230/400/3~	230/400/3~
Mains frequency	Hz	50	50	50	50	50	50	50	50
Control voltage	V	24	24	24	24	24	24	24	24
Motor current rating	A	2,1 / 1,2	2,1 / 1,2	3,3 / 1,9	2,1 / 1,2	5,0 / 2,9	3,5 / 2,0	3,1 / 1,8	4,4 / 2,5
Max. cycles per hour *		20	45	45	45	20	30	45	45
Fuse protection, on site (mains operation)	A	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0
IP protection class		54	54	54	54	54	54	54	54
Temperature range **	°C	-20 / +60	-20 / +60	-20 / +60	-20 / +60	-20 / +60	-20 / +60	-20 / +60	-20 / +60
Continuous sound pressure level	dB (A)	< 70	< 70	< 70	< 70	< 70	< 70	< 70	< 70
Unit weight (approx.)	kg	19	19	19	19	33	27	30	30
Maximum output revolutions		13	13	13	13	18	18	18	18
A / height KU / KE	mm	290 / 290	290 / 290	290 / 290	290 / 290	318 / 318	318 / 318	318 / 318	318 / 318
B / width KU / KE	mm	111 / 191	111 / 191	111 / 191	111 / 191	122 / 191	122 / 191	122 / 191	122 / 191
C / length KU / KE	mm	409 / 498	409 / 498	425 / 514	409 / 498	480 / 569	461 / 550	461 / 550	461 / 550
A1	mm	100	100	100	100	145	145	145	145
C1	mm	85	85	85	85	110	110	110	110
Ø - Possible sleeve shaft diameter	mm	..... 25 / 25,4 / 30 .....				..... 25 / 25,4 / 30			

HD Drives with the addendum HD have a higher duty cycle.
 * One cycle corresponds to two door movements (opening and closing).
 The specified values refer to 10 revolutions of the drive shaft per movement and presume an even distribution.
 ** Temperature range < -20°C: oil grade and electric heating on request.

Detailed drawings with all dimensions are available for download under www.mfz-antriebe.de.



MTZ-S 30

MTZ-S 50

		MTZ-S 30						MTZ-S 50	
		MTZ-S 30-16-45	MTZ-S 30-14-70	MTZ-S 30-14-90	MTZ-S 30-20-90	MTZ-S 30-13-120	MTZ-S 30-10-150	MTZ-S 50-27-52 HD	MTZ-S 50-24-125 HD
Drive torque	Nm	160	140	140	200	130	100	270	240
Drive motor speed	min ⁻¹	45	70	90	90	120	150	52	105
Maximum safety catch torque	Nm	2680	2680	2680	2680	2680	2680	4030	4030
Certificate no. of the safety catch device		..... 24042140-1 .....						..... Door FV 6 / 099	
Motor output	kW	1,1	1,5	1,5	2,2	2,2	2,2	2,2	3,0
Operating voltage	V	230/400/3~	230/400/3~	230/400/3~	230/400/3~	230/400/3~	230/400/3~	230/400/3~	230/400/3~
Mains frequency	Hz	50	50	50	50	50	50	50	50
Control voltage	V	24	24	24	24	24	24	24	24
Motor current rating	A	7,9 / 4,6	8,8 / 5,1	7,9 / 4,6	7,9 / 4,6	8,8 / 5,1	8,8 / 5,1	8,8 / 5,1	12,5 / 7,2
Max. cycles per hour *		20	45	45	45	45	45	30	45
Fuse protection, on site (mains operation)	A	10,0	10,0	10,0	10,0	10,0	10,0	10,0	16 / 10,0
IP protection class		54	54	54	54	54	54	54	54
Temperature range **	°C	-20 / +60	-20 / +60	-20 / +60	-20 / +60	-20 / +60	-20 / +60	-20 / +60	-20 / +60
Continuous sound pressure level	dB (A)	< 70	< 70	< 70	< 70	< 70	< 70	< 70	< 70
Unit weight (approx.)	kg	30	30	30	30	32	32	43	45
Maximum output revolutions		18	18	18	18	18	18	36	36
A / height KU / KE	mm	335 / 335	335 / 335	335 / 335	335 / 335	335 / 335	335 / 335	375 / 375	375 / 375
B / width KU / KE	mm	122 / 191	122 / 191	122 / 191	122 / 191	122 / 191	122 / 191	174 / 202	174 / 221
C / length KU / KE	mm	516 / 605	516 / 605	516 / 605	516 / 605	516 / 605	516 / 605	614 / 703	614 / 617
A1	mm	145	145	145	145	145	145	135	135
C1	mm	130	130	130	130	130	130	130	130
Ø - Possible sleeve shaft diameter	mm	..... 25 / 25,4 / 30 / 40						50	50

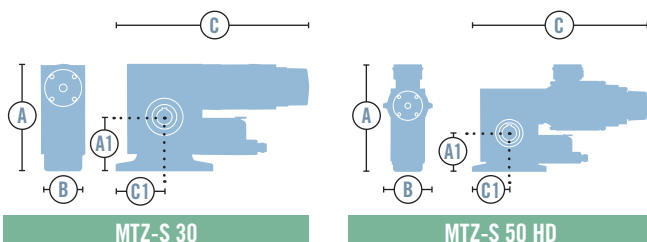
HD Drives with the addendum HD have a higher duty cycle.

* One cycle corresponds to two door movements (opening and closing).

The specified values refer to 10 revolutions of the drive shaft per movement and presume an even distribution.

** Temperature range < -20°C: oil grade and electric heating on request.

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TECHNICAL DATA

MTZ-FU high-speed door drives for frequency converter operation

MTZ-FU 05

		MTZ-FU 05-10-45 HD	MTZ-FU 05-7-75	MTZ-FU 05-7-90	MTZ-FU 05-4-135	MTZ-FU 05-4-180	MTZ-FU 05-6-180
Drive torque (50 Hz / 87 Hz)	Nm	100 / 70	70 / 49	70 / 49	40 / 28	40 / 28	60 / 42
Drive motor speed (50 Hz / 87 Hz)	min ⁻¹	45 / 78	75 / 130	90 / 156	135 / 235	180 / 313	180 / 313
Maximum safety catch torque	Nm	309	269	269	258	258	258
Certificate no. of the safety catch device		Door FV 6 / 092			Door FV 6 / 092 / 1		
Motor output	kW	0,75	0,75	0,75	0,75	1,1	1,5
Operating voltage	V	230 / 3~	230 / 3~	230 / 3~	230 / 3~	230/3~ | 400/3~	400 / 3~
Mains frequency	Hz	50	50	50	50	50	50
Control voltage	V	24	24	24	24	24	24
Motor current rating	A	4,1	4,1	4,1	4,1	4,5 | 2,6	4,6
Max. cycles per hour *		30	45	45	45	45	45
IP protection class		54	54	54	54	54	54
Temperature range **	°C	-20 / +60	-20 / +60	-20 / +60	-20 / +60	-20 / +60	-20 / +60
Continuous sound pressure level	dB (A)	< 70	< 70	< 70	< 70	< 70	< 70
Unit weight (approx.)	kg	19	19	19	19	19	19
Maximum output revolutions		13	13	13	13	13	13
Operation with CS310 FU (frequency converter)	kW	0,75	0,75	0,75	0,75	0,75	2,2
	V	230 / 1~	230 / 1~	230 / 1~	230 / 1~	230/1~ | 400/3~	400 / 3~
Fuse protection, on site (frequency converter operation)	A	10,0	10,0	10,0	10,0	20,0 | 10,0	10,0
Efficiency factor cos Φ		0,68	0,68	0,68	0,68	0,82	0,75
A / height KU / KE	mm	290 / 290	290 / 290	290 / 290	290 / 290	290 / 290	290 / 290
B / width KU / KE	mm	108 / 190	108 / 190	108 / 190	108 / 190	108 / 190	108 / 190
C / length KU / KE	mm	461 / 549	461 / 549	461 / 549	461 / 549	461 / 549	461 / 549
A1	mm	100	100	100	100	100	100
C1	mm	85	85	85	85	85	85
Ø - Possible sleeve shaft diameter	mm	25 / 25,4 / 30					

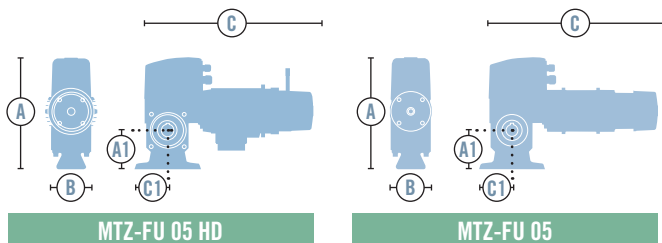
HD Drives with the addendum HD have a higher duty cycle.

* One cycle corresponds to two door movements (opening and closing).

The specified values refer to 10 revolutions of the drive shaft per movement and presume an even distribution.

** Temperature range < -20°C: oil grade and electric heating on request.

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MTZ-FU 20

		MTZ-FU 20-14-45		MTZ-FU 20-9-70		MTZ-FU 20-9-90		MTZ-FU 20-9-135	
Drive torque (50 Hz / 87 Hz)	Nm	140 / 98		90 / 63		90 / 63		90 / 63	
Drive motor speed (50 Hz / 87 Hz)	min ⁻¹	45 / 78		70 / 122		90 / 156		135 / 235	
Maximum safety catch torque	Nm	784		784		784		784	
Certificate no. of the safety catch device		..... Door FV 9 / 147 / 1							
Motor output	kW	1,1		1,1		1,1		1,5	
Operating voltage	V	230 / 3~	400/3~	230 / 3~	400/3~	230/3~	400/3~	230/3~	400/3~
Mains frequency	Hz	50		50		50		50	
Control voltage	V	24		24		24		24	
Motor current rating	A	5,0	2,9	5,0	2,9	5,0	2,9	5,6	3,3
Max. cycles per hour *		20		45		45		45	
IP protection class		54		54		54		54	
Temperature range **	°C	-20 / +60		-20 / +60		-20 / +60		-20 / +60	
Continuous sound pressure level	dB (A)	< 70		< 70		< 70		< 70	
Unit weight (approx.)	kg	23		23		23		23	
Maximum output revolutions		18		18		18		18	
Operation with CS310 FU (frequency converter)	kW	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5
	V	230 / 1~	400 / 3~	230 / 1~	400 / 3~	230 / 1~	400 / 3~	230 / 1~	400 / 3~
Fuse protection, on site (frequency converter operation)	A	20,0	10,0	20,0	10,0	20,0	10,0	20,0	10,0
Efficiency factor cos Φ		0,81		0,81		0,81		0,71	
A / height KU / KE	mm	318 / 318		318 / 318		318 / 318		318 / 318	
B / width KU / KE	mm	122 / 190		122 / 190		122 / 190		122 / 190	
C / length KU / KE	mm	481 / 570		481 / 570		481 / 570		481 / 570	
A1	mm	145		145		145		145	
C1	mm	110		110		110		110	
Ø - Possible sleeve shaft diameter	mm	..... 25 / 25,4 / 30							

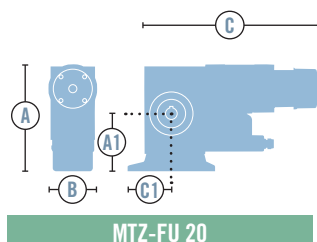
HD Drives with the addendum HD have a higher duty cycle.

* One cycle corresponds to two door movements (opening and closing).

The specified values refer to 10 revolutions of the drive shaft per movement and presume an even distribution.

** Temperature range < -20°C: oil grade and electric heating on request.

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TECHNICAL DATA

MTZ-FU high-speed door drives for frequency converter operation

MTZ-FU 30

		MTZ-FU 30				
		MTZ-FU 30-33-45	MTZ-FU 30-13-60	MTZ-FU 30-18-60	MTZ-FU 30-32-60	MTZ-FU 30-13-90
Drive torque (50 Hz / 87 Hz)	Nm	330 / 231	130 / 91	180 / 126	320 / 224	130 / 91
Drive motor speed (50 Hz / 87 Hz)	min ⁻¹	45 / 78	60 / 104	60 / 104	60 / 104	90 / 156
Maximum safety catch torque	Nm	2680	2680	2680	2680	2680
Certificate no. of the safety catch device		..... 24042140-1				
Motor output	kW	2,2	1,1	1,1	2,2	1,5
Operating voltage	V	400 / 3~	230 / 3~ | 400/3~	230/3~ | 400/3~	400 / 3~	230/3~ | 400/3~
Mains frequency	Hz	50	50	50	50	50
Control voltage	V	24	24	24	24	24
Motor current rating	A	6,5	5,6 | 3,3	7,3 | 4,2	6,5	7,3 | 4,2
Max. cycles per hour *		20	30	30	30	45
IP protection class		54	54	54	54	54
Temperature range **	°C	-20 / +60	-20 / +60	-20 / +60	-20 / +60	-20 / +60
Continuous sound pressure level	dB (A)	< 70	< 70	< 70	< 70	< 70
Unit weight (approx.)	kg	32	30	30	32	30
Maximum output revolutions		18	18	18	18	18
Operation with CS310 FU (frequency converter)	kW	3,0	1,5	1,5	1,5	2,2
	V	400 / 3~	230 / 1~	400 / 3~	230 / 3~	400 / 3~
Fuse protection, on site (frequency converter operation)	A	10,0	20,0	10,0	20,0	10,0
Efficiency factor cos Φ		0,7	0,71	0,77	0,7	0,77
A / height KU / KE	mm	335 / 335	335 / 335	335 / 335	335 / 335	335 / 335
B / width KU / KE	mm	122 / 190	122 / 190	122 / 190	122 / 190	122 / 190
C / length KU / KE	mm	556 / 619	556 / 604	536 / 599	556 / 619	536 / 599
A1	mm	145	145	145	145	145
C1	mm	130	130	130	130	130
Ø - Possible sleeve shaft diameter	mm 25 / 25,4 / 30 / 40				

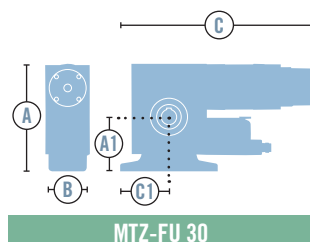
HD Drives with the addendum HD have a higher duty cycle.

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MTZ-FU 30

		<div style="display: flex; justify-content: space-around; text-align: center;"> <div style="transform: rotate(-45deg); font-weight: bold;">MTZ-FU 30-20-90</div> <div style="transform: rotate(-45deg); font-weight: bold;">MTZ-FU 30-25-90 HD</div> <div style="transform: rotate(-45deg); font-weight: bold;">MTZ-FU 30-18-120</div> <div style="transform: rotate(-45deg); font-weight: bold;">MTZ-FU 30-10-150</div> <div style="transform: rotate(-45deg); font-weight: bold;">MTZ-FU 30-15-150 HD</div> <div style="transform: rotate(-45deg); font-weight: bold;">MTZ-FU 30-10-180</div> <div style="transform: rotate(-45deg); font-weight: bold;">MTZ-FU 30-16-180 HD</div> </div>						
Drive torque (50 Hz / 87 Hz)	Nm	200 / 140	250 / 182	180 / 126	100 / 70	150 / 105	100 / 70	160 / 112
Drive motor speed (50 Hz / 87 Hz)	min ⁻¹	90 / 156	90 / 156	120 / 209	150 / 261	150 / 261	180 / 313	180 / 313
Maximum safety catch torque	Nm	2680	2680	2680	2680	2680	2680	2680
Certificate no. of the safety catch device		24042140-1						
Motor output	kW	2,2	3,0	3,0	2,2	4,0	2,2	4,0
Operating voltage	V	400 / 3~	400 / 3~	400 / 3~	400 / 3~	400 / 3~	400 / 3~	400 / 3~
Mains frequency	Hz	50	50	50	50	50	50	50
Control voltage	V	24	24	24	24	24	24	24
Motor current rating	A	6,5	7,0	7,0	5,1	8,8	5,1	8,8
Max. cycles per hour *		45	45	45	45	60	45	60
IP protection class		54	54	54	54	54	54	54
Temperature range **	°C	-20 / +60	-20 / +60	-20 / +60	-20 / +60	-20 / +60	-20 / +60	-20 / +60
Continuous sound pressure level	dB (A)	< 70	< 70	< 70	< 70	< 70	< 70	< 70
Unit weight (approx.)	kg	32	37	37	32	37	32	41
Maximum output revolutions		18	18	18	18	18	18	18
Operation with CS310 FU (frequency converter)	kW	3,0	3,0	3,0	2,2	4,0	2,2	4,0
	V	400 / 3~	400 / 3~	400 / 3~	400 / 3~	400 / 3~	400 / 3~	400 / 3~
Fuse protection, on site (frequency converter operation)	A	10,0	10,0	10,0	10,0	16,0	10,0	16,0
Efficiency factor cos Φ		0,7	0,8	0,82	0,73	0,83	0,73	0,83
A / height KU / KE	mm	335 / 335	370 / 370	335 / 335	335 / 335	335 / 335	335 / 335	370 / 370
B / width KU / KE	mm	122 / 190	174 / 214	122 / 190	122 / 190	122 / 190	122 / 190	174 / 214
C / length KU / KE	mm	556 / 619	593 / 656	536 / 599	516 / 605	536 / 599	536 / 599	593 / 656
A1	mm	145	145	145	145	145	145	145
C1	mm	130	130	130	130	130	130	130
Ø - Possible sleeve shaft diameter	mm	25 / 25,4 / 30						

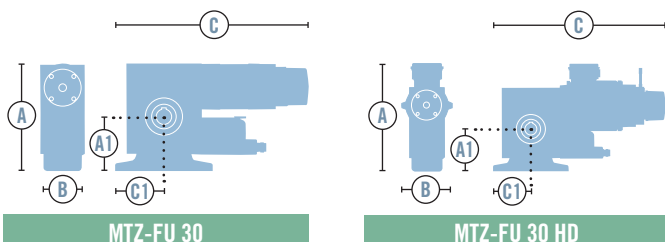
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TECHNICAL DATA

MTZ-FU high-speed door drives for frequency converter operation

MTZ-FU 50

		MTZ-FU 50-44-52 HD	MTZ-FU 50-29-105 HD	MTZ-FU 50-33-105 HD
Drive torque (50 Hz / 87 Hz)	Nm	440 / 308	290 / 203	330 / 231
Drive motor speed (50 Hz / 87 Hz)	min ⁻¹	52 / 90	105 / 182	105 / 182
Maximum safety catch torque	Nm	4030	4030	4030
Certificate no. of the safety catch device		Door Fv 6 / 099		
Motor output	kW	3,0	4,0	4,0
Operating voltage	V	400 / 3~	400 / 3~	400 / 3~
Mains frequency	Hz	50	50	50
Control voltage	V	24	24	24
Motor current rating	A	7,0	8,8	8,8
Max. cycles per hour *		30	45	45
IP protection class		54	54	54
Temperature range **	°C	-20 / +60	-20 / +60	-20 / +60
Continuous sound pressure level	dB (A)	< 70	< 70	< 70
Unit weight (approx.)	kg	45	48	48
Maximum output revolutions		36	36	36
Operation with CS310 FU (frequency converter)	kW	4,0	4,0	4,0
	V	400 / 3~	400 / 3~	400 / 3~
Fuse protection, on site (frequency converter operation)	A	16,0	16,0	16,0
Efficiency factor cos Φ		0,8	0,82	0,82
A / height KU / KE	mm	375 / 375	375 / 375	375 / 375
B / width KU / KE	mm	174 / 221	174 / 221	174 / 221
C / length KU / KE	mm	614 / 677	614 / 677	614 / 677
A1	mm	135	135	135
C1	mm	130	130	130
Ø - Possible sleeve shaft diameter	mm	50	50	50

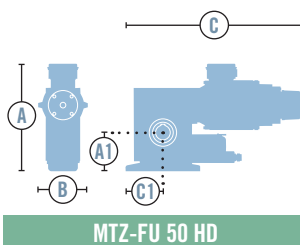
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